Kolkata Metropolitan Development Authority

INDIA- NATIONAL GANGA RIVER BASIN PROJECT

REQUEST FOR EXPRESSIONS OF INTEREST
(CONSULTING SERVICES–FIRMS SELECTION)

Country: INDIA
Name of Project: NATIONAL GANGA RIVER BASIN PROJECT
Loan No./Credit No. Ln.80650/Cr.49550

Assignment Title: Riverfront Development in Kolkata Metropolitan Area- Profiling and Preparation of DPRs for Demonstration Investments.

Reference No.: NGRBA/PP15-16/SPMG/WB/C-10

The Government of India, Ministry of Water Resources, River Development and Ganga Rejuvenation, has received financing from the World Bank towards the cost of the National Ganga River Basin Project, and intends to apply part of the proceeds for consulting services. The consulting services (“the Services”) include Profiling of riverfront areas and preparation of Detailed Project Reports (DPR) for demonstration investments for the Riverfront Development subproject in Kolkata Metropolitan area. The Consultancy service will conduct (a) River Front Area Profiling – a situational analysis of the area in order to understand the various features and (b) Prepare detailed project report(s) for demonstration investments which include; detailed engineering designs, technical specifications and bill of quantities.

Demonstration investments will entail examples of multi-sectoral and area-based interventions aimed at effectively addressing urban growth and densities along the riverfront, ecological sustainability and smart transportation systems, public spaces revitalization, markets and adaptive reuse of industrial properties, etc. amongst other key aspects of a successful RFD sub project. These will offer medium-term improvements that will constitute the basis for the long-term sustained revitalization and development of the riverfront.

The Superintending Engineer, South Circle, Ganga Action Plan Sector, Kolkata Metropolitan Development Authority (KMDA) invites eligible consulting firms (“Consultants”) to indicate their interest in providing the services. Interested consultants should provide information demonstrating that they have the required qualifications and relevant experience as mentioned in the ToR (draft ToR can be seen from www.kmdaonline.com) to perform the consulting services. Consulting firms must have prepared detailed project reports (design, surveying, strategic planning, detailed engineering, designing and estimating the cost, preparing bidding documents, etc.)

The short listing criteria are as follows:

a) **Experience of the Firm:**

   1. Number of years of experience 5 years or more in comparable consulting assignments executed/under execution.
2. Experience in city/area profiling, data collection and analysis, both quantitative and qualitative.

3. Must have successfully completed at least two DPRs in similar large scale mixed use development projects having consultancy fees more than INR 20 million - please provide information on relevant experiences completed/ongoing during last 5 financial years. (Letter of award from employer/Project completion certificate is to submitted)

b) Financial Strength of the Consultant:

1. Turnover figure for last three years

2. Net profit figure for last three years

The attention of interested Consultants is drawn to paragraph 1.9 of the World Bank’s Guidelines: Selection and Employment of Consultants [under IBRD Loans and IDA Credits & Grants by World Bank Borrowers January 2011 (“Consultant Guidelines”), setting forth the World Bank’s policy on conflict of interest.

Consultants may associate with other firms in the form of a joint venture or a sub-consultancy to enhance their qualifications.

A Consultant will be selected in accordance with the Quality and Cost Based Selection (QCBS) method set out in the Consultant Guidelines.

Further information can be obtained at the address below during office hours [i.e. 11:30 hrs. to 16:00 hrs.] or may visit KMDA Web Site www.kmdaonline.com. Electronic Bidding will not be permitted.

Last date for receiving request for Expression of Interest–15/09/2015 up to 15:00 hrs.

The completion period of the assignment is 27 (twenty seven) weeks.

Further information can be obtained at the address below during office hours [i.e. 11:30 to 16:00 hours].

