

Terms of Reference (ToR) for Technical Assistance Consultancy

For

Pre-Feasibility Study, Social Promotion, Design & Construction Supervision of Rural Piped Water Supply Schemes, Rural Public sanitation and hygiene facilities with running water and WASH Facilities in Community Clinics

1. Introduction and Background

Bangladesh is one of the world's most populous countries with an estimated 165 million people in a geographical area of about 144,415 sq.km and per capita income of US\$1,670 (WB Atlas method) in 2018, well above the lower middle-income country category threshold which it crossed in FY14. During recent years, economic condition was much improved in the country with higher GDP growth rate. Bangladesh's performance against the Millennium Development Goals (MDG) goals was also impressive relative to the South Asia Region average for most of the indicators. Now, Bangladesh is committed to achieve SDG goal 6.1 and 6.2.

World Bank has expressed its intention to support "Bangladesh Rural Water Supply and Sanitation Project for human capital development" for implementing rural piped water supply and sanitation taking lesson from the past projects. Upon community demand and potential finding through feasibility study, the Project Management Unit (PMU) of DPHE will design, build and operate the WASH facilities (large piped water scheme, small piped scheme, Public sanitation and hygiene facilities with running water and WASH facilities for community clinics) through private contractors/ service providers with the active participation from Union Parishad and community in the implementation process. After construction and successful operation of the system for a period of five years, the facilities will be handed over to Union Parishad to operate the system.

Under, the above project, the following WASH facilities will be constructed:

- **Large Piped Water Supply schemes** will be implemented in about 78 locations in 78 upazilas, each scheme serving single or multiple villages with on average 350-700 domestic connections and to be operated by BO/ DBO contractor (73 by BO Contractors and 5 by DBO Contractors) on behalf of the Union Parishads (UPs), which would own the asset. The users will pay monthly tariff for O&M of the schemes.
- **Small piped water schemes** will be implemented in village clusters, each connecting on an average 30-40 households and to be operated by DBO firm/ contractor on behalf of the cluster community which will own the asset. Total 98 upazila and 3364 nos scheme.
- **Public sanitation and hygiene facilities** (Public Toilet) will be constructed in selected public places in 98 Upazilas (2-4 in an Upazila).
- **New WASH facilities** will be constructed in 500 selected community clinics of 78 Upzilas , where there is no sanitation facility; and
- **Renovation of existing WASH facilities** in another 780 community clinics (4 in each union) of 78 Upazilas under the project.

DPHE therefore intends to hire consultancy services from professional TA Firms to carry out Feasibility Study, Social Promotion, and Design & Supervision of Rural Piped Water Supply Schemes, Rural Public Toilets and WASH facilities in Community Clinics.

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2. Objectives of the consultancy services

The objectives of the consulting services are to assist the DPHE in developing a framework based on the sample of real data and enhance the quality and speed of the preparation of rural piped water schemes, public toilets and WASH facilities for implementation. The specific objectives are as follows:

Large Piped Water Schemes (BO modality)

- Conducting pre-feasibility and feasibility studies for large piped water schemes, public toilets and WASH facilities;
- Community mobilization and demand creation in the selected sites;
- Designing of every single scheme;
- Preparation of bid documents for large Piped Water Schemes;
- Construction supervision of every single scheme;
- Capacity building / training of UPs, BO Contractors, CBOs for O&M of schemes
- Review, verification of DBO Large piped water Scheme Design and supervision of construction Works.

Small Piped Water schemes

- Designing (upazila wise) and preparing bid documents for small piped water scheme adaptable to all project areas; and
- Construction supervision of 20% of small piped water schemes

Public sanitation and hygiene facilities

- Conducting feasibility study and site selection
- Designing a common Public sanitation and hygiene facilities with running water based on feasibility study findings
- Preparation of bid documents for public toilets
- Construction supervision
- Capacity building of UPs and private leaseholders for O&M

Sanitation, hygiene and piped water facilities in Community Clinics

- Site selection in Community Clinic
- Designing common sanitation and hygiene blocks for select Community Clinics
- Designing a continuously pressurized piped water option with associated facilities for select Community Clinics
- Preparation of bid documents for WASH facility
- Construction/ renovation work supervision
- Capacity building of Community Clinic Support Groups and caretakers for O&M

