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Govt. Of Assam
Office of the Mission Director: : Jal Jeevan Mission, Assam
Public Health Engineering Building
Hengrabari, Guwahati-36

No. JJMA-75/LAB/2023/Pt-1/1298

Date - 20.05.24.

To,
The Executive Engineer
All Division

Sub: Signing of MoU between division and individual colleges under Jal Vidya Program

Ref: The signing of the MoU between MD, JJM and DHE on 5th March 2024

Sir,

With reference to the subject cited above I would like to inform you that a Memorandum of Understanding (MoU) was signed between the Department of Higher Education (DHE) and the Jal Jeevan Mission Public Health Engineering Department (JJM PHED) Assam for the Jal Vidya Program on March 5, 2024 with an objective to foster a deeper understanding and practical knowledge of water management among students, teachers, and community stakeholders

During the MoU signing ceremony, five working groups were formed consisting of representatives from both the PHE and various colleges. These groups are tasked with developing Standard Operating Procedures (SoPs) for five components of the Jal Vidya Program: a) Capacity Building, b) Internship Program, c) Research & Development, d) Water Quality Monitoring, and e) Community Awareness and Education Program. The SoPs for the various components of the Jal Vidya Program have been meticulously developed through the collaborative efforts of these dedicated working groups.

In this connection, the district-level MoU, along with the respective SoPs, are attached herewith for field level implementation. You are requested to sign the MoU with interested colleges under your division and to execute the program as per guideline.

We believe Jal Vidya program will significantly contribute to the educational and environmental goals of our institutions.

Enclosure:

1. Draft MoU with SoPs

Yours faithfully

(Shri Karish Karthik N, IAS)
Mission Director, JJM, Assam & Secretary to
the Govt. of Assam, PHED
Hengrabari, Guwahati - 781036

Memo No. JJMA-75/LAB/2023/Pt-1/1299 - 1301

Date - 20.05.24.

Copy to:

1. The Special Secretary to the Govt. of Assam, PHED for favour of kind information
2. The Chief Engineer, PHED cum Addl Mission Director (T) JJM Assam for information
3. The Director, Department of Higher Education (DHE), Kahilipara, Guwahati - for information and circulation of the MoU and the SoPs among the colleges.

(Shri Karish Karthik N, IAS)

Mission Director, JJM, Assam & Secretary to
the Govt. of Assam, PHED
Hengrabari, Guwahati - 781036

MEMORANDUM OF UNDERSTANDING (MoU) under Jal Vidya Programme

This Memorandum of Understanding (hereinafter called as the 'MoU') is entered into on this TUES..... DAY of JULY... 2024. (22/07/2024..) at KARIMGANJ, Assam.

By and between

Public Health Engineering (PHE), KARIMGANJ Division, the nodal agency for implementation of Jal Jeevan Mission in KARIMGANJ districts of Assam, represented by its Executive Engineer (PHE), KARIMGANJ Division, Assam, having its office at KARIMGANJ (hereinafter referred to as PHE KARIMGANJ Division) which expression, unless excluded by or repugnant to the subject or context shall include its successors-in-office, administrators, executors, attorneys representatives at division offices and permitted assigns) of the first part.

And

NABINCHANDRA College situated at BADARPUR, KARIMGANJ represented by its Principal, NABINCHANDRA College (hereinafter referred to as "NABINCHANDRA College") which expression, unless excluded by or repugnant to the subject or context shall include its successors-in-office, administrators, executors, attorneys representatives and permitted assigns) of the second part

Whereas, PHE KARIMGANJ Division and NABINCHANDRA College have desired to collaborate and work together for undertaking a program under the name and style of "**Jal Vidya Programme**" an initiative to involve college students (pursuing Degree/ Diploma in any stream after Higher Secondary/ 12th Standard) and the faculty in assessing and creating awareness on water quality, safe water management of water and WASH (Water, Sanitation and Hygiene) practices, focusing on drinking water security and its management across KARIMGANJ district, Assam.

And whereas, The **Jal Vidya Programme** is a joint initiative of Mission Directorate, Jal Jeevan Mission Assam and Directorate of Higher Education, Assam. The programme aims to orient the students of colleges on water quality, safe management of water, WASH practices focusing on drinking water security & management; and functionality assessment of the PWS Schemes and provide access to the existing PHED infrastructure for academic pursuits.

