

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL
EASTERN ZONE BENCH, FINANCE CENTRE,
3RD FLOOR, NEW TOWN, KOLKATA

Miscellaneous Application No.30/2025/EZ

Arising out of:

Original Application No.129/2022/EZ

In the matter of:

Subhas Datta

...Applicant

Versus

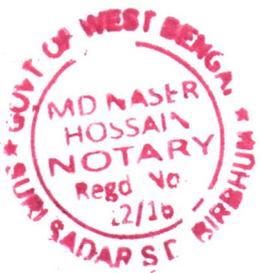
Viswa Bharati University & Ors.

...Respondent (s)

REPORT ON COMPLIANCE FILED ON BEHALF OF THE DISTRICT MAGISTRATE,
BIRBHUM, TO THE DIRECTION DATED 22.12.2025 PASSED BY THIS HON'BLE
TRIBUNAL IN MISCELLANEOUS APPLICATION NO. 30/2025/EZ IN ORIGINAL
APPLICATION NO. 129/2022/EZ.

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Sudip Kumar Dutta
Advocate
Mobile No.9874782072

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL
EASTERN ZONE BENCH, FINANCE CENTRE,
3RD FLOOR, NEW TOWN, KOLKATA

S.L. No. 54 Dt. 16/01/2026

Miscellaneous Application No.30/2025/EZ

Arising out of:

Original Application No.129/2022/EZ

In the matter of:

Subhas Datta

...Applicant

Versus

Viswa Bharati University & Ors.

...Respondent (s)



REPORT ON COMPLIANCE FILED ON BEHALF OF THE DISTRICT MAGISTRATE, BIRBHUM, TO THE DIRECTION DATED 22.12.2025 PASSED BY THIS HON'BLE TRIBUNAL IN MISCELLANEOUS APPLICATION NO. 30/2025/EZ IN ORIGINAL APPLICATION NO. 129/2022/EZ.

I, Shri. Dhaval Jain, son of Manoj Kumar Jain, aged about 36 years, by faith Jain working for gain as the District Magistrate and Collector, District- Birbhum, having office at P.O. & P.S. Suri, District Birbhum, West Bengal , PIN 731101, do hereby solemnly affirm and say as under :-

1. That I am presently posted as the District Magistrate and Collector, Birbhum District having my office at Suri, Post Office & Police Station- Suri, District- Birbhum, West Bengal. I am the Respondent No.3 in the Original Application No. 129/2022/EZ and I have made myself acquainted with the facts and circumstances of the case and as such I am competent to swear sign and affirm this affidavit.

2. That, the State respondents have already filed their respective Reports/Affidavits/ Action Taken Reports on different occasions during proceedings of the Original Application

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and the facts, action taken reports and pleadings thereof as already placed thereon before this Hon'ble Tribunal, are not reiterated herein for the sake of brevity and the deponent craves kind leave of this Hon'ble to refer to and rely upon the same as and when necessary.

3. That, this Hon'ble Tribunal, by solemn order dated 08.02.2023, while disposing of the Original Application No.129/2022/EZ, was pleased to observe and direct, inter alia, as follows:

“27. Coming to the Minutes of the Meeting held between the various authorities on 11.11.2022 with the Registrar of the University chairing the meeting, the views of the University, the Inspection Report in the light of the orders of the Tribunal, the following points have been duly considered.

- It was agreed that Solid Waste and Liquid Waste Management matters of Visva Bharati Campus in compliance of Solid Waste Management Rules, 2016, is to be taken care of by Visva Bharati (for their own area, which is outside the jurisdiction of any local body) and Bolpur Municipality (for the rest of the areas of the Campus belonging to Ward No.1, 2, 3, 4, 6, 7 & 9).
- Visva Bharati will provide an area map (preferably Auto Cad Map) for detailed and clear understanding and demarcation of Bolpur Municipality Area and Visva Bharati owned Area for further action.
- A Detailed Project Report (DPR) and Micro Level Plan for Solid and Liquid Waste Management of Visva Bharati Campus needs to be prepared. For this, the State Government in the Urban Development and Municipal Affairs Department will engage a Micro Planning Organization.
- Micro Planning Organization will prepare the DPR and Micro Plan with support from Visva Bharati and Bolpur Municipality.
- One DPR will be prepared for Integrated Solid Waste Management considering Fresh and Legacy Waste Management, Construction and Demolition Waste Management, Hazardous Waste Management, Bio-Medical Waste Management and E-Waste Management. Another DPR will be prepared for Liquid Waste Management, considering Water Body Conservation, Used Water Management and Faecal Sludge Management.



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- For preparation of the DPR and Micro Level Plan, enumeration of area will be conducted jointly by the enumerators of Visva Bharati and Bolpur Municipality.
- State Government through Local Administration will try to solve the environmental problem of the pond of Bhubandanga Bundh.
- After preparation of DPR, part of Visva Bharati owned area which is outside the jurisdiction of any local body is to be covered by Visva Bharati and other areas of the Campus and fringe areas belonging to the jurisdiction of Bolpur Municipality are to be taken care of by the Bolpur Municipality.
- As a Bulk Waste Generator, for Solid and Liquid Waste Management, Visva Bharati may choose one of the following two options: -
 - i. A setup its own Waste Management System at their own area and run the same on their own for the Campus Area, which is outside the jurisdiction of any local body.
 - ii. Against user fee, infrastructure establishment & manpower support cost and other necessary support, may take these services from Bolpur Municipality.
- The State Government may build & operate the system for Solid Waste Management and Sewage Treatment Plant (STP) for Santiniketan, else the University will approach the UGC/MoE to arrange for CAPEX and OPEX.
- The cost of engagement of Micro Planning Organization and cost of enumeration (wage of enumerators and logistic support) is to be borne by Urban Development and Municipal Affairs Department.
- The environmental pollution of Fair (Poush Mela) and other ceremonies (if organized by Local Administration and permitted by Visva Bharati) in the Visva Bharati Area, is to be managed by a Waste Management Agency engaged by Urban Development and Municipal Affairs Department.
- West Bengal Pollution Control Board will visit the Pearson Memorial Hospital of Visva Bharati for inspecting the condition of incineration and for necessary clearance of WBPCB.



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- West Bengal Pollution Control Board shall issue advisories to Visva Bharati for Waste Management as mentioned in the Minutes: -

The points noted in the Minutes of the Meeting for discussion have similarly been outlined under the heading “Decisions Taken”, paragraph 1 to 8 and sub-paragraph (a) to (k), and paragraph-9 to 14 which have already been extracted hereinabove.

28. However, from the Minutes of the Meeting and the projected action to be taken either by the Government at its level or by the Visva Bharati University, we find that no timelines have been given for execution of the various projects.

29. However, considering that this matter has been under consideration of the Tribunal since 2016 and from time to time orders have been passed by the Tribunal which have not activated the authorities till the present Original Application No.129/2022/EZ was taken up and orders passed therein, we direct all the stakeholders to complete the various projects decided upon in the Minutes of the Meeting dated 11.11.2022 by 31.12.2024.

29. A compliance Report on affidavit shall be filed by the District Magistrate and Collector, Birbhum by 31.01.2025 before the Registrar, National Green Tribunal, Eastern Zone Bench, Kolkata with copy to the Applicant...”

4. That, in the event of non-filling of the compliance report within the stipulated time, the present Miscellaneous Application was registered and this Hon’ble Tribunal, by order dated 22.12.2025, was pleased to impose costs of Rs.10,000/- on the District Magistrate and Collector, Birbhum to be deposited within 15 days with the Learned Registrar of Eastern Zone Bench of this Hon’ble Tribunal. It was further directed to file the compliance report by the District Magistrate and Collector, Birbhum and also by other respondents within three weeks. This Hon’ble Tribunal was further pleased to direct the District Magistrate and Collector, Birbhum and the Registrar of Visva Bharati University to remain present before this Hon’ble Tribunal either physically or through virtual mode on the next date on 21.01.2026 to assist this Hon’ble Tribunal in ensuring due compliance of the orders of this Hon’ble Tribunal.

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5. In terms of the said solemn direction passed by this Hon'ble Tribunal, I am filling this Compliance Report to place the facts of compliance of the solemn orders of this Hon'ble Tribunal.

6. At the outset, I most humbly submit that I have the highest regard and unalloyed veneration for every judicial order passed by this Hon'ble Tribunal, to which I am ever bound to comply within the stipulated time frame and it has always been my best endeavour to comply with the same to uphold the dignity and majesty of this Hon'ble Tribunal. However, there is unwilling and bonafide delay in complete compliance of the solemn order dated 08.02.2023 of this Hon'ble Tribunal passed in the instant matter, which is purely unintentional and not wilful, for which I sincerely tender my unqualified apology before this Hon'ble Tribunal.

7. I respectfully submit at this stage that this Hon'ble Tribunal, vide order dated 15.10.2025 passed in the Miscellaneous Application, was pleased to direct that responses/compliance may be filed by the respondent nos. 1 to 5 within two months.

8. It is most respectfully submitted that the deponent has taken charge of the office of the District Magistrate, Birbhum on 29.10.2025 and the deponent has no knowledge of the said solemn directions of this Hon'ble Tribunal prior to that. After coming to know of the said directions and in order to file compliance reports/responses, a communication being Memo No. 2283(3)/RM dated 27.11.2025 was issued by the office of the deponent to (i) The Registrar of Viswa Bharati University, (ii) The Executive Officer of Sriniketan-Shantiniketan Development Authority (SSDA) and (iii) The Executive Officer of Bolpur Municipality requesting them to forward a report regarding the status of execution of various works in connection with solid waste and liquid waste management and disposal, as decided in the meeting held on 11.11.2022 under the Chairmanship of the Additional Secretary of the UD & MA Department with different authorities including the Viswa Baharati University.

Photostat copy of the aforesaid communication being Memo No. 2283(3)/RM dated 27.11.2025 issued by the office of the deponent is annexed hereto as Annexure-R3/1.



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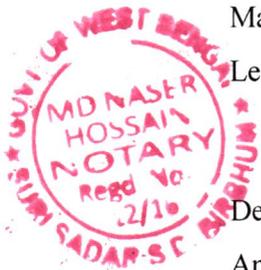


9. Records in file reveal that response dated 12.12.2025 from the SSDA and the response dated 16.12.2025 from the Bolpur Municipality were received by the office of the deponent, shortly before the date of hearing on 22.12.2025 and the said status reports/responses appeared to be not sufficient with all relevant particulars as regards execution of various works in due compliance of the solemn directions of this Hon'ble Tribunal. On the other hand, no response was found to be received from the Viswa Bharati University authorities at the material time. I respectfully submit that due to administrative engagement in the ongoing works in connection with Special Intensive Revision of Electoral Rolls undertaken by the Election Commission of India, the deponent could not take effective steps to file the compliance/response before this Hon'ble Tribunal in compliance to the aforesaid direction dated 15.10.2025 due to bona fide reasons as stated above, for which I tender my unqualified apology before this Hon'ble Tribunal and I respectfully submit that this Hon'ble Tribunal may graciously be pleased to accept the same.

10. I further respectfully submit that the in due compliance of the solemn direction dated 22.12.2025 of this Hon'ble Tribunal, the deponent has deposited the costs of Rs. 10,000/- through the Demand Draft No. 194031 dated 06.01.2026 of the State Bank of India, Suri Branch drawn in favour of "The Registrar, National Green Tribunal" payable at New Delhi Main Branch and submitted the same through the cover letter dated 06.01.2026 with the Learned Registrar of this Hon'ble Tribunal on 07.01.2026.

Photostat copies of the aforesaid Cover Letter dated 06.01.2026 together with the Demand Draft No. 194031 dated 06.01.2026 amounting to Rs.10,000/-, are annexed hereto as Annexure-R3/2.

11. As per the decisions taken in the meeting dated 11.11.2022 under the Chairmanship of the Additional Secretary, UD & MA Department with different authorities including the Viswa Bharati University, the details of which remain recorded in the order dated 08.02.2023 of this Hon'ble Tribunal in Original Application No. 129/2022/EZ in verbatim, it appears that the matters pertaining to solid waste and liquid waste management within the Viswa Bharati University campus were to be covered and taken care of by the Viswa Bharati University for their own area not falling within any local body and by the Bolpur Municipality for the rest of



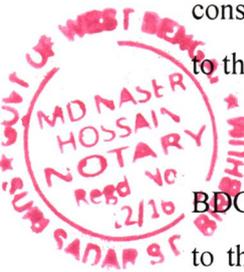
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the areas of the Campus belonging to Ward Nos. 1, 2, 3, 4, 6, 7 and 9. It further appears, inter alia, that a Detailed Project Report (DPR) and Micro Level Plan for solid waste and liquid waste management of Viswa Bharati Campus was to be prepared and for this, the UD & MA Department was to engage a Micro Planning Organization and cost of engagement of Micro Planning Organization and enumeration was to borne by the said UD & MA Department. It further appears, inter alia, that the State Government through the local administration was supposed to try to solve the environmental problem of the pond of Bhubandanga Bundh.

12. It is submitted that a communication being No. UDMA-13011(99)/8/2020-BDG-UD-SEC-Dept of UDMA-Part(7)/9773(7) dated 26.12.20025 was received from the Special Secretary to the Government of West Bengal and Director of State Urban Development Agency (SUDA), which was addressed to different authorities including the deponent, whereby different points of action in reference to the order dated 08.02.2023 of this Hon'ble Tribunal and the role of the relevant authorities thereto, were reiterated. Vide the said communication dated 26.12.2025, all relevant stakeholders were requested to forward their consent letters/NOC, action plan including mode of operation and the Action Taken Report, to the said Department for taking further course of action.

Photostat copy of the said communication being No. UDMA-13011(99)/8/2020-BDG-UD-SEC-Dept of UDMA-Part(7)/9773(7) dated 26.12.20025 of the Special Secretary to the Government of West Bengal, and Director SUDA, is annexed hereto as Annexure-R3/3.

13. It is humbly submitted that the deponent has held a review meeting on 02.01.2026 in hybrid mode with different authorities including the Viswa Bharati University, wherein the authority of the SUDA also joined. After conducting such meeting and in response to the aforesaid communication dated 26.12.2025, the deponent has addressed a letter being Memo No. 22/RM dated 05.01.2026 to the Special Secretary to the Government of West Bengal, and Director of SUDA requesting for intervention and taking earliest steps towards engagement of Micro Planning Organization and preparation of integrated DPRs for solid and liquid waste management and for subsequent actions thereto, for due compliance of the solemn directions of this Hon'ble Tribunal. Vide the said letter dated 05.01.2026, it has been further



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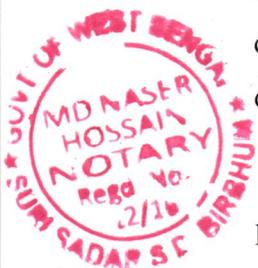
requested to engage Municipal Engineering Directorate for technical support and diversion of outfalls of three drains falling at Lalbandh, in order to protect the Bhubandanga Bundh pollution free. It has been further requested to take steps for engagement of a Waste Management agency for managing environmental pollution of fair and other ceremonies (if organized by local administration) in the Viswa Bharati University area. Copy of the said communication dated 05.01.2026 was also forwarded to the Registrar of Viswa Bharati University, the Chairman of Bolpur Municipality and the Executive Officer, SSDA, with request to forward their respective consents/NOC and other documents to the UD & MA Department.

Photostat copy of the aforesaid communication being Memo No. 22/RM dated 05.01.2026 issued by the deponent to the Special Secretary to the Government of West Bengal, and Director SUDA is annexed hereto as Annexure- R3/4.

14. It is further humbly submitted that necessary steps have already been taken by the UD & MA Department by engaging the Micro Planning Organization namely "Bitan Institute for Training Awareness and Networking" for preparation of the DPR for solid waste management within the Viswa Bharati University Campus areas. It is further respectfully submitted that deponent has been personally keeping regular and close liaison with all stakeholders/authorities in this regard. The said organization completed the field survey works including collection of primary and secondary information, testing of mixed waste at the laboratory etc. and submitted the draft DPR along-with a Liquid Waste Management Plan before the appropriate authority of the UD & MA Department. It is further submitted that all necessary and further steps towards execution of the works may be initiated as per the decision adopted in the said meeting dated 11.11.2022 in due compliance of the solemn directions of this Hon'ble Tribunal.

Photocopies of the aforesaid draft DPR for SWM along-with Liquid Waste Management Plan are collectively annexed hereto as Annexure-R3/5.

15. Pertinently, it submitted that as per the internal reports received from both the Viswa Bharati University and Bolpur Municipality authorities, some activities for management of solid waste have been performed by them in the interregnum period, pending preparation of



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the DPRs and execution of works subsequent thereto, and the same are humbly placed herein below before this Hon'ble Tribunal for kind consideration.

- (I) The Bolpur Municipality, through its sanitation workers and engaged staffs, has been regularly collecting solid waste from households, marketplaces, commercial establishments from all wards including Ward Nos. 1, 2, 3, 4, 6, 7, and 9 . The wastes are segregated at the source into bio gradable and non-bio gradable. Such wastes are transported and dumped into a temporary dumping area located at Plot Nos. 2590 and 2703 at Khoskadambpur, P.S. Bolpur, J.L. No. 95. An agency namely M/s Rohini Fire Safety Pvt. Ltd. has been engaged by the SUDA vide Work Order No. SUDA-1395/2024/182/1 dated 31.12.2024, for management and disposal of legacy waste as well as plastic waste, employing bio-mining, bio-remediation, and proper reclamation of the designated dumping sites, adhering to the Swachh Bharat Mission scheme and other environmental norms.
- (II) A site covering an area of 6.68 acres of Government land situated at Mouza-Dwarakanathpur, JL No. 128 under P.S. Bolpur, was identified and proposed by the District Administration for solid waste management and disposal in accordance with the Solid Waste Management Rules. The proposal for Inter-Departmental Transfer of the said land was forwarded by the District Administration to the appropriate authority of the L&LR and RR&R Department for sanction of the Government in favour of the UD & MA Department, pursuant to which, the Government has accorded sanction of transfer of the said Government Land in favour of the UD & MA Department, vide the Memo No. 4602-GE(M)/24012/200/2022 dated 04.11.2022 issued by the Deputy Secretary, L&LR and RR&R Department. Possession of the said land has also been handed over to the Bolpur Municipality. It is reportedly known that the preliminary works of fencing and construction of the boundary walls at the said proposed site have commenced and are ongoing.



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Photostat copy of the aforesaid Memo No. 4602-GE(M)/24012/200/2022 dated 04.11.2022 issued by the Deputy Secretary, L&LR and RR&R Department, regarding sanction of Inter Departmental Transfer of the aforesaid Government land, for SWM is annexed hereto as Annexure-R3/6.

- (III) The Bolpur Municipality has also been undertaking daily sweeping of major roads, lanes, and public spaces in Ward Nos. 1, 2, 3, 4, 6, 7 & 9, with special attention to high-footfall areas, markets, schools, and institutional zones. Periodic cleaning drives are being undertaken during festivals, public events and monsoon seasons.
- (IV) Identified vulnerable garbage spots are being periodically cleared by the Bolpur Municipality. Preventive measures such as increased monitoring and community sensitization are also being undertaken to avoid re-emergence of open dumping. Camps are being conducted to sensitize citizens on cleanliness, proper waste disposal, and avoidance of littering.
- (V) On the other hand, the authorities of the Visva Bharati University, since early 2025, have initiated a process of in-house disposal of certain types of waste namely bio-degradable leaves and other materials within their campus areas. The University has prepared a DPR for vermin composting using fallen leaves and has made a budgetary allocation of Rs. 10,00,000/- vide the notification dated 27.05.2025 in this regard.
- (VI) The said university has also formed a committee vide office order dated 14.08.2025 for execution of a composting project namely “Bio consortium for Vermi-Composting using fallen leaves in Visva-Bharati”. Few works like construction of composting pit, purchase of shredder machine etc. have already been completed, while the works related to construction of shed, collection pits etc. are underway.



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(VII) The Executive Council of the said University, in its meeting dated 21.02.2023 has resolved that the University may approach UGC and Ministry of Education, New Delhi for extending necessary support for implementation of Solid and Liquid Waste Management System at Visva Bharati as per the orders of this Hon'ble Tribunal. It is stated by the authority of the said University that on receipt of the DPR and MLP from the UD & MA Department, the said University will approach the Ministry of Education (MoE) and other relevant ministries of Government of India and also the UGC for University's share in the Capital Expenditure (CAPEX) and Operating Expenditure (OPEX), in compliance with the solemn order dated 08.02.2023 of this Hon'ble Tribunal.

Some photographs of waste collection being conducted by the Bolpur Municipality together with Photostat copy of the aforesaid work order No. SUDA-1395/2024/182/1 dated 31.12.2024 for disposal of legacy waste for Bolpur Municipality, the Project Proposal on "Bio consortium for Vermi-Composting using fallen leaves in Visva-Bharati", document relating to budgetary allocation, work order dated 12.11.2025 issued by the Visva Bharati University authority along-with some photographs of works are collectively annexed hereto as Annexure- R3/7.



16. I most humbly reiterate that I have highest regard and unalloyed veneration for every judicial order passed by this Hon'ble Tribunal and it has been always my best endeavour to comply with the same to uphold the dignity and majesty of this Hon'ble Tribunal. However, the delay in due compliance of the solemn direction of this Hon'ble Tribunal within the stipulated time frame and to file the compliance report/affidavit thereof before this Hon'ble Tribunal in due course, was purely unintentional, bonafide and not wilful, for which I once again sincerely tender my unqualified apology before this Hon'ble Tribunal.

17. In view of what have been stated and submitted by me in this affidavit, I most humbly submit that I have taken immediate steps towards due compliance of the solemn direction of this Hon'ble Tribunal and there is no wilful violation and/or non-compliance of such solemn

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direction. I therefore most humbly pray that this Hon'ble Tribunal may graciously be pleased to condone the delay occurred in compliance of the said solemn directions of this Hon'ble Tribunal.

18. The statements made in paragraphs 1 and 2 of the foregoing affidavit are true to my knowledge, those made in paragraphs 3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15 are information derived from the available records, which are maintained in the office of the deponent in usual course of office business and the rest are my humble submission and prayer before this Hon'ble Tribunal.



Dhaval Jain

Deponent
District Magistrate
Birbhum

Verification

I, Shri. Dhaval Jain, the District Magistrate and Collector, Birbhum District, do hereby solemnly affirm and verify that the contents of the statements made in the above paragraphs of the affidavit are true and correct to the best of my knowledge and belief. No part of the same is false and nothing material has been concealed therefrom.

Verified at Suri, Birbhum, this the 16th day of January, 2026.

Dhaval Jain

Deponent
District Magistrate
Birbhum

Solemnly affirmed before me
.....16th day of January 2026
by Deponent *Dhaval Jain*
.....Identified by
Sk. Alauddin Adv.

Identified by me

Sk. Alauddin
Advocate 16.01.2026

E.C.No: WB-1528/1983

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MD. NASER HOSSAIN
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Annexure - R3/1

15

Government of West Bengal
Office of the District Magistrate & Collector, Birbhum
R.M. Section
e-mail:- rmsection.birbhum@gmail.com

Memo No.:- 2283.....(3)/RMDated:- 27/11/2025

To

1. The Registrar,
Viswa Bharati University,
Bolpur, Shantiniketan, Birbhum
2. The Executive Officer,
Sriniketan Shantiniketan Development Authority (SSDA),
Bolpur, Birbhum.
3. The Executive Officer,
Bolpur Municipality,
Bolpur, Birbhum.

Sub: Miscellaneous Application No. 30/2025/EZ in Original Application No. 129/2022/EZ in the matter of
 Subhas Datta –vs- Viswa Bharati University & Ors.

Sir,

In Reference to the subject mentioned above, you are requested to send a report regarding the present status of execution of works decided in the meeting dated 11.11.2022 in connection with Solid and Liquid Waste Management of Viswa Bharati University Campus Area for the purpose of complying the order of Hon'ble National Green Tribunal dated 08.02.2023 vide Original Application No. 129/2022/EZ.

This may be treated as very urgent and the report may be submitted before 10/12/2025 positively.

Additional District Magistrate (General),
 Birbhum 

Memo No.:- 2283.....(3)/1(1)/ RMDated:- 27...../11/2025

Copy forwarded to the Sub-Divisional Officer, Bolpur Sub-Division with request to liaison with the departments concerned for sending report before 10/12/2025.

Additional District Magistrate (General),
 Birbhum 

Annexure-R3/2

16



Government of West Bengal
Office of the District Magistrate & Collector
Birbhum.

Prashan Bhavan, PO & PS- Suri, District- Birbhum, PIN- 731101
R.M. Section
e-mail: dm-bir@nic.in

Memo No. 38/R.M.

Date: 06/01/2026

To,

The Learned Registrar

The Hon'ble National Green Tribunal

Eastern Zone Bench,

Finance Centre, 3rd Floor,

New Town, Kolkata.



Re: Miscellaneous Application No. 30/2025/EZ in Original Application No. 129/2022/EZ in the matter of Subhas Datta Vs. Viswa Bharati University & Ors.

Sir,

In compliance to the solemn order dated 22.12.2025 passed by the Hon'ble National Green Tribunal, Eastern Zone Bench, please find enclosed the Original Demand Draft No. 194031 dated 06.01.2026 of State Bank of India, Suri Branch amounting to Rs.10,000/- (Ten Thousand only) drawn in favour of "The Registrar, National Green Tribunal" payable at New Delhi, towards deposition of the cost imposed by the Hon'ble Tribunal vide the aforementioned order dated 22.12.2025 upon the District Magistrate & Collector, Birbhum.

Kindly acknowledge the same and oblige.

Yours faithfully,

[Handwritten Signature]
District Magistrate & Collector
Birbhum.



भारतीय स्टेट बैंक
State Bank of India
पारी करने वाली शाखा
Drawing Branch: SURI
कोड क्र / CODE No: 00191
द्वारा जारी की गई।

मांगड़ाफ्ट
DEMAND DRAFT

Key: SEJKUR
Sr. No: 817608

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D D M M Y Y Y

मांगे जानेपर THE REGISTRAR, NATIONAL GREEN TRIBUNAL*****

या उनके आदेश पर

ON DEMAND PAY

OR ORDER

रुपये RUPEES Ten Thousand Only

अदा करें ₹ 10000.00

IOI 000581194031
Name of Applicant

Key: SEJKUR Sr. No: 817608
TRANSFER FROM G/L

AMOUNT BELOW 10001(1/5)

मूल्य प्राप्त / VALUE RECEIVED

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कोड क्र. / CODE No: 00691

प्राधिकृत हस्ताक्षरकर्ता
AUTHORISED SIGNATORY

शाखा प्रबंधक
BRANCH MANAGER

कम्प्यूटर द्वारा मुद्रित होने पर ही वैध
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₹ 1,50,000/- एवं अधिक के लिखत दो अधिकारियों द्वारा हस्ताक्षरित होने पर ही वैध है।
INSTRUMENTS FOR ₹ 1,50,000/- & ABOVE ARE NOT VALID UNLESS SIGNED BY TWO OFFICERS

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Annexure-R3/3

18

Government of West Bengal
Urban Development & Municipal Affairs Department
"NAGARAYAN"
DF-8, Sector-I, Salt Lake City, Kolkata 700 064

No. UDMA-13011(99)/8/2020-BDG-UD SEC-Dept. of UDMA-Part(7)/9773 (7)

Date: 26.12.25

From : Shri Joly Chaudhuri, WBCS (Exe.),
Special Secretary to the Government of West Bengal &
Director, SUDA

To:

1. The Registrar, Visva Bharati University
2. The Member Secretary, WBPCB
3. The Chief Executive Officer, KMDA
4. The District Magistrate, Birbhum
5. The Secretary, MED
6. The Chairman, Bolpur Municipality
7. The Executive Officer, SSDA

Office No.

Docket No. 10407/26.12.25

Sub Request for Action Taken Report (ATR) in reference to the letter dated No. 52/SUDA-11011(15)/5/2023-Law Sec(SUDA)- SUDA dated 13.06.2023 in connection with Hon'ble NGT matter being Original Application No. 129 of 2022-EZ in the matter of Subhas Datta -Vs- Vishwa Bharati University & Ors.

Sir,

Apropos the captioned subject, I am directed to forward herewith a copy of the order dated 08.02.2023 passed in the matter bearing OA No. 129/2022/EZ with a request to your good office to kindly provide the **Action Taken Report (ATR)** in reference to the letter bearing No. 52/SUDA-11011(15)/5/2023-Law Sec (SUDA) dated 13.06.2023 in connection with the aforesaid **Original Application No. 129/2022/EZ**, in the matter of **Subhas Datta -Vs- Visva-Bharati University & Others**.

2. The in reference to the aforesaid order dated 08.02.2023 and letter dated 13.06.2023, the action points of different Department(s)/ Authorities have been reiterated below for ready reference.

In Re direction of Hon'ble NGT dated 08.02.2023:

- I. **Paragraph/point No. 27-** "... Coming to the Minutes of the Meeting held between the various authorities on 11.11.2022 with the Registrar of the University chairing the meeting, the views of the University, the Inspection Report in the light of the orders of the Tribunal, the following points have been duly considered.

- It was agreed that Solid Waste and Liquid Waste Management matters of Visva Bharati Campus in compliance of Solid Waste Management Rules, 2016, is to be taken care of by Visva Bharati (for their own area, which is outside the jurisdiction of any local body) and

Bolpur Municipality (for the rest of the areas of the Campus belonging to Ward No.1, 2, 3, 4, 6, 7 & 9).

[Action: VBU (for their own area) and Bolpur Municipality (for the rest of the areas of the Campus belonging to Ward No.1, 2, 3, 4, 6, 7 & 9)]

- In this regard, as per the gravity and importance of the instant matter, VBU may kindly like to provide necessary consent letter, details about the mode of operation and NOC along with supporting documents like map etc. and may also nominate one Nodal Officer (his/her address, mobile no and email ID may kindly be provided) for all sorts of coordination with the other stakeholders within 30.06.2023. If no consent letter is received then it may be treated as that the aforesaid areas may be taken care of by itself in compliance of Solid Waste Management Rules, 2016.

[Action: VBU]

- Visva Bharati will provide an area map (preferably Auto Cad Map) for detailed and clear understanding and demarcation of Bolpur Municipality Area and Visva Bharati owned Area for further action.

[Action: VBU]

- A Detailed Project Report (DPR) and Micro Level Plan for Solid Waste Management of Visva Bharati Campus needs to be prepared. For this, the State Government in the Urban Development and Municipal Affairs Department will engage a Micro Planning Organization.