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GAP Sector, Kolkata Metropolitan Development Authority
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E-mail: kmdagap@gmail.com

Superintending Engineer
South Circle, GAP Sector, KMDA
National Ganga River Basin Project

Consultancy Services
For
River Front Development
Kolkata Metropolitan Region

Terms of Reference

September, 2015
National Ganga River Basin Project
Consultancy Services for River Front Development
Kolkata Metropolitan Region
Terms of Reference
September, 2015

I. Background

The River Ganga has one of the highest economic, environmental, and cultural values in India. Rising in the Himalayas and flowing into the Bay of Bengal, the river traverses a course of more than 2,500 km through the plains of north and eastern India. The Ganga basin (which also extends into parts of Nepal, China and Bangladesh) accounts for about 26 percent of India’s landmass, 30 percent of its water resources, and more than 40 percent of its population.

The Government of India (GoI) has given Ganga the status of a “National River”, and constituted a National Ganga River Basin Authority (NGRBA) on 20 February 2009 under the Environment (Protection) Act, 1986 with the objective to ensure effective abatement of pollution and conservation of the river by adopting a river basin approach with comprehensive planning and management. The NGRBA is an empowered planning, financing, monitoring and coordinating body with multi-sector mandate to address both water quantity and quality aspects. The National Mission for Clean Ganga is the implementing wing for the NGRBA along with five State project Management Groups in Uttarakhand, Uttar Pradesh, Bihar, Jharkhand and West Bengal.

Lessons from earlier experience indicate that improving water quality in the Ganga cannot be achieved by plugging the infrastructure gap alone. Any effective initiative will have to adopt a three-pronged approach by (i) establishing a basin-level multi-sectoral intervention to address pollution in the river; (ii) coordinating and making relevant institutions operational and effective; and (iii) implementing a phased program of prioritized investments
in hard and soft aspects for the river clean-up and continued sustainability, of which river front development (RFD) constitute a significant integrated intervention from social, economic, cultural and ecological viewpoints.

The objective of a RFD subproject is to promote sustainable and inclusive riverfront cities and towns located in the banks of the Ganga. The subprojects would be rooted in riverfront cities and towns unique history and character that showcases the Ganga’s holiest meaning and majesty while binds the city’s population together as a community. A high quality investment in riverfront will eventually connect the core areas of the city and town with the river whilst promoting good urban planning, new areas for residents to enjoy and congregate, while increasing the environmental sustainability of the river and its surrounding ecosystems.

The Kolkata Metropolitan Area (KMA) region is one of the most densely populated areas, estimated to be over 24,000/ sq.km. The KMA spreads across 1,850 sq km with a population of 14.69 million and comprises of 3 Municipal Corporations & 38 Municipalities. The metropolitan region contributes to 1.7% of the National GDP, the growth and success of its 50 km long riverfront and the larger metropolitan area are inextricably interconnected. The riverfront area spreads along a 50 km stretch on the right and left bank of the river Hooghly, which are the commercial heart of KMA. The area is economically diverse comprising of industry, wholesale markets, the central business district, and warehouses.

The Government of West Bengal is proposing to conduct the profiling (existing conditions assessment) and preparation of DPRs for demonstration investments for riverfront development in the metropolitan region of Kolkata. the demonstration investments will be integrated multi-sectoral and area-based interventions incorporating transportation systems, public spaces revitalization, markets and adaptive reuse of industrial properties, etc which serve to (a) test the proposed integrated approaches, and (b) engage people in the planning and execution.
These are expected to offer medium-term improvements that will constitute the basis for the long-term sustained revitalization and development of the 50 km long riverfront. To this end, a series of preparatory studies are required to inform short and long-term planning, identification of pilot investments for immediate execution of works and later management, operation and maintenance functions and processes.