3. Implementation plan and modalities

The essence of the project is to ensure demand-driven, cost-effective, and sustainable delivery of rural water supply and sanitation services in Bangladesh. Thus, beneficiary communities, represented by their CBOs and Water and Sanitation Committees (WATSAN), will be at the center of all decision making regarding the selection of the sites, planning and design, monitoring and evaluation, and eventually operations and maintenance of both large and small piped water supply schemes. There will be coordinated efforts by all stakeholders of the project – beneficiary communities, Union Parishads, private suppliers, DGHS and DPHE – for the planning, design, implementation, and operation of the water supply and sanitation schemes. The project will assist in facilitating relationships among the Union Parishad, community and the private sector, in planning, developing, and operating water supply and sanitation services. The project also will support decentralization with the aim of strengthening the UPs by developing effective partnerships among them.

DPHE will play the main technical role and would continue to play a key role in the overall coordination of the project including: (i) planned deployment of rural piped water schemes, Public sanitation

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and hygiene facilities with running water and community clinic WASH facilities based on geographic need, (ii) support to the procurement process, (iii) providing technical input to the UPs at the local-level, and (iv) facilitate, at least in the initial phases, improved coordination and relationship development between project's key stakeholders. DPHE will establish a Project Management Unit (PMU) led and staffed by appropriate DPHE personnel and supported where necessary by specialized consultants. The project will support specific technical assistance supervision and monitoring consultancies for the infrastructure or service provision works as well as other project management support consultancies where it will be required by DPHE.

The salient features, implementation modalities, construction and O&M process for piped water schemes, public toilets and WASH facilities for community clinics.

4. Project Area

The main criteria of the project area has been determined as high arsenic, salinity or other quality problem coupled with the low safe water supply coverage. Attached in annexure-B

5. Scope of works

5.1 Large Piped Water Schemes under BO modality

The scope of consulting services will specifically include, but not be limited to:

A. Pre-feasibility Study and Identification of Potential Scheme Site: On the basis of listed prospective unions/ growth center in the project area as selected by DPHE for the provision of piped water supply schemes involving the community, local DPHE and respective Union Parishad (UP), the consultants will conduct rapid assessment to check eligibility of villages meeting the criteria for piped water supply scheme and its site (including number of households and population density) along with verification of cost effective source of safe (arsenic, salinity, iron, microbial and other pollutant free) water and preparation of preliminary design and cost estimate allowing calculation of cost per capita and preliminary estimates of tariffs forecasting the O&M cost. The consultants will also meet and discuss with the community/ growth center leaders to check their interest in the project. This would lead to list of qualified villages to take forwards.

Each piped scheme can cover multi-villages depending on the geographical location, closeness of the villages, population of villages, and technical feasibility. The design capacity for each scheme would serve 350 to 700 households over a period of 20 years on the selected scheme area which would cover one or more villages. This pre-feasibility work will cover preparation of pre-feasibility study reports for about 146 piped water supply schemes in the listed 73 upazilas under 18 districts. Activities to be performed in this stage will include:

1. Carry out the conceptual feasibility study to map ground water sources, availability of water sources and electricity in the area to run the production well(s), treatment plants etc., assessment of water quality, source yield, suitability of the site in any selected Union, and at the village level;
2. Prepare a preliminary conceptual/standard design with preliminary technical specification of required items as well as associated cost estimate and expected range of tariff rate that will ensure cost recovery and financial sustainability of the scheme;
3. Interact and bridge with the community and their representatives for determining interest for improved piped water supply service provision viz. rural piped water supply and to determine willingness of to evaluate the financial viability of the scheme considering its financial viability for the long term operational sustainability of the scheme.
4. Ensure availability of land for construction of different components of the rural piped water supply schemes;

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5. Examine the environmental and social impact of the scheme

Based on the preceding information and survey, the consultant will indicate qualified sites which meet the criteria for proceeding with feasibility studies for 100 Piped water Supply Schemes.

