

**German Financial Cooperation with the Republic of India**

**Project: Climate-Resilient Reconstruction after Flooding in  
Kerala**

**Prequalification**

**for**

**Consulting Services**

**for**

**TECHNICAL ASSISTANCE FOR ENHANCING  
CLIMATE RESILIENCE OF KERALA'S ROAD  
NETWORK**

**Employer: Public Works Department, Trivandrum, Kerala**

**May 2020**

**(BMZ 201865286/KFW505312)**

# SECTION I –GENERAL PROVISIONS (GP)

## 1. General

### 1.1 SCOPE OF APPLICATIONS AND DEFINITIONS

- 1.1.1 In connection with the Invitation for Prequalification indicated in Section II, Specific Provisions (**SP**), the Employer, as defined in the **SP**, issues this Prequalification Document (“Prequalification Document”) to prospective applicants (“Applicants”) interested in submitting applications (“Applications”) for prequalification to bid for the assignment described in SP1.6.1.
- 1.1.2 The Employer as indicated in the **SP** has applied for or received financing (hereinafter called “funds”) from KfW Development Bank (hereinafter called “KfW”) towards the cost of the project named in the **SP**. The Employer intends to apply a portion of the funds to eligible payments under the Contract(s) resulting from the procurement process.
- 1.1.3 The following definitions apply:
- (a) “Affiliate(s)” means an entity that directly or indirectly controls, is controlled by, or is under common control with the Consultant
  - (b) “Applicable Law” means the laws and any other instruments having the force of law in the Employer’s country, or in such other country as may be specified in the **SP**, as they may be issued and in force from time to time.
  - (c) “Applicant(s)” means an entity or an association of entities (JV) that submits a set of documents as specified hereunder for being prequalified to submit a Proposal.
  - (d) “Consultant” means a legally-established professional consulting firm or an entity that may provide or provides the Services to the Employer under a Contract. The term “Consultant” and “Applicant” are used in this document interchangeably.
  - (e) “Contract” means a legally binding written agreement signed between the Employer and the Consultant.
  - (f) “Day” means a calendar day.
  - (g) “Employer” means the contracting party that legally concludes the Contract for the Services with the selected Consultant notwithstanding the representation by KfW in case of an agency Contract<sup>1</sup>.
  - (h) “Government” means the government of the Employer’s country.

<sup>1</sup>The term Employer in this document shall have the same meaning as the terms Client and Project Executing Agency in the Guidelines.

- (j) “Guidelines” means Guidelines for the Procurement of Consulting Services, Works, Goods, Plant and Non-Consulting Services in Financial Cooperation with Partner Countries available at [www.kfw-entwicklungsbank.de](http://www.kfw-entwicklungsbank.de).
- (k) “Joint Venture (JV)” means an association with or without a legal personality distinct from that of its members, of more than one Consultant where one member has the authority to conduct all business for and on behalf of any and all the members of the JV, and where the members of the JV are jointly and severally liable to the Employer for the performance of the Contract.
- (l) “Services” means the work to be performed by the Consultant pursuant to the Contract.
- (m) “Sub-Consultant” means an entity to which the Consultant intends to subcontract any part of the Services while remaining responsible to the Employer as contracting party during the performance of the Contract.
- (n) “Special Provisions (SP)” means an integral part of this Prequalification Document that is used to reflect specific country and project conditions to supplement the General Provisions. In case of conflict between the GP and the SP, the SP shall prevail.

## 1.2 SELECTION OF THE CONSULTANT AND PREQUALIFICA- TION PROCEDURE

- 1.2.1 To execute the project, the Employer intends to select one or several Consultants in accordance with the Guidelines. The evaluation commission of the Employer may be assisted by a tender agent or in exceptional cases a tender agent may conduct the entire tender procedure on behalf of the Employer. KfW’s monitoring and no-objection is not affected. The details are outlined in the **SP**.
- 1.2.2 This Prequalification Document sets out the prequalification procedure, including but not limited to the minimum requirements towards the experience and capabilities of the Applicants and the evaluation method. The Applicants who demonstrate to the Employer’s satisfaction that they have the experience and the capabilities to execute the project shall be shortlisted in accordance with GP 4.2.5 to participate in the subsequent tendering procedure.
- 1.2.3 The procurement process is the responsibility of the Employer. KfW shall verify that the procurement process is fair, transparent, economical, free of discrimination and according to the provisions in this document. KfW exercises its monitoring function on the basis of the contractual arrangements with the Employer and the Guidelines containing details for KfW’s approval and no objection to individual steps during the procurement process. No contractual relationship between KfW and any third party shall be deemed to exist other than with the Employer.

