

Terms of Reference

Consultancy Services for Hiring Project Management Consultants

1. Project Background

The Government of Bihar (GoB) has received assistance from the World Bank, effective from March 08, 2011, to address the emergency needs arising out of Kosi floods through Bihar Kosi Flood Recovery Project-I (BKFRP-I). As a sequel to this and to address long term challenges of flood management, GoB has sought further assistance for the Bihar Kosi Basin Development Project (BKBDP) with an objective to enhance resilience to floods and to increase the production of agriculture in the greater Kosi River Basin. This project is developed under a multi-sector framework, with investment activities aimed at reducing the volatility of agricultural outputs and increasing overall economic productivity in the Kosi River Basin. At the base level, the investments in flood control decrease volatility and better protect the Kosi Basin from flooding that damages livelihoods and agriculture. To augment the benefits of a more stable environment, the project also makes a series of investments to unlock the agricultural potential of the area. Investments in irrigation will improve farmer access to water necessary to grow crops year round, and an improved road network will allow transport of harvests to a wider market. In addition, significant institutional strengthening and capacity building efforts will complement investments in physical infrastructure.

2. Project Development Objective

The project will comprise the following five components:

- To enhance resilience to floods.
- To increase the production of agriculture.
- To increase the quality of life.
- Livestock economy of people living in the greater Kosi River Basin.
- To bring eco-friendly sustainable development.

3. Project Components

The project will comprise the following five components:

Component 1 – Improving Flood Management: The objective of the component is to increase the capacity to manage flood risk and to decrease vulnerability to floods in the Kosi River Basin. This objective will be achieved by strengthening the institutional capacity, primarily by improving the understanding of how the Kosi River system functions and reducing vulnerability through investments in flood protection infrastructure. This component has two subcomponents:

- ***Reinforcement of flood control infrastructure (US\$95 million with US\$63.33 million Bank Financing)***-The objective of this subcomponent is to strengthen and reinforce the existing weak and vulnerable flood control infrastructure in the Kosi Basin. Investments will primarily include:
 - (i) Restoration /strengthening critical stretches of Eastern and Western Kosi embankment approximately 60 km.
 - (ii) Strengthening existing spurs that are severely damaged and protecting critical erosion-prone river banks.
 - (iii) Procurement of dredgers for management of silt deposits in the river system. Alternative designs and construction materials including stone-filled machine-made Gabions, Reno mattresses, Geo-bags will be used for the infrastructure works to improve performance at competitive costs.

- ***Support to strengthen institutional capacity to manage flood risk (US\$5 million with US\$ 3.33 million Bank Financing)***-The objective of this subcomponent is to strengthen State level capacity to understand, manage, and communicate flood risk. Under this component the project will finance the establishment of Centre of Excellence, procurement of RTDAS (real time data Acquisition System) and institutional strengthening at FMIS. The Project will ensure that the capacity building and community outreach process is gender-sensitive and gender-informed in its approach.

Component 2 -Enhancing Agricultural Productivity and Competitiveness: This component will support the farmers to increase agricultural production (which includes crops, horticulture, livestock and fisheries) and productivity by expanding their access to and adoption of innovative and climate-resilient farm technologies and practices (including irrigation) and extending their linkages to market infrastructure. Active farmer participation, including that of women farmers, landless and farmers from socially excluded backgrounds, in planning, implementing, and evaluating project interventions will enhance the relevance of crops/varieties selected for cultivation and marketing, increase technology adoption, and contribute to the sustainability of both technical interventions and the local institutions supporting farmers. The component has three sub-components.