[Action: SUDA (subject to the receipt of the consent letter and details of the Nodal Officer from VBU)]

- A Detailed Project Report (DPR) and Micro Level Plan for Liquid Waste Management of Visva Bharati Campus needs to be prepared. For this, the State Government in the Urban Development and Municipal Affairs Department will engage a Micro Planning Organization.

[Action: KMDA (subject to the receipt of the consent letter and details of the Nodal Officer from VBU)]

- Micro Planning Organization will prepare the DPR and Micro Plan for both solid and liquid waste with support from Visva Bharati and Bolpur Municipality.

[Action: Micro Planning Organization in active support of Visva Bharati and Bolpur Municipality (subject to the receipt of the consent letter and details of the Nodal Officer from VBU)]

- One DPR will be prepared for Integrated Solid Waste Management considering fresh and Legacy Waste Management, Construction and Demolition Waste Management, Hazardous Waste Management, Bio-Medical Waste Management and E-Waste Management.

[Action: Micro Planning Organization in active support of SUDA, Visva Bharati and Bolpur Municipality (subject to the receipt of the consent letter and details of the Nodal Officer from VBU)]

- Another DPR will be prepared for Liquid Waste Management considering, Water Body Conservation, Used Water Management and Faecal Sludge Management.

[Action: Micro Planning Organization in active support of KMDA, Visva Bharati and Bolpur Municipality (subject to the receipt of the consent letter and details of the Nodal Officer from VBU)]

- For preparation of the DPR and Micro Level Plan, enumeration of area will be conducted jointly by the enumerators of Visva Bharati and Bolpur Municipality.

[Action: Enumerators of VBU and Bolpur Municipality (subject to the receipt of the consent letter and details of the Nodal Officer from VBU)]

- Paragraph/point No. 27 read with Paragraph/point No. 8, 9, 10 -

Bhubandanga Bandh water body having four divisions viz. Lalbandh (south), Dal Bandh (east), Barobandh (west) and Chhotobandh (north) is covering 28 acres land within Bolpur Municipality., To protect this Bandh from environmental pollution, Municipal Engineering Directorate to be engaged for this purpose for technical support. Outfall of 32 (three) drains of Ward no. 7 of Bolpur Municipality falling at Lalbandh either should be diverted or any other arrangement should be made.

State Government through Local Administration will try to solve the environmental problem of the pond of Bhubandanga Bundh.

[Action: District Administration, MED, SSDA and Bolpur Municipality (subject to the receipt of the consent letter and details of the Nodal Officer from VBU)]

- After preparation of DPR, part of Visva Bharati owned area which is outside the jurisdiction of any local body is to be covered by Visva Bharati.

[Action: VBU]

- After preparation of DPR, other areas of the Campus and fringe areas belonging to the jurisdiction of Bolpur Municipality are to be taken care of by the Bolpur Municipality.

[Action: Bolpur Municipality (subject to the receipt of the consent letter and details of the Nodal Officer from VBU)]

- As a Bulk Waste Generator, for Solid and Liquid Waste Management, Visva Bharati may choose one of the following two options: -

- i. A setup its own Waste Management System at their own area and run the same on their own for the Campus Area, which is outside the jurisdiction of any local body.

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- ii. Against user fee, infrastructure establishment & manpower support cost and other necessary support, may take these services from Bolpur Municipality.

[Action: VBU (subject to the receipt of the consent letter and details of the Nodal Officer from VBU)]

- The State Government may build & operate the system for Solid Waste Management and Sewage Treatment Plant (STP) for Santiniketan, else the University will approach the UGC/MoE to arrange for CAPEX and OPEX.

[Action: VBU]

- The cost of engagement of Micro Planning Organization and cost of enumeration (wage of enumerators and logistic support) is to be borne by Urban Development and Municipal Affairs Department.

[Action: Urban Development and Municipal Affairs Department (subject to the receipt of the consent letter and details of the Nodal Officer from VBU)]

Paragraph/point No. 27 read with Paragraph/point No. 10 -

Visva Bharati to communicate:

- To nominate one Nodal Officer for this purpose informing his/her address, mobile no and email ID.
- Providing one of the two options of Bulk Waste Generator for processing of solid waste in segregated manner i.e. either manage on their own or enter into an agreement with Bolpur Municipality.

[Action: VBU]

- The environmental pollution of Fair (Poush Mela) and other ceremonies (if organized by Local Administration and permitted by Visva Bharati) in the Visva Bharati Area, is to be managed by a Waste Management Agency engaged by Urban Development and Municipal Affairs Department.

[Action: District Administration and Bolpur Municipality]

- **Paragraph/point No. 27 read with paragraph 1 to 8 and sub-paragraph (a) to (k), and paragraph-9 to 14-**

West Bengal Pollution Control Board will visit the Pearson Memorial Hospital of Visva Bharati for inspecting the condition of incineration and for necessary clearance of WBPCB. West Bengal Pollution Control Board shall issue advisories to Visva Bharati for Waste Management as mentioned in the Minutes as mentioned in the Minutes: - The points noted in the Minutes of the Meeting for discussion have similarly been outlined under the heading "Decisions Taken", paragraph 1 to 8 and sub-paragraph (a) to (k), and paragraph-9 to 14 which have already been extracted hereinabove..."

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[Action: WBPCB (subject to the receipt of the consent letter and details of the Nodal Officer from VBU)]

II. Paragraph/point No. 29- "... However, considering that this matter has been under consideration of the Tribunal since 2016 and from time to time orders have been passed by the Tribunal which have not activated the authorities till the present Original Application No.129/2022/EZ was taken up and orders passed therein, Hon'ble NGT directed **all the stakeholders** to complete the various projects decided upon in the Minutes of the Meeting dated 11.11.2022 by 31.12.2024..."

[subject to the receipt of the consent letter and details of the Nodal Officer from VBU]

III. Paragraph/point No. 30- "... A compliance Report on affidavit shall be filed by the District Magistrate and Collector, Birbhum by 31.01.2025 before the Registrar, National Green Tribunal, Eastern Zone Bench, Kolkata, with copy to the Applicant..."

[Action: District Magistrate and Collector, Birbhum]

IV. Paragraph/point No. 31- "... With the aforesaid directions, the Original Application No.129/2022/EZ is accordingly disposed of, and in case of non compliance it shall be open to the Applicant to approach the Tribunal with appropriate application..."

3. Under the above-stated circumstances, I am further directed to request **all concerned stakeholders** to kindly forward the following documents to this Department **within seven (07) days**:

- Required Consent Letter/NOC,
- Action Plan, including the mode of operation, and
- Action Taken Report (ATR) with regard to the instant matter pending before the Hon'ble National Green Tribunal (NGT).

4. The ATR and related documents are required for placing the same before the appropriate authority for further necessary action.

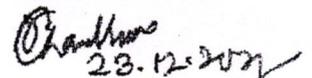
5. I am further directed to request that the District Magistrate and Collector, Birbhum, may kindly convene a review meeting with all concerned stakeholders, preferably at monthly intervals, as the Hon'ble NGT vide order dated 08.02.2023 had directed all stakeholders to complete the various projects decided upon in the Minutes of the Meeting dated 11.11.2022. However, as on date, no compliance reports have been received by this Department.

6. Your cooperation in this regard is highly solicited.

7. **This may kindly be treated as urgent.**

Encl: As stated above

Yours faithfully,


23.12.2022

Special Secretary

No. UDMA-13011(99)/8/2020-BDG-UD SEC-Dept. of UDMA-Part(7)/9773 (7)/1(14) Date: 26.12.25

Copy forwarded for kind information to:

1. PD, SMCG WB & Senior Special Secretary (NG), UD & MA Department.
2. Deputy Director (all), SUDA.

3. SDO, Bolpur.
4. Special Law Officer, UD & MA Department.
5. Engineer-In-Chief, Municipal Engineering Directorate.
6. Chief Engineer (South), Municipal Engineering Directorate.
7. SE, SUDA.
8. Executive Officer, Bolpur Municipality.
9. Private Secretary, Hon'ble MIC UD & MA Department, GoWB.
10. Sr. P.S. to the Principal Secretary, UD & MA Department.
11. Sr. PS to the PD, SMCG WB & Secretary, KMDA & Senior Special Secretary, UD & MA Department.
12. Law Cell, KMDA.
13. Law Cell, SMCG, WB.
14. Office Copy.



Charitra
20.12.2021

Special Secretary



Government of West Bengal
Office of the District Magistrate & Collector
Birbhum.
R.M. Section

Memo No. **22** /R.M.

Date: **05/01/2026**

To,
 The Special Secretary to the GoWB
 UD & MA Department &
 Director,
 State Urban Development Agency (SUDA),
 "NAGARAYAN", DF-8, Sector-I, Salt Lake City,
 Kolkata, West Bengal – 700 064

Sub: Requesting for taking urgent action for compliance of the solemn directions dated 08.02.2023 passed by the Hon'ble NGT, EZ in O.A. No. 129/2022/EZ in the matter of Subhas Datta Vs. Visva Bharati University & Ors.

Ref: (i) Your Memo No. UDMA-13011(99)/8/2020-BDG-UD SEC Dept. of UDMA-Part(7)/9773(7) dated 26.12.2025

(ii) Solemn Order date 22.12.2025 passed by the Hon'ble NGT, Eastern Zone Bench in Miscellaneous Application No. 30/2025/EZ in O.A. No. 129/2022/EZ in the matter of Subhas Datta Vs. Visva Bharati University & Ors.

Sir,

This has reference to the above as well as to the discussion held in the virtual meeting dated 02.01.2026.

At the outset, it is useful for the sake of brevity to quote the observations and direction passed by the Hon'ble NGT, EZ in O.A. NO. 129/2022/EZ, contained in Paragraphs 27 - 29 of the said order, as follows:

"27. Coming to the Minutes of the Meeting held between the various authorities on 11.11.2022 with the Registrar of the University chairing the meeting, the views of the University, the Inspection Report in the light of the orders of the Tribunal, the following points have been duly considered.

- *It was agreed that Solid Waste and Liquid Waste Management matters of Visva Bharati Campus in compliance of Solid Waste Management Rules, 2016, is to be taken care of by Visva Bharati (for their own area, which is outside the jurisdiction of any local body) and Bolpur Municipality (for the rest of the areas of the Campus belonging to Ward No.1, 2, 3, 4, 6, 7 & 9).*
- *Visva Bharati will provide an area map (preferably Auto Cad Map) for detailed and clear understanding and demarcation of Bolpur Municipality Area and Visva Bharati owned Area for further action.*
- *A Detailed Project Report (DPR) and Micro Level Plan for Solid and Liquid Waste Management of Visva Bharati Campus needs to be prepared. For this, the State Government in the Urban Development and Municipal Affairs Department will engage a Micro Planning Organization.*
- *Micro Planning Organization will prepare the DPR and Micro Plan with support from Visva Bharati and Bolpur Municipality.*



- One DPR will be prepared for Integrated Solid Waste Management considering Fresh and Legacy Waste Management, Construction and Demolition Waste Management, Hazardous Waste Management, Bio-Medical Waste Management and E-Waste Management. Another DPR will be prepared for Liquid Waste Management, considering Water Body Conservation, Used Water Management and Faecal Sludge Management.
- For preparation of the DPR and Micro Level Plan, enumeration of area will be conducted jointly by the enumerators of Visva Bharati and Bolpur Municipality.
- State Government through Local Administration will try to solve the environmental problem of the pond of Bhubandanga Bundh.
- After preparation of DPR, part of Visva Bharati owned area which is outside the jurisdiction of any local body is to be covered by Visva Bharati and other areas of the Campus and fringe areas belonging to the jurisdiction of Bolpur Municipality are to be taken care of by the Bolpur Municipality.
- As a Bulk Waste Generator, for Solid and Liquid Waste Management, Visva Bharati may choose one of the following two options: -
 - i. A setup its own Waste Management System at their own area and run the same on their own for the Campus Area, which is outside the jurisdiction of any local body.
 - ii. Against user fee, infrastructure establishment & manpower support cost and other necessary support, may take these services from Bolpur Municipality.
- The State Government may build & operate the system for Solid Waste Management and Sewage Treatment Plant (STP) for Santiniketan, else the University will approach the UGC/MoE to arrange for CAPEX and OPEX.
- The cost of engagement of Micro Planning Organization and cost of enumeration (wage of enumerators and logistic support) is to be borne by Urban Development and Municipal Affairs Department.
- The environmental pollution of Fair (Poush Mela) and other ceremonies (if organized by Local Administration and permitted by Visva Bharati) in the Visva Bharati Area, is to be managed by a Waste Management Agency engaged by Urban Development and Municipal Affairs Department.
- West Bengal Pollution Control Board will visit the Pearson Memorial Hospital of Visva Bharati for inspecting the condition of incineration and for necessary clearance of WBPCB.
- West Bengal Pollution Control Board shall issue advisories to Visva Bharati for Waste Management as mentioned in the Minutes: -

The points noted in the Minutes of the Meeting for discussion have similarly been outlined under the heading "Decisions Taken", paragraph 1 to 8 and sub-paragraph (a) to (k), and paragraph-9 to 14 which have already been extracted hereinabove.

28. However, from the Minutes of the Meeting and the projected action to be taken either by the Government at its level or by the Visva Bharati University, we find that no timelines have been given for execution of the various projects.

29. However, considering that this matter has been under consideration of the Tribunal since 2016 and from time to time orders have been passed by the Tribunal which have not activated the authorities till the present Original Application No.129/2022/EZ was taken up and orders passed therein, we direct all the stakeholders to complete the various projects decided upon in the Minutes of the Meeting dated 11.11.2022 by 31.12.2024...."

The aforesaid observations and directions dated 08.02.2023 passed by the Hon'ble NGT and the action points/roles of different authorities have been enumerated in your office letter dated 26.12.2025 cited above.

Because of non-filling of the compliance affidavit/report within 31.01.2025, Miscellaneous Application No. 30/2025/EZ in O.A. No. 129/2022/EZ, was registered and it was considered by the

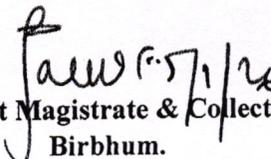
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Hon'ble NGT on 22.12.2025 whereby, the Hon'ble NGT has been pleased to impose a cost as well as require personal appearance of the District Magistrate, Birbhum and the Registrar of Viswa Bharati University before the Hon'ble NGT on 21.01.2026. It has been further directed to file compliance report by the District Magistrate, Birbhum and other respondents within three weeks. Copy of the order dated 22.12.2025 of the Hon'ble NGT is enclosed for reference.

In the above backgrounds and in terms of the discussion held in the virtual meeting dated 02.01.2026, I am making my earnest approach to your kind end for your intervention and earliest necessary steps on the Action Points decided in the meeting dated 11.11.2022 and outlined in your Letter dated 26.12.2025 towards engagement of the Micro Level Planning Organization and preparation of DPRs on the Solid and Liquid Waste Management and subsequent actions thereto for due compliance of the solemn direction of the Hon'ble NGT under alleged contempt/non-compliance. Further, in order to protect the Bhubandanga Bandh pollution free, the Municipal Engineering Directorate may kindly be engaged for technical support and for diversion of outfalls of three drains falling at Lalbandh. Action may also be kindly taken to engage a Waste Management Agency for managing environmental pollution of fair and other ceremonies (if organized by local administration) in the Viswa Bharati Area.

In view of the ensuring listing of the matter before the Hon'ble NGT on 21.01.2026 for further consideration, prior to which we are to file our compliance report/affidavit, I earnestly solicit your kind intervention for taking steps ON URGENT BASIS.

Yours faithfully,


District Magistrate & Collector
Birbhum.

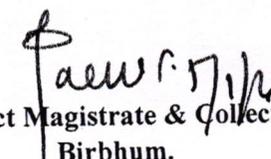
Date: 05/01/2026

Memo No. 22/1(3) /R.M.

Copy forwarded for information and necessary action to:

1. The Registrar, Viswa Bharati University.
2. The Chairman, Bolpur Municipality
3. The Executive Officer, SSDA

All are requested to take immediate steps to forward their respective consents/NOC and other documents/Action Plan to the UD & MA Deptt. as per the Action Points outlined in the Letter being Memo No. UDMA-13011(99)/8/2020-BDG-UD SEC Dept. of UDMA-Part(7)/9773(7) dated 26.12.2025 of the Special Secretary, UD & MA Deptt. and Director, SUDA (copy enclosed for reference).


District Magistrate & Collector
Birbhum.

**Detailed Project Report for Visva-Bharati University (A
Central University of National Importance),
Santiniketan & Sriniketan, District: Birbhum, West
Bengal**



Project Period: 2026-2035

**Submitted To: State Urban Development
Agency Urban Development Department,
Govt. of WB**

Prepared and submitted by:



**BITAN INSTITUTE FOR TRAINING
AWARENESS AND NETWORKING**

**Head Office Address: 3/3/1, D. A.
Chowdhury Road, Budge Budge Kolkata-
700137**

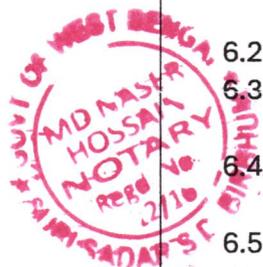
**Email_ bitanorg@gmail.com, Contact No_ 91-
8017638070, Website-www.bitanindia.org**

Date of Submission: 15.01.2026

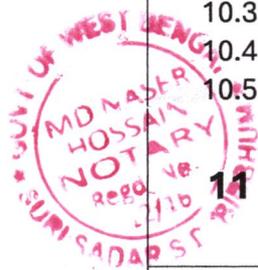
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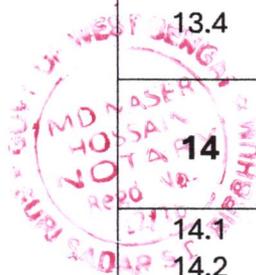
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1. EXECUTIVE SUMMARY

1.1. Background and Rationale:

Visva-Bharati University functions as a large, complex institutional campus with characteristics of a semi-urban settlement, generating diverse waste streams from academic, residential, commercial, healthcare, cultural, and visitor-related activities. Changing consumption patterns, frequent cultural events, and a significant floating population have led to increasing volumes of biodegradable, recyclable, plastic, sanitary, electronic, and inert waste. In the absence of an organized and scientific waste management system, current practices—largely limited to mixed waste collection and open dumping—pose serious environmental, public health, and aesthetic risks, particularly given the University's ecological sensitivity, proximity to forest areas and water bodies, and open-campus philosophy.

As a Bulk Waste Generator under the Solid Waste Management Rules, 2016, Visva-Bharati University has a statutory obligation to implement source segregation, decentralized processing of biodegradable waste, scientific handling of recyclables and hazardous waste, and remediation of existing dump sites. The prevailing non-scientific practices also place the University at risk of regulatory non-compliance, environmental degradation, and long-term liabilities.

At the same time, Visva-Bharati's defined administrative control, availability of land, academic ecosystem, and strong student and community engagement provide a unique opportunity to establish a need-based, decentralized and integrated solid waste management system aligned with the Swachh Bharat Mission, circular economy principles, and NGI directives. The proposed DPR has therefore been developed to provide a structured, compliant, and sustainable framework for waste reduction, resource recovery, and environmentally safe disposal, enabling Visva-Bharati University to transition into a model green and environmentally responsible campus of national significance.

1.2. Objectives of the Project

The primary objective is to prepare a campus-specific Concept cum Action Plan for Scientific Solid Waste Management at Visva-Bharati University and to provide handholding support for effective implementation of the proposed system. The assignment aims to transform the University campus into a model green and sustainable institutional area, fully compliant with statutory environmental regulations.

The specific objectives of the assignment are as follows:

1. Assessment of Existing Waste Management Practices

- To evaluate the current status of solid waste management practices across academic blocks, hostels, residential quarters, offices, markets, canteens, and open spaces within the Visva-Bharati campus.
- To identify gaps, challenges, and inefficiencies in existing collection, segregation, transportation, processing, and disposal systems.

2. Preparation of Solid Waste Inventory and Characterization

- To prepare a comprehensive campus-level MSW inventory, including estimation of per capita waste generation and total waste quantities.

- To conduct detailed waste characterization and composition analysis for different waste streams such as biodegradable, recyclable, plastic, sanitary, hazardous, e-waste, garden waste, and inert waste generated from various functional zones of the campus.

3. Infrastructure, Asset and Human Resource Assessment

- To assess the existing infrastructure, equipment, land availability, and processing facilities related to solid waste management within the University.
- To evaluate the availability and capacity of sanitation workers, supervisors, and administrative mechanisms involved in waste management.
- To recommend appropriate technologies, infrastructure augmentation, and manpower deployment plans suited to the campus scale and waste characteristics.

4. Development of a Scientific Waste Management Action Plan

- To formulate a feasible, scalable, and sustainable solid waste management action plan based on decentralized and centralized processing approaches, strictly adhering to Solid Waste Management Rules, 2016, CPCB guidelines, and NGT directions.
- To propose systems for source segregation, collection, processing, resource recovery, and safe disposal of residual waste.

5. Stakeholder Perception and Attitude Assessment

- To undertake attitude scaling and perception analysis of students, faculty, staff, residents, vendors, and visitors regarding solid waste management practices.
- To identify behavioral gaps and barriers affecting effective segregation and waste reduction on campus.

6. IEC, Sensitization and Capacity Building

- To design and recommend a targeted Information, Education and Communication (IEC) strategy for different stakeholder groups within the University.
- To strengthen institutional capacity through training, awareness programs, and handholding support for sanitation workers, supervisors, and administrative staff.

7. Implementation Support and Monitoring Framework

- To provide implementation handholding support, including development of SOPs, monitoring mechanisms, and performance indicators.
- To establish a robust monitoring, reporting, and feedback framework to ensure sustained compliance and continuous improvement.

1.3. Present status of SWM practices:

Visva-Bharati University, spread over approximately 1130.78 acres in Santiniketan, Birbhum district of West Bengal, functions as a large residential and academic campus accommodating students, faculty, staff, service providers, and a substantial floating population of visitors throughout the year. Owing to its scale, diverse land use, and continuous academic and cultural activities, the University generates a wide

range of solid waste streams including biodegradable, recyclable, plastic, horticultural, sanitary, and limited hazardous waste.

At present, the solid waste management system on the campus is partially organized and largely non-scientific. Waste collection practices are inconsistent, with garden waste collected daily, while waste from hostels, staff quarters, and other establishments is collected irregularly, primarily when community bins are filled. A structured, campus-wide system for regular, segregated door-to-door collection has not yet been established.

Segregation of waste at source is largely absent across the campus. Except for limited and informal separation of kitchen and plastic waste in some hostel areas, waste from hostels, academic and administrative buildings, residential quarters, canteens, markets, and public spaces is generated and collected in a mixed form. The absence of source segregation significantly restricts opportunities for composting, recycling, and resource recovery.

Temporary storage of waste is carried out through a limited number of concrete bins and movable containers, mostly placed near hostels and selected buildings. These storage points generally receive mixed waste and often remain uncovered. In several roads, playgrounds, and open areas, dustbins are not provided due to concerns related to nuisance from stray animals. Transportation of waste is undertaken using tractors and trolleys without covered or compartmentalized arrangements, and without fixed routes or collection schedules.

The University has limited waste processing infrastructure, comprising small-scale vermicomposting units managed under the Agriculture Department and a bio-methanation facility. However, these facilities are fragmented, operate in isolation, and are inadequate to handle the overall volume of biodegradable waste generated on campus. Consequently, the majority of waste remains unprocessed.

Disposal of waste is primarily through open dumping of mixed waste at a designated site near the northern side of Bangladesh Bhavana. The dumping site lacks scientific design, segregation facilities, leachate management, odour control, or environmental safeguards, resulting in accumulation of legacy waste and posing risks to soil, water bodies, nearby forest areas, and campus aesthetics.

Solid waste management operations are supported by limited manpower and weak institutional arrangements, with reliance on casual and outsourced workers and no dedicated SWM cell, defined responsibilities, or systematic monitoring mechanism. During major cultural events and fairs, temporary arrangements are made, including engagement of Bolpur Municipality on a payment basis to manage excess waste.

Overall, the current practices indicate substantial non-compliance with the Solid Waste Management Rules, 2016, particularly with respect to segregation at source, decentralized processing, scientific disposal, and record-keeping. The existing situation underscores the urgent need for a comprehensive, scientific, and decentralized solid waste management system to ensure regulatory compliance, environmental protection, and sustainable campus management at Visva-Bharati University.

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1.3.1. Population and waste generation 2026

2026 (Population)	Per Capita waste generation	Waste Quantity	Total wet waste generated per capita per day in grams (gpcd) as on 2026	Total dry waste generated per capita per day in grams (gpcd) as on 2026
20951	308 g.p.c.d	6.5 TPD	185	123

*Populations are inclusive of floating population

- Number of Zones: 3
- Waste Generation – 6.5 MT/Day
- Segregation is not practiced at source of waste generation.
- Central Processing Unit (CPU) and Material Recovery Facility (MRF) is not available for segregation of inorganic recyclables.
- Rag Pickers/Waste Pickers salvage recyclables from the university area as well as from the disposal site.
- Facility for converting wet waste to compost is not available.
- Uncontrolled open dumping of solid waste is practiced at the dumping disposal site.

Present solid waste management system of the university as Bulk Waste Generator (BWGs) is not being carried out as per guideline of SWM Rule 2016. Much deficiencies could be observed in current waste management system for the town and accordingly solid waste management system for the town needs to be rationally planned and implemented conforming to the guideline of the SWM Rule 2016.

Solid waste inventory was done through rigorous survey, secondary data mining and literature study as follows.

1.3.2. Quantum of Solid Waste Generated –

Waste projection has been calculated in table... The method followed for waste projection calculation are as follows-

Waste Projection = Waste projection for that year x population of that year

Waste projection for 2026- 2035			
Year	Projected generation of waste (MT/Day)		
	Wet Waste	Dry Waste	Total waste
2026	3.9	2.6	6.5
2027	3.9	2.6	6.6
2028	4.0	2.7	6.6
2029	4.0	2.7	6.7
2030	4.1	2.7	6.8
2031	4.1	2.7	6.8
2032	4.1	2.8	6.9

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2033	4.2	2.8	7.0
2034	4.2	2.8	7.0
2035	4.3	2.8	7.1

During various events (posh mela and Basanta Utsav) additional waste will be generated and same will be managed in the proposed facility.

1.3.3. Details of Legacy Waste

There is no legacy waste at the university premises.

1.4. Recommendation for Scientific Solid Waste Management Planning

The proposed plan of action for the university on scientific management of waste begins with compulsory segregation at source using dry, wet and domestic hazardous waste bins. The periodical transportation of all three types of waste will be done from the door-to-door collection system. Segregated waste bins will be placed in markets, slums, function halls, streets, hospitals and commercial places. Construction and demolition waste generation requires prior permit from the municipality.

The collection and transportation will be followed by maximum recovery of resources by segregation of recyclables and biodegradable waste using state-of-the-art treatment technology. A significant increment in primary waste collection vehicles such as tricycle, battery operated tipper and engine operated tipper and operating manpower is highly recommended.

Advocate for 3 R's i.e. Reduce, Reuse and Recover materials in Solid Waste management through proper capacity building and sensitization session achieving mass awareness. Promote information, education and communication across the stakeholders to ensure system efficiency and sustainability. A state-of-the-art material processing unit is recommended coupled with weight bridge, conveyer belt, perforation screening, shredding, drying and air density separator.

1.4.1. Planning of Segregation, Collection & Transportation of Solid Waste.

Types of Waste Generating Unit	Waste Collection Mechanism
Staff Quarter	Every staff quarter shall maintain two (2) colour coded bins (green and blue) of 10 liters size each to be used separately for the storage of organic waste and inorganic waste. Storage of other wastes like discarded electronic goods, battery cells, diapers, napkins etc. will be collected by the sanitation department separately in synthetic bags along with dry waste daily and regular collection timing will be decided by the VBU authority.
Hostels	Every floor of hostel shall maintain two (2) colour-coded bins—green for organic waste and blue for inorganic waste—of 40 liters capacity each, to be used separately for waste storage at the source. Segregation of waste shall be strictly followed by all residents. Student boarder will be encouraged to maintain room wise separate dustbins so that segregation at source can be ensured. Other waste such as discarded electronic items, battery cells, sanitary waste

	(diapers, napkins, sanitary pads), and other domestic hazardous waste shall be collected separately in synthetic bags along with dry waste by the sanitation department or designated agency and regular collection timing will be decided by the VBU authority.
Shops	The waste from these sources is dry and recyclable. Conservancy workers collect the recyclable waste for disposal. The waste collectors can collect the recyclable waste from shops and establishments as soon as they open. The shops and other establishments may be asked to store waste in two (2) 10 liters bins if they produce waste other than recyclable waste also, and regular collection timing will be decided by the VBU authority.
Offices, institutions and others	The waste from these sources mainly is dry and recyclable where each floors or office room will maintain bins and every day they will ensure the same waste to be deposited to the floor wise 10 liters bin. Conservancy workers collect the recyclable waste for disposal. The waste collectors can collect the recyclable waste from shops and establishments as soon as they open. To store waste in two (2) 40 liters bins at the ground floor and designated corners if they produce waste other than recyclable waste also, and regular collection timing will be decided by the VBU authority.
Canteen	Canteen will be given four 100 liters bins (2 Green & 2 Blue) for collection of waste, and regular collection timing will be decided by the VBU authority.
Academic Centers	Every academic centre shall maintain two (2) colour-coded bins—green for organic waste and blue for inorganic waste—of 10 liters' capacity each, placed at appropriate locations such as classrooms, laboratories, offices, corridors, and common areas to ensure proper source segregation. Waste generated from academic activities, including paper waste, plastic waste, packaging materials, and other recyclable waste, shall be collected separately. Electronic waste, battery cells, printer cartridges, and laboratory-related hazardous waste, if any, shall be stored separately in designated containers and handed over to authorized agencies as per guidelines and regular collection timing will be decided by the VBU authority.
Fruit & Vegetable Markets	It is desirable that all vegetable market waste be stored separately. It is suggested that four numbers of separate replaceable sturdy bins of 100 liters capacity each should be provided to collect organic and inorganic waste respectively. The management of the entire primary collection system will be the responsibility of the University, and regular collection timing will be decided by the VBU authority.
Hospital	Bio Medical Waste is collected separately by service provider (Medicare) as per Bio Medical Waste (Management & Handling) Rules. Only organic waste will be collected regularly from the hospital and for that 40 Liters bin will be placed in the designated space of the hospital.
Playground, community center, prayer hall and other open spaces	Two 40 liters bins (one for wet and one for dry) will be installed with iron based structure and same will be collected regularly by the university SWM team and regular collection timing will be decided by the VBU authority.