Scope of Work:

The scope of work can be broadly be divided into the following categories:

1. Capacity Building
2. Internship Programme
3. Research & Development
4. Water Quality Monitoring

5. Community Awareness and Education Program

The implementation guideline SoP for each component is attached in Annexure I to V. During signing of the MoU between division and individual colleges, the scope of work can be selected by both the party as per their convenience and willingness. However, it is recommended to include minimum 1 scope of work from each 5 modules.

I. ROLE AND RESPONSIBILITIES OF PHE DIVISIONS

- Provide expertise on water supply, sanitation.
- Collaborate with educational institutions to integrate practical knowledge and academic learnings.
- Offer training programs for faculty and students on water and sanitation infrastructure development/O & M.
- Assist in the implementation of sustainable and effective public health interventions.
- Provide college students with valuable hands-on experience and research opportunities.
- Offer internship for college students for in PHED.

II. ROLE AND RESPONSIBILITIES OF THE COLLEGE

- Develop and implement public health education programs within colleges and peripheral areas.
- Develop training materials for officials from other line department in collaboration with the Public Health Engineering Department.
- Conduct research with a focus on water and sanitation.

Responsibilities of College Faculties:

- Design various academic activities involving students for generating awareness on public health related topics.
- Engage in collaborative research projects with the PHED to address real-world challenges, like developing Water Quality Index of the State, identifying new water quality hotspot, identifying local traditional best practices for water quality management.
- Design project for their students using the infrastructure of PHED, Laboratories and publish the findings in technical papers in reputed peer reviewed journals.
- Periodic audit of PHED laboratories so that laboratories can maintain their NABL status.

Responsibilities of Students:

- Participate in internships and practical training programs organized by the PHED.

- Contribute to research projects addressing public health and engineering challenges under supervision of college Faculty.
- Apply theoretical knowledge in real-world situations through hands-on experiences.
- Support to the FTK (Field Testing Kit) testing women group in their locality.
- Assist in water sample collection & analysis as part their project/social awareness activities.
- Generate awareness on water quality and public health issues in their locality.

III. MONITORING & EVALUATION:

In order to monitor the progress of the program, there will be a comprehensive review at district level periodically on the topics listed below by the notified District Level committee (comprising of district level officers & representative from Partner College) shall review on the following topics on fortnightly basis:

1. Number of MoU signed between PHED Divisions and colleges.
2. Notification of Division & Block level Committee (comprising of representative from students community, community members, PHED officials & any other stakeholder as may be deemed appropriate).
3. Review activities undertaken by BLCs like,
 - Collaboration with FTK groups.
 - Capacity building of FTK groups.
 - Awareness campaigns on water quality at village etc.
4. Number of projects/ research study initiated under the collaboration.
5. Number of students who have joined as interns under PHED divisions.
6. Discussion on significant research undertaken.
7. Discussion on bottleneck identified.
8. Regular submission/updation of list of research topics undertaken by students from each division.
9. Ensuring support & necessary handholding on completion of research/ internship & necessary publications of results through research papers/ technical papers through joint intervention of both depts.
10. Any other topic as deemed important.

IV. TERMS AND CONDITIONS:

A. GENERAL TERMS AND CONDITIONS

1. Both PHE KARIMGANJ Division & _____

NABINCHANDRA College, agree to review and monitor the implementation process of the proposed training programme to be conducted under this MoU from time to time for evaluating effectiveness and success. Any modification, amendment or change in the scope of work or terms of engagement under this MoU could be affected from time to time with the mutual consent of both parties in writing.

2. Depending upon the programmatic need, cooperation and support from government officials and logistical support needed for implementing the work respectively across the state will be facilitated by both the department.
3. The schedule of training for a batch will be mutually decided by the respective EE (PHE) of the Division and the Principal of the concerned colleges.
4. In view of the smooth implementation of the proposed training to be conducted under this MoU, the Executive Engineer (PHE) of the concerned division, and the principal of the respective colleges will work in close coordination with each other by extending support and sharing data or other information relevant to the training.
5. Branding of JJM, Assam and other stakeholders will have to be done through banners during the training. The banner for the purpose will be provided by the concerned divisional PHE office.

B. FINANCIAL TERMS AND CONDITIONS

This MoU is non-financial in nature. Both the department will bear their own half of the cost.