- ***Intensification and Diversification of Agricultural Production Systems*** would promote agricultural intensification through:
 - (i) Technology demonstration and diffusion;
 - (ii) Increased water availability and efficiency via irrigation and other climate-smart approaches;
 - (iii) Improved agricultural inputs and practices packages. Diversification would include market-led crop selection (e.g., horticulture) as well as options for livestock and fisheries, among other verifiable commercial opportunities. Business plans, financed through Matching Grants and prepared by farmer interest groups (FIGs) with support from service providers contracted under the project, would identify market potential and link it to investments needed to increase productivity and competitiveness. Business plans would consist of, *inter alia*:
 - (i) Fixed capital (e.g., plant and equipment, irrigation infrastructure);
 - (ii) Input and other technology packages;
 - (iii) Capacity-building and technical assistance expenditures. The sub component will specifically target Farmer Interest Groups with substantial representation of women, SC/ST and marginal and landless farmers.
- ***Strengthening of Agricultural Value Chains:*** This component will facilitate in producing aggregation and value-added activity through Agricultural Business Centers (ABCs) which are proposed, owned and operated by Producer Organizations with support from service providers. ABCs will vary in terms of scope and content, based on needs expressed by the proposing Producer Organizations. It is expected that some 200 ABCs will be financed, about one-half of which will promote food grains, oilseeds and pulses, with the remaining one-half facilitating marketing of horticulture crops, livestock, dairy and other verifiable commercial opportunities. Specific to the dairy value chain, the subcomponent will converge with the ongoing activities of the National Dairy Plan (NDP-I), in which Bihar is already a participating state. Business plans will be developed for each ABC by eligible Producer Organizations and evaluated on technical criteria set forth in the Project Implementation Plan. Approved ABC business plans will be financed via Matching Grants, with cost-sharing on the part of Producer Organizations. Adequate representation of Scheduled Castes, Scheduled Tribes and other marginalized sub-groups within the chosen Producer Organizations and some Women Farmer Producer Companies will be ensured to set off the disadvantages faced by such groups.
- ***Institutional Development for Market-led Extension:*** This component will promote and strengthen the Agriculture Technology Management Agency (ATMA) in each of the five targeted districts. The Government of Bihar has already initiated actions to implement the

ATMA model of agricultural extension in all the 38 districts of the state. The role of ATMA will be to:

- (i) Promote convergence among state- and centrally-sponsored schemes in the agricultural sector;
- (ii) Facilitate inter-departmental coordination at the district, block and village levels;
- (iii) Transform the production-centered extension system toward market-led agricultural development;
- (iv) Field-test and scale-up climate-resilient good agricultural practices;
- (v) Conduct market and value chain analyses for commercial options available to organized farmers;
- (vi) Build partnerships with allied services, such as financial institutions and insurance providers. Marketing extension would focus on enabling farmers (including landless, women and socially marginalized farmers) to learn for themselves (i.e., experiential learning) and empowering them to engage directly with the market. The subcomponent would also leverage the experience and lessons learned from the Bank-financed National Agricultural Technology Project (NATP), the National Agricultural Innovation Project (NAIP) and the Bank-supported agriculture competitiveness projects in Assam and Maharashtra.

Component 3 – Augmenting connectivity: The objective of this component is to improve farmers’ access to markets through the expansion of the local road network that connects rural roads to the main road network that improves connectivity of habitations to the market centers. To achieve this objective, the component will be structured in two subcomponents. These activities will be a continuation of the initiatives started under BKFRP, and will include the same specifications, implementation arrangements, and bidding plans already in place.

- ***Construction of roads:*** This subcomponent will finance the construction of linking roads to major roads and the upgrading of rural roads to provide small villages (population less than 500) greater access to local markets. The sub-component will be implemented in the three districts of the Kosi River Basin: Madhepura, Saharsa, and Supaul. An estimated 400 km of rural roads will be constructed as black top roads and will be built to the latest rural road standards followed under the GoI and Bank financed PMGSY Rural Roads Program.
- ***Institutional strengthening activities at Rural Works Department:*** This will focus on the development of asset management and maintenance system, as well as a road maintenance strategy. Activities will also be financed to support training in technical skills and management information systems for the staff of the Rural Works Department.
- ***Construction of bridges:*** This subcomponent will finance the construction of small and medium bridges to provide greater access to local markets. About 57 bridges will be constructed in the five districts – Supaul, Saharsa, Madhepura, Araria, Purnea. Bridges and culverts will be designed to withstand earthquake forces (per the guidelines of the Bureau of Indian Standards) and with regard to topography and hydrology (per the guidelines of the Indian Roads Congress, the Ministry of Road Transport and Highways, and projected demographic changes).

Component 4 – Contingent Emergency Response: Following an adverse natural event that causes a major natural disaster, the GoB may request the Bank to re-allocate project funds to support response and reconstruction. This component will draw resources from the unallocated expenditure category and/or allow the GoB to request the Bank to re-categorize and reallocate financing from other project components to partially cover emergency response and recovery costs. This component could also be used to channel additional funds should they become available as a result of the emergency.