B. Feasibility Studies for: For the sub-projects being identified as prospective in the prefeasibility, Consultants will carry out full blown feasibility studies to assess the viability of investments in terms of technical, financial and social aspect. This will include social survey, engineering survey & investigations including hydro-geological, cost estimates, financial and economic analyses, and all due diligence necessary for compliance with World Bank and government environmental, resettlement and other guidelines including social and environmental framework developed under the project. The Environment and Social Consultant with support the firm on this regard. This work will cover preparation of feasibility study reports for **100 Piped water Supply Schemes**, in the identified unions under the different districts. Activities to be performed in this regard will include but not limited to:

1. Conduct social and financial feasibility of the qualified village(s) covered under the each scheme. The consultants will carry out social assessment of the scheme area (including number of household, overall economic condition of the household, identify willingness to pay for safe water, consultation with and mobilization of the community, etc.). This will include community mobilization with effective Information, Education, and Communication (IEC) activities to increase the awareness of the impact of the unsafe and contaminated water on the households' economic and social status and the associated costs to the families;
2. Hold field level workshops/ focus group discussions with the communities and LGIs on the object of the scheme and its infrastructure interventions identified and share information on the main features of the program and clarify their roles and responsibilities;
3. Determination of community interest in their involvement and participation in O&M of piped schemes services particularly the willingness to pay the bill for service;
4. Carry out data collection, processing and furnishing processed data for resource assessment;
5. Conduct socio-economic baseline survey in the scheme/ Public sanitation and hygiene facilities with running water areas;
6. Furnish the statistical and logical evidence for the piped water Supply being identified as the potential one.
7. Carry out full-fledged hydrological and hydro-geological surveys and investigations in the scheme areas under technical guidelines and supervision of PMU in association with Ground Water Circle of DPHE and local DPHE; This will include test boring, aquifer test, flow and water level measurement at different season, water quality testing including all other parameter required for the safe water assessment and identification of sustainable water source.
8. Carry out the soil investigation for the water structure, such as, Overhead tank, Treatment plant etc,
9. Carryout detailed topographic/plane table surveys along with the alignment of proposed transmission mains and access roads and of proposed water reservoir sites, intake structures and water treatment plants;
10. Integrate socio-economic data collected through social survey by supervising socio-economic surveys on willingness to connect, the communities' ability to pay and paying habit in other utilities e.g. electricity bill;
11. Forecast of future population and water demand for a 20 (twenty) years design period including domestic, small commercial/industrial, institutional and other users on the basis of present consumption and other known parameters. Also forecast number of users of Public sanitation and hygiene facilities with running water services for a 30 (thirty) years design period;

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12. Identify technological options with alternatives suitable for the scheme with cost benefit analysis; Identification of technological option (with alternatives) should have proper justification and scientific analysis.
13. Identify and formulate infrastructural design suitable for the piped schemes, public toilets and WASH facility and prepare layout maps;
14. Conduct financial analysis with established financial model for calculating the effects of tariff settings and the use of other financial instruments on the financial performance of rural water service delivery and Public sanitation and hygiene facilities with running water services.
15. Prepare the Environmental and Social Management Plan in the light of Environmental Management Framework and Social Development Framework developed under the project;
16. Develop the Water Safety Plan for the each piped schemes.
17. Following the project's community consultative process, to determine if there is sufficient commitment to the scheme on the part of local leaders, and sufficient ability and willingness to pay on the part of prospective consumers, to proceed with scheme planning.

Based on the preceding information and survey, the consultant will indicate qualified sites which meet the criteria for proceeding with detail design for the 73 Piped water Supply Schemes.

C. Detail Engineering Design:

This includes the detailed engineering designs, drawings, specification, schedule of rates and contract packaging for system expansion. Specifically, the job would consist of the following activities but not limited to:

- Based on the design criteria and information from the feasibility studies, laboratory and field tests and surveys. The consultant will design the Piped water Supply Scheme based on following factors:
 - a. Water quality, requirement of treatment and treatment process considering its ability, limitation;
 - b. Estimates of water consumption in each Piped Water Supply Scheme;
 - c. Design criteria for major facilities;
 - d. Optimum design period for the required capacity of major facilities; and
 - e. Sustainable yield of all the proposed sources taking into account existing and potential uses over the design period.
 - f. O&M of the schemes
- Prepare the hydraulic and functional designs of the proposed Piped Water Supply Scheme facilities considering all aspects like production wells, pump house, pumping machineries, treatment plant, overhead tank, pipe network analysis, house connections, electrical works including need of transformer, stand by generator etc.
- Prepare detailed engineering design and construction drawings of the each facilities for the each scheme that will cover details of on-site preparatory tasks, layout facilities, simple architectural and landscape designs for pumping stations, water treatment plants, foundation and structural works for reservoirs (overhead/ground), pipeline installations, mechanical works including piping works and installation of pumps and other equipment, and electrical works including instrumentation and control system. *Consultant shall have to submit the design calculation sheets of every component (such as, production well design, network analysis, overhead tank, treatment plant etc) for piped schemes in the form of soft and hard copy;*
- Prepare BoQ and cost estimates for each Piped water Supply Schemes, including the cost of land development for system infrastructure. The cost estimate should be prepared based on latest

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PWD/DPHE rate schedule, present market rate and the situation in the scheme areas. All justifications of fixation of rates should be provided in the report. Analysis of the rate shall have to be submitted in the form of hard copy and soft copy.