Construction & Demolition Waste	This waste should be stored within the site with a proper screen around it to prevent scattering of the waste. The owner/ promoter may request for providing appropriate skips/containers for storing their waste on payment basis. The recyclable waste will be salvaged, stored and disposed of separately. These may be used in the construction process as may be suitable.
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1.4.2. Proposed Waste Collection Vehicle

Type of Vehicle	Capacity	Role in Daily Waste Collection
Pedal Tri Cycle	320 litters. (4 Bins for Organic Waste and 4 Bins for Inorganic Waste). 2 Separate Recyclable Synthetic Bags for Domestic Hazardous Waste.	Primary Waste Collection from Households and Retail shops including Slums.
3 Wheeler Fuel Operated Tipper	2000 litters (2 Containers of 1000 litters)	Secondary Transportation of waste

1.4.3. Summary of Proposed Solid Waste management:

Year	2026	2030	2035
Population	20951	21998	23207
Gram per capita waste (@ 1% yearly per capita increase) generation	308	311	314
Waste quantity per day (MT/ day)	6.5	6.8	7.1
Organic waste	4	4.2	4.4
Recycle able waste	0.7	0.74	0.78
Disposable waste	1.3	1.36	1.42
Domestic Hazardous waste	0.21	0.22	0.23
Sanitary waste	0.29	0.29	0.30
Total	6.5	6.8	7.1

1.4.4. Summary of Land Requirement

Year	Area for MRF	Area for Composting (Acre)	Total Area required (Acre)
		With buffer area	With buffer area
2026-2035	0.03 Acre	0.24 Acre	0.27 Acre

****Land is not required for SLF as it will be handed over monthly to the Bolpur Municipality based on the decided terms and conditions by both parties.**

1.5. Recommendation for Improved Awareness and Capacity Building

The biggest challenge faced in the Scientific Solid Waste Management by Visva Bharati University is lack of proper knowledge and awareness among the University stakeholders, residents of quarters, students, and the waste collectors. The officials will be sensitized on SWM rules, 2016, NGT guidelines and pollution control board guidelines. Multi-level homogenous Community groups consisting of university

and school students, hostel boarders, local vendors in the road side and markets, etc needs to be constituted in an urgent basis for field level monitoring. The grass root community level organizations would be associated with upstream zonal level committee and department level committee. The training process is recommended involves online and offline training, consultation, web-based forum and increased accessibility of resource material. A dedicated control room, improved monitoring system and a dedicated mobile app for grievance redressal shall be highly prescribed. A communication chain consisting of municipality chairman to citizen would be suffice to initiate a mass awareness about SW and its management. Handbill, flyers, banners, newsletter and audio-visual communication will be deployed for sensitization at a scale. In addition, citizen participation will be promoted and citizen forums need to be formed for better visibility

1.6. Mass Balance Diagram

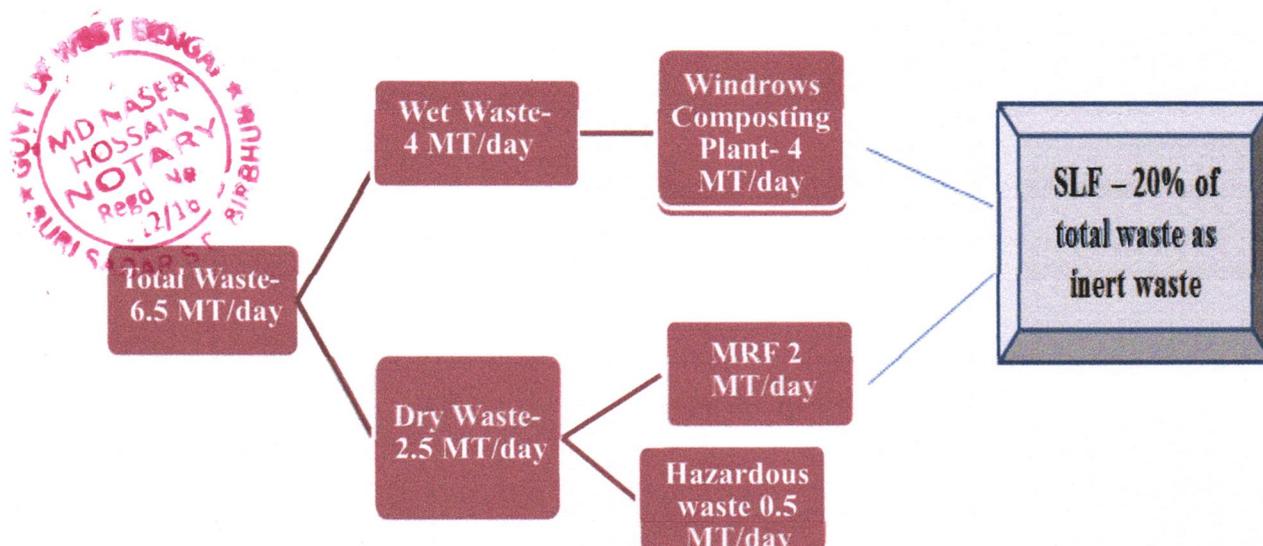


Fig 1: Mass Balance Diagram

Note: Inert Waste will be handed over to Bolpur Municipality monthly at the cost or condition mutually decided the Bolpur Municipality and Visva-Bharati University

1.7. Financial Summary

The budget plan for the project has been prepared for 10 years (2026-35) in two sections namely Construction Costs (including rate of interest of bank) and the Operational & Maintenance Cost. The operational and maintenance cost of Visva Bharati has been calculated with an average of 5% of total capital cost of Compost Plant, 3% of total MRF, and an increment of 3% every 5 year. The per ton tipping fee for the management of the processing plant has been determined on the basis of cost recovery to be made by the sale of Manure, user fees and Recyclable wastes.

Year	Components	Amount
2026-2035	Rate of Manure	Rs. 3000/MT
	Rate of Inorganic Recyclable Waste	Rs. 5000/MT

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	Total Quantity of Solid Waste 2026	6.5 MT/Day
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Budget Summary

SL No.	Reference	Component	Amount (Lakh INR)
1.	Ref: Table 13.1, Non-Recurring Cost (A) Page no-58	Capital Cost (Non-Recurring)	348.78
2.	Ref: Table 13.2. Recurring Cost 2026, Page no-59	Recurring Cost	4,790.00
3.	Ref: Table 13.3. Page No-60	Environmental Monitoring & Control (Partly Recurring)	8.20
4.	Ref: Table 13.4. Page No- 61	IEC & Capacity Building (Partly - Recurring)	12.80
Total			5,159.78

Contingency 3% = 154.7934

GST 12% = 619.1736

Cess 1% = 51.5978

Overall project Cost = 5,985.34 Lakh

Total revenue of the project from waste by product and user fees Rs. 580.62 – 5,985.34 (Total cost of the project) = -5,404.71

2. INTRODUCTION

2.1. Context of Solid Waste Management in Institutional Campuses

Solid Waste Management (SWM) has emerged as a critical environmental, public health, and governance challenge, particularly in large institutional campuses that function as semi-urban systems. Universities and similar institutions generate diverse waste streams due to the coexistence of academic, residential, commercial, healthcare, cultural, and visitor-related activities within a single administrative framework. Rapid changes in consumption patterns, lifestyle practices among young generations with increased use of packaged goods have resulted in higher volumes of non-biodegradable, plastic, sanitary, electronic, and hazardous waste.

In the absence of scientific management, improper handling, storage, and disposal of such waste can lead to contamination of soil and water bodies, proliferation of disease vectors, air pollution from open dumping or burning, and long-term ecological degradation. Recognizing these risks, the Solid Waste Management Rules, 2016 have explicitly brought institutional campuses, universities, and bulk waste generators under the ambit of mandatory compliance, requiring segregation at source, decentralized processing of biodegradable waste, scientific handling of recyclables and hazardous waste, and minimization of landfill disposal.

Institutional campuses, due to their defined boundaries, administrative control, and availability of land and human resources, offer significant opportunities to implement need based centralized or

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decentralized, circular, and resource-efficient waste management systems. When planned scientifically, such campuses can serve as demonstration models for sustainable waste management practices, aligned with national priorities such as the Swachh Bharat Mission and circular economy principles.

2.2 About Visva-Bharati University

Visva-Bharati University, located at Santiniketan and Sriniketan in Birbhum District of West Bengal, is a Central University of national importance established in 1921 by Gurudev Rabindranath Tagore. The University campus spans an area of approximately 1130.78 acres (4.58 sq. km) and is spatially distributed across multiple zones, interwoven with private landholdings, forest-adjacent areas, water bodies, residential settlements, markets and individual shops, and areas falling both within and outside the jurisdiction of Bolpur Municipality where core areas of the Visva-Bharati University not coming under any local bodies.

The University comprises 12 academic institutions, 11 centres, 13 administrative offices, 27 student hostels with a capacity of 3,017 beds, staff residential quarters, health facilities, markets, shops, canteens, kitchens, gardens, roads, and nearly 20 water bodies covering about 50 acres excluding 200 Acres forest covered land comes under the wild life century located adjacent to the university campus. The campus supports a resident population of students, faculty, staff, and outsourced workers, along with a significant floating population of daily visitors.

Visva-Bharati is globally recognized for its cultural heritage, ecological sensitivity, and open-campus philosophy. These distinctive characteristics, while central to its identity, also pose unique challenges for infrastructure planning, including solid waste management, requiring customized, decentralized, and environmentally sensitive solutions.

2.3 Need for Scientific Solid Waste Management at Visva-Bharati

At present, Visva-Bharati University does not have any organized, quantified, or scientific solid waste management system in place. Waste management activities are confined mainly to routine street sweeping and the collection of mixed waste from hostels, academic and administrative buildings, residential quarters, canteens, markets, and other campus areas. Segregation at source is completely absent, and there is no systematic mechanism for measuring, recording, or monitoring waste generation across the campus.

The mixed waste collected from various sources is transported and disposed of through open dumping practices, primarily at a designated site on the northern side of Bangladesh Bhavana. There are no structured systems or facilities for the segregation, scientific processing, recycling, or environmentally safe disposal of different waste streams, including biodegradable, recyclable, plastic, sanitary, electronic, or hazardous waste. The limited composting and vermicomposting facilities currently existing under the Agriculture Department of the University are fragmented, inadequately designed, and insufficient to manage the total volume of biodegradable waste generated across the campus.

The prevailing practice of open dumping, without engineered containment, leachate management, odour control, or other environmental safeguards, poses serious environmental, public health, and aesthetic concerns. These risks are further aggravated by the proximity of forest areas, water bodies, and ecologically sensitive zones within and around the University campus. The existing situation places

Visva-Bharati University in non-compliance with the provisions of the Solid Waste Management Rules, 2016, which mandate segregation at source, decentralized processing of biodegradable waste, scientific handling of recyclable and hazardous waste, and remediation of existing dump sites by institutional and bulk waste generators.

The University generates a diverse and complex waste profile, comprising biodegradable waste from hostels, kitchens, canteens, and gardens; recyclable dry waste from academic and administrative buildings; plastic waste from markets, shops, and cultural events; horticultural waste from extensive landscaped and green areas; as well as e-waste, sanitary waste, and limited biomedical waste from health facilities. During major cultural and academic events such as Poush Mela, Magh Mela, Holi, Rabindra Jayanti, and other festivals, the campus experiences a sharp increase in floating population, resulting in a manifold rise in waste generation within short durations.

Given its status as a Bulk Waste Generator under the Solid Waste Management Rules, 2016, and being fully funded by the Ministry of Education, Government of India, Visva-Bharati University carries a statutory obligation to implement a scientific, decentralized, and environmentally sustainable solid waste management system. At the same time, the University has a significant opportunity to leverage its academic environment, student participation, and land availability to emerge as a model green campus, aligned with national initiatives such as the Swachh Bharat Mission, circular economy principles, and environmental compliance directives issued by regulatory authorities including the National Green Tribunal (NGT).

2.4 Project Background

The proposed Solid Waste Management Project for Visva-Bharati University has been conceived in response to the growing volume and complexity of waste generated across the campus, coupled with regulatory requirements under the Solid Waste Management Rules, 2016 and related environmental legislations. Although the University currently operates five composting units and one bio-methanation plant, these facilities function in isolation and are inadequate to manage the total waste load in a systematic and integrated manner.

The dispersed nature of the campus, availability of land for decentralized facilities, and the presence of diverse waste generators necessitate a zone-wise, decentralized, and integrated solid waste management system. The project aims to establish organized systems for segregation, collection, transportation, processing, recycling, and safe disposal of all waste streams, while minimizing dependence on open dumping and landfill disposal.

This Detailed Project Report (DPR) provides a comprehensive framework for planning, implementation, and monitoring of a sustainable SWM system at Visva-Bharati University, aligned with national regulations, regulatory authority guidelines, and best practices in institutional waste management.

2.5 Scope and Planning Horizon

In accordance with the provisions of the Solid Waste Management Rules, 2016, the proposed Solid Waste Management Plan for Visva-Bharati University has been developed with a planning horizon of 30 years, implemented in six phases of 5 years each.

The phased planning approach enables:

- Gradual strengthening of institutional capacity and infrastructure,
- Alignment of investments with availability of funds,
- Incorporation of technological improvements and behavioural change over time, and
- Periodic review and mid-course corrections based on performance and regulatory requirements.

The short-term phase focuses on establishing core infrastructure for segregation at source, primary collection, decentralized processing, and awareness generation, while the subsequent phase emphasizes system optimization, expansion, and long-term sustainability. Population projections, waste generation trends, and seasonal variations have been considered to ensure that the proposed system remains robust, scalable, and environmentally compliant throughout the planning period.

2.6. Provisions of SWM Plan (Planning year 2026 to 2035)

The University should systematically develop their SWM systems including carefully accessing their requirements of tools, equipment, vehicles, and processing and disposal facilities in a way and at a pace that is locally doable, meets the long-term needs of the University, and is also financially sustainable. It is imperative to take stock of the situation and develop a Solid Waste Management plan (SWM) as bulk Waste Generators. This plan should be in consonance with the SWM Rules, 2016; the state policy and strategy on SWM.

The development of a SWM plan follows a seven-step process as mentioned below:

2.6.1. STEP 1: Policies, Programmes & Legal Framework

The University shall prepare a list of all mandatory and recommendatory actions as per the MSW (M&H) Rules, 2000; SWM Rules, 2016; the NUSP and all other relevant policy guidance to ensure that the SWM action plan is developed within these frameworks. According to MSW (M & H) Rules, 2000 or, SWM Rules, 2016, State Urban Development & Municipal Affairs Department is the prescribed authority responsible for scientific MSWM in the State of West Bengal.

Under the Solid Waste Management Rules, 2016, institutional campuses, universities, hostels, residential complexes, and establishments generating large quantities of waste are categorized as Bulk Waste Generators (BWGs). As a large residential and academic campus, Visva-Bharati University qualifies as a Bulk Waste Generator and is required to comply with the following statutory provisions:

Segregation at Source: Mandatory segregation of waste into biodegradable (wet), non-biodegradable/recyclable (dry), and domestic hazardous waste at the point of generation.

On-site / Decentralized Processing: Biodegradable waste generated by BWGs shall be processed at source, preferably through composting, bio-methanation, or other approved biological treatment methods, as far as possible.

Scientific Handling of Recyclables: Dry and recyclable waste must be stored separately and handed over only to authorized recyclers or Material Recovery Facilities (MRFs).

Safe Disposal of Hazardous and Sanitary Waste: Domestic hazardous waste, sanitary waste, e-waste, and other special waste streams must be stored, labelled, and disposed of as per prescribed guidelines, without mixing with general waste.



Prohibition of Open Dumping and Burning: Open dumping, littering, and burning of solid waste within campus premises are strictly prohibited.

Remediation of Legacy Waste: Existing dump sites within institutional premises are required to be scientifically remediated through bio-mining or bio-remediation.

Record Keeping and Reporting: BWGs must maintain records of waste generation, processing, and disposal, and make such data available to competent authorities as required.

User Fee and Cost Responsibility: BWGs are responsible for bearing the cost of waste management, including processing and disposal of residual waste, either directly or through authorized agencies.

Non-compliance with these provisions attracts regulatory action and penalties, including directions issued by Pollution Control Boards and the National Green Tribunal (NGT)

2.6.2 STEP 2: Assessment of Current Situation & GAP Analysis

A critical assessment of the current status of SWM in its jurisdiction as per national, state, and local level rules, policies, and strategies for SWM governing the University needs to be validated and improved. The assessment should clearly bring out the deficiencies or gaps

that need to be bridged to meet the legal obligations. The assessment should also focus on the waste quantification and characterization. This is essential as quantities and composition of waste vary widely in urbanisation and affluence.

We have conducted a questionnaire survey involving concerned officials of the conservancy department of the University to assess (i) Quality and quantity of MSW, (ii) Current system of collection, segregation, treatment for recycle/ reuse/ recovery and disposal of waste, (iii) Their proposal for efficient collection and transportation of waste including plan of future expansion, (IV) existing monitoring & supervision mechanism, etc.

GAP analysis between existing capacity to tackle proper scientific SWM and the actual requirement for the current and future expansion is done in DPR.

2.6.3 STEP 3: Stakeholder Consultation for SWM Planning

Considering the identified gaps, future population projections and waste generation rates, current and future quality and quantity of waste (based on changing lifestyles and economic status), inputs from stakeholders, financial situation, and technical capabilities of the University, the University's authority should prepare its draft short term and long term SWM plan. Stakeholders' consultation will be carried out and documented in DPR

2.6.4 STEP 4: Preparation of Draft Solid Waste Management Plan

Considering the identified gaps, future population projections and waste generation rates, current and future quality and quantity of waste (based on changing lifestyles and economic status), inputs from stakeholders, financial situation, and technical capabilities of the University, the authority should prepare its draft short term and long term SWM plan.

2.6.5 STEP 5: Schedule for Implementation

The University authority should specify needs for institutional strengthening and financing. Subsequently, an operational plan should be prepared as an integral part of the SWM plan. An implementation plan, indicating allocation of resources and specifying timelines, should be prepared. Public private partnership (PPP) for infrastructure development and service delivery may also be fully explored during this exercise. Timeline for implementation of the SWM project in the University can be fixed up once DPR is completed and fund is released.

2.6.6 STEP 6: Stakeholder Consultation for SWM Plan Validation

Provision of effective SWM services is substantially dependent on community behaviour and practices. Therefore, citizens and stakeholders should be made aware of the plans and consulted before finalization of the SWM plan.

2.6.7. STEP 7: University Approval for SWM Plan & Plan Implementation Including PPP

The final SWM plan is to be presented to the admin body of the University authority to seek approval and to officially formalize the plan. Register should be made aware of the short term and long-term actions to be taken and should also approve the financial plan and necessary institutional strengthening for implementation of these actions. The services to be outsourced (PPP model) or private operator should be made aware of the SWM plan made by the University. Contracting models should be transparent and performance based. Both the University and PPP operator should be accountable for their roles to ensure successful and sustainable project implementation.

It has been stipulated in SWM rule 2016 that the SWM plan is meant for a long-term plan for 30 years. Implementation is guided by short term SWM plan for 10 years and reviewed midterm once every 2-3 years. Thus, to estimate the quantum of waste expected to be generated in forth coming years the number of populations during those periods is to be made available at the time of design of solid waste management. For this purpose, the estimation of projected population is required at different stages of planning and design of SWM system. In view of above the total project period has been envisage for 30 years and short-term plan for 10 years (2026-2036) starting from 2026.

3. REGULATORY & POLICY FRAMEWORK

The proposed Solid Waste Management (SWM) system for Visva-Bharati University has been formulated in accordance with the statutory and policy framework prescribed by the Government of India and the Government of West Bengal. As a Central University of national importance and a Bulk Waste Generator, Visva-Bharati University is required to comply with multiple waste management rules, guidelines, and judicial directions issued by the Ministry of Environment, Forest and Climate Change (MoEFCC), Central Pollution Control Board (CPCB), West Bengal Pollution Control Board (WBPCB), and the National Green Tribunal (NGT).

3.1 Solid Waste Management Rules, 2016

The Solid Waste Management Rules, 2016, notified by MoEFCC, replace the earlier MSW (Management & Handling) Rules, 2000 and significantly widen the scope of applicability to include institutional campuses and bulk waste generators. The Rules emphasize segregation at source, decentralized processing of biodegradable waste, scientific handling of recyclable and hazardous waste, prohibition of open dumping and burning, remediation of existing dump sites, and reduction of landfill dependency.

The Rules also mandate authorization from the State Pollution Control Board and submission of annual compliance reports.

3.2 Plastic Waste Management Rules, 2016

The Plastic Waste Management Rules, 2016 regulate the management of plastic waste through segregation, collection, recycling, and disposal. The Rules introduce the concept of Extended Producer Responsibility (EPR) and impose responsibilities on bulk waste generators to prevent littering, ensure separate collection of plastic waste, and channelize plastic waste to authorized recyclers, particularly during large public gatherings and events.

3.3 Construction and Demolition Waste Management Rules, 2016

These Rules govern the management of waste generated from construction, renovation, and demolition activities. They mandate segregation of C&D waste at source, prevention of mixing with municipal solid waste, reuse and recycling of inert materials, and disposal through authorized facilities or designated sites, especially in large institutional and infrastructure development projects.

3.4 Bio-Medical Waste Management Rules, 2016

The Bio-Medical Waste Management Rules, 2016 apply to healthcare facilities and related establishments. The Rules prescribe segregation of biomedical waste at source into color-coded categories, safe storage, transportation, and disposal through authorized Common Bio-Medical Waste Treatment Facilities (CBWTFs), and strict prohibition of mixing biomedical waste with municipal solid waste.

3.5 Hazardous and Other Waste (Management and Transboundary Movement) Rules, 2016

These Rules regulate hazardous and special wastes generated from institutional, commercial, laboratory, and maintenance activities, including batteries, tube lights, CFLs, chemicals, paints, solvents, and electronic components. The Rules require safe storage, labeling, record-keeping, and disposal through authorized handlers and prohibit mixing of hazardous waste with general solid waste.

3.6 CPCB and WBPCB Guidelines

The CPCB and WBPCB issue technical standards, operational guidelines, and monitoring protocols for solid waste management. These include standards for compost quality, leachate and odour management, occupational health and safety, environmental safeguards, and requirements for obtaining Consent to Establish (CTE), Consent to Operate (CTO), and Authorization under the SWM Rules.

3.7 National Green Tribunal (NGT) Directions

The National Green Tribunal has issued several binding directions emphasizing strict enforcement of the Solid Waste Management Rules, 2016, elimination of open dumping and burning, scientific remediation of legacy waste dumpsites through bio-mining or bio-remediation, and accountability of waste generators for environmental damage caused by improper waste management practices.

3.8 Bulk Waste Generator (BWG) Guidelines



Visva-Bharati University is located at Santiniketan and Sriniketan in Bolpur Sub-Division of Birbhum District, West Bengal. The campus extends over both municipal and non-municipal areas, falling partly within the jurisdiction of Bolpur Municipality and partly outside the local urban body limits. This dual jurisdictional setting poses additional challenges for waste management, as municipal services are limited and the University is largely responsible for managing its waste independently as a Bulk Waste Generator under the Solid Waste Management Rules, 2016.

4.2 Campus Area & Land Use Pattern

The University campus is spread over approximately 1130.78 acres, encompassing Santiniketan and Sriniketan zones. The land use pattern is highly heterogeneous, comprising academic institutions, student hostels, staff residential quarters, offices, health facilities, markets, canteens, open grounds, heritage structures, forest-adjacent areas, agricultural fields, gardens, and water bodies. The dispersed and interwoven nature of land use demands zone-wise and decentralized waste collection, segregation, and processing systems rather than a centralized approach.

Total Population including floating population:

Zone	Design Population	Area (ha)
Zone I	7,300	456.21
Zone II	7,152	
Zone III	6,499	
Total	20,951	1130.78 acres (approx.)

4.3 Academic, Residential & Institutional Infrastructure

Visva-Bharati University has an extensive academic and residential infrastructure, including:

- 12 academic institutions and 11 centres
- 27 student hostels with a total capacity of approximately 3,017 beds
- 13 administrative offices including the Central Administrative Building, Estate Office, Proctor's Office, Siksha Bhavana, Patha Bhavana, PSB Library, Sports Board Office, University Press, and Watch & Ward Office
- 1 health facility, 3 markets, around 100 shops/stalls, 5 canteens, and 15 kitchens across Santiniketan and Sriniketan

These facilities generate diverse waste streams on a daily basis, including food waste, packaging waste, paper, plastics, garden waste, sanitary waste, e-waste, and limited biomedical waste, requiring differentiated handling and processing systems.

4.4 Population Profile (Students, Staff, Floating Population)

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The University supports a large and dynamic population comprising students, faculty, staff, service providers, and visitors. The average daily population is estimated at approximately **20,951**, including around 8,500 students, 2,500 teaching and non-teaching staff, residents of staff quarters and their families, outsourced workers, and service personnel.

During major cultural and academic events such as Poush Mela, Magh Mela, Holi, Rabindra Jayanti, and other festivals, the campus experiences an extraordinary surge in footfall, with visitor numbers reaching 1.7 to 2.0 lakh over short durations. These seasonal peaks result in a sudden and substantial increase in waste generation, particularly plastic, food, and packaging waste, placing additional stress on the existing waste handling mechanisms.

4.5 Special Events & Seasonal Variations

Visva-Bharati is internationally recognized for its cultural festivals, fairs, exhibitions, and academic gatherings. Events such as Poush Mela and Rabindra Jayanti attract large numbers of visitors, vendors, temporary stalls, and informal markets, leading to short-term but intense waste generation. Seasonal variations, particularly during monsoon months, also influence waste composition, with increased generation of biodegradable and horticultural waste. These factors necessitate flexible, scalable, and event-specific waste management arrangements as part of the overall SWM plan.

4.6 Environmentally Sensitive Areas (Forest, Water Bodies)

The Visva-Bharati campus is characterized by significant ecological sensitivity. The University maintains approximately 20 water bodies covering nearly 50 acres, extensive green spaces, gardens, and forest-adjacent zones. The campus is closely integrated with its natural landscape, reflecting the founding philosophy of harmony between education and nature. Improper waste disposal practices, particularly open dumping near ecologically sensitive areas such as the northern side of Bangladesh Bhavana, pose risks of soil contamination, water pollution, and disturbance to local biodiversity.

Given the proximity of forest land, water bodies, and heritage landscapes, the adoption of a scientific solid waste management system is critical to prevent environmental degradation and to preserve the ecological and cultural integrity of the campus.

In view of its scale, population dynamics, cultural significance, and environmental sensitivity, Visva-Bharati University requires a comprehensive, decentralized, and sustainable solid waste management system. The proposed SWM plan seeks to address these unique characteristics while ensuring compliance with statutory requirements and reinforcing the University's role as a model green and sustainable campus.

5. BASELINE ASSESSMENT & EXISTING SWM PRACTICES

5.1 Existing Waste Collection System

Visva-Bharati University has a large residential character, with 32 student hostels (boys' and girls' hostels) accommodating approximately 4,500 student boarders. These hostels are among the major waste generators on campus due to daily cooking and food preparation activities in hostel kitchens and messes. Substantial quantities of biodegradable waste, along with packaging and plastic waste, are generated on a daily basis.

At present, waste generated from hostels is collected in a mixed form, without any segregation, and transported to the dumping site. Collection is largely manual and dependent on casual and outsourced workers. Waste from academic buildings, offices, staff quarters, guest houses, and canteens is also collected in a mixed manner, with no differentiation between wet, dry, or hazardous waste streams.

Roads, internal streets, and garden areas are cleaned through routine sweeping operations. The collected sweepings, including leaves, soil, plastics, and other mixed waste, are loaded onto tractors or trolleys and transported directly to the dumping site. Waste from canteens and guest houses is similarly collected as mixed waste and disposed of without any intermediate segregation or treatment. In several locations, informal or ad-hoc collection by casual staff is observed, particularly during peak activity periods.

5.2 Segregation Practices at Source

At present, segregation of waste at source is not practiced across the Visva-Bharati University campus. Waste from hostels, kitchens, canteens, offices, residential quarters, markets, gardens, and public spaces is disposed of as mixed waste. There is no system of separate bins for biodegradable, recyclable, plastic, sanitary, or hazardous waste at the point of generation. The absence of segregation significantly limits opportunities for recycling, composting, or resource recovery and leads to avoidable contamination of recyclable and biodegradable waste streams.

5.3 Storage & Transportation

Temporary storage of waste is primarily done using concrete dustbins and movable containers, which are generally located at the backside of hostels and near selected buildings. These storage points receive mixed waste and often remain uncovered. In roadsides, playgrounds, open grounds, and several public areas, dustbins are largely absent, mainly due to concerns related to nuisance created by stray dogs and animals scattering waste.

Transportation of waste is carried out using tractors and trolleys, without covered containers or compartmentalization. Waste is transported in a mixed condition directly from collection points to the dumping site. There is no fixed route plan, frequency schedule, or dedicated vehicles for different waste streams.

5.4 Existing Processing Facilities (Compost, Bio-methanation)

Visva-Bharati University currently has limited waste processing infrastructure. A small quantity of biodegradable waste is treated through vermicomposting units, primarily managed under the Agriculture Department. However, these facilities are small in scale and inadequate to handle the total volume of biodegradable waste generated across the campus.

Apart from limited vermicomposting, most of the biodegradable waste remains untreated and is disposed of along with mixed waste. Existing processing facilities are fragmented, not integrated into a campus-wide waste management system, and operate far below the required capacity for a university of this size.

5.5 Disposal / Dumping Practices

The dominant mode of waste disposal at Visva-Bharati University is open dumping of mixed waste. All collected waste—whether from hostels, roads, gardens, canteens, or offices—is transported to the designated dumping site, primarily located near the northern side of Bangladesh Bhavana.

The dumping site lacks scientific design, segregation, engineered lining, leachate management, or environmental safeguards. Continuous dumping of mixed waste has resulted in accumulation of unprocessed waste, posing risks to soil, water bodies, nearby forest areas, and overall campus aesthetics.