Component 5 – Implementation Support: This component will finance activities required for project implementation that will include incremental operating costs of BAPEPS and the IAs. These funds are available to BAPEPS and Project Implementations Units of the IAs to employ subject matter experts, consultants, safeguard and gender experts, financial management consultant’s/firms agents, and support

staff to be housed within each IA and assist with the preparation, implementation, and supervision of project activities. In addition, training, exposure visits, documentation, and monitoring and evaluation, equipment like computer, furniture etc. and project offices, Project Management Consultants, MIS and Third Party Quality Audit (TPQA), internal & external audits, etc. will be financed out of this component. BAPEPS, in coordination with the IAs, will derive a detailed plan for each IA and help strengthening the PIUs for project implementation.

4. Project Institutional and Implementation Arrangements

Under BKFRP, the GoB constituted BAPEPS to coordinate project implementation. BAPEPS will act as the State Project Management Unit (PMU) and will be supported by District- level set ups as District Project Management Units (DMPU). Three DPMUs are providing implementation support for the ongoing BKFRP project. The BKBDP will have benefit from this existing arrangement. The DPMUs needs to be further strengthened with addition of a regional hub in one of the target districts (Supaul) and to be expanded for the BKBDP for smooth coordination and implementation of BKBDP. BAPEPS will act as the PMU for all the project components and will be primarily responsible for the coordination and implementation of the project.

While BAPEPS is responsible for coordinating between the IAs and the Bank, the IAs themselves are responsible for the overall design and implementation of their respective components/activities, both at the State and the field level. IAs will coordinate and carry out their responsibilities by setting up / strengthening their respective State level Project Implementation Units (PIU) and set up adequate Field level set ups (District / Block / Gram Panchayat level Field Implementation Units such as DPIU/ BPIU etc.) .

Water Resources Department (WRD), Govt. of Bihar is a sub-implementing agency for “Improving Flood Management” Component “1” of the BKBDP having an outlay of IDA finance worth US \$ 100 million with the support of Project Implementing Unit (PIU) under the department. Implementation of Flood Management Component of Kosi-I (Restructured) is also underway by WRD. A Project Management Consultants (PMC) is to be hired by Water Resources Department for overall management of these projects.

5. Objectives of the Project Management Consultant

The objective of the PMC will be to assist the executing and implementing agency in the project planning implementation, management and monitoring for its successful completion. The PMC would further support the PIU to oversee the activities of design, construction supervision, Quality Assurance, procurement of works, goods and services, review of reports, etc.

6. Scope of Consulting Services

The major scope of work of the “Project Management Consultant” is to support the ‘Water Resource Department’ in

- Review and check the reports, studies, designs, drawings and specifications prepared earlier and/or prepared during the consultancy period, for its correctness as per the site condition, for the works included in the component 1 and are listed in Annexure-1
- Support in tender process, tender evaluation construction supervision and quality control for the works included in the component 1 as listed in Annexure-1.

In general, the scope of work included are but not limited to the following:

6.1 Primary Task

1. Carry out review of all activities of the component 1 based on secondary data/information /record and prepare a small status report as a part of the inception report
2. Review and check the reports, studies, design, drawings and specifications prepared earlier and/or prepared during the consultancy period.

3. Assist client in procurement of various works, equipment, materials and services under NCB, ICB or shopping procedure as necessary including preparation and or revision of bid documents, notifications, bidding process.
4. Assist client as necessary in the evaluation of bids and preparation of evaluation report, recommendation for award and contract agreement.
5. Assist and advise the client in supervision and quality control of works.
6. Assist and advise the client in resolution of contractual issues including review, evaluation and confirmation of contract variation orders.
7. Review the drawings and designs and check their correctness as per the site, and accordingly modify and reissue the drawings as necessary.
8. Supervise and monitor all the physical surveys, material testing, being done by the contractor. The Consultant shall ensure that all contracts are executed as per terms and condition of the contract.
9. Assist and support the client in construction supervision and quality control of the works.
10. Assist the client in interpretation of the Technical Specifications and clauses in the Contract Documents.
11. Assist and support the client in preparation of contractor's running and final bills.
12. As necessary assist the client in overall contract management, review and acceptance of the "As Built" drawings prepared by the contractors of various works.
13. Organize stake holder meetings during construction and monitor the implementation of RAP, EMP as per ESMF.
14. Support review and monitor in implementation of the Environment Monitoring and Management Plans and prepare periodic compliance reports.
15. Support/ Assist the client in obtaining approvals/ clearances, from various government department as required for the completeness of work.
16. Support the client in developing mechanism for assessment and fixing of the yearly targets for contract award and disbursement
17. Support the client in setting up the efficient contract administration system and procedures.
Communication Management: Consultant shall manage communication processes to ensure timely and appropriate collection, distribution, storage, retrieval and ultimate disposition of project information. They shall make use of multiple communication modes such as post, e-mail, fax, telephone and web or any other method agreed and accepted by the client.
18. **Risk Management:** This is a vital area of focus for the Consultant as a part of overall construction management. Risks affecting the project have to be identified and listed along with the analysis. Consultant shall prepare and monitor the risk management plan during the execution.
19. Consultant will be responsible for assisting the client in developing the project plan, managing the project stakeholders, managing the project team, managing the project risk, managing the project schedule, managing the project budget and managing the project conflicts
20. Under take any other work related to the project work as assigned by the client.