- Prepare bid documents for each contract package including general specifications and detailed technical specifications for materials, equipment, instruments, methods of construction of civil works and methods of installation and fabrication for mechanical and electrical works;
- Prepare draft design report for each piped water supply scheme presenting the results of all the design tasks delineated above; and
- Prepare final design report for each Piped Water Supply Scheme presenting the results of all the design tasks delineated above incorporating the views/recommendation of PMU/workshop;

D. Preparation of Bid-Documents for large piped scheme: Based on standard documents and followed by PPR 2008 and World Bank guide lines the consultant will prepare specific bid documents including related and relevant information individually applied for each 73 piped scheme sites with respect to socio economic baseline survey, technical investigations and key financial indicators.

Bid documents for each contract package should include general specifications and detailed technical specifications for materials, equipment, instruments, methods of construction of civil works and methods of installation and fabrication for mechanical and electrical works

E. Construction Supervision:

Construction and supervision of all physical works in each large scheme, to ensure BO contractor's adherence to the quality and appropriateness of all materials, equipment and civil works included in the specifications and contracts:

1. Assist PMU/local DPHE's Evaluation Committee for bidding and awards in the pre-qualification of contractors and suppliers;
2. Assist in the evaluation of submitted bids;
3. Modify design and construction drawings as necessary after the bidding and during construction;
4. Review shop drawings prepared by the contractors and equipment manufacturers/suppliers;
5. Assist the PMU/local DPHE in the inspection of materials and equipment and witness tests of materials and equipment to be incorporated in the works;
6. Supervise, inspect and measure and control the quality of the construction works and installation of equipment to ensure compliance to drawings and specifications;
7. Make recommendations to the PMU and local DPHE and issue instruction, with the approval of the local DPHE, to contractors on the extent of special inspections and testing required and to be carried out in connection with the construction works;
8. Compare actual progress with work plan and advise local DPHE and PMU to address the issue that could delay completion and recommend actions to be taken to facilitate timely completion;
9. Observe any change or previously unknown conditions that may require modifications to the design and/or specifications of the works and advice and recommend appropriate action to local DPHE under intimation to PMU and prepare variation order for the approval of the PMU;
10. Supervise pump test for production well and pressure tests of the installed pipelines, equipment start-up and commissioning;
11. Provide advice and suggestions to PMU and local DPHE on the overall construction works;
12. Prepare program based common rate schedule with analysis and technical specification of the project related infrastructures;

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13. Prepare training modules and manuals (construction & supervision) for rural piped water sub-component including water safety plan and provide training using the prepared manual.;
14. Develop O&M guidelines for UP, CBO and BO operators;

F. Institutional & Operational Arrangements and Capacity Strengthening: that would include assessment of UPs role & responsibilities in WSS, formation of CBOs and also assess financials issues and recommend mechanism for successful service delivery. Activities to be performed in this regard will include:

1. Recommend viable and cost-effective management plan that ensures the long term sustainability of the system and likely water quality issues and actions need to be taken to reduce negative impacts;
2. Assess budget/expenditures and optimum financial resources required for successful functioning of WSS service delivery, identify key financial issues/ constraints and their impacts on service delivery, describe constraints and requirement for service improvement;
3. Assess role and responsibilities and capacity of the UPs in the scheme areas and involve those evaluating pros and cons.
4. Prepare O&M manual for each piped scheme (including water treatment plants, production well, pipe line, overhead water tower).