V. MISCELLANEOUS PROVISIONS:

1. The Memorandum of Understanding (MOU) as outlined in this document is not intended to be a legally binding document. Rather, it is meant to describe the nature and cooperative intentions of PHE KARIMGANJ Division under NABINCHANDRA JJM, Assam and NABINCHANDRA College under DHE to suggest guidelines for cooperation. Nothing, therefore, shall diminish the full autonomy of either party, or any constraints be imposed by either upon the other.
2. Any other matter not included in this MoU or if there is a requirement of any change necessary for the smooth functioning of the training to be conducted under this MoU shall be finalized among JJM, Assam and DHE on mutual terms and conditions.
3. Any divergence or difference derived from the interpretation or application of the MoU shall be resolved by mutual discussion.
4. This MoU will be initially valid for 2 (two) years from the date of signing and can be extended in slots of 1 (One) year on similar or such other terms as may be agreed between JJM, Assam and DHE by mutual consent in writing.
5. Both PHE KARIMGANJ Division and NABINCHANDRA College are free to terminate the MoU at 3 (three) months' notice in writing after receiving proper approval from their respective HQ.

This partnership aims to create a comprehensive approach to public health education and policy development by combining the academic expertise of the Department of Higher Education with practical knowledge of the Public Health Engineering Department. Through collaborative efforts, this initiative seeks to address public health challenges, improve infrastructure, and contribute to the overall well-being of communities and sustainability of the built-up infrastructure i.e., PWSS, SDLL, DLL, SRL, etc.

Both _____ PHE KARIMGANJ Division
and _____

NABINCHANDRA College agrees to have this MoU signed on this
TUES day of JULY 2024..... For and on behalf of

Public Health Engineering Department, <u>KARIMGANJ</u> Division, Assam	<u>NABINCHANDRA</u> _____ College, Assam
 District Mission Director, JJM Cum Executive Engineer (PHE) Karimganj Division, Karimganj Executive Engineer (PHE), <u>KARIMGANJ</u> Division, Assam	 29/09/2024 DR. MORTUJA HUSSAIN Principal NABINCHANDRA COLLEGE Badarpur, Dt. Karimganj (Assam) Principal, <u>NABINCHANDRA</u> _____ College, Assam

Annexure 1: SOP for Capacity Development Program

Introduction

This Standard Operating Policy (SOP) outlines the procedures and guidelines governing the implementation of the Capacity Building Program between the Public Health Engineering Department (PHE) and colleges. The program aims to enhance skills, foster collaboration, and strengthen capacities in the field of water and sanitation.

Scope

- a. Enhancing skills and competencies of students /stakeholders in water quality.
- b. Empowering future leaders in public health engineering.

Program Components

Type of program	Duration	Program overview	Participants & Eligibility	Suggestive Course content	Frequency
Add on Course water quality analysis *	1 month (30 hr)	I. 70% theory (to be done by college) II. 30% practical (to be done in PHE in batches as per lab capacity)	Maximum participants :25 Eligibility: Students pursuing UG with Chemistry as one of the subject	Water Quality analysis, sanitation and water quality, Drinking Water treatment , practical exposure to PWSS treatment process	Once in a year
Orientation courses on water quality	One-week	In coordination with department, special focus on NSS adopted villages of the college	Maximum participants :25 Eligibility Students/teacher /Interested stakeholders/Newly appointed PHE employee	Basics of water quality& sanitation, Water quality testing with FTK	Twice in a year
FTK training program	One day	In coordination with department, special focus on NSS adopted villages of the college	Maximum participants :25 Eligibility Women group/ GP members/ Village level functionaries	As per agenda set by division	As per convenience of college and department's need

* The Add on Course will be design as per NSQF guideline. Once approval for this is obtained from competent authority, the course can be started by the college.

Implementation Strategy:

- a. A designated coordinator from college will be responsible for overseeing program implementation and ensuring effective communication between PHE and College.
- b. PHE laboratories will provide access for participants to the available instruments under supervision of laboratory personnel

- c. Necessary arrangement for the community meeting will be done by PHE and the college will provide resource person for imparting the training.
- d. PHE will provide ToT on FTK testing to the college students.
- e. PHE will bear for the expenses for arranging practical session and community trainings, other expenses for conducting theory sessions/ documentations etc have to be bear by the college itself
- f. Certificates presented to the participants to be dully signed both by PHE official and college principal.