6.2 Engineering Design and Procurement:

Under this consultant's scope shall include but not limited to the following

- Review and checking the design, drawings, specifications and the provision of items for the work been done earlier and or are expected to be done during the consultancy period. Accordingly, the consultant shall suggest modifications if necessary.
- Assist the client in review of tender documents and suggest any modification if necessary.
- Assist the client in tender process and bid evaluation.
- Assist the client in finalization of agreement of works to be executed between the contractor and the client.
- Assist the client in preparation of Expression of Interest and Request for proposal for hiring the consultant, if any is required.
- Assist the client in inviting the proposal, evaluation and finalization of consultancy assignment if any is required

- Prepare and update the procurement plan and support the client in getting approval from World Bank.
- Prepare the Quality Assurance and Quality Control Manual

6.3 Construction Supervision and Quality Control

1. Under this the consultant's scope shall include but not limited to the following: Assist and guide the client and field technical staff of the contracting firm in construction supervision and quality control in accordance with the tender clauses, specification and approved construction drawings.
2. Assist and support the client in monitoring the progress of work in accordance with approved work program and mile stones. Identify the issues and bottleneck in the progress of the work and shall suggest the remedial action if any is required.
3. To verify that the construction methods proposed are in compliance with the requirements of the Contract.
4. Inspect the site to check and verify the work done at site, is in accordance with the technical specification, tender clauses and approved drawings.
5. Witness and verify all the relevant quality confirmation test done at site.
6. Assist the client in arriving the rate for extra items and prepare the variation order.
7. Assist the client in preparation of running and final bills of the work done by the contractor.
8. Assist the client in verification of measurements and quality certification of the works done by the contractor.
9. Assist and support the client in contract management.
10. Assist and support the client in implementation of works in incompliance with various laws/Acts concerning the environment and safety requirements of the works and labour welfare.
11. Report on the works on its final completion to the Engineer's representative of the Employer.
12. Assist and support the client in implementation of RAP and EIA in accordance with ESMF
13. Prepare the monthly and quarterly progress report in the agreed format.

6.4 Project Management and Performance Monitoring

Under this, the consultant's scope shall include but not limited to the following:

- Set up project management, implementation and monitoring systems and procedures.
- Support the client in preparing the annual work plans, detailed implementation schedule and budgets using computer based project management tools.
- The detailed procurement/ execution schedule shall be prepared with concrete achievable milestones.
- Support the client in developing mechanism for fixing the yearly targets for contract award as well as projecting and planning disbursement targets on quarterly basis.
- Support the client in in setting up the efficient contract administration system and procedures based on the good practices adopted in the World Bank Guidelines.

6.5 Project Budgeting & Accounting

Under this the scope of consultant shall be but not limited to the following:

- The consultant shall asses the procedure and method required for project accounting and budgeting and shall communicate and support the client in its implementation.
- Assist the client & its units in maintaining the project accounts with all ledgers and control systems.
- Assist and support client in preparation of annual budgets, accounting and audit reports.

- Assist and support the client in generating the different accounting reports and financial statements.
- Assist the client in ensuring smooth funds flow from WB and the BAPEPS.
- Consultant shall satisfactorily operate the financial accounting system in TALLY.
- Shall ensure that all accounting and financial reports are generated based on TALLY outputs and to ensure that accounting is carried out as per the agreed financial management system.
- Maintain systematically the procurement related records and documentation for audit / review by the World Bank as well as AG or CAG.

6.6 Financial Management

The scope of services under this category shall be but not limited to the following:

- (i) Assist the client in consolidating the AWP (Annual Work Plan) of the implementing agencies to prepare the AWP for the project and determine the fund requirement forecast
- (ii) To prepare Financial reports including the Interim Un-Audited Financial Reports (IUFR) and ensure that these are submitted to the Bank through BAPEPS in a timely manner for financial monitoring and reimbursements
- (iii) To liaise with and provide necessary information to the auditors (both internal and Statutory) to ensure that the annual audit and the concurrent financial review are satisfactory and timely. The consultant would follow-up and take necessary action based on the audit reports.