Preliminary Studies and Reports which have been furnished by the executing agency will be provided to assist the consultancy service in data collection and mapping. These include

<table>
<thead>
<tr>
<th>Date</th>
<th>Proposal</th>
<th>Institution/Agency</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010-2011</td>
<td>Conceptual plan for redevelopment from Kasipur to Garden Reach (17km).</td>
<td>School of Planning and Architecture, New Delhi for KMDA.</td>
</tr>
<tr>
<td>2013 (March)</td>
<td>Inception and Scoping report for Riverfront Development from Botanical Garden to Bally Bridge (16km).</td>
<td>Bengal Urban Infrastructure Development Limited and IL&amp;FS Group for KMDA</td>
</tr>
<tr>
<td>2014</td>
<td>Hooghly River Front Development (Kolkata and Howrah) A Concept Note.</td>
<td>Kolkata Metropolitan Development Authority.</td>
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</tbody>
</table>

II. Objective

The consultancy will (a) carry out a situational analysis of the core riverfront areas of the Kolkata Metropolitan Region and (b) Prepare DPRs for demonstrative investments.

The metropolitan riverfront area limits include the town of Kalyani upstream to Budge Budge downstream and interlinked towns and cities contiguous to the riverfront, with a lateral distance comprising of the administrative /
The municipal boundary of the town / city OR 5km from the riverfront where administrative / municipal boundary is beyond 5km proximity to riverfront.

The preparatory studies will be conducted in a participatory manner and will involve consultations with the sector and area stakeholders, including the municipal officials and the division leaders to obtain secondary data about the areas.

Figure 1: Map of Kolkata Metropolitan Region
III. Overall Scope of Work

The consultancy will be responsible for carrying out the following activities:

<table>
<thead>
<tr>
<th>(A) Profiling of River Front areas</th>
<th>Stakeholder Mapping</th>
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<tbody>
<tr>
<td></td>
<td>Socioeconomic Profiling</td>
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<td></td>
<td>Assessment of Basic Public Services and Infrastructure in the area</td>
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<td></td>
<td>Inventory of on-going and approved development works/subprojects in each district</td>
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<td></td>
<td>Inventory and Mapping of Natural and Cultural Heritage Assets</td>
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<tr>
<td></td>
<td>Existing Multimodal Conditions Assessment</td>
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<td></td>
<td>Consultation Workshop and Preparation of Final Report on Profiling including GIS maps</td>
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</table>

<table>
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<tr>
<th>(B) Preparation of DPR(s) for demonstration investments.</th>
<th>Preparation of Draft DPRs and stakeholder consultation</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Preparation of Final DPR(s) including design and technical specifications</td>
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<td></td>
<td>Engineering drawings</td>
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<tr>
<td></td>
<td>Bill of quantities</td>
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<tr>
<td></td>
<td>Environmental impact assessment for proposed development(s)</td>
</tr>
<tr>
<td></td>
<td>Environmental Management Plan and Budget.</td>
</tr>
</tbody>
</table>
The scope of work is outlined in detail below:

(A) **Profiling of Riverfront Areas**

(a) **Stakeholder Mapping**

The stakeholder mapping aims to identify the key stakeholders in the area. A stakeholder is any person, group or institution with an interest in integrated riverfront development. A stakeholder may not necessarily be involved / included in the decision making process.

The process has three steps:

i) Identify who the stakeholders are, listing them out in a table like the one below:

<table>
<thead>
<tr>
<th>Stakeholder</th>
<th>Stake in the subproject?</th>
<th>Importance (high/medium/low)</th>
<th>What do we need from them?</th>
<th>Perceived attitudes?</th>
<th>Risk if not engaged?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
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</table>