Roles and Responsibilities

- a. PHE: PHE will provide technical expertise, resources and support for program activities
- b. College: College will facilitate access to academic expertise, research facilities, and student engagement opportunities, ensuring active participation and collaboration in program activities.
- c. Participants: Participants are expected to actively engage in program activities, contribute to collaborative efforts, and apply acquired knowledge and skills in public health engineering practice.

Reporting

Comprehensive documentation of program activities, including reports have to be submitted to PHE by the college coordinator within one month of completion of the program.

Review and Monitoring

The coordinator will review the impact of the program, gather feedback from participants and stakeholders, and identify areas for improvement in every three months and report to the concern division. This SOP will be reviewed periodically to ensure its relevance and effectiveness, with revisions made as necessary

Annexure 2: Internship Program

Introduction

As part of the Memorandum of Understanding (MoU) signed between Jal Jeevan Mission (JJM), PHED, Assam and Directorate of Higher Education (DHE), Assam for Jal Vidya Program on 5th March 2024, a working group for internship program was formed to formulate SoP for the said program.

An internship is a period of practical training, carried out by a student within an organization. An internship program can provide many benefits to the students as well as to the organization. Participating interns gain on-the-job training that integrates education, career development and public service, while organization hosting interns benefit from the contributions of creative and innovative students. The objective of this Standard Operating Procedure (SOP) is to provide guidelines for the engagement of students in an internship program focusing on the analysis of safe drinking water.

Scope

The scope of an internship program may be tailored to the needs of the organization, the educational institution, and the students involved, ensuring a mutually beneficial experience for all the stakeholders. Internships is designed to provide the students with hands-on learning experiences, skill development, and exposure to the professional work environment. Internships can offer students the opportunity to gain exposure to the work culture and practices, allowing them to explore potential career paths and make informed decisions about their future. The scope of internships may often include networking events, meetings, and interactions with professionals in the field, which can be valuable for building connections and potential future employment opportunities.

Duration of the Program

1. The internship program may be divided into two sections: (i) Duration of 15 days and (ii) Duration of one month as per the need of the student.
2. The program may be conducted during summer or winter breaks to accommodate the academic schedule of the students.

How to Apply

1. The students may apply for internship through online mode in prescribed format via Departmental website. Link for the same will be activated prior two months of summer/winter breaks.
2. The exact start and end dates of the program will be communicated to selected interns upon selection.

Selection Criteria

1. The internship program is open to college students currently enrolled in undergraduate or postgraduate courses related to environmental science, chemistry, biology, Civil Engineering, Public Health, or any other relevant field.
2. Students must have a strong academic record and a genuine interest in water quality analysis and public health issues.
3. Preference may be given to students from institutions affiliated with the DHE, Assam.
4. The selection process may include submission of application forms, academic transcripts, and possibly an interview.

Agenda of the Internship Program

Orientation Session: An orientation session will be conducted to familiarize interns with the objectives, expectations, and guidelines of the internship program.

Training Sessions: Interns will undergo training sessions on water quality analysis techniques, laboratory safety protocols, and relevant software/tools for data analysis.

Field Visits: Interns will have the opportunity to accompany JJM field staff on visits to water treatment plants, distribution networks, and sample collection sites to gain practical exposure.

Laboratory Work: Interns will work under the supervision of experienced professionals to analyze water samples collected from various sources using standardized methods.

Data Analysis: Interns will analyze the data obtained from water quality tests, interpret the results, and prepare reports highlighting key findings and recommendations.

Presentations: Interns will be required to prepare and deliver presentations summarizing their findings to JJM officials and other stakeholders.

Documentation: Interns will maintain detailed records of their activities, including sample collection details, laboratory procedures, and analysis results.

Evaluation: Interns will be evaluated based on their performance, punctuality, professionalism, and the quality of their work throughout the internship period.

Certification: Interns will receive a certificate from concerned authority on successful completion of the internship program

Responsibilities

JJM Assam

- Provide necessary guidance, resources, and support to interns.
- Conduct training sessions and facilitate field visits.
- Evaluate interns' performance and provide feedback.

DHE Assam

- Facilitate the selection process and coordination with participating colleges.
- Monitor the progress of the internship program and ensure adherence to the SOP.
- Address any issues or concerns raised by interns or participating institutions.