6.7 Dispute settlement between Contractor and Employer

1. Facilitate decisions on all claims and accounts and all post contractual formalities, question, disputes and differences which may arise between the Employer and Contractor and which under the terms of the Contracts are left for the dispute settlement and decisions.
2. Assist and advise the client and its representative with regard to any matter that may be subject to adjudication, dispute resolution, inquiry or litigation up to delivery certificate of completion.

6.8 Inception

At this stage the Consultant shall conduct a broad review of contract documents, DPRs, drawings, specifications, materials report and status of the work for the current contracts (as given in Annexure-1) to understand the scope and complexities of the assignment. This exercise will also include familiarization with the Environment and Social Framework (ESMF) and Environment Assessment Impact (EIA) issues related to the project.

The Consultant will also have discussions with the key stakeholders at PIU and field level implementation units of WRD to attain a good understanding of the nature of works and other activities under the Component 1 of the Project.

Based on these studies and discussions, the Consultant will prepare and submit an Inception Report, within 30 days of commencement of services. The Inception report would inter-alia indicate:

1. Consultants' broad understanding of the Project (in particular -Component 1);
2. Comments/suggestions, if any, regarding the actual need for technical personnel to meet the requirements at the office and field levels;
3. Consultants' work plan for providing the required services for the overall management of Project activities (under the WRD);
4. An outline of various MIS tools and procedures to be used/adopted by the Consultants for project monitoring and overall management;
5. A more specific plan for deployment of consultants' personnel keeping in view the progress of works and needs at the field and PIU; and
6. Any other issue considered important for the implementation of consultants' services including overall evaluation of the project and Consultants' suggestions/advice.

7. Time Schedule

-Total consultancy contract period is 36 months or the completion date of the project, whichever is earlier
-During the entire period of contract, the consultant shall prepare and submit the reports/deliverables as detailed in **Annexure-2**

8. Responsibility of the consultant

The consultant shall carry out the services in a professional manner in keeping with internationally accepted standards using qualified and appropriate staff. They will endeavor to implement with diligence within the agreed time.

The consultant is to prepare, furnish and revise from time to time the work programme for the assignment based on the progress of works in the field.

The Consultants activities would include preparation of DPRs and Bid Documents for works packages which have not been prepared by the WRD so far. For this purpose, all relevant historical, topographic and hydrographic survey data, as required, will be provided by the PIU or field officers of the WRD. The consultants will review these data, identify data gaps, if any, and collect the missing data from primary or secondary sources. The Consultants will be responsible for the accuracy of the collected data, and also the designs, drawings and reports prepared by him in the course of delivering the services.

9. Services and Facilities to be provided by the Client.

The Consultant will be provided access to all such information as is necessary to plan and execute the assignment. It shall inter-alia include:

- (i) List of sites, available data/ reports identified and requested by the consultant with justification of their use.
- (ii) Project documents available with the client such as DPRs, specifications, and procurement plan, etc.
- (iii) Access to sites, and support of the nodal department in getting the data from line agencies and other departments
- (iv) Assist the Consultants in obtaining other needed data/ documents/ formats etc.
- (v) Fully furnished Office space at Patna and in the field for carrying out the services

10. Staffing:

The Consultant will engage the key experts with minimum required qualifications and experience as detailed in Annexure-3. Consultant shall make his own assessment for the requirement of any additional key or non-key expert/staff, which he feels is required for the successful and satisfactory completion of the services. Consultant shall quote accordingly. Payment Schedule

Schedule of payment shall be as below:

Mobilization advance	:	10% of the quoted fees
Payment for the period of consultancy services	:	Shall be paid monthly, on the basis of staff deployment
<i>Note: Mobilization advance paid to the consultant for construction management period will be adjusted in first Six invoices in equal instalment.</i>		

11. Review and monitoring of consultant's work

Consultants performance and quality of work will be continuously reviewed by the PIU. There will be formal review, quarterly by a committee (named as Review Committee) set up by PIU after signing the contract. Unsatisfactory performance will invite action including pre-mature closure of the contract in accordance with the contract provisions.