(ii) Map stakeholders on a Stakeholder Matrix according to the expected level of impact of the change on them and the importance of these stakeholders to the success of the change process. Use the grid below and decide which part of the grid each stakeholder fits into.

```
<table>
<thead>
<tr>
<th>Influence</th>
<th>Meet needs</th>
<th>Key player</th>
</tr>
</thead>
<tbody>
<tr>
<td>Least important</td>
<td>Show</td>
<td>consideration</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interest</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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(iii) Assess stakeholders commitment level to decide the extent to which each stakeholder (or stakeholder group) may support or oppose an integrated riverfront development in the area, using a table like the one below:

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Definition</th>
<th>How to Manage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advocates</td>
<td>• Only group driving the change or project</td>
<td>• ‘Internal’ champions and sponsorship</td>
</tr>
<tr>
<td></td>
<td>• Active communications, keep regularly involved</td>
<td>• Input to key milestones and decisions</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Use for internal promotion of objectives and benefits</td>
</tr>
<tr>
<td>Followers</td>
<td>• Have a low understanding of project aims and objectives</td>
<td>• Support the project and tend to “go with the flow”</td>
</tr>
<tr>
<td></td>
<td>• Increase their understanding for future benefit</td>
<td>• Keep informed and positive</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Avoid the temptation to exploit</td>
</tr>
<tr>
<td>Indifferent</td>
<td>• Individual or groups yet to take a definitive position on the project</td>
<td>• Seek their views on key issue and address concerns</td>
</tr>
<tr>
<td></td>
<td>• Identify gaps in knowledge and seek to fill them</td>
<td>• Have a medium understanding and medium agreement</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Be careful not to make them opponents</td>
</tr>
<tr>
<td>Blockers</td>
<td>• Shows resistance to the project or its aims. Principally due to having a</td>
<td>• Use conflict management techniques</td>
</tr>
<tr>
<td></td>
<td>low understanding and low agreement. This can be driven by:</td>
<td>• A lack of communication</td>
</tr>
<tr>
<td></td>
<td>• Proactive communication</td>
<td>• Seeks views once understanding starts to develop</td>
</tr>
<tr>
<td></td>
<td>• Interview and meet</td>
<td>• A (perceived or actual) loss from project</td>
</tr>
<tr>
<td></td>
<td>• Explain and overcome fears</td>
<td>• Knowledge of error in project assumptions</td>
</tr>
<tr>
<td>Opponents</td>
<td>• Has high understanding but low agreement to the project</td>
<td>• Will potentially ‘lose out’ in some way from the activity</td>
</tr>
<tr>
<td></td>
<td>• Initiate discussions and understand reasons for low acceptance</td>
<td>• If the loss is perceived but not real, then convert using facts and data</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Counter the reasons for low acceptance</td>
</tr>
</tbody>
</table>

The consultant will identify the key public and private stakeholders analyzing their interests and incentives for the river front development and planning and review the role, mandate and linkages of the various institutional stakeholders, specifically the state agencies, the planning agencies, the municipal agencies and civil society organizations with a stake in the area, NGOs and CBOs, and specific focus groups (i.e. workers, commuters, children, women, etc.) that are likely to influence, benefit or be affected by the potential RFD subproject.
(b) **Socioeconomic Profiling**

The socioeconomic profiling aims to assess the social and economic characteristics of the area, including its demographic profile, socio-cultural, institutional, services delivery, historical and political context in which the subproject will operate. It should include qualitative descriptions and quantitative indicators of the socio-cultural and economic flows in the areas as well as development trends relevant to the area, particularly near the riverfront, such as significant demographic changes, patterns of asset ownership and livelihoods, land tenure arrangements, work related migration, pilgrimage, etc. All data should be gender-disaggregated.

The process should at minimum include:

i) Desk review of:

→ Review of literature and socio-economic studies of the local populations, particularly communities residing near the riverfront.

→ Review of government statistics and other data pertaining to socio-economic issues, poverty incidence, human development indices, access to services, legal and institutional framework, resource use and livelihood.

→ Review of other similar experiences in the area, with the targeted populations including the STs, SCs, OBCs, BPLs, women and other marginalized groups.

ii) Utilizing the findings from the other preparatory studies and additional secondary information sources, assess, for instance:

**Regulatory Context:** Describe the policy and reform context of the area; review the enabling environment for public participation and development planning in the
subproject area, including relevant laws and regulations as well as institutions, and the access of poor and marginalized social groups to goods, services and opportunities linked to integrated riverfront development. Identify legal issues related to vulnerable and socioeconomically excluded social groups like SCs, OBCs, BPLs in the area, especially those relating to recognition of judicial status, recognition of traditional rights to cultural or natural assets.

*Socio-cultural context:* Assemble a demographic and socio-economic profile of the main population groups living in the area, and gather baseline information on the demographic, social, economic, cultural, and political characteristics including those of vulnerable and socioeconomically excluded social groups like SCs, OBCs, BPLs. Describe the most significant social and cultural features that differentiate these social groups in the subproject area. Similarly assess the socio-economic profile of the floating pilgrim population and visitors.

- **Service Context:** Document the social organization in the area with respect to different social groups, based on spatial distribution, gender, caste, class, occupation, education, etc.; examine the social diversity with respect to a) economic status b) social and power relations; c) access and barriers to public services; d) access to assets, capabilities and livelihood options; e) key development priorities and constraint.

- **Economic Context:** Assess the main economic, livelihood and production systems and their linkages (or not) to the riverfront.

(c) **Assessment of Basic Public Services and Infrastructure in the Area**
The assessment aims to provide area-level data on infrastructure and services for residents and other groups use, including:

- A review of plans and strategies such as City Development Plan, Master Plan, City Sanitation Plan, etc., including pilgrimage/tourism regulations, land use/zoning and street-vending regulations, etc., from the perspective of inclusion, both spatially and socio-economic, and sector convergence.
Assessment of the habitat, including tenure status and access to basic services, and public facilities and infrastructure in each area, covering both formal and informal settlements, in order to determine gaps and needs. This should include access and transport infrastructure, walking paths, parking, solid waste management, sewage, water, electricity availability and use, among others; for residents’ use and in relation to pilgrimage demand and supply at peak times and forecasted visitor increases.

Map and assess spatial distribution, diversity, quality, and efficiency, priorities and constraints with respect to infrastructure and services assets along the riverfront.

Provide recommendations on infrastructure and services investments required to develop the area and its linked communities.

(d) **Inventory of On-going and Proposed Development Works/Subprojects**

The inventory aims to provide area-level data on on-going and proposed development works and initiatives which may be complementary to the subproject.

The inventory to include on-going and proposed (approved but yet to be implemented) development works/subprojects in the area for habitat development, improvement of basic services, public facilities and infrastructure, livelihood promotion, development of tourist services and facilities, and conservation of cultural assets.

Estimated investment for each of the development works/subprojects, implementation partners, funding source and implementation schedule.

Coverage of the development works and anticipated impacts.
(e) Inventory and mapping of Natural and Cultural Heritage Assets

An up-to-date and accurate map of natural and cultural assets and attractions in the subproject areas is necessary in order to gain further understanding of their cultural significance, narrative and relationship with the riverfront. This, in turn, will inform the subproject design, including identification of the main assets (tangible and intangible) of the riverfront and surroundings, their current use, status of conservation, and linkages to the local communities’ daily life and districts economy. The assignment will entail the physical mapping of:

→ Natural heritage such as natural landscapes, and others.
→ Sites and monuments listed by national and state departments as well as expert agencies.
→ Unprotected monuments and assets, including manmade attractions.
→ Vernacular built heritage assets such as private houses, groups of houses and others.
→ Intangible heritage such as traditional crafts, music, dance, festivals, and others.

For each of the above, the mapping will include:

1) GIS location
2) brief historic and contextual description
3) natural and/or cultural significance
4) physical description, ownership and management and current uses
5) status of conservation and conditions
6) brief tourism assessment, if any (visitation numbers, visitor profiles, visitation practices, revenue generation)