Conclusion

This SOP outlines the framework for engaging college students in an internship program focusing on the analysis of safe drinking water, in accordance with the MoU between JJM Assam and DHE Assam. By following these guidelines, we aim to provide students with valuable learning opportunities while contributing to the mission of ensuring access to clean and safe drinking water for all residents of Assam.

Annexure 3: SoP for Research & Innovation

Introduction:

This SoP outlines the procedure and guidelines governing the implementation of the Research & Innovation Programme between Public Health Engineering Department (PHED) & Colleges. The programme aims to enhance skill, foster collaboration and strengthen capacities in the field of water and sanitation. The objective of this initiative is to facilitate the college student to take up project work for their 6th semester of their degree course. This MoU will broadly function in spirit of these following points:

- 1. System Strengthening:** At present PHED, Laboratories can test only 16 physico-chemical parameters for drinking water only, but in the future the capacity may be increased at least in the state level to test 72 parameter using advanced instruments like ICP-MS and GC-MS-MS. Those facilities may be extended towards research in future at a nominal fee, in some cases there may be other instruments available in the colleges which are not available in PHED laboratories. Therefore, this MoU envisions to combine all the resources of PHED laboratories and colleges to conduct research.
- 2. Capacity Building:** This MoU aims to build capacity of all the stakeholder like officials of PHED department, College Students, College teachers, Water consumers under JJM, Assam on various water quality issues, water conservation etc., through training, research & innovation etc.
- 3. Monitoring mechanism:** All the work done under this MoU will be periodically monitored at each level, i.e., State Level, District Level. The State level committee will comprise of key officials from both DHE, Assam and PHED, Assam. The district level committee will comprise of district level officials and representatives from partner colleges. The State level committee will review every month, district level committee will review on fortnightly basis.
- 4. Financial implications:** This MoU is mostly non-financial in nature. However, if any research work shows very promising result in laboratory environment for solving any real-world ground level issue and both the EE (PHE) and college wants to test this further in pilot mode, then the respective EE (PHE) may apply for additional fund for pilot to the HQ with all the supporting documents. The HQ will review the case and may grant financial aid for pilot project. However, no TA/DA or any honorarium would be paid to any laboratory person, college students or teachers for research & innovation related work.
- 5. Reporting:** The college will submit periodic report (Every 3 months) regarding the progress of the project work to the concerned EE (PHE). When the college submits the final report of the project, the EE (PHE) will compile all the report and send to HQ for evaluation.

Scope of Work:

- Development of adsorbents/ catalysts for removal of pollutants (such as Iron, Arsenic, Fluoride etc.,) from drinking water.
- Mapping of water quality of the district, prioritizing floods affected districts and districts with poor water quality indicators.
- Monitoring of the water quality trend over a long period of time for a district.
- Documenting local best practices in relation with water purification, water conservation etc.,
- For PWSS using surface source, performance evaluation of each treatment unit in the filtration system.

- Sanitary surveillance of the water sources and assess gaps in the system.
- Creating of any database to link between faecal contamination, water quality & Health
- Any other relevant project work related to water conservation, water purification etc.,

Implementation Strategy:

- The respective college will select the student for their 6th semester project work in consultation with the respective EE (PHE) and submit one synopsis of the project.
- In general, maximum 4 students can work in a District Level Laboratory (DLL) and maximum of 3 students can work in a Sub-divisional Level Laboratory (SDLL) at a time. However, concerned EE (PHE) will finalize the number of students based on space and resources of the laboratory.
- The college students will use all laboratory instruments, glassware, chemicals etc under the supervision of the laboratory staff.
- After successful completion of the project the project report will be jointly signed by respective EE (PHE), Guide/ Supervisor of the students. One copy of the project report is to be submitted to the respective laboratories.
- Any publication/ seminar representation etc., resulted from this project work, the respective college will duly acknowledge the contribution of the laboratory where the work was carried out under PHED, Assam.

Roles & Responsibilities:

Roles of PHED, Assam

- Planning and consultation with the key stakeholders on research and innovations topic, keeping JJM interventions and state priority areas.
- To provide the necessary space in the laboratory to select few students based on the intake capacity of the laboratory.
- To bear expenditure related to all the chemicals & reagents etc.,
- Laboratory personnel will train the student to properly handle the equipment's and laboratory items.
- If the study requires any pilot work, then the respective EE (PHE) will provide necessity site for piloting.
- To provide learning or experience certificate, if required.