5.2 Small piped water scheme

A. Detail Engineering Design:

1. Based on the design criteria, secondary information available from DPHE field offices, and visits of sample community clusters in each district, the TA consultant will prepare an upazila wise common design of the small piped water supply scheme based on following factors:
 - a. Water quality, requirement of treatment and the associated treatment process considering its ability, limitation;
 - b. Estimates of water consumption in each small piped water supply scheme;
 - c. Design criteria for major facilities;
 - d. Optimum design period for the required capacity of major facilities; and
 - e. Sustainable yield of all the proposed sources taking into account existing and potential uses over the design period.
 - f. O&M of the schemes
2. Prepare bid documents and cost estimates for each design of small piped water supply schemes;

B. Construction Supervision:

TA will visit 20% sample schemes under construction in each district and ensure DBO contractor's adherence to the quality and appropriateness of all materials, equipment and civil works included in the specifications and contracts. The specific activities are:

1. Supervise, inspect and measure and control the quality of the construction works and installation of equipment to ensure compliance to drawings and specifications;
2. Make recommendations to the PMU and local DPHE and issue instruction, with the approval of the local DPHE, to DBO contractors on the extent of special inspections and testing required and to be carried out in connection with the construction works;
3. Compare actual progress with work plan and advise local DPHE and PMU to address the issue that could delay completion and recommend actions to be taken to facilitate timely completion;

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4. Observe any change or previously unknown conditions that may require modifications to the design and/or specifications of the works and advise and recommend appropriate action to DBO Contractors with intimation to local DPHE and PMU and prepare variation order for the approval of the PMU;

5.3 Public sanitation and hygiene facilities

A. Site selection

TA Consultant will visit all the proposed sites of Public sanitation and hygiene facilities with running water and assess suitability of the sites as per technical, social and environmental criteria agreed with DPHE and confirm the sites. The land will be offered by UP in consultation with market committee or concerned authority and TA Consultant is required to settle the land issue and its legal documentation in consultation with UP. If no public land is available, private land has to be arranged on long term lease method.

B. Detail Engineering Design:

1. Based on the design criteria, secondary information available from DPHE field offices, and visits of the potential sites selected for Public sanitation and hygiene facilities with running water in each district, the TA consultant will prepare a district wise common design of Public sanitation and hygiene facilities with running water based on following factors:
 - a. Availability of estimated size of land for construction of PT covering 500 sq.ft floor space;
 - b. Estimated number of daily use by the users;
 - c. Estimates of daily water consumption in each public toilet;
 - d. Design criteria for major facilities including septic tank;
 - e. Optimum design period for the required capacity of major facilities; and
 - f. O&M of the public toilet
2. Prepare BoQ and cost estimates for each design of public toilet, including the cost of land development for system infrastructure;
3. Prepare bid documents for each contract package including general specifications and detailed technical specifications for materials, equipment, instruments, methods of construction of civil works, mechanical and electrical works;
4. Prepare draft design report for Public sanitation and hygiene facilities with running water presenting the results of all the design tasks delineated above; and
5. Prepare final design report for Public sanitation and hygiene facilities with running water presenting the results of all the design tasks delineated above incorporating the views/recommendation of PMU/workshop;

C. Construction Supervision:

TA will visit all Public sanitation and hygiene facilities with running water under construction and ensure BT contractor's adherence to the quality and appropriateness of all materials, equipment and civil works included in the specifications and contracts. The specific activities are:

1. Supervise, inspect and measure and control the quality of the construction works and installation of equipment to ensure compliance to drawings and specifications;
2. Make recommendations to the PMU and local DPHE and issue instruction, with the approval of the local DPHE, to BT contractors on the extent of special inspections and testing required and to be carried out in connection with the construction works;
3. Compare actual progress with work plan and advise local DPHE and PMU to address the issue that could delay completion and recommend actions to be taken to facilitate timely completion;

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4. Observe any change or previously unknown conditions that may require modifications to the design and/or specifications of the works and advise and recommend appropriate action to BT Contractors with intimation to local DPHE and PMU and prepare variation order for the approval of the PMU;
5. Supervise pump test for deep tube well and equipment start-up and commissioning;
6. Provide advice and suggestions to BT contractors, PMU and local DPHE on the overall construction works;

5.4 WASH Facilities in Community Clinics

A. Community Clinic selection:

TA Consultant will visit all the proposed Community Clinics and assess existing condition of latrines and suitability of the space available for new WASH facility as per technical, social and environmental criteria agreed with DPHE and finally select the Community Clinics for either new or provision for running Water and associated facilities in toilets facility. The space for any new WASH facility will be offered by Upazila Health Office in consultation with Community Clinic Support Groups and TA Consultant is required to settle the land/space issue and its legal documentation in consultation with Upazila Health Office.