7) threats, including from tourism
(f) **Existing Multimodal Conditions Assessment**

The purpose of this assessment is to provide the executing agency with the data and analysis required to identify specific multimodal improvements in and around the region. Increased and interconnected transportation options are necessary for communities to meet the future demands created by a changing population, a transforming economy, and the increasing movement of goods. A fully functioning multimodal system is essential to maintaining the economic prosperity and personal liveability of the region. The consultant will perform the necessary reviews, data collection inventory and analysis to properly assess the following:

- Inventory and Mapping of existing and planned multimodal conditions for the study area (highway, roads, passenger rail, public transit, bicycle / pedestrian, air, and water).

- Review the balance between modes and describe the interconnections among all transportation modes in the metropolitan planning area.

**Suggested Methods of Work for (I) Profiling of riverfront areas include**

1) Desk reviews
2) In-area data collection/verification
3) In situ assessment, including GIS
4) Analysis of data
5) Reporting

(B) **Preparation of DPR(s) for Demonstrative investments.**

- Based on the profiling and data collection, the consultants shall work closely with the KMDA, stakeholders, urban local bodies, to build consensus on possible demonstrative investments in the riverfront areas of KMA.
After agreement with KMDA, the consulting firm shall prepare implementable detailed project reports for demonstration investments.

DPR(s) shall consist of design of the selected interventions and its components and shall be prepared on the basis of detailed survey, investigation and engineering design. Right at the outset of the preparation of the DPR, the consultants shall check the topographical surveys, location of disposal of solid waste, and identify additional surveys, such as geotechnical surveys and any analysis required for final design of the proposed works.

i. The consultant will prepare necessary architectural layouts, engineering designs based on the site requirements in sufficient detail to ensure clarity and understanding by the contractors and other relevant stakeholders.

ii. The detailed designs (revised to each site requirement) will, as a minimum, include construction drawings, detailed cost estimates, necessary calculations to determine and justify the engineering details, detailed specifications, engineering drawings, bill of quantities (BOQs).

iii. BoQ will be prepared in accordance to the Schedule of Rates (SoR) approved by GoWB for 2014-15, and wherever items in the BoQ is not listed in the SoR, Rate Analysis will be carried out based on the market rates.

iv. Prepare necessary electrical, mechanical, plumbing and drainage designs along with working drawings, layout specifications and detailed cost estimates.

v. Conducting a comprehensive environmental impact assessment (EIA)\(^1\) and preparation of Environmental Management Plan (EMP) / Abbreviated Resettlement Action Plan (ARAP) as per requirements.

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\(^1\) The consultant will (i) fill in the Environmental and Social data sheet in the format given in the NGRBA Framework and Categorization of the project as per World Bank guidelines,
vi. Ensure that EMP for the respective site is attached with the bidding document prepared and relevant costs and line items are included in the BoQs.

vii. Recommended design should have simple and least expensive O&M. Consultant shall make recommendations and prepare a yearly operations and maintenance plan for the selected interventions in the DPR(s).

viii. \textit{Preparation of Bidding Documents:} Upon validation of the proposed contract packages by KMDA, the consultants shall prepare the draft bidding documents (for supply and works contracts) necessary to enable tendering of supplies and construction services. The bidding documents shall be prepared following the World Bank’s Standard Bidding Documents. The final bidding documents shall be prepared after comments on the draft bidding documents are available from the NMCG and the World Bank.

IV. \textbf{Suggested Qualifications and Experience}

The consulting organization will form a multi-disciplinary team consisting of a Team Coordinator and experts with relevant experience and qualifications to undertake and prepare the required assessments and documents.

The key criteria for selecting the consulting team are:

(ii) Ensure designs prepared are compliant with the environmental safeguards for all civil works under the project in line with the Environment & Social Management Framework (ESMF) prepared for the National Ganga river Basin Project.

(iii) Prepare an environmental management plan (EMP) ensuring that the principles and processes laid down in the ESMF are followed.
Proven experience of the team coordinator and key experts in city/area profiling, data collection and analysis, both quantitative and qualitative.