5.6 Manpower & Institutional Arrangements

Solid waste management activities at Visva-Bharati University are carried out with limited manpower and weak institutional arrangements. The current manpower deployment includes:

Sweepers: 3

Multi-Tasking Staff (MTS): 3

Outsourced workers: 9

Enlisted casual workers: 3

In addition, a Self-Help Group (Mahadal) comprising approximately 150 members is associated with sanitation-related activities. However, the University remains largely dependent on casual and outsourced labour for waste collection, transportation, and dumping.

During major cultural events and fairs such as Poush Mela, Dol Yatra, Basanta Utsava, and other festivals, the University deploys additional temporary manpower to manage the surge in waste generation. In several instances, the University also engages Bolpur Municipality on a payment basis to clear waste from high-generation zones during such events.

There is currently no dedicated SWM cell, no defined roles and responsibilities for waste management staff, and no structured monitoring or reporting mechanism.

5.7 Compliance Status with SWM Rules, 2016

Based on the baseline assessment, Visva-Bharati University is largely non-compliant with key provisions of the Solid Waste Management Rules, 2016. Major areas of non-compliance include:

- Absence of segregation at source
- Lack of decentralized processing of biodegradable waste
- Mixing of recyclable, plastic, and hazardous waste with general waste
- Open dumping of mixed waste
- Inadequate infrastructure for storage, transportation, and processing
- Absence of systematic waste quantification, record-keeping, and reporting

The existing practices highlight an urgent need for a comprehensive, scientific, and decentralized solid waste management system, supported by adequate infrastructure, manpower, institutional

strengthening, and behavioural change initiatives, to ensure regulatory compliance and environmental sustainability across the Visva-Bharati University campus.

6. WASTE INVENTORY & CHARACTERIZATION

This chapter presents an assessment of the waste inventory and characterization for Visva-Bharati University, prepared to understand the quantity, composition, spatial distribution, and future trends of solid waste generation across the campus. The analysis forms the basis for designing an appropriate, decentralized, and sustainable solid waste management (SWM) system in compliance with the Solid Waste Management Rules, 2016.

6.1 Waste Generators (Hostels, Quarters, Canteens, Offices, Markets)

Solid waste generation at Visva-Bharati University originates from multiple academic, residential, institutional, commercial, and public-use activities. The major waste-generating sources are as follows:

- Student Hostels (Boys' and Girls' Hostels): The University has 32 student hostels accommodating approximately 4,500 boarders. Hostel kitchens and messes generate substantial quantities of biodegradable waste such as food leftovers, vegetable waste, and cooked food residues, along with packaging waste, plastics, and limited sanitary waste. Hostels constitute the largest share of daily waste generation on campus.
- Staff Residential Quarters: Residential quarters occupied by teaching and non-teaching staff and their families generate household waste comprising biodegradable kitchen waste, recyclable dry waste (paper, plastic, glass, metal), and sanitary waste.
- Canteens, Kitchens, Guest Houses & Eating Establishments: The University operates 5 canteens and around 15 kitchens, in addition to guest houses and temporary food stalls during events. These facilities generate high volumes of wet waste and plastic waste on a daily basis.
- Academic & Administrative Buildings: Offices, classrooms, libraries, laboratories, and administrative units generate mainly dry recyclable waste such as paper, cardboard, stationery waste, along with limited quantities of e-waste and hazardous waste from laboratories and maintenance activities.
- Markets, Shops & Commercial Areas: The campus includes 3 markets and approximately 100 shops/stalls, which generate mixed waste including packaging material, plastic carry bags, food waste, and inert materials.
- Gardens, Roads & Open Areas: Extensive landscaped areas, gardens, and roadside vegetation generate large quantities of horticultural waste such as leaves, grass clippings, and tree trimmings, particularly during monsoon and seasonal pruning periods.

6.2 Methodology for Waste Quantification

Waste quantification for Visva-Bharati University has been carried out using a combination of the following approaches:

Population-based estimation, using standard per capita waste generation norms for institutional and residential settings as prescribed by CPCB and relevant guidelines.

Activity-based assessment, considering the number of hostels, kitchens, canteens, markets, offices, and gardens.

Field observations and stakeholder consultations, including discussions with conservancy staff, hostel authorities, and University officials.

Secondary data review, including records related to population, infrastructure, and existing waste handling practices.

Due to the absence of a systematic weighing and recording mechanism at present, waste quantities have been estimated conservatively, with provisions for refinement once segregation and measurement systems are introduced.

6.3 Waste Composition and characterization Analysis (Wet, Dry, Hazardous)

The waste generated at Visva-Bharati University is heterogeneous in nature and broadly categorized as follows:

- Biodegradable (Wet) Waste (50–55%) Includes food waste from hostels, kitchens, canteens, guest houses; garden and horticultural waste; and biodegradable packaging material.
- Dry Recyclable Waste (30–35%) Includes paper, cardboard, plastics, glass, metals, and packaging materials from offices, hostels, markets, and events.
- Domestic Hazardous & Special Waste (5–10%) Includes sanitary waste, batteries, CFLs, tube lights, cleaning chemicals, e-waste, and limited biomedical waste from health facilities.

The absence of segregation at source currently leads to contamination of recyclable and biodegradable waste streams, reducing recovery potential.

6.3.1. Quantification, Composition and characterization of waste:

Residential- Girls' Hostels, Boys' Hostels and Staff Quarters

For effective planning, design, and implementation of a scientific Solid Waste Management (SWM) system, it is essential for the University to assess the quantity and composition of waste generated within the campus. Waste generation patterns are influenced by population size, functional activities, income levels, lifestyle, food habits, and institutional infrastructure.

In Visva-Bharati University, residential areas comprising boys' hostels, girls' hostels, and staff quarters are the primary contributors to daily municipal solid waste generation. These areas mainly generate biodegradable waste such as food waste and kitchen waste, along with recyclable dry waste including paper, plastic, metal, and glass.

A field-level waste assessment study was conducted within selected hostels and staff residential units across different zones of the University campus. Representative residential units were identified to reflect varied occupancy levels and lifestyle patterns. Residents and hostel authorities were informed in advance regarding segregation and temporary storage of waste at source.

The waste generated was collected, segregated into wet and dry fractions, and weighed under supervision of designated University officials and project team members. Quantitative analysis of solid waste was carried out using the quartering and coning method, as prescribed in the Central Public Health and Environmental Engineering Organisation (CPHEEO) Manual.

The findings of this assessment form the basis for estimating total waste generation, designing collection and transportation systems, and selecting appropriate processing and disposal technologies for the University campus.

6.3.2. Methodology Quartering and Coning Sampling Procedure:

Step 1: Entire university area was divided into 4 (Four) types of waste generating groups viz. girl's hostels group, boy's hostels group, staff quarter and canteen.

Step 2: Mixed waste is collected from each type of major waste generators which is as followed:

Step 3: Number of members in each household was noted as mentioned below:

Step 4: Samples from all heterogeneous sampling points (Girl's hostels / Boy's hostel / Staff quarters / Canteen) shall be mixed thoroughly mentioned above so that heterogeneous waste sample of each type of generator is placed as a uniform heap.

Step 5: Heterogeneous waste of each of the four heaps will be weighed and recorded.

Step 6: Now, each of the four heaps are divided into four portions using straight lines perpendicular to each other.

Step 7: Waste from opposing corners of the divided heap is removed to leave half of the original sample. The remaining portions are again thoroughly mixed and the quartering process is repeated until a desired size is obtained

Step 8: The last remaining opposing fractions of waste shall be mixed and analysed for identifying physical properties of the waste. Decomposable waste, after removing inorganic and inert portions of the waste while finding physical composition of waste, were measured for chemical analysis by engaging a laboratory accredited by the NABL.

Field results are depicted in the Tables below for the following segment of population:

- Waste generated from the girl's hostels
- Waste generated from the boy's hostels
- Waste generated from the staff quarters
- Bulk waste generated from canteens

Findings of Quantitative Analysis of Solid Waste Generating from Different Places are presented in Table
Quantitative Analysis of Waste Generated in VBU

Visva Bharati University
Covered 50 waste generating units covering quarters, hostels and canteens (Random)
Survey for Waste Quantification and Characterization

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Date	Day 1 (05/01/2026)		Day 2 (06/01/2026)		Day 3 (07.01.2026)		
Total quantity of waste collected (Kg)	63		60.66		60.23	183.89	308.0235
Sample waste (25%) derived	22.8		22.1		22.3		
Total No of quarters covered	50		50		50		
Total No of family Members covered	199		199		199	597	
	Weight (Kg)	% of Sample Waste	Weight (Kg)	% of Sample Waste	Weight (Kg)	% of Sample Waste	
Quantity of Organic Waste	12.38	54.28	11.55	52.28	11.23	50.34	52.30
Nature and Quantity of Recyclable Waste derived from sample waste							
Paper & Cardboard	2.41	10.57	2.34	10.57	2.80	12.55	11.23
Plastic	3.04	13.34	2.95	13.34	2.75	12.32	13.00
Metal	0.40	1.76	0.61	2.76	0.62	2.76	2.43
Glass	0.28	1.24	0.27	1.24	0.30	1.34	1.27
Leather	0.27	1.2	0.27	1.2	0.27	1.2	1.20
Carry Bags	0.71	3.1	0.69	3.1	0.69	3.1	3.10
Sanitary Napkin & Diaper	0.48	2.12	0.25	1.12	0.45	2	1.75
Hazardous Waste	0.50	2.19	0.70	3.19	0.49	2.19	2.52
Quantity of Inert derived from sample waste	2.33	10.2	2.48	11.2	2.72	12.2	11.20
	22.80	100	22.10	100	22.30	100	100

6.4 Result- Solid Waste Management in grams per capita/day: Per Capita Generation of Waste

6.4.1 Waste Generated from quarters

In reference to Table total waste generated from the University quarter and shops = (63+60.66+60.23) = 183.89 Kg

In reference to Table total population= 597

Waste generation per capita per day in 2026 = (183.89 × 1000) ÷ 597 = 308.02, Say 308 gm/ cap/ day

Waste generation in 2026 = Population in 2026 × Per capita generation in 2026 (20951* 308 g.p.c.d)/1000 = 6453.4 k.g./ day/1000 = 6.45 MT/ day; Say, 6.5 MT/ day

6.4.2. Characteristics of University Solid Waste



University solid waste was collected from field and representative samples were sent to NABL accredited laboratory for analysis. The results are as mentioned below:

TEST FINDINGS

Sl. No.	Test Parameters	Unit	Results
1.	Moisture	%	45.62
2.	Organic Matter	%	40.98
3.	C:N Ratio	---	12.51:1
4.	Gross Calorific Value	Kcal/kg	4115
5.	Organic Carbon	%	23.77
6.	Total Nitrogen	%	1.90
7.	Total Phosphorus	%	0.21
8.	Total Potassium	%	0.40



Photo 1



Photo 2

Waste Composition and characterization Process

6.5 Zone-wise Waste Generation

For planning purposes, the University campus has been divided into broad functional zones based on land use and population density:

- Zone I (Santiniketan Academic & Residential Core): High waste generation due to dense concentration of hostels, academic buildings, offices, markets, and cultural activity areas.
- Zone II (Santiniketan Peripheral & Residential Areas): Moderate waste generation from staff quarters, gardens, roads, and scattered institutional facilities.
- Zone III (Sriniketan Campus): Moderate waste generation dominated by academic institutions, agricultural activities, hostels, and horticultural waste.

Zone-wise waste generation patterns indicate the need for multiple decentralized processing units rather than a single centralized facility.

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6.6. Waste Projection (2026–2035)

Waste generation at Visva-Bharati University is expected to increase steadily due to:

- Growth in student intake and academic programmes
- Expansion of hostel and residential facilities
- Increase in visitor footfall and cultural events
- Rising consumption of packaged goods

Assuming a conservative annual growth rate of 1%, waste generation has been projected for a 10-year planning horizon (2026–2035), in line with SWM Rules, 2016 and national planning practices.

The projections indicate:

- A gradual increase in daily waste quantities under normal operating conditions
- Sharp short-term spikes during festivals and fairs
- Increasing proportion of dry and plastic waste unless reduction and segregation measures are implemented

Waste projection for 2026- 2035 (Yearly rate of increase of waste generation has been consider to be at 1% over the previous year)			
Year	Projected generation of waste (MT/Day)		
	Wet Waste	Dry Waste	Total waste
2026	3.9	2.6	6.5
2027	3.9	2.6	6.6
2028	4.0	2.7	6.6
2029	4.0	2.7	6.7
2030	4.1	2.7	6.8
2031	4.1	2.7	6.8
2032	4.1	2.8	6.9
2033	4.2	2.8	7.0
2034	4.2	2.8	7.0
2035	4.3	2.8	7.1

These projections reinforce the need for a scalable, modular, and decentralized SWM system, capable of adapting to future growth while minimizing environmental impact and dependence on dumping or landfilling.

7. GAP ANALYSIS

7.1 Infrastructure Gaps

At present, Visva-Bharati University lacks the essential physical infrastructure required for scientific solid waste management. The key infrastructure gaps include:

- Absence of segregation infrastructure at source, such as color-coded bins for wet, dry, and domestic hazardous waste in residential staff quarters, hostels, offices, academic buildings,

markets, and public areas. Un scientific concrete vat/community bins are visible across the campus areas especially behind every hostel, canteens and other areas.

- No secondary storage facilities for dry waste, with waste being temporarily stored in open or poorly designed concrete bins behind hostels and buildings, without roofing, leachate control, or access restriction and most cases ragpickers used to collect from those areas and sale for their livelihood.
- Non-availability of dedicated waste collection vehicles designed for segregated waste; rented tractors from vendors and trolleys are used for transporting mixed waste and dry leaves after road sweeping leading to spillage and secondary pollution.
- No Material Recovery Facility (MRF) for segregation and storage of recyclable dry waste such as paper, plastics, metals, and glass.
- Insufficient waste processing capacity: existing vermicomposting facilities treat only a small fraction of biodegradable waste, while the majority remains unprocessed.
- No designated infrastructure for domestic hazardous waste, sanitary waste, e-waste, or construction and demolition waste, resulting in these streams being mixed with general waste.
- Unscientific dumping site near Bangladesh Bhavana, lacking boundary fencing, liners, leachate management, stormwater diversion, or environmental monitoring systems.

7.2 Operational Gaps

Operationally, the existing waste management system is limited to basic sweeping and collection of mixed waste from generators does not follow the principles of integrated solid waste management.

Major operational gaps include:

- Mixed waste collection practices across all waste generators, including hostels, canteens, offices, gardens, and residential quarters.
- Absence of a structured primary collection system, such as door-to-door or point-to-point collection with defined routes, schedules, and frequency.
- No zone-wise operational planning, despite the geographically dispersed nature of the campus across Santiniketan and Sriniketan.
- Irregular collection frequency, often dependent on bin overflow rather than planned service delivery.
- No system for waste weighing, record-keeping, and data management systems for tracking waste generation, processing, and disposal.
- Event-related waste management is reactive, with temporary arrangements made during Poush Mela, Basanta Utsava, Dol Yatra, and other events, rather than pre-planned systems.
- Dependence on external agencies, such as Bolpur Municipality and need based paid vendors for waste clearance during peak events, without defined service-level agreements.
- Absence of partnership models where the university can seek support from expert agency to handle the university solid waste. It can also explore support from Corporates for CSR fund to scientifically manage the waste. If the waste manage optimally it can be proven as great resources, so in absence of any private or government facility collaboration/projects circularized economy of waste management is a long shot.
- Lack of capacity building activities among existing staff working across the waste management ecosystem of the university.





7.3 Manpower & Capacity Gaps

The manpower structure for solid waste management at Visva-Bharati University is inadequate in both numbers and capacity. Key gaps include:

- Severely limited permanent manpower where 4 are permanent under the sanitation department and around 150 daily wages labour from women led SHGs regularly working in the campus areas for maintaining its cleanliness, comprising only a small number of sweepers and Multi-Tasking Staff (MTS), which is insufficient for a campus of over 1,130 acres.
- Heavy reliance on outsourced and casual workers, including Mahadal Self Help Group members, without long-term engagement or defined roles.
- Absence of trained supervisory staff dedicated to solid waste management planning, monitoring, and compliance.
- No formal training programs on segregation, safe handling of waste, occupational health and safety, or SWM Rules, 2016.
- Lack of personal protective equipment (PPE) and safety protocols for sanitation workers handling mixed and hazardous waste.
- No institutional unit or cell exclusively responsible for SWM, resulting in fragmented responsibilities across departments.

7.4 Behavioural & Awareness Gaps

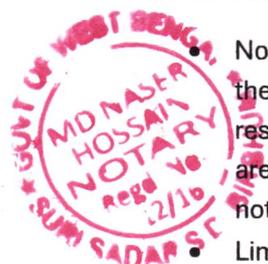
Behavioural practices and awareness levels among campus stakeholders significantly constrain effective waste management. The major gaps include:

- No culture of segregation at source among students, staff, residents, vendors, or visitors but there are few exceptions in some individual quarters as noticed during interaction with the resident of the quarter. It also noted that there is one citizen group used to operate in the quarter areas for collecting only dry waste weekly with minimum pay but resident of these quarters are not very aware about its details.
- Limited awareness of SWM Rules, 2016, and the responsibilities of bulk waste generators.
- Absence of structured Information, Education, and Communication (IEC) activities, signage, or continuous sensitization programs.
- High turnover of students and visitors, making sustained behavioral change challenging without institutionalized mechanisms.
- Littering in open areas, playgrounds, and event venues, exacerbated by the non-availability of bins due to stray animal issues.
- Minimal student and faculty engagement in waste reduction, composting, or recycling initiatives, despite strong academic potential.

7.5 Regulatory Compliance Gaps

The current solid waste management practices at Visva-Bharati University are not aligned with statutory and regulatory requirements. Key compliance gaps include:

- Non-compliance with segregation at source mandates under the Solid Waste Management Rules, 2016.





- Absence of authorization under SWM Rules, 2016 from the West Bengal Pollution Control Board for waste processing and disposal activities.
- No system for on-site processing of biodegradable waste, as required for bulk waste generators.
- Lack of arrangements with authorized recyclers or processors for plastic waste, e-waste, hazardous waste, and biomedical waste.
- Non-maintenance of records and annual reporting, as prescribed under SWM Rules, 2016.
- Potential environmental risks due to proximity of dumping areas to forest land and water bodies, which may attract regulatory action.

7.6 Summary

The gap analysis clearly demonstrates that the existing solid waste management system at Visva-Bharati University is predominantly disposal-oriented, with significant deficiencies across infrastructure, operations, manpower, behavior, and regulatory compliance. Addressing these gaps requires a comprehensive, decentralized, and phased intervention strategy, which is detailed in the proposed Solid Waste Management Plan presented in subsequent chapters of this DPR.

8. PROPOSED SOLID WASTE MANAGEMENT SYSTEM

The proposed solid waste management (SWM) system for Visva-Bharati University is designed to establish an integrated, scientific, and sustainable framework that addresses the diverse waste streams generated across academic buildings, hostels, residential quarters, canteens, healthcare facilities, gardens, and institutional establishments within the campus. The system emphasizes waste reduction, segregation at source, decentralized processing, and environmentally safe disposal in compliance with national regulations such as CPCB, SWM Rules and SBM (2.0).

8.1 Waste Management Philosophy (3R & ISWM Approach)

The proposed SWM system for Visva-Bharati is guided by the principles of Reduce, Reuse, and Recycle (3R) and the Integrated Solid Waste Management (ISWM) approach as mandated under the Solid Waste Management Rules, 2016.

Key elements of the philosophy include:

- Reduction at source through awareness, behavioral change, and minimization of single-use items.
- Reuse and recycling of materials such as paper, plastics, metals, and glass through formal and informal recycling channels.
- Decentralized processing of biodegradable waste through composting/vermicomposting within the campus.
- Safe handling and disposal of residual and special waste streams.
- Stakeholder participation, including students, faculty, staff, hostel residents, and service providers.

This approach ensures environmental sustainability, regulatory compliance, cost efficiency, and long-term operational viability.

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8.2 Segregation at Source (2-bins System)

Segregation at source is the cornerstone of the proposed system and will be implemented across all waste-generating units within the university campus.

Proposed Segregation System:

A 2-bin system will be mandatory at all points of waste generation, with a 4th bin at selected locations.

- Green Bin – Wet/Biodegradable Waste for Food waste from hostels and canteens, Kitchen waste and Garden trimmings (small quantity)
- Blue Bin – Dry/Recyclable Waste for Paper, cardboard, Plastics, metal cans, glass and Packaging material
- Other Domestic Hazardous & Sanitary Waste for Sanitary napkins, diapers, Soiled waste, Expired medicines and batteries and separate Collection (where applicable) can be done for E-waste, Biomedical waste from health facilities and C&D waste.

So, number of color-coded bins required in the year 2026 will be @ 2 Nos. of bins per waste generating units (quarters, shops), hostels, guest house and other areas of the campus.

Proposed @ 2 Bins for	Types of Bins	Number
500 Staff quarters	10 Litre (500 x 2)	1000
13 administrative offices where 4 pairs in each office	40 Litre (13 x 8)	104
12 Academic institutions	40 Litre (12 x 10)	120
11 Centers	40 Litre (11 x 8)	88
30 hostels (presently 27 hostels but 3 will be inaugurated soon)	40 Litre (30 x 20)	600
100 shops	10 Litre (100 x 2)	200
3 Markets	100 Litre (3 x 6)	18
6 Guest Houses	40 Litre (6 x 8)	48
16 kitchens	40 Litre (16 x 6)	96
5 canteens	40 Litre (5 x 6)	30
1No. of Hospital only for collection of organic and dry waste (except bio medical waste)	100 Litre (1 x 2)	2
3 No of Road	40 Litre (100 x 2)	200
24 No. of Gardens	40 Litre (24 x 10)	240
3 No of community halls/marriage halls	40 Litre (3 x 6)	18
2 No of schools	40 Litre (2 x 50)	100
20 No of waterbodies	40 Litre (20 x 2)	40
Mela ground/playground and other open spaces (during melas and festivals additional no of bins will be required)	100 Litre (20 x 2)	40
Football Grounds: 7 (Seven) in Six Sports Nodal Areas,	40 Litre (40 x 2)	80

<p>Cricket Ground: 4(Four) in II,III,IV and V Sports Nodal Areas, Standard Swimming Pool (50 mt. length) in Sports Nodal area III. Three Gymnasium Hall in Sports Nodal Areas II,III and IV., Four Kho-Kho Grounds, Four Basketball Courts, One Lawn Tennis Court, One handball ground, Six Volleyball Courts, Two Athletic fields, Yoga Hall</p>		
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**It is proposed to install community bins along roadsides and in open spaces, equipped with permanent iron-frame structures to ensure easy waste collection and to prevent damage from vandalism and stray animals.

Color-coded bins with pictorial signage will be placed in classrooms, offices, hostels, residential quarters, canteens, and common areas. Continuous IEC and monitoring will ensure compliance.

8.3 Primary Collection System (Door-to-Door & Institutional)

The primary collection system will ensure daily, segregated collection of waste from all sources within the campus.

Collection Mechanism:

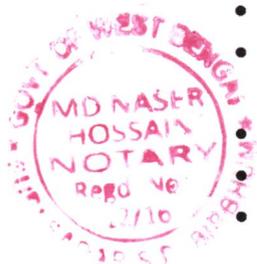
- Door-to-door collection from residential quarters and hostels.
- Institutional collection from academic buildings, offices, libraries, canteens, and healthcare units.
- Dedicated collectors trained in handling segregated waste.
- Use of pedal tricycles van with separate compartments for wet, dry, and hazardous waste.
- Waste collectors will be provided with PPEs and will strictly avoid mixing of segregated waste during collection.
- Waste will be collected through street sweeping and drainage cleaning.

8.4 Secondary Storage & Transportation

Secondary storage points will be established at strategically identified locations within the campus to consolidate waste before processing or transportation.

Key Features:

- Covered, leak-proof, and color-coded secondary bins/containers.
- Separate storage for biodegradable, recyclable, and residual waste.
- No long-term storage of wet waste to avoid odor and vector issues.
- Transportation will be carried out using:





- Dedicated vehicles or tippers with partitioned compartments.
- Scheduled transportation to composting units, material recovery facilities (MRFs), or authorized disposal sites.
- Minimal travel distance through decentralized processing within campus as far as possible.

8.5 Collection Frequency & Routing Plan

A structured collection schedule and routing plan will be followed to ensure efficiency and hygiene.

Collection Frequency:

- Wet waste: Daily
- Dry waste: Daily
- Sanitary & hazardous waste: Daily
- Garden waste: As generated regular or (seasonal)
- C&D waste: On-call basis

Routing Plan:

- Separate routes for wet and dry waste.
- Priority coverage for hostels, canteens, and healthcare facilities.
- Optimized routes to minimize fuel consumption and time.
- Route maps and duty rosters will be prepared and periodically reviewed.

8.6 Special Waste Streams Management

Given the diverse institutional activities of Visva-Bharati, specific mechanisms are proposed for managing special waste streams.

a) Plastic Waste

- Strict segregation of plastic waste at source.
- Ban of single-use plastic up to 120 Micron within campus.
- Storage and handover to authorized recyclers or designated agencies in compliance with Plastic Waste Management Rules.

b) Sanitary & Hazardous Waste

Collection separately

Safe handling by trained staff.

- Disposal through incineration or authorized treatment facilities as per SWM Rules, 2016.

c) E-Waste

- Separate collection and storage at designated e-waste collection points.
- Periodic handover to authorized e-waste recyclers as per E-Waste Management Rules.
- Awareness among students and staff on safe disposal.

d) Garden Waste



- Collection of Garden waste
- Avoidance of burning of garden waste.

e) Construction & Demolition (C&D) Waste

- Separate storage of C&D waste at identified locations.
- Reuse of debris for leveling, pathways, or authorized recycling, excess quantity other than use of debris for levelling to be handed over to the Bolpur Municipality against charges to be decided by both the authority.
- Disposal through approved C&D waste facilities as per C&D Waste Management Rules, 2016.

The proposed solid waste management system for Visva-Bharati University adopts a scientific, need based centralised or decentralized, and regulation-compliant approach, ensuring environmental protection, campus cleanliness, and active stakeholder participation. Successful implementation will significantly reduce landfill dependency and promote Visva-Bharati as a model green and sustainable university.

9. PROPOSED WASTE PROCESSING & TREATMENT FACILITIES

The waste processing and treatment strategy for Visva-Bharati University is designed on a need-based hybrid model, combining decentralized treatment at source with centralized processing facilities. This approach ensures operational efficiency, cost effectiveness, regulatory compliance, and long-term sustainability while respecting the ecological and heritage character of the campus.

9.1 Centralized Waste Management System

Centralized facilities are proposed for waste streams that: Require higher technical control, are generated in bulk and cannot be managed effectively at decentralized level

Criteria for selection of processing technology- (Windrow Composting, Material Recovery Facilities, Sanitary landfill) – CPHEEO Technology Assessment

9.1.1. Composting:

Municipal solid waste (MSW) primarily consists of organic, inorganic, and inert fractions. Under natural conditions, the organic fraction of waste continually decomposes, accompanied by a strong foul odour and production of gases, which are predominantly methane (CH₄) or, CO₂ depending on the aerobic condition of the decomposing mass. Vector infestation during the natural decomposition is a common phenomenon.

Composting is a process of controlled decomposition of the organic waste, typically in aerobic conditions, resulting in the production of stable humus-like product, i.e., compost.

It is the third preferred choice in the ISWM strategy, i.e., adoption of resource recovery strategies and composting, ensures that waste is processed appropriately to facilitate further use of the material. Composting is a biological process of stabilising biomass either in the presence or absence of free oxygen, carried out by a host of microbes. Aerobic composting, which is carried out in the presence of

air, is far more popular because it is much faster compared with the “trench” composting where direct access to air is denied. Processing of MSW by this process yields humus rich compost (organic manure) along with macronutrients and micronutrients for plants.

9.1.1.1. Clause 4 Duties of Waste Generator:

All resident welfare and market associations shall, within one year from the date of notification of these rules and in partnership with the local body ensure segregation of waste at source by the generators as prescribed in these rules, facilitate collection of segregated waste in separate streams, handover recyclable material to either the Authorised waste pickers or the authorised recyclers.

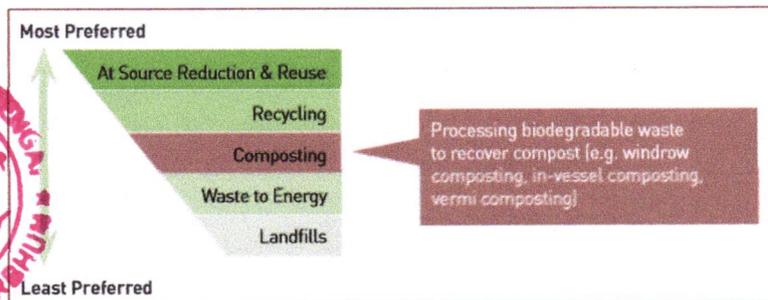


Fig 2 –: Composting in the Integrated Solid Waste Management Hierarchy

The bio-degradable waste shall be processed, treated and disposed of through composting or bio-methanation within the premises as far as possible. The residual waste shall be given to the waste collectors or agency as directed by the local body.

All gated communities and institutions with more than 5,000 sq. m area shall, within one year from the date of notification of these rules and in partnership with the local body, ensure segregation of waste at source by the generators as prescribed in these rules, facilitate collection of segregated waste in separate streams, handover recyclable material to either the authorised waste pickers or the authorized recyclers. The bio-degradable waste shall be processed, treated and disposed of through composting or bio-methanation within the premises as far as possible. The residual waste shall be given to the waste collectors or agency as directed by the local body.

9.1.1.2. Duties and Responsibilities of VBU Authorities:

Collect waste from vegetable, fruit, flower, meat, poultry and fish market on day to day basis and promote setting up of centralised compost plant in the appropriate designated locations ensuring hygienic conditions;

- Transport segregated bio-degradable waste to the processing facilities like compost plant or any such facility. Preference shall be given for onsite processing of such waste;
- Phase out the use of chemical fertilizer in two years and use compost in all parks, gardens maintained by the VBU and wherever possible in other places under its jurisdiction. Incentives may be provided to recycling initiatives by informal waste recycling sector.