B. Detail Engineering Design:

1. Based on the design criteria, secondary information available from DPHE field offices, and visits of the selected Community Clinics in each district, the TA consultant will prepare a district wise common design of WASH facility and running water system based on following factors:
 - a. Availability of estimated size of land for construction of PT covering 300 sq. ft. floor space;
 - b. Estimated number of daily use by the visitors;
 - c. Estimates of daily water consumption in each WASH facility;
 - d. Design criteria for major facilities including septic tank;
 - e. Optimum design period for the required capacity of major facilities; and
 - f. O&M of the WASH facility
2. Prepare BoQ and cost estimates for each design of WASH facility and running water system, including the cost of land development, if necessary for system infrastructure;
3. Prepare bid documents for each contract package including general specifications and detailed technical specifications for materials, equipment, instruments, methods of construction of civil works and methods of installation and fabrication for mechanical and electrical works;
4. Prepare draft design report for new and renovation work in community clinics presenting the results of all the design tasks delineated above; and
5. Prepare final design report for new and renovation work in community clinics presenting the results of all the design tasks delineated above incorporating the views/recommendation of PMU/workshop;

C. Construction Supervision:

TA will visit all WASH facility in Community Clinics under construction and ensure BT contractor's adherence to the quality and appropriateness of all materials, equipment and civil works included in the specifications and contracts. The specific activities are:

1. Supervise, inspect and measure and control the quality of the construction works and installation of equipment to ensure compliance to drawings and specifications;
2. Make recommendations to the PMU and local DPHE and issue instruction, with the approval of the local DPHE, to BT contractors on the extent of special inspections and testing required and to be carried out in connection with the construction works;

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3. Compare actual progress with work plan and advise local DPHE and PMU to address the issue that could delay completion and recommend actions to be taken to facilitate timely completion;
4. Observe any change or previously unknown conditions that may require modifications to the design and/or specifications of the works and advise and recommend appropriate action to BT Contractors with intimation to local DPHE and PMU and prepare variation order for the approval of the PMU;
5. Provide advice and suggestions to BT contractors, PMU and local DPHE on the overall construction works;

6. Deliverable

Large piped water supply Scheme

In addition to the pre-feasibility study, feasibility study and design reports, the consultant shall submit 10 (ten) copies to DPHE and 3 (three) to the World Bank of the following reports in English with soft copy. They are:

1. An inception report including a detailed work plan in bar chart form – within 2 (two) month of the consultants' arrival in the field;
2. 1st Phase 25 Piped water Supply Schemes Pre- Feasibility & feasibility reports; within 5 months from the date of consultants' starting works;
3. 2nd Phase 25 Piped water Supply Schemes Pre- Feasibility & feasibility reports; within 8 months from the date of consultants' starting works;
4. 3rd Phase 25 Piped water Supply Schemes Pre- Feasibility & feasibility reports; within 11 months from the date of consultants' starting works;
5. 4th Phase 25 Piped water Supply Schemes Pre- Feasibility & feasibility reports; within 14 months from the date of consultants' starting works;
6. Detail engineering design reports (draft & final) including bid documents of all the schemes of 1st phase within 8 months from the date of starting phases;
7. Detail engineering design reports (draft & final) including bid documents of all the schemes of 2nd phase within 11 months from the date of starting phases;
8. Detail engineering design reports (draft & final) including bid documents of all the schemes of 3rd phase within 14 months from the date of starting phases;
9. Detail engineering design reports (draft & final) including bid documents of all the schemes of 4th phase within 17 months from the date of starting phases
10. An assessment report on the development works – within 3 (three) months after completion of the design;
11. An interim report on the progress on implementation of the piped water supply scheme at the end of the each year of the Project Implementation;
12. Submission of different modules (O/Manual, Water Safety Plan, Environmental Management, Stakeholders Guidelines, training Manuals etc.), training manual (as mentioned in scope of work) in the stipulated time period;
13. Various reports on Social Intermediation in the scheme areas on timely manner;
14. Project completion report in a format to be approved by the World Bank – to be submitted at the end of the consultancy contract period;
15. Quarterly progress reports to be submitted to the World Bank. Such reports shall span progress of work, significant issues, constraints and other relevant aspects, including financial statements and shall be prepared within two weeks of the end of each quarter;