Knowledge of integrated riverfront development or alike.

The team coordinator must also have proven ability for managing multi-disciplinary teams and for problem conceptualization and their translation into operational recommendations for subproject design. Previous experience in the design, implementation and/or evaluation of investment subprojects in integrated riverfront development is a must. He/she should have capacity to deliver with quality within a tight work schedule.

The other team members, which will include and not be limited to Urban Planner, Spatial Planner, Environmental Engineer, Architect, Surveyor, Civil/Structural Engineer, Water engineer/hydraulic Engineer, Geotechnical Engineer, Water Resource Expert, economist and Social Expert.

Total and continuous availability of the consulting team for the entire duration of the assignment is a requirement.

**Key professionals whose CV will be evaluated**

It is estimated that 36 man months of the following key professionals will be required to deliver a quality product. Besides these key positions, several other support technical and non-technical professionals will be required to carry out this assignment. Some of the support technical professional may have to be from the disciplines of surveying, civil engineering, mechanical and electrical engineering, geotechnical engineering, water and sanitation engineering, urban planning, economics and communications, etc.

**Team Leader and Project Manager:** A wastewater and drainage engineer with a Bachelor degree or higher in engineering and a minimum of 15 years of proven track record in planning and designing wastewater infrastructure, municipal solid waste management system and rehabilitation/rejuvenation of drainage
channels, and practical experience as Team Leader for a minimum of 2 number projects of complexity of the proposed assignment. He/she will provide guidance to the team regarding the various surveys and investigations that will have to be carried out to deliver the services in an effective manner and formulation of strategies for progressive improvement of river front development. He/she will coordinate with the client, review the relevant data, reports, and deliver presentation on the outputs/deliverables/reports to the nodal officer of KMDA.

**Sanitation and Wastewater Engineering Specialist:** Sanitary engineer with a Bachelor degree in Civil Engineering or higher in engineering and a minimum of 10 years of proven track record in planning and designing onsite/offsite sanitation and wastewater services infrastructure for urban cities. He/she will assess the existing situation and prepare conceptual design of innovative onsite and offsite systems as appropriate, lead the preparation of conceptual design, detailed designs including the drawings, technical specifications, related bill of quantities and cost estimates of the interventions in the wastewater sector, among other things as assigned by the Team Leader.

**Wastewater System Rehabilitation Engineer:** A civil / mechanical / electrical engineer with a minimum of 10 years of proven track record in rehabilitation of water and wastewater systems comprising pumping machinery, electrical panels, sewage pumping stations and sewage treatment plants. He/she will lead the condition assessment of the existing sewerage infrastructure and develop the program for rehabilitation with all technical inputs necessary, among other things as assigned by the Team Leader.

**Solid Waste Management Specialist:** Degree in Engineering or more with a minimum of 10 years relevant experience. He/she shall be responsible, among other things, for analysing the existing municipal solid waste management system and design of an eco-friendly, effective and sustainable solid waste handling and management system.
**Water Resources and Drainage Engineer**: Degree is engineering with a minimum of 10 years relevant experience in water resources planning and designing urban surface drainage system to drain out storm water.

**Social Development Specialist**: Master degree or more in social sciences with a minimum of 10 years working experience in social sector projects

**Environmental Specialist**: Master degree in environmental sciences / engineering / management with a minimum of 10 years working experience in urban infrastructure projects.

**Procurement Specialist**: Degree in engineering with a minimum of 10 years working experience in procurement of public works. Familiarity with the World Bank procurement guidelines and the Bank’s Standard Bidding Documents is essential. He/she will be responsible for preparing the bidding documents complete in all respect in a timely manner.

**Town/Country Planner**: Master degree in town / country planning with a minimum of 10 years working experience in urban infrastructure projects.

V. Institutional and Organizational Arrangements for Reporting and Review