Roles of Colleges:

- To finalize the list of students in consultation with EE (PHE)
- To design the whole project in consultation with laboratory personnel as some necessary but important equipment / reagents etc may not be available with the laboratory.
- If the project requires some additional reagents or equipment which is not available in laboratory then the college will manage those items.
- To help prepare the project report and any other documentation required to transform the laboratory data into knowledge content, so that policy decision can be taken based on the report.

Roles of Students:

- They may need to prepare their own chemicals, reagents etc., for their project work.
- They will follow the laboratory rules and regulations of PHED, Assam
- They will collect their own sample, as per requirement.

Annexure 4: SoP for Water Quality Monitoring

Introduction:

This SoP outlines the procedure and guidelines governing the implementation of the Water Quality Monitoring Programme between Public Health Engineering Department (PHED) & Colleges. The programme aims to enhance skill, foster collaboration and strengthen capacities in the field of water and sanitation. The objective of this initiative is to utilize the expertise of the college teacher to convert water quality testing data generated by PHED laboratories & FTK women groups into actionable reports. This MoU will broadly function in spirit of these following points:

- 1. System Strengthening:** At present PHED, Assam has a network of 83 laboratories through out the State and almost 2.5 lakh drinking water samples were tested on regular basis. If contamination is found department does take immediate remedial action. However, due to shortage of man power and proper expertise, those data were never converted to report based on which future planning can be done. Again this FY 2023-24, almost 12 lakh samples were tested by FTK women group through out Assam, again those are currently only data, now with the help of college teachers expertise it is envisioned that those data can be transformed into report so that action can be taken to safeguard the water quality sector in Assam.
- 2. Capacity Building:** This MoU aims to build capacity of all the stakeholder like officials of PHED department, College Students, College teachers, Water consumers under JJM, Assam on various water quality issues, water conservation etc., through training, research & innovation etc.
- 3. Monitoring mechanism:** All the work done under this MoU will be periodically monitored at each level, i.e., State Level, District Level. The State level committee will comprise of key officials from both DHE, Assam and PHED, Assam. The district level committee will comprise of district level officials and representatives from partner colleges. The State level committee will review every month, district level committee will review on fortnightly basis. The laboratory in Charge will monthly review the works done by the students as mentors.
- 4. Financial implications:** This MoU is mostly non-financial in nature. No TA/DA or any honorarium would be paid to any laboratory person, college students or teachers for water quality monitoring related work. However, the best performing students acting as mentors may be given a certificate of appreciation at district level.
- 5. Reporting:** The college will submit periodic report (Every 6 months) regarding the water quality monitoring trends to the concerned EE (PHE). When the college submits the final yearly report, the EE (PHE) will compile all the report and send to HQ with his remark/ suggestions for evaluation and further necessary action.

Scope of Work:

- Create a system for community-based monitoring of water quality and dissemination of water quality results.
- Awareness generation on Water quality testing and monitoring
- Developing an action plan for sanitary surveillance of water sources with the support of PHED.
- Training on sanitary surveillance of water sources
- Compilation of contamination data and remedial action thereof.
- Guiding the PHED, Assam for proper remedial action against new and emerging contaminations where traditional methods fail.
- Compiling the water testing data of FTK women group and giving them proper guidance for water quality monitoring and sanitary surveillance.

- Water quality trend analysis of a particular Flood affected area/ tea garden area / Aspirational Districts / BTR region / Districts / villages etc.
- Water quality index mapping with the data available with PHED laboratories.
- Any other relevant work related to water quality monitoring and surveillance.

Implementation Strategy:

- The respective college will select one student and appoint him as a mentor for the FTK women group in his/ her village.
- The mentor will then provide periodic training to the FTK women group and collect their monthly test report and analyse the test results.
- If any remedial action needs to be taken then he/ she will inform the nearest PHED laboratory.
- Then the laboratory will collect the sample and do a test in the laboratory to ascertain the contamination status.
- Also, for water quality monitoring, the PHED laboratory will send their test results each month to the nodal officer appointed by the college. The college will analyse the result, try to find and trends and prepare a report.
- The report should be submitted to the concerned EE (PHE) so that timely action can be taken. The college can publish such report in national / international forum with acknowledgement of PHED, Assam's association.