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- Facilitate construction, operation and maintenance of solid waste processing facilities and associated infrastructure on their own or with private sector participation or through any agency for optimum utilisation of various components of solid waste adopting suitable technology including the following technologies and adhering to the guidelines issued by the state and central authority from time to time and standards prescribed by the Central Pollution Control Board. Preference shall be given to decentralised processing to minimize transportation cost and environmental impacts such bio-methanation, microbial composting, vermin-composting, anaerobic digestion or any other appropriate processing for bio-stabilisation

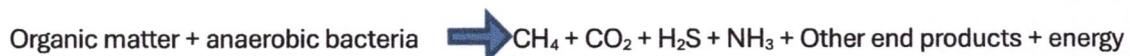
9.1.1.3. Waste Processing Facility

The organic content of municipal solid waste tends to decompose leading to various smell and odour problems. It also leads to pollution of the environment. To ensure safe disposal of solid waste it is desirable to reduce its pollution potential several processing methods are proposed. Composting is an organized method of producing compost manure by adopting this natural phenomenon. Compost is particularly useful as an organic manure which contains plant nutrients (Nitrogen, Phosphorous and Potassium) as well as micro nutrients which can be utilized for growth of plants. Composting can be carried out in two ways i.e. aerobically and anaerobically. During aerobic composting aerobic micro – microorganism oxidize organic compounds to Carbon Dioxide, Nitrite and Nitrate. Carbon from organic compounds is used as a source of energy while nitrogen is recycled. Due to exothermic reaction, temperature of the mass rises. However, during anaerobic process anaerobic microorganisms, while metabolizing the nutrients, break down the organic compounds through a process of reduction. A very small amount of energy is released during the process and the temperature of composting mass does not rise much. The gases evolved are mainly Methane and Carbon Dioxide. An anaerobic process is a reduction process and the final product is subjected to some minor oxidation when applied to land.

The overall aerobic composting process can be explained as follows:



The overall anaerobic composting process can be explained as follows:



9.1.2 Aerobic Composting:

In this process of composting, totally segregated organic material present in Municipal Waste is converted into a stable mass by aerobic decomposition. In this method, refuse is delivered on a paved open space, levelled and well drained in an about 20 windrows.

This is relevant to mention here that during the development of composting process various innovators came forward with inoculum, enzymes etc., claimed to hasten the composting process. Investigations carried out by various workers have shown that they are not necessary. The required forms of bacteria, actinomycetes and fungi are indigenous to Municipal Solid Waste. Under proper environmental conditions the indigenous bacteria adapted to Municipal Solid Waste rapidly multiply, as compared to the added cultures which are more attuned to controlled laboratory conditions and carry out decomposition. The process is dynamic and as any specific organism can survive over a specific range of environmental conditions, as one group starts diminishing, another group of organisms starts flourishing. Thus, in such a mixed system appropriate life forms develop and multiply to keep pace with the available nutrients and environmental conditions. Hence, addition of inoculum is unnecessary.

The composting mass should have a certain minimum moisture content in it for organisms to survive. The optimum moisture content is known to be between 50 – 60%.

The temperature, under properly controlled conditions is known to rise beyond 70 degrees centigrade in aerobic composting. During anaerobic composting on the other hand, as the released heat is quite small and as part of it is lost from the surface, only a marginal rise in temperature occurs.

The organisms involved in stabilization of organic matter utilize about 30 parts of carbon for each part of nitrogen and hence an initial **C/N** ratio of 30 is most favourable for composting. Research workers have reported the optimum value to range between 26 – 31 depending upon other environmental conditions.

The compost prepared from Municipal Waste should be black brown or at least brown in colour. It should be crumbly in nature with an earthy odour. The pH should be neutral though slightly acidic or alkaline pH within the range of 6.6 to 7.5 can be tolerated. The compost should neither be completely dry nor it be lumpy and water should not come out of the mass when squeezed. The Nitrogen, Phosphorous and Potassium (NPK) contents should be more than 1% each. The Nitrogen should be in the form of Nitrate for proper utilization of by the plants. The C/N ratio should be between 15 to 20. Standards for compost is mentioned in the Table below:

Standards for Compost

Parameters	Maximum acceptable concentration
Arsenic (mg/kg)	10
Cadmium (mg/kg)	05
Chromium (mg/kg)	50
Copper (mg/kg)	300
Lead (mg/kg)	100
Mercury (mg/kg)	0.15
Nickel (mg/kg)	50
Zinc (mg/kg)	1000



C/N Ratio	<20:1
Ph	6.5-7.5
Moisture (% by Weight, maximum)	15.0-25.0
Organic Carbon (% by weight, minimum)	12.0
Total Nitrogen (% by weight, minimum)	0.8
Total Phosphate (% by weight, minimum)	0.4
Total Potassium (% by weight, minimum)	0.4

(as per FCO Standard)

9.1.2.1. Process Design for Proposed Processing Plant

Step 1:

The waste is transferred from segregation facility to the aerobic composting yard.

Step 2:

The segregated waste is sent to the windrow platform.

Step 3:

The windrow is maintained for 7 days. The temperature is monitored to ensure that the composting process is on-going. The leachate from the windrow comes out and is collected in the drain. The drain is connected to the leachate tank. The leachate from leachate tank is used for making the inoculum slurry.

Step 4:

At 7 days from start the first windrow is reorganized. The waste volume would have reduced by 15% compared to start with moisture reduction and degradation. While reforming the windrow addition of inoculums slurry and water to maintain the moisture is done using the trailer mounted slurry tank. The temperature profile in the second windrow

So, the above centralized wet waste processing unit is proposed within the campus to manage biodegradable waste generated from:

- Academic and administrative buildings
- Hostels and canteens not covered under decentralized systems
- Markets, shops, and common facilities
- Residential areas not practicing backyard composting

Operational Framework:

- Only source-segregated wet waste will be accepted.
- Waste will be processed through aerobic/windrow composting.

Compost will be utilized for: Campus landscaping, Horticulture, Sale or distribution, where feasible

A user fee mechanism will be introduced for collection and processing services.

Rationale:

Centralized composting ensures scientific management of bulk wet waste while maintaining quality control and economies of scale.



Design of Processing Plant and Leachate Management:

Design of Windrow Composting of Organic Solid Waste and Design of Compost Plant (Area Requirement)

Considering the Year 2035 as the variation of Waste Generation from the year 2026 to 2035 is very less.

So, Plant Capacity 5 TPD

Fraction of Urban waste = 5 TPD

Density = 600 kg/m³

Volume = 5/0.6 = 8.3 m³

Considering the windrow configurations as oval shaped, Splayed base of 2.5m width, and mid height from base as 1.5 meter. Area of cross section = 0.66 x 2.0 x 1.5 = 1.98 i.e. 2.0m²

Length = 8.3/2.0m² = 4.15 say 4

Area of one windrow pad = 4m x 2m = 8m²

Weight of 1 windrow = 4x2 x 600 = 4800kg = 4.8 MT

No of Windrow pad to be filled up per day = 5/4.8 = 1

Duration of composting = 20 days

Total no of windrow pad = 20 x 1 = 20

Total area for windrow pad = 20 x 8 = 160m² ----- (1)

Clear space between windrow s = 2metre

Area of spacing = 4m x 2m x 21 = 168 m² ----- (2)

Maturation area (15 days)

= 40% of windrow plan area = 0.40 x 1 x 8 x 15 days = 48 m² ----- (3)

Space for front loader and movement = {(2.0x20)+(2x21)}x4 = 328 m² ----- (4)

Unloading area / platform = 5x1000/(600x1.25) = 6.66 m² say 7 m² [Ht=1.25] ----- (5)

Screening and packing area for compost @ 200m²/10MT/day

Considering 25% of incoming waste-

= 20 x 5 x 0.25 = 25m² ----- (6)

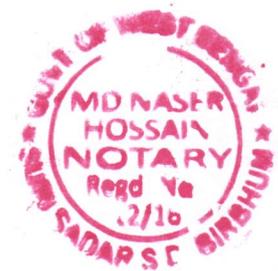
Total area of compost plant = (1)+(2)+(3)+(4)+(5)+(6) = 160+168+48+ 328+7.0+25 = 736m²

Add 1% for office, wash room and other infra structure etc. = 736x0.01 = 7.36m²

Total area required = 736+7.36 = 743.36 say 743m² [Without buffer zone]

Add area for green belt @ 20m²/MT = 100 m²

Add area for buffer zone @ 20m²/MT = 100 m²





Total area required for compost plant = 943 m² = 0.24 acre

9.1.3. Centralized Material Recovery Facility (MRF)

A centralized Material Recovery Facility (MRF) is proposed to handle all dry and recyclable waste generated across the campus. As per SWM Rules, 2016: Clause 15: Duties and responsibilities of local authorities:

Setup material recovery facilities or secondary storage facilities with sufficient space for sorting of recyclable materials to enable informal or authorised waste pickers and waste collectors to separate recyclables from the waste and provide easy access to waste pickers and recyclers for collection of segregated recyclable waste such as paper, plastic, metal, glass, textile from the source of generation or from material recovery facilities; Bins for storage of bio-degradable wastes shall be painted green, those for storage of recyclable wastes shall be printed white and those for storage of other wastes shall be printed black; (r) transport non-bio-degradable waste to the respective processing facility or material recovery facilities or secondary storage facility;

Transport non-bio-degradable waste to the respective processing facility or material recovery facilities or secondary storage facility; Special waste including domestic hazardous waste that is collected either along with the dry waste fraction or separately is also to be segregated at the material recovery facility (MRF) and disposed according to the nature of the waste. Recyclable waste should be sent to the recycling industry, and hazardous waste should be disposed at the nearest treatment, storage, and disposal facility (TSDF) or as specified by the SPCB or PCC. It is proposed that a central material recovery centre will be established where all the recyclables and other forms of dry waste will be deposited by the primary collectors deployed by the VBU. In this centre, provisions will be made where, the sorting personnel (Solely rag pickers) will segregate each category of waste and keep it in the designated individual masonry compartments for easy identification of the materials so segregated / sorted out and sale it to the garbage traders, etc., as permitted by the VBU.

Domestic hazardous waste (Napkin/ Diaper) is 11 gm/ capita/ day, which is to be disposed of in nearby common bio medical waste treatment, storage and disposal facility (CBWTSDF).

Functions:

- Receipt of segregated dry waste
- Manual and semi-mechanized sorting
- Storage and baling of recyclables
- Sale to authorized recyclers

Outcomes:

- Maximum recovery of recyclable materials
- Reduction of landfill dependency
- Generation of revenue for Visva-Bharati University

Rationale:

Dry waste handling requires market linkage, storage, and aggregation, making a centralized MRF operationally efficient.



9.1.3. 1. Indicative MRF

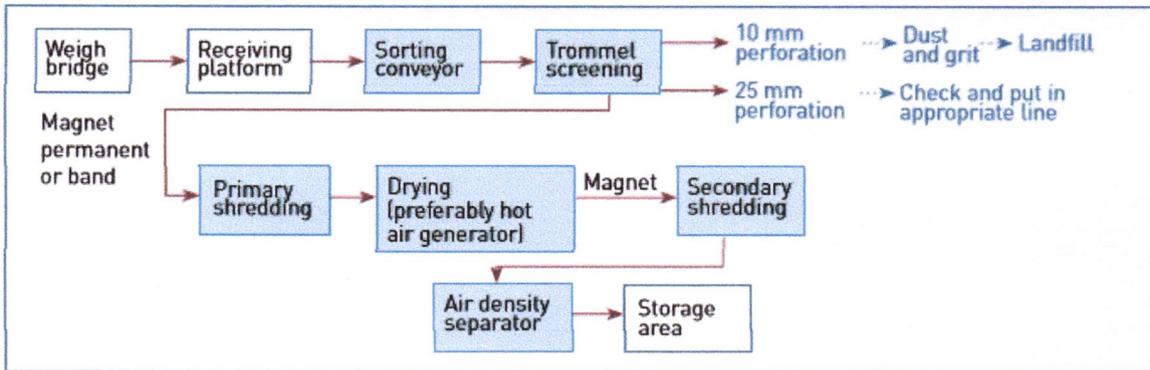


Fig-3: Indicative MRF

9.1.3. 2. Design of Semi-Automatic MRF (Area Requirement)

YEAR-2026

MRF CAPACITY- 2.8 MT Considering the Year 2035 as the variation of Waste Generation from the year 2026 to 2035 is very less.

Recyclable fraction of Urban waste =2.3 MT/day

Domestic hazardous waste = 0.5 MT/ day

It is to be kept separately for collection by agency authorized by State Pollution Control Board. Since partial handling and storage of 0.24MT is involved, this quantity has been taken into account in the total quantity of waste in MRF for the purpose of area calculation. = 2.3-0.5=2.8TPD)

The area required for sorting and storing of 2.8MT/day @25m²/MT of dry waste:

$$= (2.8 \times 25) = 70\text{m}^2 \text{-----(1)}$$

Considering additional 50 % area for storage of materials & equipments,

$$=70 \times 50\% = 35 \text{ m}^2 \text{-----(2)}$$

Add for 30% for infrastructure facility= 70x30%=21m²-----(4)

Total area required = 70 + 35+21= 126 say 126 m² =0.0315 acre



9.2. Summary of Land Requirement:

Year	Area required for Composting (Acre)	Area required for MRF (Acre)	Total Area required (Acre)
2026-2035	0.24 acre	0.03 acre	0.27 acre

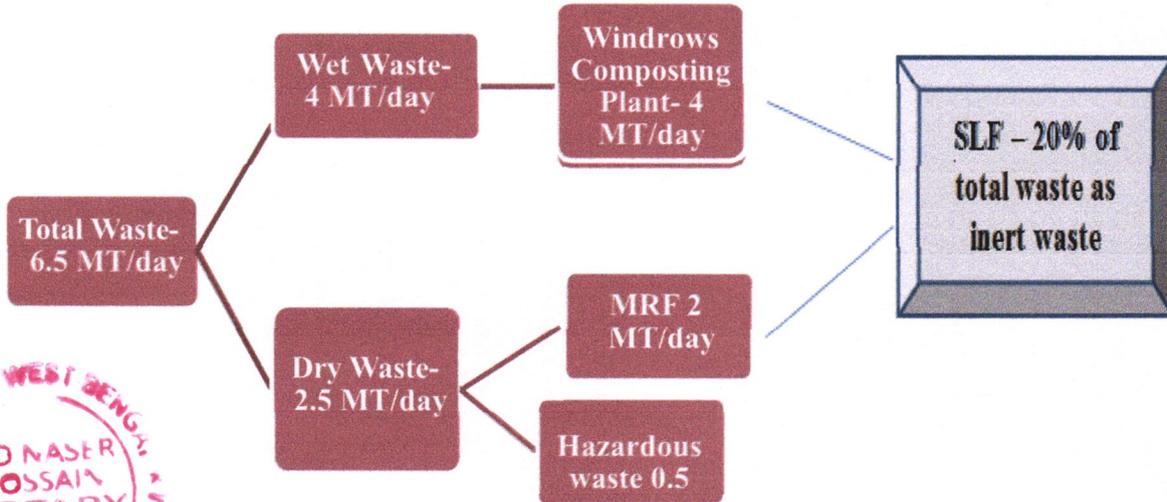


Fig 4: Mass Balance Diagram

9.2.1. Availability of Land as Identified Sites & Ownership Details

All identified sites are owned by Visva-Bharati University, free from encumbrances, and readily available for the development of waste management infrastructure.

Details of the land for MRF and CPU	Near Bangladesh Bhavana (Northern side of the campus), LR Plot No.: 683, Mouza: Bolpur, JL No.: 99 and Khatian No.: 11228
Vermicomposting Units (Existing)	Near Rathindra Krishi Vigyan Kendra, Surul, LR Plot Nos.: 76/5861 & 76/5474, Mouza: Surul, JL No.: 104, Khatian No.: 270
Total land available	5 Acre

Source: VBU authority

Photos of the land:

Photo-3

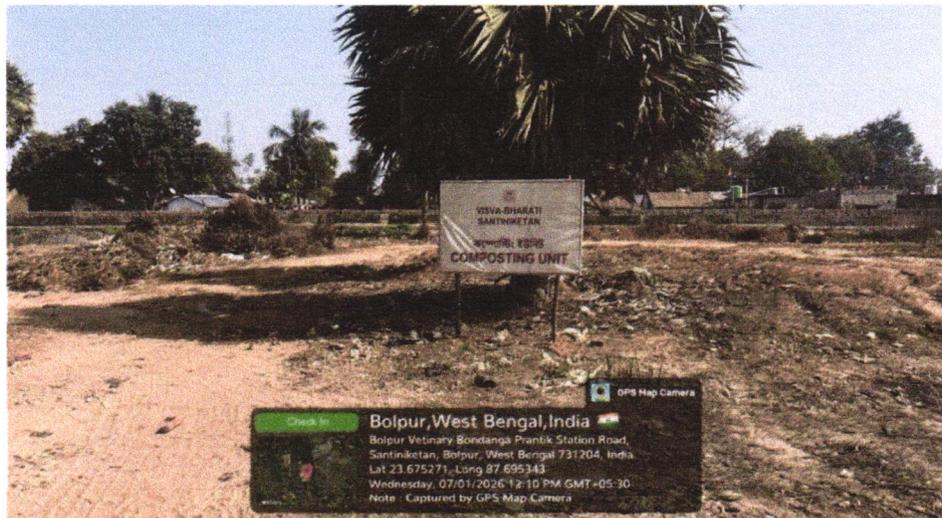
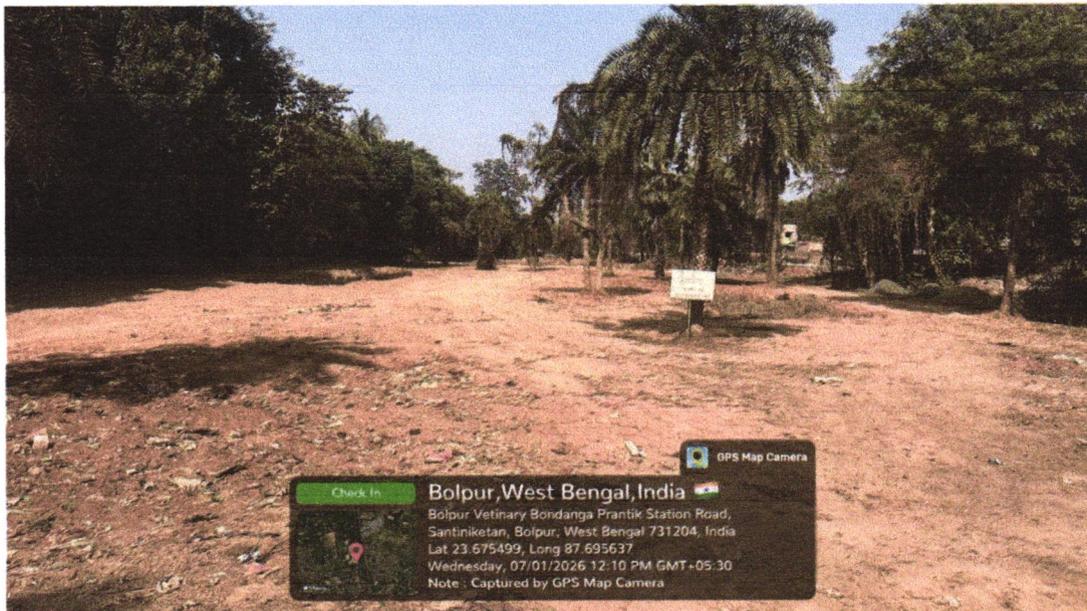


Photo-4



9.3. Land site details:

During consultations with university officials, staff, and other stakeholders, it was observed that Visva-Bharati University presently operates five (5) composting units and one (1) bio-methanation plant across different zones of the campus. These facilities primarily manage organic and garden waste generated from hostels, canteens, residential quarters, and landscaping activities.

The existing open dumping ground is located on the northern side of the campus, adjacent to Bangladesh Bhavana. While the site has been in use for waste disposal, it presently lacks organized segregation systems, adequate processing infrastructure, and environmental safeguards, resulting in inefficient handling of biodegradable, recyclable, and plastic waste.

To overcome these challenges and to implement a scientific, regulation-compliant waste management system, the University has identified and earmarked additional land parcels within the campus for developing integrated waste processing and recovery facilities. The proposed land allocation supports a decentralized, zone-wise waste management approach, integrating wet waste processing, dry waste recovery, and ancillary infrastructure such as bin yards, storage sheds, curing zones, and green buffers.

The land requirement has been assessed based on waste generation estimates, selected technologies, operational needs, environmental safeguards, and scope for future expansion, in line with CPCB and SBM guidelines.

Adequate space for green buffer zones, stormwater drainage, internal circulation, and safety infrastructure will be incorporated at all sites.



9.3.1. Site Suitability Justification

The identified sites have been selected based on a comprehensive evaluation of technical, environmental, operational, and regulatory parameters, ensuring long-term sustainability and compliance with the Solid Waste Management Rules, 2016.

Regulatory and Legal Suitability

- All sites are located on university-owned land, eliminating land acquisition and legal risks.
- Sufficient separation from sensitive academic and residential zones minimizes potential nuisance.
- Provision of buffer plantations ensures adherence to environmental norms.

Environmental Suitability

- Sites are located away from major water bodies and ecologically sensitive areas.
- Land topography allows for controlled drainage and leachate management.
- Adequate space is available for green belt development, enhancing environmental compatibility.

Operational Feasibility

- CPU and MRF near Bangladesh Bhavana are strategically located for efficient collection from major waste-generating zones, including hostels, canteens, markets, and academic buildings.
- Co-location enables shared infrastructure, centralized supervision, and cost optimization.
- Vermicomposting units near Rathindra Krishi Vigyan Kendra are well suited for garden and organic waste management, with immediate utilization of compost in nearby green areas.

Scalability and Future Expansion

- The identified land parcels provide sufficient flexibility for phased development and future capacity enhancement.
- The sites can accommodate additional processing units or technology upgrades as waste generation increases over time.

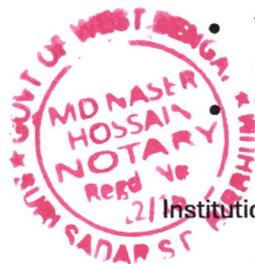
Institutional and Social Acceptability

- The proposed sites are already associated with waste-related activities, reducing social resistance.
- Decentralized placement supports zone-wise monitoring and institutional ownership.

The identified land parcels and proposed area allocation are technically suitable, environmentally safe, operationally efficient, and institutionally acceptable for establishing a scientific waste management system at Visva-Bharati University. The integrated land-use plan supports the transition from open dumping to resource recovery-based waste management, ensuring regulatory compliance, environmental protection, and long-term sustainability of the campus.

9.4. Centralized Handling of Reject & Inert Waste

- Reject and inert waste will be aggregated centrally.
- Waste will be stored in covered containers.



- Periodic transportation to authorized disposal facilities will be ensured.

Rationale: Centralized handling avoids scattered dumping and ensures regulatory compliance.

9.5. Sanitary Landfill Linkage (External Facility)

- No sanitary landfill is proposed within the university campus.
- Residual waste that cannot be processed or recycled will be transported to the scientific sanitary landfill facility of Bolpur Urban Local Body (ULB).
- Disposal will be carried out on a payment of prescribed tipping/user fees to be decided by the Bolpur Municipality and VBU authority.

Rationale: Utilizing an existing ULB landfill avoids land acquisition, environmental risk, and long-term liability within the campus.

9.6. Technology Selection Rationale

The selection of decentralized and centralized technologies is based on:

- Waste quantity and composition
- Density and land availability
- Operational feasibility
- Cost efficiency and O&M simplicity
- Regulatory compliance
- Environmental sustainability
- User participation potential
- The hybrid approach allows:
 - Decentralization where feasible and efficient
 - Centralization where technical control is essential
 - Flexibility to scale up or modify systems in future

The proposed waste management system ensures that Visva-Barati University achieves:

- Maximum waste diversion
- Reduced operational costs
- Environmental protection
- Compliance with national regulations

This approach positions Visva-Bharati as a model institution for sustainable campus waste management.

9.7. Collection and Transportation System

9.7.1. Requirement of Vehicle:

Sl No.	Category of Vehicle	No of Vehicle	Remarks
1.	Pedal Tri Cycle	30	Including 20% stand by
2.	Fuel Operated Tipper	3	Including 20% stand by

9.7.2. Manpower Requirements for the Collection of Waste from the generators to the Unit:

Sl No.	Category of manpower	No of Manpower	Remarks
1.	Waste collector through Pedal Tri cycle	28	Including 10% stand by
2.	Driver for FOT for Secondary transportation	3	Including 10% stand by
3.	Helper for FOT	3	Including 10% stand by

9.7.3. Manpower requirements for the management of CPU and MRF for managing 5 TPD Wet and 3 TPD dry waste:

Sl No.	Category of Manpower	No of manpower	Remarks
1.	To manage Central Processing Unit	6	Including 10% stand by
2.	To manage Material Recovery Facility	3	Including 10% stand by
3.	One CPU MRF Manager	1	

10. ENVIRONMENTAL MANAGEMENT PLAN (EMP)

The Environmental Management Plan (EMP) has been prepared to identify, mitigate, and monitor potential environmental impacts arising from the implementation and operation of the proposed solid waste management system at Visva-Bharati University. The EMP ensures that all waste management activities are conducted in an environmentally sound, socially acceptable, and regulatory-compliant manner, while preserving the ecological and cultural sensitivity of the campus.

10.1 Anticipated Environmental Impacts

The proposed waste management facilities may result in certain short-term and long-term environmental impacts during construction and operational phases.

Potential impacts include:

- Temporary dust and noise generation during site development
- Odour nuisance from handling and processing of biodegradable waste
- Risk of leachate generation from composting and waste storage areas
- Possibility of vector breeding if waste is not handled scientifically
- Occupational health risks to workers involved in waste handling and processing
- Visual impacts due to waste storage and processing infrastructure

These impacts are localized, manageable, and largely reversible with proper mitigation measures.

10.2 Mitigation Measures

Appropriate mitigation measures will be implemented to minimize or eliminate adverse environmental impacts.





Key mitigation strategies include:

- Strict enforcement of segregation at source to ensure only appropriate waste streams reach processing facilities
- Covered and paved processing areas to prevent littering and soil contamination
- Development of green buffer zones around all waste management facilities
- Controlled working hours to minimize noise disturbance
- Phased implementation of facilities to reduce cumulative impacts
- Prohibition of open burning or indiscriminate dumping within campus premises

These measures will ensure environmentally safe and efficient operation of the waste management system.

10.3 Leachate & Odour Management

Effective leachate and odour management systems are critical components of the EMP.

Leachate Management

- Composting and processing areas will be provided with impermeable flooring and proper slope for leachate collection.
- Leachate will be collected in lined drains and collection pits.
- Collected leachate will be recirculated in composting windrows or treated appropriately before disposal.
- Stormwater drainage will be segregated from leachate pathways to prevent contamination.

Odour Management

- Processing of only segregated biodegradable waste.
- Regular turning and aeration of compost windrows.
- Use of bio-enzymes and microbial cultures to control odour.
- Timely removal of waste to prevent anaerobic conditions.
- Maintenance of green buffers to act as odour barriers.

10.4 Occupational Health & Safety

Ensuring the health and safety of personnel involved in waste management is a priority.

Occupational health and safety measures include:

- Mandatory use of personal protective equipment (PPE) such as gloves, masks, boots, and uniforms.
- Regular health check-ups and vaccinations for sanitation workers.
- Training on safe waste handling practices, emergency response, and hygiene.
- Provision of drinking water, washing, and sanitation facilities at work sites.
- Clearly defined Standard Operating Procedures (SOPs) for handling different waste streams.
- Immediate medical support and accident reporting mechanisms.

10.5 Monitoring Plan





A structured environmental monitoring plan will be implemented to ensure compliance and continuous improvement.

Parameter	Monitoring Frequency	Responsibility
Waste segregation efficiency	Monthly	Campus SWM Cell
Compost quality (where applicable)	Quarterly	Facility Operator
Odour and nuisance complaints	Continuous	SWM Supervisory Team
Leachate management & drainage	Monthly	Facility Operator
Vector and pest presence	Monthly	Health & Sanitation Team
Occupational health & safety compliance	Quarterly	University Administration
Environmental compliance reporting	Half-yearly	Nodal SWM Officer

Corrective actions will be undertaken immediately in case of non-compliance.

The proposed Environmental Management Plan provides a robust framework for minimizing environmental impacts associated with solid waste management activities at Visva-Bharati University. Effective implementation of the EMP will ensure regulatory compliance, safeguard environmental quality, protect worker health, and reinforce the University's commitment to sustainable and green campus development.

11. INSTITUTIONAL & IMPLEMENTATION FRAMEWORK

Effective implementation and long-term sustainability of the proposed solid waste management system at Visva-Bharati University requires a clear institutional arrangement, defined roles and responsibilities, stakeholder integration, and robust monitoring mechanisms. The proposed framework ensures operational efficiency, accountability, and regulatory compliance

11.1 Proposed Organizational Structure

A dedicated Campus Solid Waste Management (SWM) Cell is proposed under the overall administrative control of Visva-Bharati University.

Proposed Structure with Roles & Responsibilities

Authority	Roles & Responsibilities
University Administration	Policy formulation and approval Budget allocation and financial oversight Appointment of nodal officers and supervisory staff Coordination with regulatory authorities and ULBs
Nodal Officer – SWM	Overall supervision of waste management activities Ensuring compliance with SWM Rules, 2016 Monitoring performance indicators and reporting

	Coordination with outsourced agencies and recyclers
SWM Manager / Coordinator	Day-to-day operations management Supervision of collection, transportation, and processing Training and capacity building of staff Implementation of IEC and awareness activities
Supervisors & Field Staff	Ensuring segregation at source Monitoring collection routes and schedules Operation and maintenance of processing facilities Record-keeping and reporting
Service Providers / Contractors	Collection, transportation, and processing (where outsourced) Compliance with SOPs, safety norms, and service-level benchmarks

11.2 Integration of Informal Sector / SHGs / Waste Pickers

The DPR emphasizes inclusive and livelihood-linked waste management, in line with national guidelines.

Proposed integration mechanisms:

Engagement of Self-Help Groups (SHGs), local cooperatives, or trained waste pickers for: Door-to-door collection, MRF operations and sorting, Composting and vermicomposting activities

Formalization through: Identity cards, Training and capacity building, Provision of PPEs and safety measures, Preferential linkage with registered recyclers to ensure fair pricing

This approach enhances social inclusion, improves recovery efficiency, and creates local employment opportunities.

11.3 PPP / Outsourcing Models

Based on operational feasibility, the following models may be adopted:

a) Outsourcing of Collection & Transportation

Contracting specialized agencies for: Segregated waste collection, Transportation to processing facilities, Performance-linked payment mechanisms

b) Processing Facility O&M Contracts

Operation and maintenance of:

Composting units, MRFs, Payments linked to output quality and uptime

c) Revenue-Sharing Models

Sale of recyclables through MRF, Compost marketing, Revenue sharing between University and operator

These models reduce administrative burden and ensure professional management.