Annexure -1 : : List of Activities/ assignments under BKBDP (Ph- II)

Sl. No	Name of Work	Name of Intervention (embankments/ drainage channels)	Location of site/ Works Division	Indicative Length/ Coverage
1	Revetment of Critical Reaches of Eastern & Western Kosi Embankment	(a) Protection and Restoration of Eastern Kosi Embankment. – Km 15.50 to Km 28.20 (Package 2)	<i>Eastern Embankment Division-2, Birpur</i>	12.70 Km
		(b) Protection of river Edge and Embankment slope between Km 17.25 to Km 19.50 and Km 25.14 to Km 26.00 (Package 3)	<i>Eastern Embankment Division-2, Birpur</i>	3.11 Km
		(c) Protection Works of Embankment slope between Km 0.00 to Km 28.20 of Eastern Kosi Embankment (Package 4)	<i>Eastern Embankment Division-2, Birpur</i>	28.20 Km
		(b) Protection and Restoration of Kosi Embankment. – Km 78.0 to Km 84.0	<i>Eastern Kosi Embankment Supaul</i>	6.0 Km
		(c) Revetment work on Extended Sikarhatta-Manjhari Low Bund from Km 6.00 to Km 13.50	<i>Western Embankment Division, Nirmali</i>	7.50 Km
		(d) Strengthening of Embankment at most vulnerable reaches between km 78.0 to 84.0 of EKE and Km 30.10 to Km 47.40 of WKE D/S of Ghoghardia	<i>Western Embankment Division, Nirmali</i>	23.30 Km
2.	Dredger Procurements and Maintenance	Procurement of 2 or 3 numbers of Dredgers including operations and maintenance cost for 3 (three) years.	<i>Chief Engineer Mechanical / its deployment plan- TBD</i>	
	Establishment of Centre of Excellence	Equipment for the Establishment of Centre of Excellence [CoE] for Water Resources and Development [Software and Equipments to be identified under BKFRP]	<i>Research and Investigation Division, Birpur/ FMISC, WRD, Patna</i>	
4.	RTDAS	Procurement and installation of Real Time Data Acquisition System of Kosi Basin & Bagmati Basin	<i>FMISC, WRD, Patna</i>	<i>Kosi & Bagmati Basin</i>

Annexure-1: Activities/ assignments under Kosi- I (Restructured)

Sl. No.	Item	Coverage	To be implemented by
	Technical Studies –Non Structural	Kosi Basin	FMISC, WRD
1.	Developing Approach protocol and mechanism for community participation in embankment surveillance and piloting in select community in Kosi Basin. (Ongoing)	Kosi Basin	-DO-
7.1.	Flood and Sediment Management (Ongoing)	Kosi Basin	-DO-
8.	River Behavior Analysis (Ongoing)	Kosi Basin	-DO-
13.2.	(i)Development of Flood Forecast Modeling , Inundation Mapping & Early Warning including River and Embankment survey in Kosi Basin (ii)Procurement of Digital Elevation Model (DEM) LiDAR	Kosi Basin	
14.3.	Preparation of DPR for Establishment of Centre of excellence	Consultancy Work	FMISC, WRD, Patna
	Structural Works		
15.4.	Protection and Restoration of <i>Eastern</i> Kosi Emb. – Km 0.0 to Km 7.00 (Package 1A)	Km 0.0 to Km 7.00 of E.K.E	Eastern Embankment Division-2, Birpur
16.5.	Protection and Restoration of <i>Eastern</i> Kosi Emb. - 09.00to 15.50 Km (Package 1B)	Km 9.00 to Km 15.50 of E.K.E	-DO-

Note: E.K.E.- Eastern Kosi Embankment , LiDAR- Light Detection and Ranging

Annexure-2-Reporting and Deliverable

S.No	Deliverables	Time Schedule	Contents and details to be provided
1	Inception Report	D**+4 weeks	<p>Consultants' broad understanding of the Project (in particular -Component 1); Comments/suggestions, if any, regarding the actual need for technical personnel to meet the requirements at the office and field levels; Consultants' work plan for providing the required services for the overall management of Project activities (under the WRD); An outline of various MIS tools and procedures to be used/adopted by the Consultants for project monitoring and overall management; A more specific plan for deployment of consultants' personnel keeping in view the progress of works and needs at the field and PIU; and Any other issue considered important for the implementation of consultants' services including overall evaluation of the project and Consultants' suggestions/advice.</p> <p>Detailed Procurement Plan, methodology for execution, its schedule/ work plan using MIS tools outlining procedures, technical audit & its execution plan etc.</p> <p>Overall evaluation of the project and suggestions</p>
2	Quality and Construction Manual	D**+8 weeks	<p>Quality control manual will be used by all the concerned. Main emphasis will be given on: Various formats – for tests, issuing of drawings, handing over the sites, request for inspection; Formats routing and approval of the concerned; Testing procedures; Acceptable tolerance limit against each test and finished work; Safety norms to be followed by the contractors and their personnel; Environmental safeguard during construction activities;</p> <p>Budget planning, resources planning, QC/ QA Procedures, physical & financial reporting procedures, schedules, audit procedures & plans as per department formats/ Bank formats.</p> <p>Detailed methodology for checking compliance to Environment and Social Management Framework (ESMF), including the EIA and applicable laws pertaining to environment protection and labour welfare and</p>
3	Monthly Report	Monthly for execution period	Broadly it shall include, Physical and financial progress of each package,