Roles & Responsibilities:

Roles of PHED, Assam

- To provide all the laboratory testing data to the concerned college so that they can monitor water quality of that district/ Block/ Village etc.
- PHED, Assam will provide GIS mapping facility

Roles of Colleges:

- To prepare water quality index mapping for a district/ Zone/ Village etc.
- To help PHED, Laboratory to finalize their water sample collection plan so that water sample can be collected at a regular interval and seasonal variations can be minimized.
- To help PHED laboratories to keep all data in a systematic manner.
- To visit the laboratories periodically so that the quality of the laboratories can be ensured.

Roles of Students:

- As designated mentors, they are to guide the FTK women groups in training and for any issues faced by them by bringing the matter to the concerned PHED officials. The mentors are expected to spend 2 day per month in such activities with the community regarding WASH related work.
- To ensure the FTK women group do their testing regularly and properly (5 test per month).
- To analyse the test reports generated by FTK women groups and inform nearest laboratory in cases where contaminations are found.

Annexure 5: SoP for Community Awareness and Education Program

Introduction:

Community engagement is a vital component of higher education, fostering reciprocal relationships between academic institutions and the communities they serve. As a higher education institution committed to social responsibility and civic engagement, it is imperative to develop a robust Statement of Purpose (SOP) outlining our approach i.e. MoU of JJM & Higher Education to community engagement for our students.

Scope:

- Provide students with opportunities for experiential learning, leadership development, and the application of theoretical knowledge in real-world contexts.
- Promote interdisciplinary collaboration and innovative problem-solving approaches to tackle complex societal issues.
- Cultivate empathy, cultural humility, and ethical decision-making skills among students through meaningful engagement with diverse communities.

Ways to implement - (Preferably in adopted villages of the respective colleges or in adjoining areas nearby to the colleges)

- **Create Informational Campaigns:** Students can develop informational campaigns using posters, flyers, and social media to spread awareness about WASH practices. These campaigns can highlight the benefits of clean water, proper sanitation, and good hygiene habits.
- **Engage in Community Outreach Programs:** Students can participate in community outreach programs where they visit schools, orphanages, and rural villages to educate residents about WASH practices. They can conduct interactive sessions, games, and demonstrations (street plays), awareness rallies to make learning fun and engaging. Encourage active participation from residents, including women, children, and marginalized groups, to ensure inclusivity and ownership of the initiatives. Organize clean-up events in local water bodies, parks, or neighborhoods to raise awareness about pollution and its impact on water quality. Organize water quality testing events along with our FTK women groups for testing the drinking water. Provide information about the results and offer guidance on improving water quality if needed.
- **Promote Sustainable Practices:** College students can promote sustainable WASH practices that conserve water, reduce pollution, and protect natural resources. They can organize events such as community clean-up drives, tree planting initiatives, and water conservation workshops to encourage eco-friendly behaviours. Create demonstration gardens on campus or in community spaces to showcase water-efficient landscaping techniques such as **xeriscaping** (practice of landscaping with slow-growing, drought tolerant plants to conserve water and reduce yard trimmings) and native plant gardening. Offer guided tours to educate visitors about the benefits of these practices and how they can be implemented at home.

Roles & Responsibilities

Students: Higher education students are expected to actively participate in community engagement initiatives, demonstrating a commitment to service, social justice, and ethical leadership. They are responsible for engaging with community members respectfully, listening attentively to their needs, and collaborating effectively to co-design and implement sustainable solutions. They will conduct the activities in collaboration with faculty and district IEC and ISA Coordinators.

Faculty: Faculty play a pivotal role in facilitating community engagement experiences, providing mentorship, guidance, and logistical support to students. They are responsible for integrating community-based learning opportunities into the curriculum, fostering interdisciplinary collaboration, and promoting a culture of civic engagement with the institution.

Reporting

Post conduct of the event they have to submit a report to the respective division.

Review & Monitoring

The District Coordinators with concerned nodal faculty can be entrusted with monthly follow-up of the activities at the District and Block level every month. The follow-up meetings will focus on:

- ▶ Number of activities conducted
- ▶ Attendance
- ▶ Quality of the activity
- ▶ Distribution of IEC.

Any issues pertaining to the above-mentioned issues will also be discussed and effort should be made to resolve the issues.