11.4. Monitoring & MIS





A structured Monitoring, Management Information System (MIS), and digital integration framework is proposed.

- Monitoring Mechanism
- Daily operational registers at facility level
- Monthly performance review meetings
- Periodic third-party audits (if required)

MIS & Digital Tools

- Waste quantity tracking (wet, dry, rejects)
- User fee collection records
- Compost and recyclable sales data
- Complaint redressal tracking

IoT Integration (Phase-wise)

- GPS-enabled collection vehicles
- Smart weighing systems at processing facilities
- Fill-level sensors for bulk bins (where applicable)
- Dashboard for real-time monitoring by University authorities
- Digital monitoring will improve transparency, data-driven decision-making, and regulatory reporting.

The proposed institutional and implementation framework provides a robust governance mechanism for managing solid waste at Visva-Bharati University. Clear role delineation, stakeholder integration, professional outsourcing, and technology-enabled monitoring will ensure efficient operations, accountability, and long-term sustainability, positioning the University as a model green and sustainable campus.

12. IEC, AWARENESS & CAPACITY BUILDING

Information, Education, and Communication (IEC) along with continuous awareness and capacity building are critical for the successful implementation and sustainability of the proposed solid waste management system at Visva-Bharati University. Given the University's diverse population—including students, faculty, staff, residents, vendors, and large numbers of visitors during cultural events—a comprehensive and inclusive IEC strategy is proposed.

12.1 Objectives of IEC Strategy

The key objectives of the IEC and awareness strategy are to:

- Promote segregation at source and responsible waste handling practices
- Encourage adoption of 3R principles (Reduce, Reuse, Recycle)
- Build a sense of ownership and accountability among all campus stakeholders
- Minimize littering and eliminate open dumping and burning
- Enhance participation in composting, recycling, and waste reduction initiatives
- Support compliance with Solid Waste Management Rules, 2016

12.2 Target Groups

The IEC strategy will be tailored to the needs and behavior patterns of different stakeholder groups within and associated with Visva-Bharati University:

- Students commuting daily to the University and returning home
- Students residing in hostels
- Residents living in University staff quarters
- Teaching and non-teaching staff
- Office staff regularly attending administrative offices
- Vendors, canteen operators, and local food sellers
- Visitors and tourists during major cultural events, such as: Poush Mela, Basanta Utsav
- Convocation and other public gatherings
- Service providers and sanitation workers

Customized messaging will be developed for each group to ensure relevance and effectiveness.

12.3 Communication Tools & Methods

A mix of traditional, digital, and interpersonal communication tools will be used to maximize outreach:

Visual communication, Posters, wall paintings, hoardings, and signage in Bengali and English, Color-coded bin labels with pictorial instructions, Digital & media-based communication, University website, emails, SMS alerts, and social media platforms, Short videos and digital displays in common areas, Interpersonal communication, Orientation sessions for new students and staff, Peer educators and student volunteers as “Green Ambassadors”, Event-based campaigns Waste-free campus , campaigns during festivals and melas, On-site announcements and temporary signage during large events

12.4 Training & Capacity Building Plan

Structured training programs will be conducted to build technical and operational capacity among key stakeholders.

Proposed Training Components:

Target Group	Training Component
Sanitation workers and supervisors	Segregation protocols, Safe handling of waste and Operation of composting, MRF, and biogas facilities (if any)
Students and hostel representatives	Waste segregation and reduction practices Composting and recycling awareness
Vendors and canteen operators	Food waste minimization Segregation and hygienic waste storage
SHGs / waste pickers (where engaged)	Sorting techniques Occupational health and safety
Administrative staff	Monitoring, record-keeping, and MIS reporting

Training will be conducted through workshops, demonstrations, refresher courses, and exposure visits.

12.5 Stakeholder Participation Mechanism

Active stakeholder participation is essential for sustained behavior change and system efficiency.

Proposed Mechanisms:

- Formation of Green Committees at hostel, department, and residential cluster levels
- Identification of student volunteers and eco-clubs to support awareness activities
- Feedback and grievance redressal mechanisms

Incentive and recognition programs for: Best-performing hostels, Clean departments/offices/infrastructure under the university, Responsible vendors, Collaboration with local NGOs, SHGs, and community groups

The proposed IEC, awareness, and capacity-building framework is designed to create long-term behavioral change, ensure effective participation of all stakeholders, and support the scientific waste management system at Visva-Bharati University. Through continuous engagement, training, and communication, the University will foster a clean, sustainable, and environmentally responsible campus culture.

12.6. Communication Tools and Frequency of Messages:

Sl. No.	Communication Tool	Frequency of dissemination
1	Handbill/Flier	Monthly
2	Hoardings	Semi Annual Basis
3	Banners	Every Quarter
4	Quarterly Newsletter	Every Quarter
5	Yearly Magazine	Once in a year
6	Wall Writing	Once in a year
7	Street Plays/Nukkar Natak/Folklore	One in each Ward in a Year
8	Local Cable Promotion	Twice in a year
9	News Paper	Twice in a year
10	Radio Jingle	Once in a year

Apart from the above-mentioned communication tools, the following methods will be used for mass awareness:

12.7. Door to Door Awareness and Involvement of VBU staff association quarter association:

Household level awareness and interaction will be carried out regular basis.

12.8. Community/resident of VBU Consultation: Community Meetings at regular interval for addressing issues regarding SWM.



12.9. Involvement of students from University, boarder of hostels, Schools and other institutions located inside the campus: Once in a year at least the orientation at School & other academic institutions shall be carried out.

12.10. Organising Rallies: Once a year, a rally with specific focus on SWM shall be organized for project visibility and wider awareness.

12.11. Clean Up Drives: Special Drives at least once a year shall be organized involving the SHGs and other community groups towards cleaning of localities which would boost up the concept of waste management.

12.12. Celebration of Major Occasions: World Environment Day, Sanitation day etc. shall be organized once a year.

12.13. Information Education and Communication Implementation Plan

The IEC implementation plan for first year would be as follows:

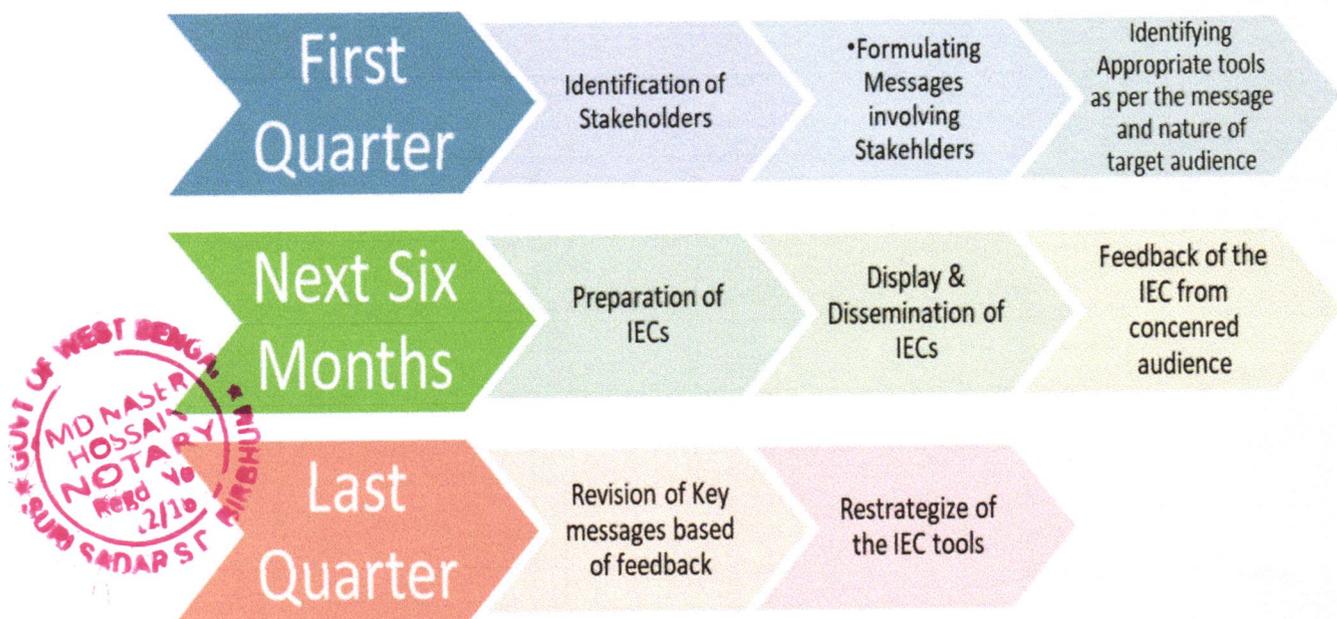


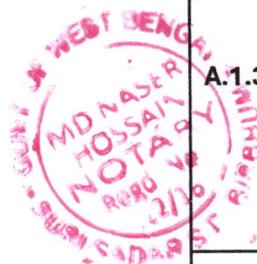
Fig:5 -: Information Education and Communication Implementation Plan



13. COST ESTIMATES

13.1 Non-Recurring Cost (A) (2026-35)

Sl. No	Components	Number	Rate (INR)	Amount (Lakhs)	Source	Remarks	
A.1	Primary SW Storage, Collection & Transportation						
A.1.1	Storage of SW at HHs/staff quarters/shops 500 staff quarters, 100 shops	10 lts Bins	1200	150	1.80	Rate collected from Gem Portal	8.2 Segregation at Source (2-bins System)
		40 lts Bins	1764	290	5.11	Rate collected from Gem Portal	
		100 lts Bins	60	1000	0.60	Rate collected from Gem Portal	
A.1.2	Collection of MSW at Pedal Tri Cycle	Synthetic Waste Collection Bag (For Domestic Hazardous Waste)	68	400	0.27	Rate provided by Local Market	
A.1.3	Primary MSW Collection Vehicle	Pedal Tricycle	30	45,000	13.50	Rate collected from different sources	
		Battery Operated Tipper	4	3,50,000	14.00	Rate collected from different sources	
A.1.4	Secondary MSW Collection Vehicle	4Wheeler Fuel Operated Tipper	3	4,50,000	13.5	Rate collected from different sources	2 Tipper/ 1 Ward
Sub Total (A.1)				48.78			
A.2	MSW Treatment and Disposal						
A.2.1	Processing of Fresh Waste (CPU and MRF)	Construction Work of Compost Plant (Including Boundary Wall) of fresh waste for 8 TPD waste (excluding machinery) This amount includes electrification works inside and outside the plant, internal roads, water		300	Different SWM DPRs and Vendors (Rs 13 Lakhs / MT)	8 TPD Capacity	



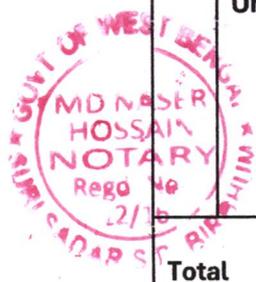
	supply system, leachate management system, office building and security and control room		iincluding all taxes)	
Sub Total (A.2)		300		
Total (A1+A2)		348.78		

13.2. Recurring Cost 2026-35 (Door to Door Waste Collection)

B. Manpower Cost							
Sl. No	Components	Number	Rate (INR)	Amount (In Lakhs) for 10 years	Source	Remarks	
B. 1	Project Management Team	Overall Project In-Charge (Environmental Engineer-B.Tech, BE in Civil Engineering with M.Tech in Environmental Engineering) – Contractual	1	50,000	60.00		
		Project Manager (Post Graduate in social sciences)	1	40,000	48.00		
		CPU and MRF Workers	9	383	124.00		
		CPU and MRF Operator	1	532	19.10		
		Sanitation Inspector (Diploma in Civil Engineering)	1	25,000	30.00		
		Cluster Supervisor (Field Monitoring)	5	409/Day	638	WB State Labour Commission	
B. 2		Waste Collector	28	383/Day	455.00	WB State Labour	



					Commission		
	Project Implementation Team	Driver Battery Operated Tipper	4	483/Day	69.50		
		Driver for 3 Wheeler Fuel Operated Tipper	3	483/Day	52.10		
		Helper for FOT	3	383/Day	41.30		
		Road Sweeper & Drain Cleaner	60	383/Day	1,080.00	WB State Labour Commission	
		Safety Gears and Equipment	329	6000/Year	1974	Accessing Present Rate of Safety Gears & Equipment	
B. 3	O&M Cost of Primary and Secondary Waste Collection Vehicle and CPU & MRF Unit	Pedal Tricycle	30	3600/Year	10.80	Accessing Present Rate of O&M Cost	8% of Unit Purchase Price/Year
		Battery Operated Tipper	4	28000/Year	11.2	Accessing Present Rate of O&M Cost	8% of Unit Purchase Price/Year
		3-Wheeler Fuel Operated Tipper	3	90000/Year	27.00	Accessing Present Rate of O&M Cost	20% of Unit Purchase Price/Year
		Fresh waste management unit (CPU & MRF)	5% of Non-Recurring Cost (300.00*5%)		150.00		
Total					4,790.00		

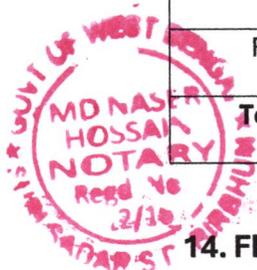


13.3. Environmental Monitoring & Control Cost (Yearly)

Sl. No	Components in Project Design	Capital Cost (INR)	Operational and Maintenance Cost (INR)
E.1	Environmental Monitoring during construction	1,50,000	--
E.2	Borewell for Environmental Monitoring	2,00,000	70,000
E.3	Environmental Monitoring during operation	--	4,00,000
Total		3,50,000	4,70,000
			8,20,000

13.4. IEC & Capacity Building Cost (Yearly)

Sl. No	Components in Project Design	Amount (INR)
F.1	Capacity Building & Training	
F.1.1	Training of Master Trainer	30,000
F.1.2	Implementation of Waste Management Education & Action Programme in Education Centres	3,00,000
F.1.3	Zone wise awareness generation	6,00,000
F.1.4	Monitoring & Evaluation	1,50,000
F.2	Communication Tools	2,00,000
Total		12,80,000



14. FINANCIAL STRCUTURING

14.1. Cost Recovery

Items	Rate Rs, 3000 MT for organic manure and Rs, 5000 MT for Dry waste (Rs. In lakh)
	2026-2035
Organic Manure @ Rs. 3.00 k.g. 1.25 (conversion rate 25% so, 5 TPD wet waste *25%) * 3 * 365 *10 years*1000	13,687,500
Recyclable Inorganic Waste Rs. 5 per Kg (2.3 TPD* Rs.5*365 days *10 years *1000)	41,975,000



User fees (For 500 staff quarter @ Rs.30 and for 100 shops @ Rs. 50) $(500*30*12*10)=18,00,000.00 + (100*50*12*10) 6,00,000.00=24,00,000.00$	24,00,000.00
Total	5,80,62,500 Rs in Lakh (580.62)

Manure conversion rate: 20-25%

14.2. Budget Summary 2026-35:

SL No.	Reference	Component	Amount (Lakh INR)
2.	Ref: Table 13.1, Non-Recurring Cost (A) Page no-58	Capital Cost (Non-Recurring)	348.78
5.	Ref: Table 13.2. Recurring Cost 2026, Page no-59	Recurring Cost	4,790.00
6.	Ref: Table 13.3. Page No-60	Environmental Monitoring & Control (Partly Recurring)	8.20
7.	Ref: Table 13.4. Page No- 61	IEC & Capacity Building (Partly – Recurring)	12.80
8.	Total		5,159.78

Contingency 3% = 154.7934

GST 12% = 619.1736

Cess 1% = 51.5978

Overall project Cost = 5,985.34 Lakh

Total revenue of the project from waste by product and user fees Rs. 580.62 – 5,985.34 (Total cost of the project) = -5,404.71

15. ACKNOWLEDGEMENT:

We gratefully acknowledge the support and cooperation extended by the State Urban Development Agency (SUDA), Bolpur Municipality, and the district administration, under the guidance of the District Magistrate, for their valuable inputs, coordination, and facilitation during the preparation of this Detailed Project Report. We also express our sincere thanks to the Visva-Bharati University authorities for their continuous support, access to information, and constructive guidance, which made the successful formulation of this DPR possible.

8/9

ANNEXURES:

Annexure A: Mixed Solid Waste test report

**R. V. BRIGGS & CO. PRIVATE LTD.**

ANALYTICAL CONSULTING & TECHNICAL CHEMISTS
(AN ISO 9001:2015 & ISO 45001 : 2018 CERTIFIED COMPANY)

TAHER MANSION, 1ST FLOOR
9, BENTINCK STREET, KOLKATA - 700 001
Phone : (033) 4044-3380 / 3381 / 3382 / 3383, Website : www.rvbriggs.com
E-mail : rvbriggs.kolkata@gmail.com, info@rvbriggs.com
CIN : U51109WB1931PTC007007

TEST REPORT

No. G/25-26/683

Date: 13 January, 2026

Page 1 of 1

Issued to : M/s. BITAN INSTITUTE FOR TRAINING AWARENES
AND NETWORKING
Description of sample : 3/3/1 D.A. Chowdhury Road, 2nd Floor, Budge Budge, Pin - 700137
Mark on Sample : Solid Waste
Sample Submitted by the Party on : Mixed Solid Waste of Visva Bharati University
Analysis Started on : 07.01.2026
Analysis Completed on : 12.01.2026
13.01.2026

TEST FINDINGS

Sl. No.	Test Parameters	Unit	Results
01.	Moisture	%	45.62
02.	Organic Matter	%	40.98
03.	C:N Ratio	---	12.51:1
04.	Gross Calorific Value	Kcal/kg	4115
05.	Organic Carbon	%	23.77
06.	Total Nitrogen	%	1.90
07.	Total Phosphorus	%	0.21
08.	Total Potassium	%	0.40



Report Verified By

Reviewed & Authorised by

(Goutam Das)

Dy. Technical Manager
Authorised Signatory
For R.V. BRIGGS & CO. (P) LTD.

-: END OF TEST REPORT:-

MB

- * The test report shall not be reproduced, except in full, without written approval of the Company.
- * Results relate only to the parameters of the item tested.



Liquid Waste Management Plan for Visva-Bharati University Campus

1. Background and Context

Visva-Bharati University, a Central University of national and international importance, occupies an extensive campus of approximately 1,130 acres, accommodating a fixed population of about 12,000 and a floating population of around 9,000 persons per day. The campus is ecologically sensitive and unique, containing around 20 water bodies covering nearly 50 acres, including large ponds such as Bhubandanga Bandh (Laldighi). These water bodies historically functioned as rainwater storage, groundwater recharge systems, and community resources, and are integral to the cultural and ecological landscape of Santiniketan.

However, existing liquid waste management within the campus area has remained largely decentralized, but with its increasing population and infrastructure load now it became unscientific, and inadequate, resulting in environmental stress on surface water bodies and groundwater.

2. Existing Liquid Waste Management Scenario

As recorded in inspections conducted by the West Bengal Pollution Control Board (WBPCB) and noted by the Hon'ble Tribunal, Visva-Bharati University currently does not have a centralized sewerage network or Sewage Treatment Plant (STP). The prevailing system consists of:

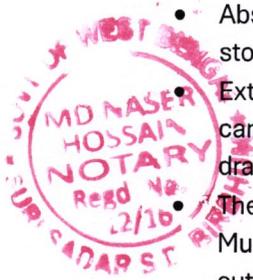
- Individual septic tanks and soak pits serving hostels, staff quarters, academic buildings, hospitals, and other establishments.
- No scientific faecal sludge treatment system; septic tank sludge is periodically removed and disposed of by burying in soil within campus areas, which poses risks of soil and groundwater contamination.
- Absence of a structured drainage system, resulting in uncontrolled flow of greywater and stormwater.
- External inflow of untreated sewage and sullage from adjoining Bolpur Municipality areas into campus-owned water bodies, particularly Laldighi/Bhubandanga Bandh, through municipal drains.
- The WBPCB inspection further observed that three municipal drains from Ward No. 7 of Bolpur Municipality discharge directly into Lalbandh, a part of Bhubandanga Bandh, leading to severe eutrophication, proliferation of water hyacinth, and degradation of water quality.

3. Need for a Comprehensive Liquid Waste Management System

Given the scale of the campus, population load, and the presence of multiple water bodies, Visva-Bharati University qualifies as a Bulk Waste Generator and requires a robust, integrated Liquid Waste Management (LWM) system. The objectives of such a system are:

- Prevention of untreated sewage discharge into ponds, lakes, and natural drains.
- Protection and rejuvenation of existing water bodies, including Laldighi/Bhubandanga Bandh and other campus ponds.
- Safe management of faecal sludge and septage, eliminating unsafe burial practices.
- Compliance with NGT orders and environmental laws, thereby reducing legal and financial liabilities.
- Promotion of water reuse, contributing to sustainability in landscaping, horticulture, and non-potable applications.

4. Proposed Liquid Waste Management Framework



The proposed LWM framework for Visva-Bharati University should be developed in a phased and decentralized manner, aligned with the campus layout and jurisdictional boundaries:

a) Decentralized / Cluster-based Sewage Treatment

- Establish decentralized STPs (DEWATS / modular STPs) near major sewage-generating clusters such as hostels, staff residential zones, hospitals, and academic complexes.
- Technologies such as constructed wetlands, anaerobic baffled reactors, MBBR, or SBR may be adopted based on land availability and load.
- Treated effluent shall conform to CPCB/WBPCB standards and be reused for gardening, flushing, and dust suppression.

b) Faecal Sludge and Septage Management (FSSM)

- Gradual phasing out of unsafe disposal of septic tank sludge.
- Either integration with a Faecal Sludge Treatment Plant (FSTP) of Bolpur Municipality or development of a dedicated FSTP/Septage Treatment Unit for the university area outside municipal jurisdiction.
- Scheduled desludging and record-keeping to ensure traceability.

c) Drainage and Greywater Management

- Mapping and redesign of internal drains to prevent stagnation and direct discharge into ponds.
- Interception and diversion of external municipal drains entering campus water bodies, in coordination with Bolpur Municipality and the Municipal Engineering Directorate, as directed by NGT.
- Introduction of bio-remediation and natural treatment systems for greywater where feasible.

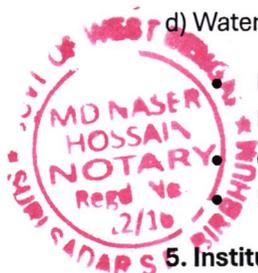
d) Water Body Conservation

- Desilting, de-weeding, and ecological restoration of ponds, especially Laldighi/Bhubandanga Bandh.
- Creation of buffer zones, inlet treatment structures, and prohibition of direct waste disposal.
- Regular water quality monitoring.

5. Institutional Arrangements and Monitoring

- Appointment of a Nodal Officer for Liquid Waste Management within Visva-Bharati University.
- Clear demarcation of responsibilities between Visva-Bharati University and Bolpur Municipality based on jurisdiction.
- Regular monitoring by WBPCB and reporting to the Hon'ble NGT.
- Integration of LWM planning with campus master planning and future infrastructure development.

The liquid waste management challenge at Visva-Bharati University is not merely an infrastructural issue but a matter of environmental protection, legal compliance, and preservation of a globally significant heritage campus. Preparation of a detail project report and its Implementation of a comprehensive, decentralized, and sustainable Liquid Waste Management system, supported by strong institutional coordination, will not only ensure compliance with judicial directives but also restore and protect the unique water bodies and ecological integrity of the Visva-Bharati campus for future generations.



Annexure-R3/6

92

GOVERNMENT OF WEST BENGAL
LAND & LAND REFORMS AND REFUGEE RELIEF & REHABILITATION DEPARTMENT
GE(M)/LRA-III BRANCH, NABANNA, 325, SARAT CHATTERJEE ROAD,
P.O. SHIBPUR, HOWRAH-711 102

Memo No.4602-GE(M)/24012/200/2022

Date :04.11.2022

From: The Deputy Secretary
to the Government of West Bengal.

To : The District Magistrate & Collector, Birbhum
Dist-Birbhum.

Subject : *Inter-Departmental Transfer of Govt. land in favour of the Urban Development & Municipal Affairs Department, Govt. of West Bengal for setting up solid waste processing facility at Bolpur Municipality in the district of Birbhum.*

With reference to the above, the undersigned is directed to say that the Governor is hereby pleased to accord sanction to the following inter-departmental transfer of Govt. land in favour of the *Urban Development & Municipal Affairs Department, Govt. of West Bengal for setting up solid waste processing facility at Bolpur Municipality in the district of Birbhum.* as per land schedule below:

Schedule

District	P.S.	Mouza	J.L. No.	Plot No.	Area (in acre)
Birbhum	Bolpur	Dwarakanathpur	128	60	0.44
				2/2041	0.77
				2/1579	1.83
				50/2145	0.19
				2/2245	6.45

2. The *Urban Development & Municipal Affairs Department*, Government of West Bengal will hold the land as sanctioned on the following terms and conditions:

- The land will be reverted to the Land and Land Reforms Department when no longer required by the *Urban Development & Municipal Affairs Department*, Government of West Bengal.
- If it is found that the land has not been utilized for a period of 3 (three) years from the date of taking over possession, the Land & Land Reforms Department may resume such quantum of land from the *Urban Development & Municipal Affairs Department*, Government of West Bengal.
- The *Urban Development & Municipal Affairs Department*, Government of West Bengal will not alienate the land.
- The *Urban Development & Municipal Affairs Department*, Government of West Bengal will not lease out or let out or transfer any portion or whole of the land at all.
- If any portion of the land so sanctioned is found surplus to the requirements at any stage for the purpose afore mentioned, the said portion of land shall be reverted to the Land and Land Reforms Department.
- If it is subsequently found that the subject land is involved in any Court Case in any Hon'ble Court of Law including WBLRTT, then all concerned shall abide by the orders as may be passed by such Hon'ble Court or WBLRTT.

Contd....

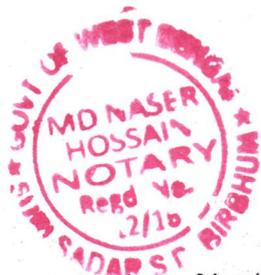
9/3

-2-

(vii) The *Urban Development & Municipal Affairs Department*, Government of West Bengal will not utilize the land for commercial purpose.

(viii) If it is detected subsequently that land is being used for commercial purpose then the *Urban Development & Municipal Affairs Department*, Government of West Bengal will be liable to pay full market value of the land as to be assessed on the date of such detection.

3. It is accordingly requested to hand over possession of land so sanctioned to the authorized representative of the *Urban Development & Municipal Affairs Department*, Government of West Bengal immediately and report compliance thereof to this Department early. A copy of the possession certificate should also have to be furnished to this Department.



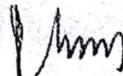
Memo No. 4602/1(6)-GE(M)/24012/200/2022

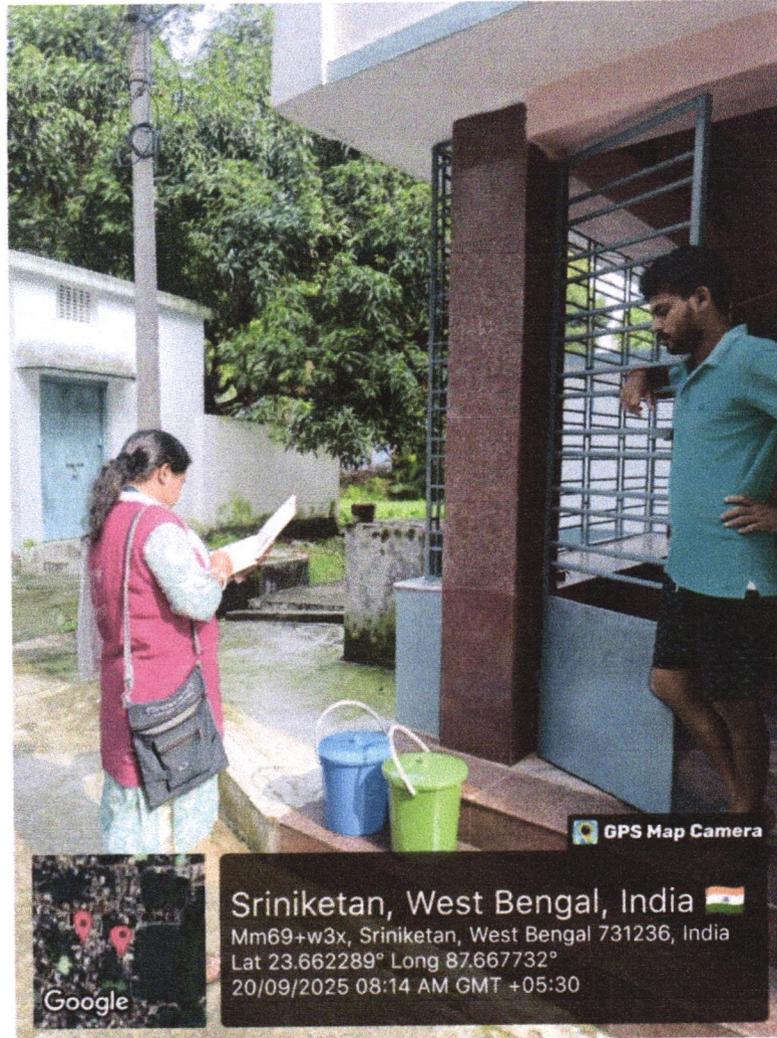
Sd/-
Deputy Secretary
to the Govt. of West Bengal

Date : 04.11.2022

Copy forwarded for information and necessary action to:

1. The Additional Chief Secretary to the Govt. of West Bengal,
Urban Development & Municipal Affairs Department,
Nagarayan, DF-8, Sector-I, Salt Lake, Kolkata - 700064
2. The Finance Department of this Government,
Nabanna, 10th Floor, Howrah-711102.
3. The Director of Land Records & Survey, WB
35, Gopalnagar Road, Alipore, Kol-700027.
- ✓ 4. The ADM & DL & LRO, Birbhum
Dist - Birbhum
5. Guard file of GE(M) Branch.
6. Office Copy.