S.No	Deliverables	Time Schedule	Contents and details to be provided
			Problems encountered suggested mitigation actions and its follow up actions in each contract package, Environmental and safeguard monitoring report. Updated procurement plans if any
4	Quarterly Progress Repot	Quarterly for execution period	Broadly it shall include; Physical and financial progress of each package, Problems encountered and action taken for each package, Annual plan of work and for-cast of funds requirement for each package and any other reporting as required by the World Bank. Updated procurement plans if any
5	Contract/Project Completion Report	After completion of work	Project completion report shall be prepared for the entire project. This shall mainly include; Background of the project and introduction. Details of component under taken in the project. Details of administrative and technical approval procedure followed. Details of change in the original works and changes/additional works under taken. Details of problems encountered and solutions and reason for change in implementation schedule (if any) Listing of improvement due to project
6	Any other relevant report as desired by the client	As and when required	This shall be as per the requirement of the client. This may include bid evaluation report, compilation and submission of site photographs. Videography of the work. Preparation of presentation slides for presenting it to stake holders of the project at various levels. Preparation and compilation of reimbursement claims for submitting it to World Bank
<p>All the deliverables shall be submitted, 2 copy in hard, one copy in soft in editable one copy in PDF.</p> <p>D**: The date of commencement</p>			

Annexure-3 Estimated staff requirement with preferred qualification requirements for the consultancy assignment

S.No.	Position	No of Man-month	Preferred minimum qualification and experience		General Role and Responsibility
			Qualification	Experience	
1	Team Leader	33	Civil Engineer with Post Graduation in Water Resources Engineering/ River Engineering	<p>At least 15 years' experience, out of which min 5 years in management of multi sectorial civil engineering projects that include similar protection works like : embankments, dams, gabion walls, barrages, guide bunds, roads, bridges etc.,</p> <p>Shall also have experience in design of flood protection works such as gabion wall, flood embankment, guide bunds etc.</p> <p>Experience of managing multi-disciplinary teams is essential.</p> <p>Knowledge of river engineering/ flood protection/ anti-erosion works and related construction techniques would be preferred. Experience in externally aided projects is desirable</p>	<p>The Team leader will be fully responsible for the overall management and administration of the project and for the overall quality of all related outputs, training etc. for implementation of various project components. Team leader will assist in Establishment of Project Management System: Project Performance Monitoring and Reporting: Appraisal of subproject for Future Tranches; Engineering Designs; Procurement; Quality Control and Institutional Reform; Preparation of all 'Reports'.</p>
2	Deputy Team Leader Cum Quality Assurance Expert	33	Civil Engineer with Post Graduation in Construction Management/ Planning/ Water Resources	<p>At least 10 years' experience, out of which min. 5 years in supervision of multi sectorial civil engineering projects involving protection works like embankments, dams, barrages, guide bunds, gabion wall etc.,</p>	<p>The deputy Team Leader will be fully responsible for the overall construction management, contract management and quality control. In absence of Team Leader, he will also act as the Team Leader and will be responsible for overall management of project.</p>

S.No.	Position	No of Man-month	Preferred minimum qualification and experience		General Role and Responsibility
			Qualification	Experience	
			Engineering/ River Engineering	Experience of managing multi-disciplinary teams is essential. Knowledge of river engineering/ flood protection/ anti-erosion works and related construction techniques would be preferred. Experience in externally aided projects is desirable	
3	Environmental Management Expert	9	Masters degree in environmental sciences or closely related filed.	At least 5 years of experience of working in the field of environment management/ Environmental Impact Assessment Good knowledge of State Government and World Bank procedures/policies for environment safeguards is a prerequisite.	The environmental expert will be responsible for preparing the environmental checklists, EIA appraisal of all the project activities under the project; assist PIU in getting statutory clearances from the concerned competent authority, advise in establishing the system to monitor the environmental indicators under all the project components as per norms, monitor and prepare report for submission to Government and WB on regular basis.
4	Dredger Specialist	3	Graduate/ Post Graduate in Mechanical Engineering or any other relevant filed of Engineering	Min 10 years exp related to design/ operation/ maintenance of dredger	The expert will review and finalize requirements and specifications of dredger/ equipment. He will review parameters and drawings of dredger/ equipment and its accessories submitted by the supplier in the light of specifications. Technical aspects of its procurement and Quality Control and