The consultants shall submit the outputs / deliverables to the Nodal Officer, Director, Project Planning Unit, KMDA, along with power point presentation (Task 1 to Task 5) and the outputs / deliverables to the Nodal Officer, Chief Engineer, GAP Sector, KMDA, along with power point presentation (Task 6 to Task 8). Each of the Outputs/Deliverables will be reviewed by a Review Committee (RC) to be constituted by KMDA.

VI. Terms of Contract

The total assignment would entail about 27 weeks.
Budget and Payment as below, please refer to VI Schedule for task number.

10% - on Task 1 Submission of Inception Report including methodology, satisfactory to KMDA

25% - on Task 2-4 (b) Submission of Profiling Report including data collection, GIS maps, overlays and analysis satisfactory to KMDA, NMCG and the World Bank

20% - on Task 5 Submission of Draft final DPR(s) of demonstrative investments

5% - on Task 6 Submission of Draft Bidding Documents of demonstrative investments

30% - on Task 7 Submission of Final Report which includes (a) Profiling and GIS based Maps and (b) DPR(s) including engineering drawings, BOQ and EMP with incorporation of comments satisfactory to KMDA, NMCG, and the World Bank.

10% - on Task 8 Submission of Final Bidding Documents with incorporation of comments satisfactory to KMDA, NMCG, and the World Bank

The consultancy will work under the overall supervision of the World Bank and the Implementing Agency KMDA. The latter will facilitate the consultancy in contacting the municipalities, local administration and other key stakeholders in the areas and accessing information and data needed to carry out the assessment.

All information gathered, including raw and refined data as well as interviews transcripts, images, among others, belongs to the Government of West Bengal and the World Bank, and will be handed over during and upon the completion of the assignment.
### VII. Schedule

<table>
<thead>
<tr>
<th>TASK</th>
<th>DELIVERABLE</th>
<th>Timeline</th>
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</table>
| **1** Inception Report:  
The consultant shall prepare an Inception Report and submit within 15 days of start of project. | Inception Report | Week 1-2 |
| **2** Data collection  
Preparation of field surveys, questionnaires, and data collection for Profiling (inventory and mapping) | | Week 3-6 |
| **3** Data analysis and validation  
Data analysis, field review, preparation of GIS maps. | Draft final report on Riverfront Profiling | Week 6-9 |
| **4(a)** Consultation workshop  
The draft report and recommendations will be validated in a workshop that will convene sector and area wise stakeholders. In this workshop the stakeholders will be exposed to the main results of the studies. The workshop's main result will be the definition of the adjustments to be incorporated in the final reports. | Final Report on Profiling including GIS maps | Week 10 |
| **4(b)** Selection of Demonstrative investment(s)  
Presentation to KMDA, SPMG and key Stakeholders on possible demonstrative investment(s)  
Consultant will provide a broad concept on geographical location, needs, and areas of intervention | Demonstrative investment(s) selected | Week 11-12 |
<table>
<thead>
<tr>
<th></th>
<th><strong>Draft DPRs</strong></th>
<th>Draft DPR(s)</th>
<th>Week 12-19</th>
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<tbody>
<tr>
<td>5</td>
<td>Consultant will share with KMDA, NMCG and the World Bank the draft DPR design and solicit their comments.</td>
<td>Draft DPR(s)</td>
<td>Week 12-19</td>
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<tr>
<th></th>
<th><strong>Draft Bidding Documents</strong></th>
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<th>Week – 19-21</th>
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<tbody>
<tr>
<td>6</td>
<td>Consultant will share with KMDA, NMCG and the World Bank the draft Bidding Documents and solicit their comments.</td>
<td>Final report, incorporating comments of the World Bank and NMCG.</td>
<td>Week 21-25</td>
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<tr>
<th></th>
<th><strong>Final DPR(s)</strong></th>
<th>Final report, incorporating comments of the World Bank and NMCG.</th>
<th>Week 21-25</th>
</tr>
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<tbody>
<tr>
<td>7</td>
<td>The consultant will prepare the final DPRs for demonstrative investments including engineering drawings, BOQ, environmental and social impact assessment and environment management plan, obtaining No Objection Certificate from all concerned authority like NGT, KoPT, Railway, PWD, KMC, CESC, HMC, ULBs etc.</td>
<td>Final report, incorporating comments of the World Bank and NMCG.</td>
<td>Week 21-25</td>
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<tr>
<th></th>
<th><strong>After approval of Draft Bidding Document by the World Bank. Submission of Final Bidding Document.</strong></th>
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<th>Week 25-27</th>
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<tbody>
<tr>
<td>8</td>
<td></td>
<td>Final report, incorporating comments of the World Bank and NMCG.</td>
<td>Week 21-25</td>
</tr>
</tbody>
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