Deputy Secretary
to the Govt. of West Bengal



MD NASER
HOSSAIN
NOTARY
Road No.
22/3

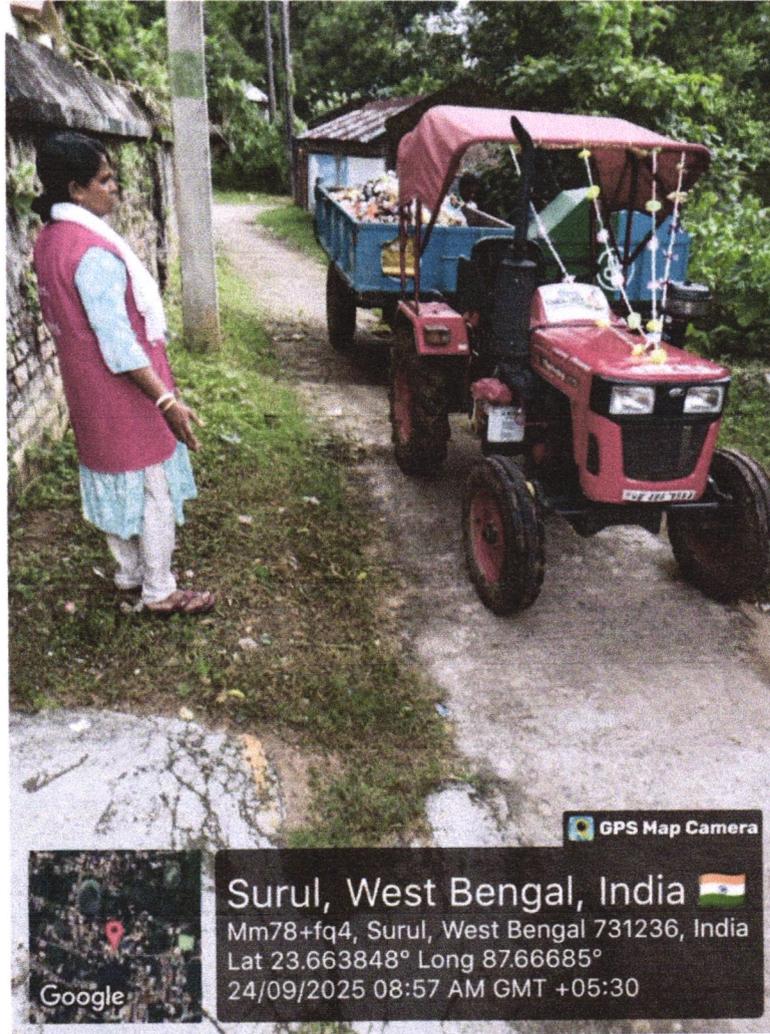
Bucket distribution at Ward Number 03

95

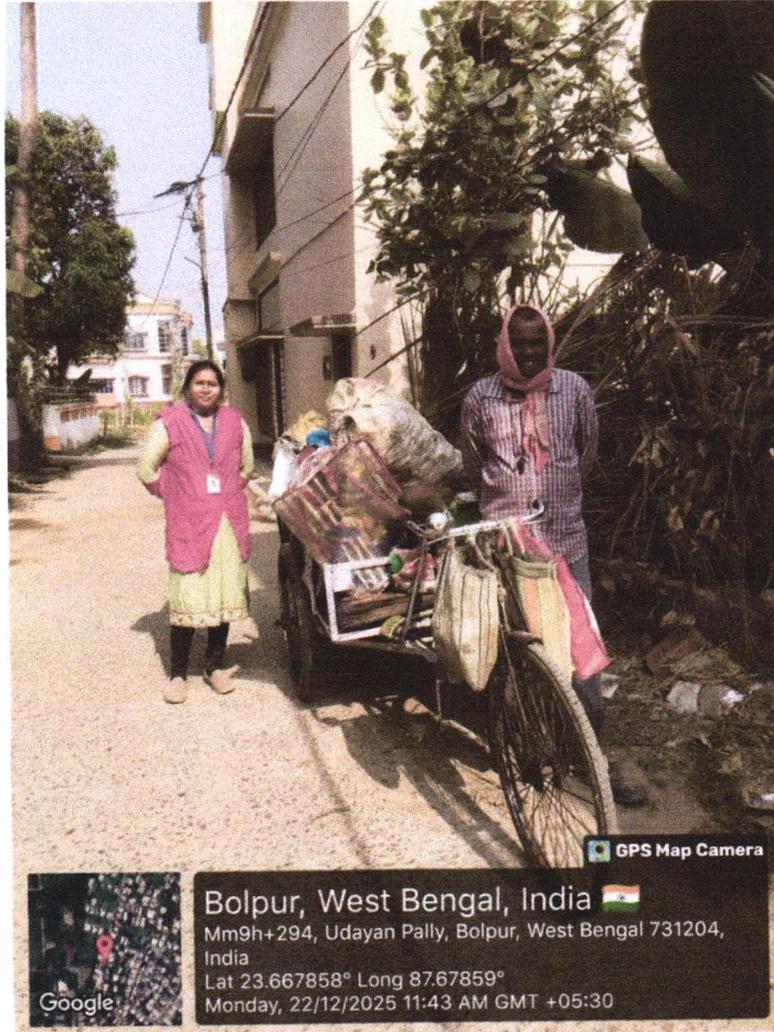


Waste Collection at Ward Number 04

9x



Garbage collection at Ward No-03



Garbage collection at Ward No-05

98



Garbage collection at Ward No-06

WEST BENGAL
MD NASER HOSSAIN
NOTARY
Regd No. 12/10
AIRBHUM

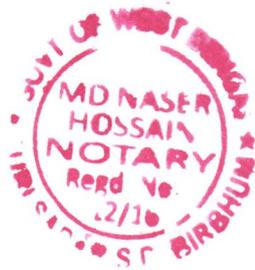


Garbage Collection at Ward No-06

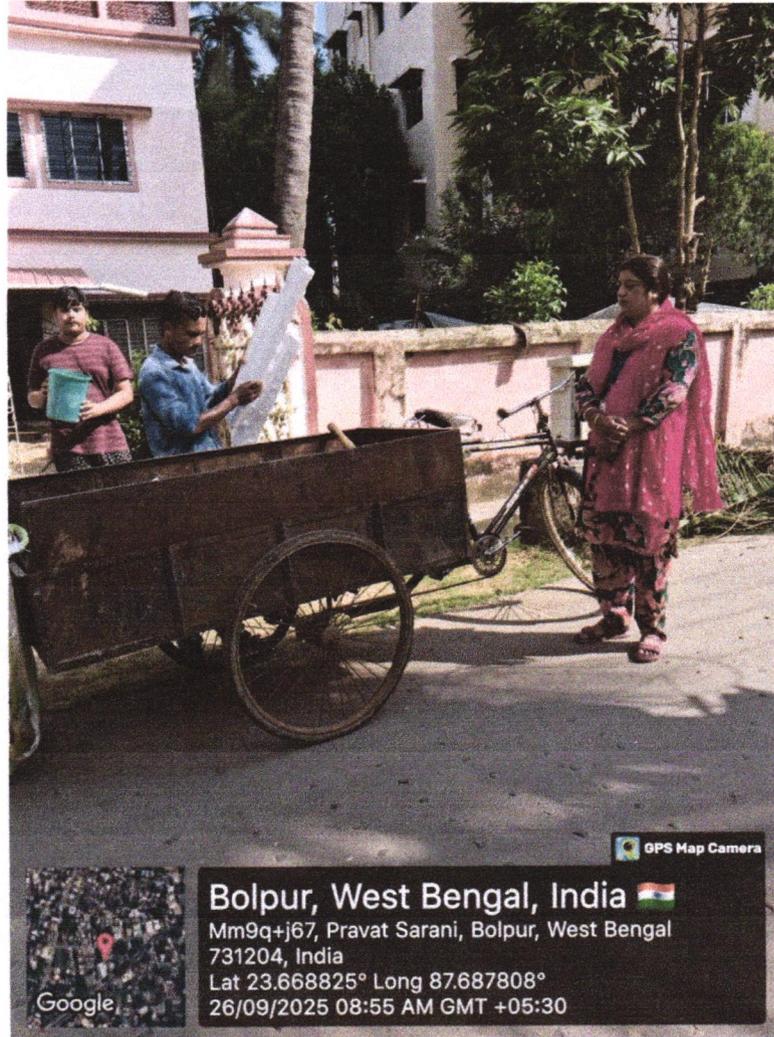
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Drain measurement at Ward No-06



101



Waste Collection at Ward No-07



102



Waste Collection at Ward No-09



103



Waste Collection at Ward No-09

105



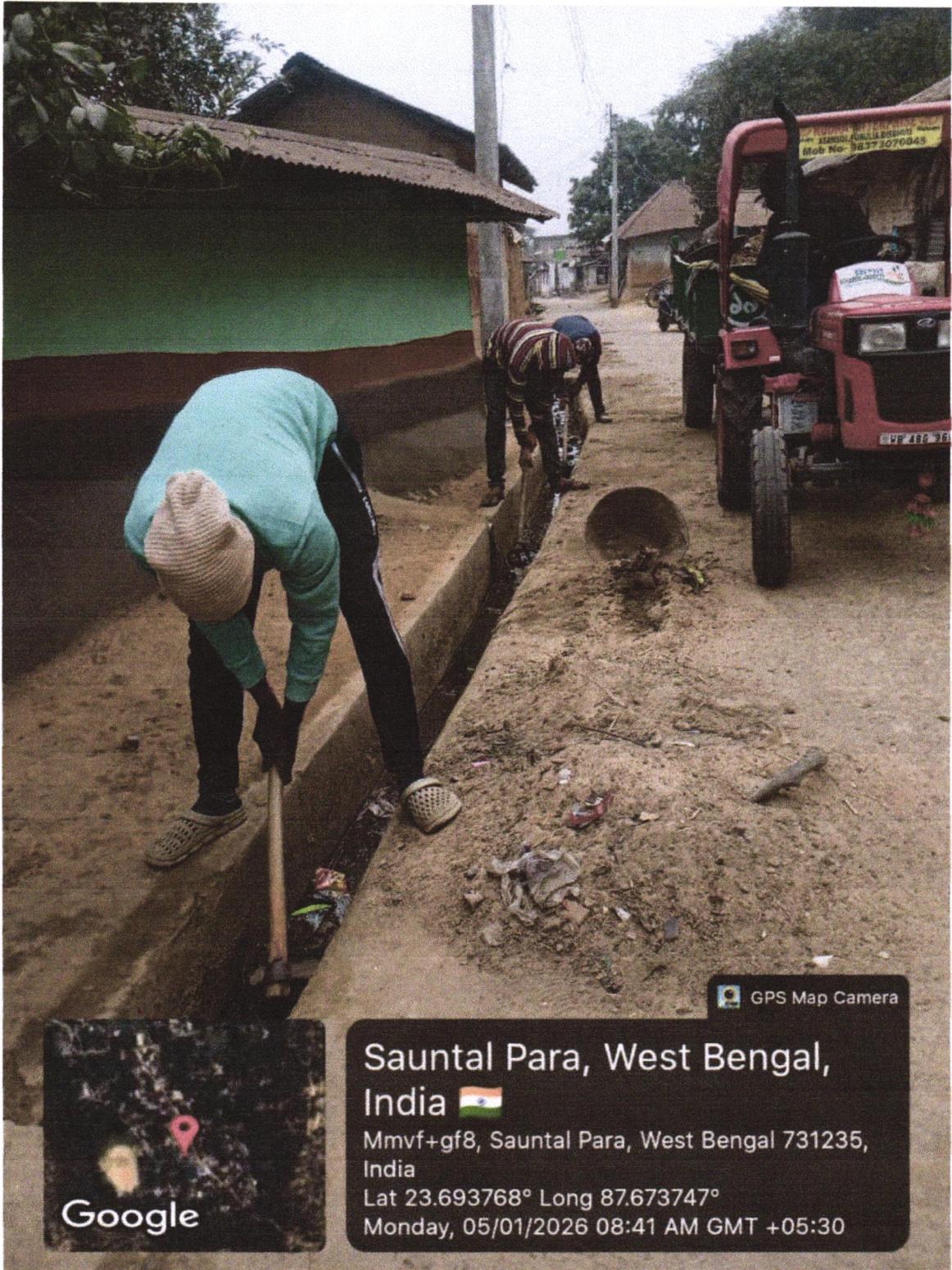
Garbage Collection at Ward No-01

106



Waste unloading at Secondary Point at Ward No-16

107



Drain cleaning at Ward No-02

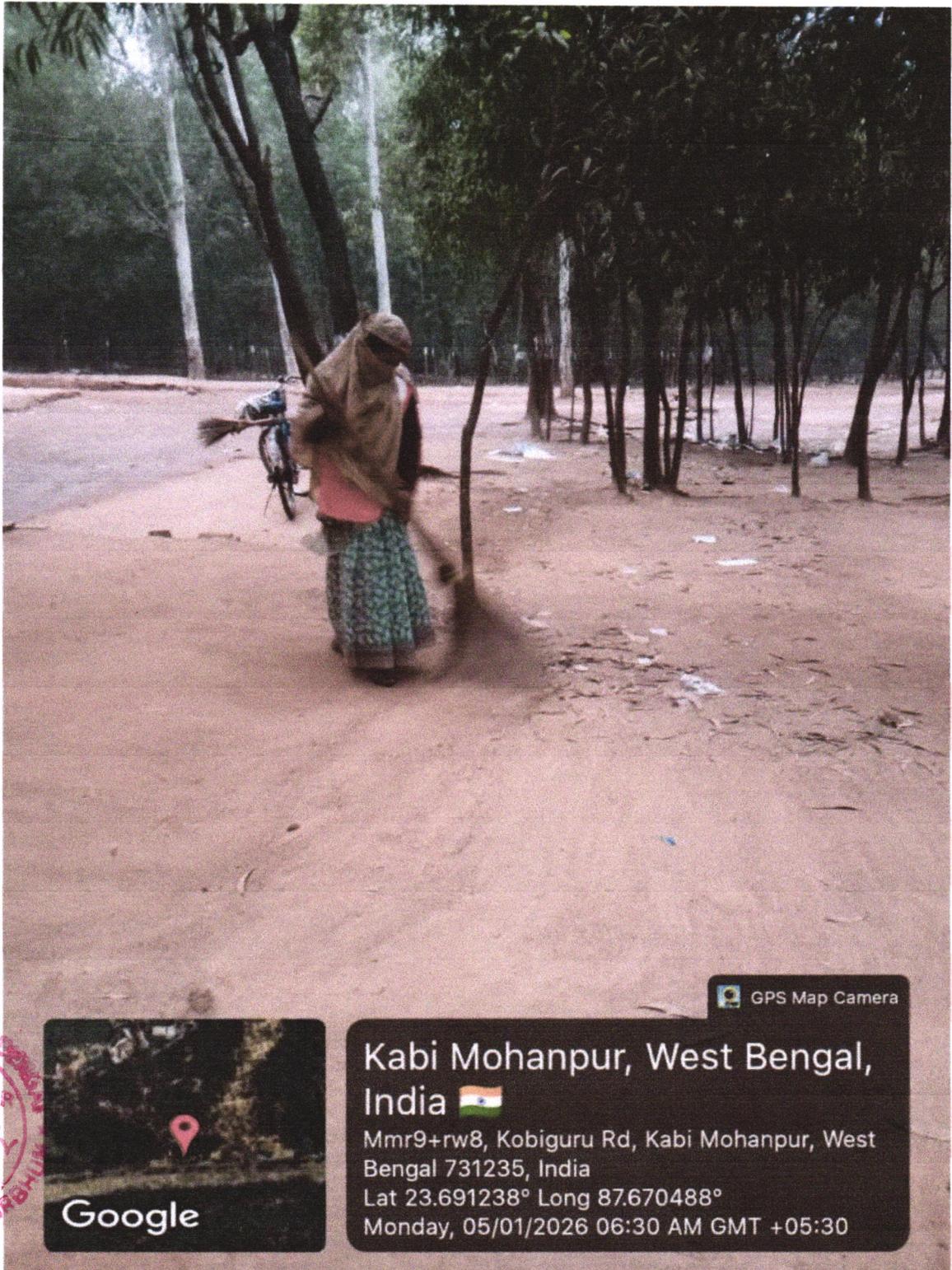




WEST OF WEST BENGAL
MD NASER
HOSSAIN
NOTARY
Regd No
.2/16
SALICANARST KIRBHUM

Drain Cleaning at Ward No-04

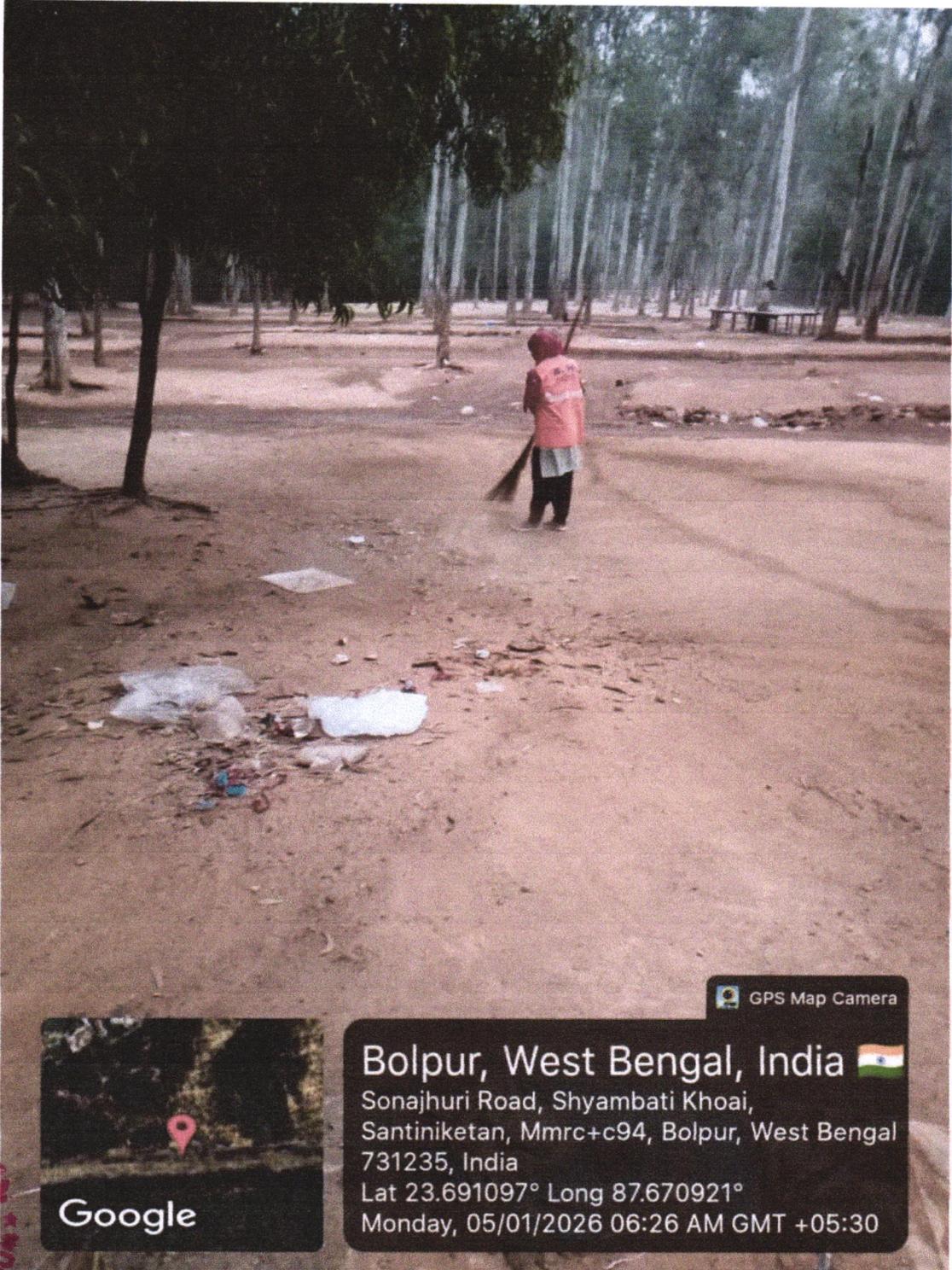
108



MD NASEER HOSSAIN
NOTARY
Rerd No
.2/16

Sweeping at Sonajhurihat

NO



GPS Map Camera



Bolpur, West Bengal, India 

Sonajhuri Road, Shyambati Khoai,
Santiniketan, Mmrc+c94, Bolpur, West Bengal
731235, India

Lat 23.691097° Long 87.670921°

Monday, 05/01/2026 06:26 AM GMT +05:30

MD NASER
HOSSAIN
NOTARY
Road No.
2410

Sweeping at Sonajhurihat



STATE URBAN DEVELOPMENT AGENCY

“ইলগাস ভবন”, এইচসি ব্লক, সেক্টর-৩, বিধাননগর, কলকাতা-৭০০ ১০৬, পশ্চিমবঙ্গ
“ILGUS BHAVAN”, HC Block, Sector-III, Bidhannagar, Kolkata - 700 106, West Bengal

Memo No.: SUDA-1395/2024/10182

Date: 31.12.24

From: Sri Joly Chaudhuri, WBCS (Exe.)
Director, SUDA

To: M/s. ROHINI FIRE SAFETY PVT LTD,
First Floor, 61, Shambhunath Pandit Street, Bhowanipur, Kolkata, West Bengal, 700025

LETTER OF ACCEPTANCE CUM WORK ORDER

Sub: Letter of Acceptance (LoA) cum Work Order for 'Disposal of **2.07 Lakh MT** of legacy waste through Bio-mining and Bio-remediation process and reclamation of the land at Bolpur, Rampurhat and Suri dump site within **Bolpur, Rampurhat and Suri Municipality** under Swachh Bharat Mission/Mission Nirmal Bangla in West Bengal.'

Ref: NIT No.: SUDA-1395/2024/6743 dated 10.09.2024 , eTender ID: 2024_MAD_748590_1

Sir/Madam,

With reference to the above subject, this is to inform you that your offer for 'Disposal of **2.07 Lakh MT** of legacy waste through Bio-mining and Bio-remediation process and reclamation of the land at Bolpur, Rampurhat and Suri dump site within **Bolpur, Rampurhat and Suri Municipality** under Swachh Bharat Mission/Mission Nirmal Bangla in West Bengal.' has been accepted by the Competent Authority of the Urban Development & Municipal Affairs Department for being the lowest financial bidder. Hence, you are requested to start the work as mentioned in the NIT at your offered rate i.e **Rs.524.00** (Rupees five hundred and twenty-four only) per metric ton inclusive of all taxes & duties and GST. The work is to be executed in compliance with all terms and conditions as mentioned in the bid document.

2. You are requested to submit-

- Balance Earnest Money of **Rs.11,69,360.00** (beyond Rs.10.00 lakh) shall be deposited within **10 days** from the date of issuance of LoA cum Work Order in the form of a Bank Draft drawn in favour of 'State Urban Development Agency', from any nationalized bank payable at Kolkata. The EMD will be converted to Security Deposit and additional amount of **08%** will be deducted towards Security Deposit from each running bill. Such deducted total amount will be refunded after **03 months** from the payment of the full and final settlement bill of the work.
- Performance Bank Guarantee (PBG) of **Rs.54,23,400.00** (i.e. 5% of the amount offered including GST) to be submitted and it shall be valid upto **30 months** (till the expiry of 06 months after completion of the project) from the date of issuance of LoA cum Work Order. The PBG shall be deposited within **15 days** from the date of issuance of LoA cum work Order.

(iii) You are also requested to please execute a formal tripartite agreement with the undersigned and Concerned ULBs within fifteen (**15**) days from the date of issue of this LoA cum Work Order and submit to this office as per the terms and conditions mentioned in the e-RfP document, failing which this Letter of Acceptance cum Work Order may be treated as cancelled.

3. The date of commencement of the said work will be reckoned from the date of receipt of this letter and shall remain valid for a period of **24 months** including **2.5 months** mobilization and installation of machineries.

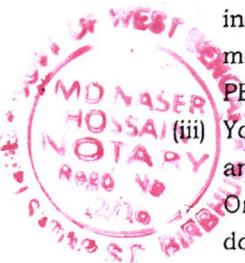
4. The entire work will have to be executed as per scope of work and terms and conditions mentioned in the e-RfP, tripartite agreement and as stipulated below:

দুরভাষ : (০৩৩) ৬৬৩৬৬৬০০

Tel : (033) 66366600, E-mail : wbsudadir@gmail.com

Account Section : (033) 66366627

Joly Chaudhuri
31.12.2024



STATE URBAN DEVELOPMENT AGENCY

“ইলগাস ভবন”, এইচসি ব্লক, সেক্টর-৩, বিধাননগর, কলকাতা-৭০০ ১০৬, পশ্চিমবঙ্গ
 “ILGUS BHAVAN”, HC Block, Sector-III, Bidhannagar, Kolkata - 700 106, West Bengal

- (i) Completion of the entire work within stipulated time period as mentioned in the NIT.
 (ii) Payment terms: As per commercial terms & conditions of NIT.
 (iii) Penalties: As per Terms of Reference (ToR) of NIT
5. The work will be executed subject to the supervision and control of the Engineers of State Urban Development Agency on behalf of the Urban Development and Municipal Affairs Department, Government of West Bengal along with Engineers of ULBs and subject to periodic appraisals and on-site tests conducted by the statutory authorities including but not limited to the Central Pollution Control Board (CPCB) and West Bengal Pollution Control Board (WBPCB). Compliance to the periodic directions by the Hon'ble National Green Tribunal are to be adhered to within the given timeline.
6. The company shall remain fully liable and indemnify the State Government for imposition of penalty / fine in the event of any adverse reports / failure reports conducted by the WBPCB or the CPCB as the statutory authorities or any other statutory authorities.
7. **Shri Dipak Naskar, Superintending Engineer, SUDA** shall be the overall in-charge of the project assisted by other Engineers of SUDA.
8. You are further requested to submit acceptance letter to this end **within seven (7) days** from the date of issuance of Letter of Acceptance cum Work Order.

Yours faithfully,

Chandhan

31.12.2024

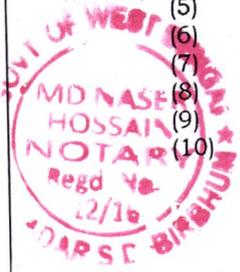
Director, SUDA

Date: 31.12.24

Memo No.: SUDA-1395/2024/1282/1(10)

Copy forwarded for kind information to:

- (1) District Magistrate, Concened District
- (2) Sri A. Kr. Sarkar, FA, UD&MA Department, Govt. of West Bengal
- (3) Sri A. Mukhopadhyay, Additional Secretary, UD&MA Department, Govt. of West Bengal
- (4) Sri A. Ray, Special Director & Financial Advisor, SUDA
- (5) Sri A. Das, Deputy Director, SUDA
- (6) Sri D. Chakraborty, FO, SUDA
- (7) Sri D. Naskar, SE, SUDA
- (8) Executive Officer, Concerned ULBs
- (9) Private Secretary to Hon'ble MIC, UD & MA Department, Govt. of West Bengal
- (10) Sr. PS to Principal Secretary, UD & MA Department, Govt. of West Bengal



Chandhan

31.12.2024

Director, SUDA

দূরভাষ : (০৩৩) ৬৬৩৬৬৬০০

Tel : (033) 66366600, E-mail : wbsudadir@gmail.com

Account Section : (033) 66366627



PALLI-SIKSHA BHAVANA
VISVABHARATI, SRINIKETAN

123

PROJECT PROPOSAL
On
**Bio-consortium for Vermicomposting using the fallen leaves in
Visva-Bharati Campus**

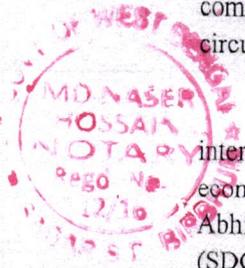
INTRODUCTION:

Visva-Bharati, nestled within the verdant landscapes of Santiniketan and Sriniketan, is home to a rich biodiversity and a vast canopy of trees. Each year, both campuses generate a significant volume of fallen leaves, which, while a symbol of natural abundance, present a substantial challenge in terms of management and disposal. Currently, these biomass residues are either left to decompose naturally or are incinerated, both of which are inefficient and potentially harmful to the environment.

In response to this issue, we propose a sustainable and ecologically beneficial solution: the large-scale production of vermi-compost from the collected leaf litter. Vermicomposting, a biological process that uses earthworms to convert organic waste into nutrient-rich compost, offers a natural and eco-friendly alternative for organic waste management. This initiative aims to not only address the logistical challenges of leaf disposal but also to create value-added products that can enhance soil fertility and promote organic farming practices within and beyond the campus. A unique aspect of this project will be the development and application of microbial cultures for enhancing the composting process. These microbial consortia will be tailored for accelerated decomposition, disease suppression, and nutrient enrichment, making the final vermi-compost more effective and commercially viable.

The project also aims to explore the economic viability and scalability of vermincomposting as a decentralized model for sustainable waste management and rural entrepreneurship. By integrating scientific innovation with ecological stewardship and community participation, Visva-Bharati University seeks to develop a replicable model of circular bioeconomy rooted in Gandhian and Tagorean principles of harmony with nature.

This initiative is not only a waste-to-wealth endeavor but also a novel, interdisciplinary research model that blends environmental science, microbiology, economics, and sustainability studies. It aligns with India's goals under the Swachh Bharat Abhiyan, Mission LiFE (Lifestyle for Environment), and Sustainable Development Goals (SDGs), especially those related to climate action (SDG 13), sustainable cities and communities (SDG 11), and responsible consumption (SDG 12).





OBJECTIVES: The present project will have following objectives-

- To develop an integrated system for the scientific conversion of fallen leaves into high-quality vermicompost using earthworms and microbial consortia.
- To establish a sustainable, replicable model of waste-to-resource conversion that can be extended to other academic and rural institutions.

Site of the project and civil works: Two sites for primary composting of fallen leaves were finalized as a) vacant space near the northern side of Bangladesh Bhavana, Santiniketan and b) vacant space in front of Rathindra Krishi Vigyan Kendra, Sriniketan. Leaf collection and composting will be done in two different 'Chatal' or earthen levelled area with sprinkler/watering will be constructed including arrangement of shredders and shievers. The vermi-composting will only be done at the Rathindra Krishi Vigyan Kendra Site where covered segmented composting pits will be constructed.

Collection of leaves: Collection of fallen leaves, grasses and other organic matters will be collected by 'Mahadal' Labourers and carried by tractor drawn trolley. Entire collection process will be supported by University Garden Section.