16. The consultants will prepare brief monthly progress reports to be submitted to DPHE within 4 (four) days of the end of each month;
17. Apart from all others, the consultants shall help the PMU by preparing special reports that may be felt necessary by the management.
18. Technological Map specifying the potential option for the project union

Small piped water scheme

1. Upazila wise common engineering design reports (draft & final) of small piped water scheme will be submitted within given time schedule; Small Piped Water Scheme site will be selected by DBO contractor consultation with district Office, DPHE, Local UP member, Beneficiaries and PMU.
2. District wise construction supervision report;

Public sanitation and hygiene facilities

1. District wise site selection report explaining technical, social and environmental context and suitability of each site within Mentioned time;
2. District wise common engineering design reports (draft & final) of Public sanitation and hygiene facilities with running water within Mentioned time; and
3. District wise construction supervision report with certification changes/ modification of design adopted by BT Contractor in every quarter after starting construction of small piped water schemes

WASH Facilities in Community Clinics

1. District wise Community Clinics selection report explaining technical, social and environmental context and suitability of each site within Mentioned time;
2. District wise common engineering design reports (draft & final) of new and provision for running Water and associated facilities in toilets facility in Community Clinics within Mentioned time;
3. District wise construction supervision report with certification changes / modification of design adopted by BT Contractor in every quarter after starting construction of new and provision for running Water and associated facilities in toilets facilities in community clinics.

7. O&M Training

Large Piped Water Scheme

In order build capacity and develop skill for smooth operation and maintenance of the scheme, The TA Consultant is required to organize hand on training for UP personnel, BO contractors and CBO representatives. The training programme will comprise of following components but not limited to:

- Theoretical and On-the-Job training in the field of operation and maintenance of the scheme for concerned person from DPHE, local management committee, private operators;
- Training on financial analysis, budget preparation for concerned person from DPHE, local management committee, private operator;
- Periodical interaction meeting / briefing sessions comprising presentations and discussions on project planning, monitoring and implementation etc.
- Training module & manuals for each type of trainings (Technical, Financial)

During preparation of documents and necessary design and estimate, DPHE shall be intensively consulted and training shall be provided to DPHE mechanics in order to develop the concerned manpower to manage the programs in future. All the calculation of design and estimate will have to be handed over to DPHE time to time.

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Public sanitation and hygiene facilities

- Develop O&M guideline for UP and the leaseholders; and
- Organize training/ orientation on the guideline for UP personnel, leaseholders and representatives of Public sanitation and hygiene facilities with running water O&M Committee

WASH Facilities in Community Clinics

- Develop O&M guideline for and caretakers; and
- Organize training/ orientation on the guideline for caretakers and Community Clinic Support Group representatives.

8. Office Space

DPHE will provide office space for the consultant at Dhaka/in regions as selected by the authority. The consultant will work full time for the project under the direct supervision of Project Director as per manning schedule. The regional project office shall directly be supervised by the respective Executive Engineer, DPHE.

9. Ownership of Documents

- DPHE shall be the owner of all the software, design, reports, modules, manuals and other documents prepared and equipment procured under the project.
- After completion of the project all documents/results/tools & equipment and all necessary software. Should be handed over to DPHE before final payment. These documents/results/tools & equipment should have one-year free servicing and updating provisions.
- The consulting firm shall accommodate the latest version of all the computer software/programs and shall provide the latest version while transferring database/tools/ software to DPHE.

10. Duration, Personnel and Person-months

The consultancy will require professional service from a team of consultants with expertise in management, planning, design and development of rural water supply system, Public sanitation and hygiene facilities with running water and community development over a period of 4.5 years during the project.

The position of individual consultants with length of input, qualification and specific experience are given in a matrix in Annex-A, B, C, D.

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11. TA Consultant selection process

To select TA Consultant, DPHE will follow service procurement process and will invite Expression of Interest (EoI) requesting basic information of the interested Engineering Consultancy Firms regarding qualification and experience for undertaking the assignment. After evaluation the shortlisted Firms will be requested to submit their technical and financial Proposal for the assignment. The proposal will be evaluated in accordance with the procedure set out in World Bank's procurement guideline using quality and cost based selection (QCBS) method.

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Proposed ToR may be approved.

Sb.
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