S.No.	Position	No of Man-month	Preferred minimum qualification and experience		General Role and Responsibility
			Qualification	Experience	
					Performance Monitoring.
5	Procurement specialist	6	Graduate in Engineering or Equivalent/MBA	Min 10 years' experience in procurement and at least five years' experience in World Bank and or externally added projects Procurement Guidelines /Procedure	Procurement specialist will be responsible for updating bidding documents incorporating WB comments, finalization of bidding documents for each work package, prepare qualification criteria to be included in the bid documents, review of mode of procurement following WB procedures etc. , prepare standard conditions for each type of work package, review bidding documents prepared by the field units, review the terms and conditions, bill of quantities, assist PIU in preparation of final bidding document for sale, invitation of bids from the bidders, conducting pre bid meeting, preparation of pre-bid meeting minutes and necessary addendums if any, evaluation of bids and submission to PIU and other committees for approval, bid evaluation reports to be submitted to WB and Government, will be responsible for complete work related to finalization of bidding documents, procurement activities and award of contracts to the successful contractors/ suppliers.

S.No.	Position	No of Man-month	Preferred minimum qualification and experience		General Role and Responsibility
			Qualification	Experience	
					During execution he will be responsible for contract monitoring, review of variations, assist PIU in settlement of disputes etc.
6	Financial Management Specialist	33	Graduate in Commerce/Post-graduation in Commerce/CA/MBA Finance	Min 10 years' experience for Graduate in commerce with at least 5 year good experience in operation of accountancy software such as TALLY. Min 5 Years' experience for Post-graduation in Commerce/CA/MBA with at least 2 years good experience in operation of accountancy software such as TALLY .	The expert will advise and assist in establishing/ improving financial management system with the executing/ implementing agencies; preparing disbursement claims/ reports, conducting training workshops on disbursement and preparing withdrawal applications, assist PIU in preparing project budgets and accounts for review by the World Bank as well as AG or CAG other related financial/ budgetary/accounting matters.
7	Social Development Specialist	6	Post Graduate in Social Science/ Social Work	Min 10 yrs exp of working on DMD/ Social awareness/ community mobilization/ community participation activities/ managing large group of people	The specialist would work to ensure that issues pertaining to social risk that may arise during implementation of project activities (such as land acquisition, Environmental Impact Mitigation Planning etc) are properly recognized, assessed and successfully managed to safeguard the executing agencies within WRD.
8	Site Engineers-(2 nos)	54	Graduate Civil Engineer/Diploma in Civil Engineering	Shall have total 5 years of experience for graduate and 10 years of experience for diploma holder in	Shall supervise all the construction work including checking of layout, performing and monitoring quality test.

S.No.	Position	No of Man-month	Preferred minimum qualification and experience		General Role and Responsibility
			Qualification	Experience	
				construction supervision of flood protection works such as gabion walls, flood embankment, guide bunds river front development general civil work	Coordination of construction work etc.
9	Surveyor	27	Diploma in Civil Engineering	Shall have to 15 year of experience in survey work including setting of layouts	Shall supervise the setting of line, level and layout of all the work on the ground
10	Instrumentation Expert	6	Graduate Engineer in Electronic & Communication /Instrumentation	Shall have total 10 years' experience in designing and implementation of SCADA based equipment. Preference will be given to the person who has experience in designing and implementation of real time hydro metrological data base system and equipment; high end commuting solutions; geospatial data base management systems.	The expert will support the client in identification of equipment required for center of excellence for water resource department. Review and finalize the specifications for selected equipment and real time data acquisition system. He will review parameters and drawings of equipment and real time data acquisition system including the accessories submitted by the supplier in the light of specifications. Technical aspects of its procurement and Quality Control and Performance Monitoring.

Above are the minimum experts' requirement of the client. Consultant shall make his own assessment for the requirement of support staff and or any other expert required for the completeness of the work and shall quote accordingly.