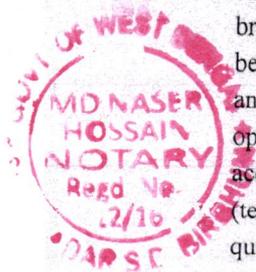
Labour requirement for primary composting and vermi-composting: Primary composting and vermin-composting will be carried out by deploying following staffs:

Primary composting at Santiniketan: 1 semiskilled labourer

Primary composting at Sriniketan: 1 semiskilled labourer

Vermicomposting unit at Sriniketan: 1 skilled labourer/MTS

Brief methodology of preparation of vermin-compost: The methodology of the project involves a systematic, multi-stage approach to transform fallen leaf litter from Visva-Bharati's Santiniketan and Sriniketan campuses into value-added vermicompost using scientific and eco-friendly techniques. Initially, leaf biomass will be collected, sorted, and shredded to enhance decomposition. Pre-composting will be conducted for partial breakdown, followed by layering with cow dung in specially constructed vermin-composting beds. Selected species of earthworms such as *Eisenia fetida* will be introduced into the beds, and environmental conditions like moisture and temperature will be maintained to support optimal decomposition. Ready microbial culture will be applied to composting units to accelerate the process and enhance nutrient value. Periodic monitoring of physical (temperature, pH, moisture) and chemical parameters (C: N ratio, NPK content) will ensure quality control. The final product will be harvested, sieved, and packaged using eco-friendly materials with proper labelling for retail and bulk sales. Economic analysis will cover cost of production, labour, and market pricing to determine profitability and scalability. The entire process will be documented to establish a replicable, sustainable model of campus-level organic waste management integrated with climate action and rural development goals.



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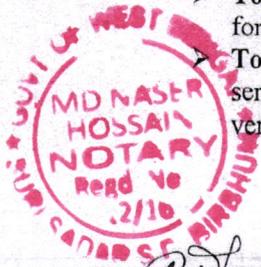
BUDGET REQUIREMENT for 2025-2026:

Sl. No	Items	Estimated cost (in lakh rupees)	Total (in lakh rupees)
1.	Equipment: a. Shredder (1 nos.) b. Shiever (2 nos.) c. Small equipments/implements (weighing machine, motor etc)	2.0 0.25 1.0	2.0 0.5 1.0
2.	Pipeline	0.75	0.75
3.	Fencing	0.75	0.75
4.	Cowdung	0.75	0.75
5.	Polythene/Silpauline	1.0	1.0
6.	Manpower: Semi-skilled labourer (Rs.463.74/day) (2nos) Supervisor/Skilled labour /MTS (1 No)	Rs.463.74x20x12x2 ----	2.23
7.	Contingency	1.02	1.02
TOTAL			10.0
8.	Civil work (Vermi compost chamber)	3.0	3.0
GRANDTOTAL			13.0

(Thirteen lakh rupees only)

FUTURE LINE OF WORK:

- To isolate and mass-multiply efficient microbial strains that enhance the decomposition process and add agronomic value to the compost.
- To assess the carbon credit potential by calculating greenhouse gas mitigation and carbon sequestration through the composting process.
- To conduct an economic analysis of vermicomposting and exploring the potential for commercialization and local employment generation.
- To identify and valuation of different the ecosystem services (Provisioning services, Regulating services, Supporting services, Cultural services) generated by the vermin-compost. .



Bidhan Ch. Roy
29.05.2025
(Bidhan Ch. Roy)
Jt. Co-ordinator

N.C. Mandal
29.05.25
(N.C. Mandal)
Jt. Co-ordinator

Binoy Kr. Saren
29/05/2025
(Binoy Kr. Saren)
Chairman



VISVA-BHARATI
SANTINIKETAN

REVISED BUDGET REQUIREMENT for 2025-2026 (as decided on 02.07.2025):

Sl. No	Items	Estimated cost (in lakh rupees)	Total (in lakh rupees)
1.	Equipment: a. Shredder (1 nos.) b. Shiever (1 nos.) c. Small equipments /implements (weighing machine, motor, tools and implements etc) (detail estimate attached)	2.25 0.25 1.00	3.5
2.	Civil work (detail estimate attached)	5.00	5.0
3.	Contingency	1.50	1.5
TOTAL			10.0

(Ten lakh rupees only)

Bidhan Ch. Roy
(Bidhan Ch. Roy)
Jt. Co-ordinator

N.C. Mandal
02.07.25
(N.C. Mandal)
Jt. Co-ordinator

Binoj Kr. Saren
(Binoj Kr. Saren)
Chairman





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16

URGENT

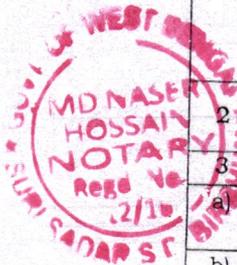
Annexure - H

NOTIFICATION

Sub: Annual Allocation under Capital Assets for the Financial Year 2025-2026.

This is to notify for information of all concerned that the Planning Board of the University in its meeting dated 26/05/2025 has considered and approved the following head/item-wise Annual Allocation under Capital Assets (OH-35) for the year 2025-2026, based on the approval of UGC vide letter no. F. No. F.1-3/2025 (CU), dated 20/05/2025, subject to availability of fund:

Sl. No.	Purpose/Particulars	Allocation (₹ in lakh)	Execution/ Action
1	Campus Development		
a)	Essential Major Repair/Renovation/up-gradation of Roads, Drains, Gates & Fencing (Poush Mela Ground) & Cycle Stands	200.00	Engineering Department Visva-Bharati
b)	Essential Major Repair/Renovation/up-gradation of Hostels - Nandan Sadan, Patha-Bhavana, Vidya-Bhavana Boys, Kala-Bhavana (Amtala Boys) and General Kitchen are the priority. Provision of Ramps, wherever essential.		
c)	Essential Major Repair/Renovation/up-gradation of Guest Houses [Rathindra Atithi Griha, Purbapalli, SAIL, Ratankuthi (Kitchen)] and Canteens, etc.		
d)	Provision of Drip Irrigation		
e)	Installation of LED Lights and provision for Solar Lights/Panels at various locations of the campus		
f)	Water supply, including essential provision for pumps, etc. (hostels are the priority)		
g)	Restoration/Improvement (cleaning, deepening, excavation, etc.) of Water Bodies of the campus [Bhubandanga, Hatipukur & Barobandh (Sriniketan)] for preservation of water throughout the year and Landscaping & Plantation at suitable areas of the campus.	40.00	Estate Office Visva-Bharati
2	Books/Journals	50.00	Librarian, Central Library
3	ICT enabled infrastructure for online learning and content development		
a)	Renewal of license for firewall at least for one year i.e. 2026-2027	60.00	Computer Centre Visva-Bharati
b)	Provision of Video Conferencing facility at 04 (four) identified locations		
c)	Provision for Biometric Attendance System at Rabindra Bhavana, Central Administrative Building & Central Library		
4	Procurement of E-resources (Perpetual)	20.00	Librarian, Central Library



Santosh

Sl. No.	Purpose/Particulars	Allocation (₹ in lakh)	Execution/Action
5	Small Equipment/Laboratories		
a)	Procurement of vehicles (04 Passenger Car/Van) and at least 03 E-Rickshaw (mainly for Heritage Areas, Guest Houses and for emergent purposes) as part of replacement (inclusive of registration charges, as applicable)	60.00	Central Transport Cell Visva-Bharati
b)	Procurement of Green Generator for Guest Houses (Rathindra Atithi Griha, Purbapalli Guest House, International Guest House and Lipika are the priority)	20.00	Guest Houses Visva-Bharati
c)	Procurement and installation of CCTV and other modern tool for security at different locations of the campus (vital installations and hostels are the priority)	20.00	Watch & Ward (Security Office) Visva-Bharati
d)	Procurement of essential composting equipment to ensure proper disposing of waste materials	10.00	PSB Visva-Bharati
6	Other infrastructure including furniture & fixture		
a)	Essential/basic furniture for Guest Houses (extended rooms at Panchabati are the priority)	15.00	Guest Houses Visva-Bharati
b)	Essential/basic furniture for hostels & canteens and suitable provision of wheel chairs and other gadgets for differently abled persons. Software for differently/special abled persons (visually impaired)	20.00	Director, PSNS Visva-Bharati
c)	Installation of Glow Sign Board/Signage at different locations of the campus (Design/layout be prepared by the Principal, Kala-Bhavana)	10.00	Engineering Department Visva-Bharati
7	Emergent/unforeseen/reserved purposes (To be considered by the competent authority, as per requirement of the Bhavanas/Depts./Offices, deems essential/justified)	75.00 (Detailed breakup shown as under)	Central Purchase Section, Visva-Bharati, in case of procurement
	GRAND TOTAL	600.00	

Allocation of fund under Emergent/unforeseen/reserved purpose				
Sl. No.	Name of the Bhavana/Dept./Office	Name of Article/Item	Quantity	Allocation (₹ in lakh)
1.	P.M. Hospital	Basic/essential facilities/infrastructure (Equipment & furniture)		25.00
2.	P.M. Hospital	(Suitable specification for all the computers be determined by the In-charge, Computer Centre)	05	30.00
3.	PSB		15	
4.	Library		20	
5.	PSV		01	
6.	Kala-Bhavana		02	
7.	Sangit-Bhavana		02	
8.	Vinaya-Bhavana		02	
9.	Siksha-Bhavana		02	
10.	Patha-Bhavana (including Lab.)		05	
11.	Siksha Satra		03	
12.	Granthana Vibhaga		06	
13.	Reserved		04	
			67	

MD NASER HOSSAIN
NOTARY
Regd No. 2/10
SARSA

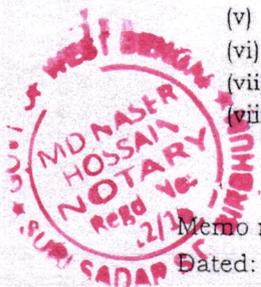
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Sarkar

Sl. No.	Name of the Bhavana/Dept./Office	Name of Article/Item	Quantity	Allocation (₹ in lakh)
14.	Rabindra-Bhavana Museum	Air-Conditioners	01 (8.5 Ton)	5.00
15	Conference Room of Central Library		02	
16.	Office of Vice-Chancellor		02	
17.	Garden Section	Bush Cutting Machine	10	2.00
18.	Kala-Bhavana	Essential Equipment		2.00
19.	Sangit-Bhavana	Essential Musical Equipment		2.00
20.	Vidya-Bhavana	Partition wall for Anthropology Department		1.50
21.	Vinaya-Bhavna	Essential Equipment		1.00
	Total			68.50

NOTE

- (i) In order to ensure proper & timely utilisation of grants and timely submission of UC to UGC, all concerned are advised to utilise the allocated grant in observance of relevant rules, norms, procedures, guidelines etc. including provisions under GFR, 2017.
- (ii) As advised by the Hon'ble Vice-Chancellor, all are requested to ensure that the allocated grants be utilized in terms of Govt. Rules (i.e. 33% by June, 50% by September, 75% by December and the entire fund (i.e. 100%) by March of each financial year, in order to avoid any adverse observations from C&AG and no purchase/procurement be considered in March. Status of utilisation be reviewed by the competent authority periodically.
- (iii) As far as projects under Campus Development [sl. no. 1 (g)] is concerned, a committee consisting of the following members has been constituted for suitable recommendation/guidance. Estate Office is advised to issue necessary notification in this regard.
- Principal, PSB, V.B. – Chairman
 - Prof. Goutam Kumar Ghosh, PSB, V.B.
 - Joint Registrar (Estate), V.B.
 - Dr. Kalipada Pramanik, Vice Principal, PSB, V.B.
 - Dr. Kishore Chandra Swain, PSB, V.B.
 - In-charge, Garden Section, V.B.
 - Dr. Subrata Mondal, KVK, V.B.
 - University Engineer, V.B.



Memo no. Dev./Annual Allocation/29/2025-2026

Dated: 27/05/2025

deborah
visva
Joint Registrar (Development)
Visva-Bharati

Santosh

To

- Directors/Adhyakshas of Bhavanas/Vibhagas, Visva-Bharati
- Heads of Academic and Administrative Departments/Centres/Units/Offices, Visva-Bharati

Copy forwarded for information & necessary action to:

- Registrar (Acting), Visva-Bharati
- Finance Officer (Offg.), Visva-Bharati
- Joint Finance Officer, Internal Audit, Visva-Bharati
- Joint Registrar (Accounts), Visva-Bharati
- Joint Registrar & C.S. to Vice-Chancellor, Visva-Bharati
- Joint Registrar (Estate), Visva-Bharati
- University Engineer, Visva-Bharati

Capital Assets, 2025-26

With a request to submit estimates of the work(s) under Campus Development (in prescribed format of UGC) at the earliest for placing before the Joint Committee of Building Committee and Building & Campus Committee for approval.

Visva-Bharati



Engineering Department

12/11/25

Annexure - J

20

ACCEPTANCE-CUM-WORK ORDER

Work Order No. Engg./WO/ 871 /2025-26.

Dated : 12-11-25.

To

Sudip Dutta,
C/O-Chandra Shekhar Dey,
Bolpur Station Road,
P.O.- Bolpur, Dist- Birbhum.

Sub: Construction of Vermicomposting Unit (1st Phase) at Sriniketan, Visva-Bharati.

Ref: Our earlier Order No. Engg./ 853/2025-26, Dated: 10.11.2025.

Estimated Cost: Rs.4,18,261.00

Dear Sir,

With reference to the subject mentioned above the University has approved to award the above work in your favour. The tendered amount for the work is as per the Annual Rate Contract (A.R.C.), i.e. 7.02% (Seven point zero two percent) less than the estimated cost, amounting to Rs.3,88,899.00 (Rupees Three lac eighty eight thousand eight hundred ninety nine only). Additionally, Labour Welfare Cess (L.W. Cess) and GST shall be levied as per applicable statutory regulations.

Payment & Security Deposit Terms:

1. Retention of Security Deposit: 10% of the executed value shall be deducted from your bills as a security deposit, which shall be refunded as per the applicable rules.
2. Defect Liability: Any defects arising during the defect liability period must be rectified by you at your own cost, failing which the University reserves the right to recover the rectification cost from the security deposit.

You are requested to complete the work within 31.12.2025 in all respect in consultation with the Junior Engineer Sri Bapi Das.

M. S. Das
12/11/25

Estimator

Memo No. Engg./ 867 /2025-26, Dated : 12/11/25

Copy to:

1. The Accounts Officer, Visva-Bharati.
2. The Security In-Charge, Visva-Bharati
3. The Joint. Registrar & In-charge, Estate Office, Visva-Bharati
4. The Legal Cell.
5. The Junior Engineer - Sri Bapi Das for execution, billing & quality control.
6. The Professor In-Charge / Section Officer, General / Engineering Accounts & Estimator Engg. Dept.
7. File No.-CA./25-26-03

Budget Head: Capital Grant- 2025-26-Small Equipment / Laboratories, PSB, Visva-Bharati.



Yours faithfully,

(Signature)
Professor In-Charge (Engg. Dept).
Visva-Bharati

Sd/-

Professor In-Charge (Engg. Dept).
Visva-Bharati



12/11/25

ACCEPTANCE-CUM-WORK ORDER

Work Order No. Engg./WO/ 074/2025-26.

Dated : 12-11-2025

To

Jiban Sardar,
Moldanga, Sriniketan,
Birbhum.

Sub: Erection of new PVC pipe line for Vermicomposting Unit at Sriniketan.

Ref: 1. Our earlier Order No. Engg. / 846/2025-26, Dated: 10.11.2025

Estimated Cost: Rs.41,350.00

Dear Sir,

With reference to the subject mentioned above the University has approved to award the above work in your favor. The tendered amount for the work is as per the Annual Rate Contract (A.R.C.), i.e., 6.5% (six point five percent) less than the estimated cost, amounting to Rs.38,447.00 (Rupees Thirty eight thousand four hundred forty seven only), Additionally, Labour Welfare Cess (L.W. Cess) and GST shall be levied as per applicable statutory regulations.

Payment & Security Deposit Terms:

1. Retention of Security Deposit: 10% of the executed value shall be deducted from your bills as a security deposit, which shall be refunded as per the applicable rules.
2. Defect Liability Any defects arising during the defect liability period must be rectified by you at your own cost, failing which the University reserves the right to recover the rectification-cost from the security deposit.

You are requested to complete the work within 31.12.2025 in all respect in consultation with the Junior Engineer Sri Bapi Das.

Yours faithfully,

M. S. S. S. S.
12/11/25

Estimator

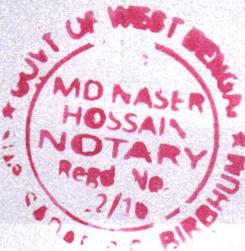
[Signature]
Professor In-Charge (Engg. Dept),
Visva-Bharati

Memo No. Engg./870 /2025-26, Dated : 12/11/25

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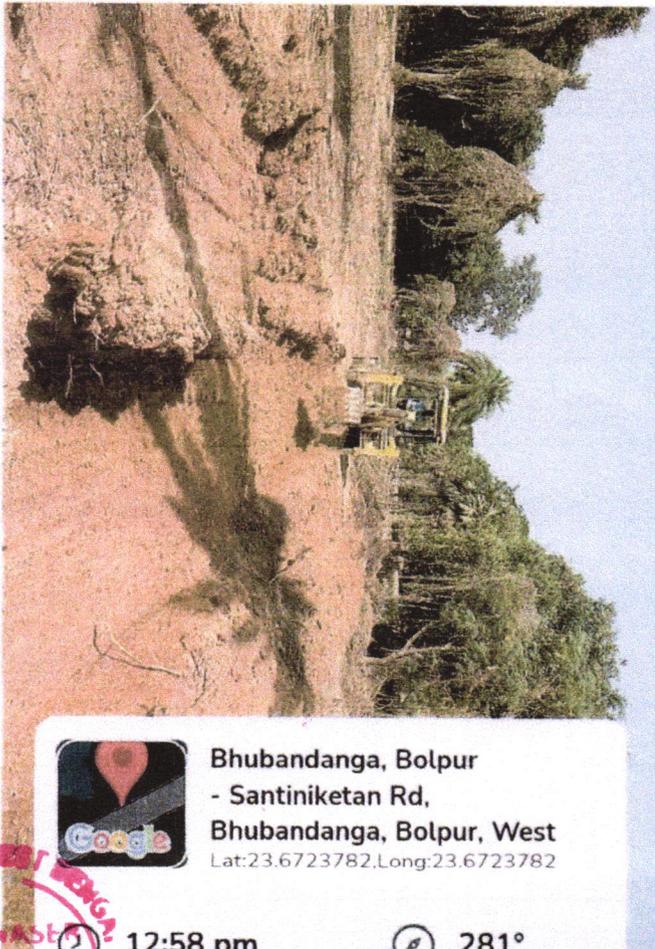
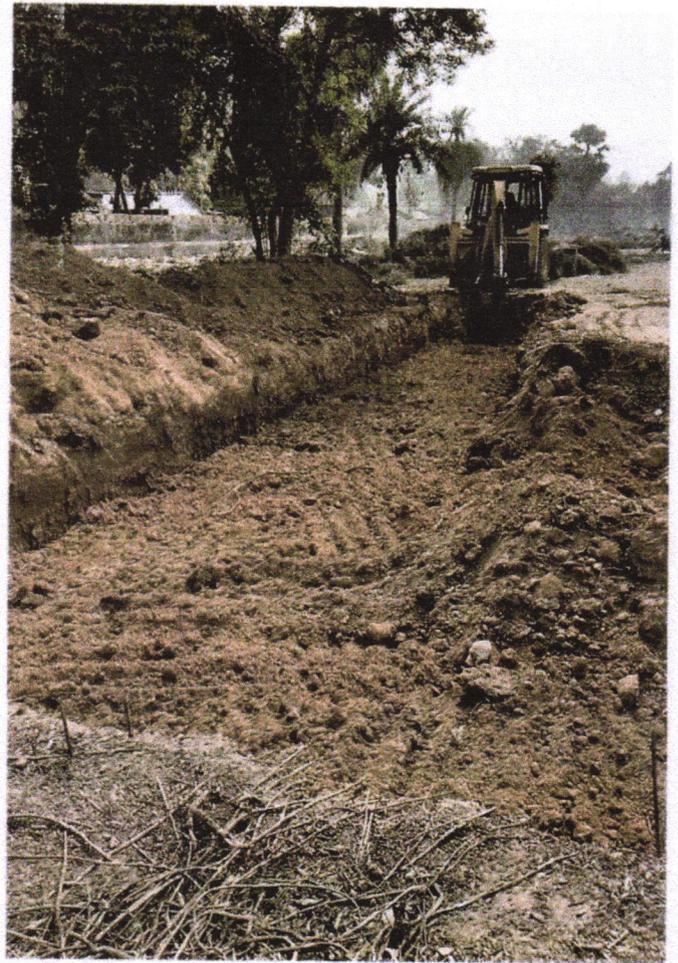
1. The Chairman Vermi Compost Unit & the Principal, PSB, Sriniketan.
2. The Accounts Officer, Visva-Bharati.
3. The Security In-Charge, Visva-Bharati
4. The Joint. Registrar & In-charge, Estate Office, Visva-Bharati
5. The Legal Cell.
6. The Junior Engineer –Sri Bapi Das for execution, billing & quality control.
7. The Professor In-Charge / Section Officer, General / Engineering Accounts & Estimator Engg. Dept.
8. File No. WS/2025-26-01

Budget Head: Maintenance repairs to water works Tanks and Chemicals, Water Supply Section 2025-2



Sd/-

Professor In-Charge (Engg. Dept).
Visva-Bharati

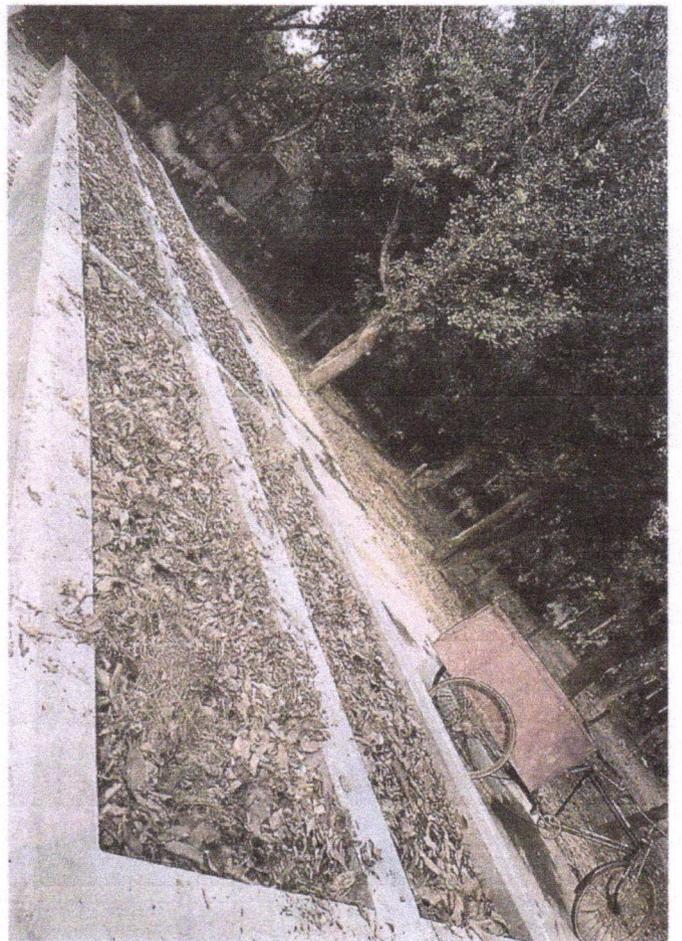
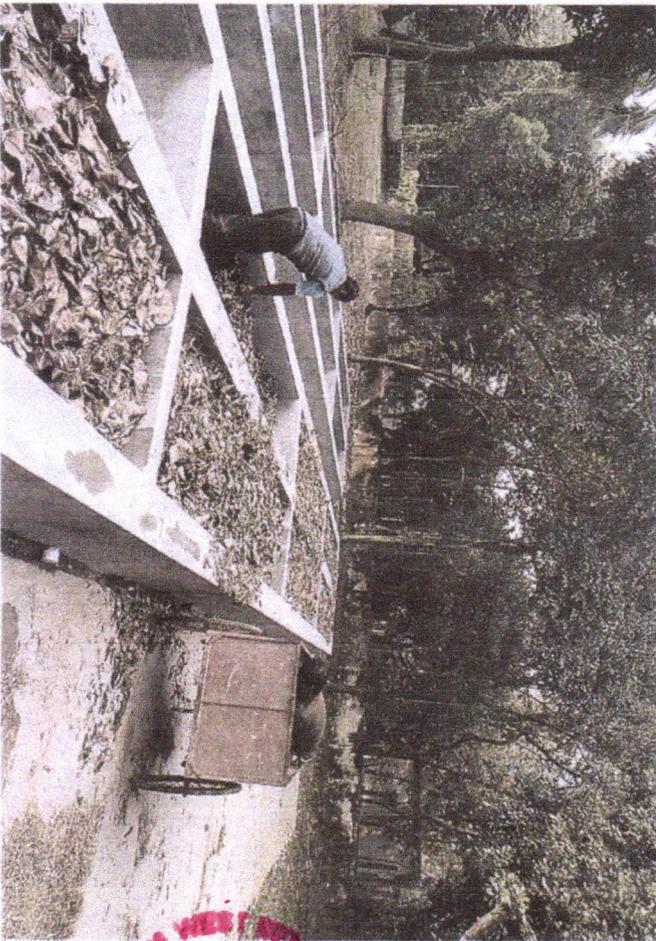
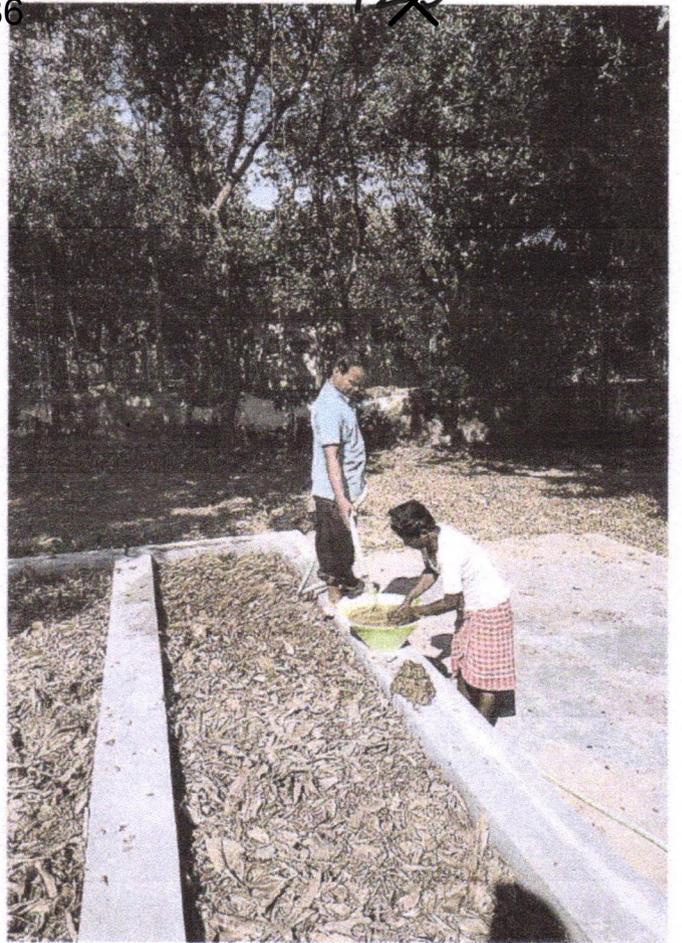
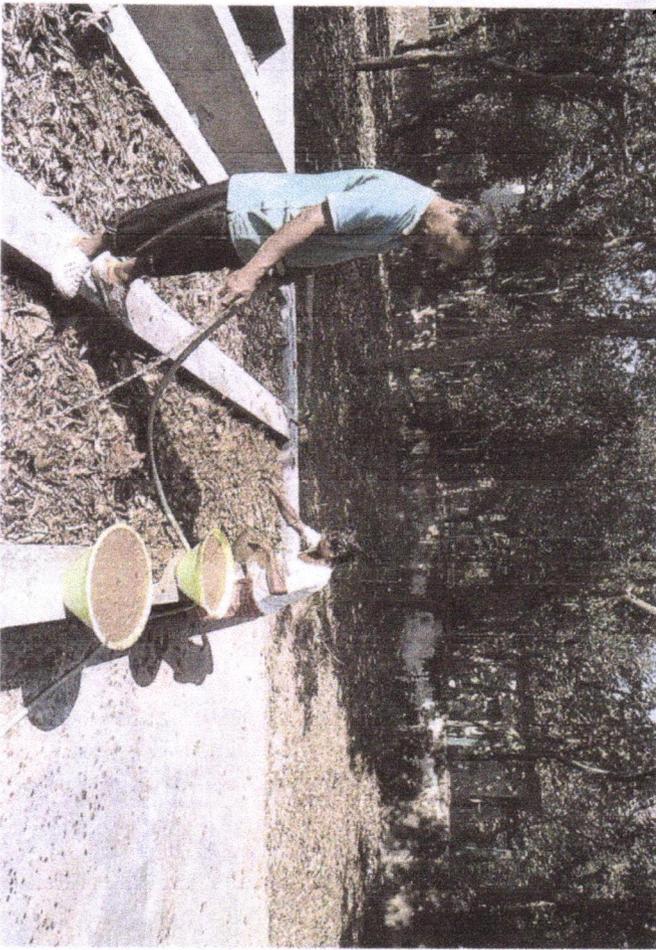


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 Bhubandanga, Bolpur, West
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MD NASEEM
 HOSSAIN
 NOTARY
 Regd No
 2/10
 SAHAR ST BIRBHUM



MD NASER
HOSSAIN
NOTARY
REGD No.
.2/10
DARST

BEFORE THE NATIONAL GREEN TRIBUNAL
EASTERN ZONE BENCH, FINANCE CENTRE,
3RD FLOOR, NEW TOWN, KOLKATA.

Miscellaneous Application No.30/2025/EZ

Arising out of:

Original Application No.129/2022/EZ

In the matter of:

Subhas Datta

...Applicant

Versus

Viswa Bharati University & Ors.

...Respondent (s)

REPORT ON COMPLIANCE FILED ON BEHALF
OF THE DISTRICT MAGISTRATE, BIRBHUM, TO
THE DIRECTION DATED 22.12.2025 PASSED BY
THIS HON'BLE TRIBUNAL IN MISCELLANEOUS
APPLICATION NO. 30/2025/EZ IN ORIGINAL
APPLICATION NO. 129/2022/EZ.

Sudip Kumar Dutta
Advocate
Mobile No.9874782072