## 1.3 SANCTIONABLE PRACTICE

- 1.3.1 KfW requires compliance with its policy in regard to Sanctionable Practice as defined and set forth in Section V.
- 1.3.2 In further pursuance of this policy, Applicants shall permit and shall

cause its agents to provide information and permit KfW or an agent appointed by KfW to inspect on site all accounts, records and other documents relating to the procurement process and Contract performance (in the case of award), and to have them audited by auditors or agents appointed by KfW.

#### **1.4 ELIGIBLE APPLICANTS**

- 1.4.1 An Applicant may be a firm that is a private entity, a government-owned entity — subject to Section IV – or a combination of such entities in the form of a Joint Venture (“JV”) under an existing JV Agreement or with the intent to enter into such an agreement supported by Declarations of Association. In the case of a JV, all members shall be jointly and severally liable for the execution of the Contract in accordance with the Contract terms. An Application may include Sub-Consultants, whose relationship with the Applicant is contractual, and who are not held jointly and severally liable for the execution of the Contract. The Applicant shall nominate an authorized representative who shall have the authority to conduct all business for and on behalf of the Applicant and any and all its members, if the Applicant is a JV, during the prequalification process, procurement process (in the event the Applicant submits a Proposal) and during Contract execution (in the event the Applicant is awarded the Contract). Unless specified in the **SP**, there is no limit on the number of members in a JV. The authorization shall be in the form of a written power of attorney attached to the Technical Proposal.
- 1.4.2 Applicants including their Affiliates and, in case of JVs, any of their members, may participate in only one Application. Sub-Consultants whose qualifications are used in the evaluation of at least one Application, pursuant to the Applicant’s request made in accordance with Form 2 (Declaration on Conflict of Interest and of Submitting a Proposal), may only participate in the respective Application. Sub-Consultants, whose qualifications are not used in the evaluation of any Application, may participate in more than one Application. Applications submitted in violation of this procedure will be rejected.
- 1.4.3 It is the Consultant’s responsibility to ensure that its staff, Joint Venture members, Sub-Consultants, agents (declared or not), sub-contractors, service providers, suppliers and/or their employees meet the requirements on eligibility and conflict of interest as established hereunder.
- 1.4.4 KfW’s eligibility criteria for prequalification are described in Section IV, Eligibility Criteria.
- 1.4.5 An Applicant shall provide such evidence of eligibility satisfactory to the Employer, as the Employer shall reasonably request.
- 1.4.6 The materials, equipment and Services to be supplied under the Contract and financed by KfW may have their origin in any country subject to the restrictions specified in Section IV Eligibility Criteria, and all expenditures under the Contract will not contravene such restrictions.
- 1.5.1 The Consultant is required to provide professional, objective, and

#### **1.5**

**CONFLICT OF INTEREST**

impartial advice, at all times holding the Employer's interests paramount, strictly avoiding conflicts with other assignments or its own corporate interests, and acting without any consideration for future work.

**1.5.2 Applicants shall be disqualified if they:**

- (a) are an Affiliate controlled by the PEA or a shareholder controlling the PEA, unless the stemming conflict of interest has been brought to the attention of KfW and has been fully resolved to the satisfaction of KfW;
- (b) have a business or a family relationship with a PEA's staff involved in the tender process or the supervision of the resulting Contract, unless the stemming conflict of interest has been brought to the attention of KfW and resolved to its satisfaction;
- (c) are controlled by or do control another Applicant or are under common control with another Applicant, receive from or grant subsidies directly or indirectly to another Applicant, have the same legal representative as another Applicant, maintain direct or indirect contacts with another Applicant which allow them to have or give access to information contained in the respective Applications, to influence them or influence the decisions of the PEA;
- (d) are engaged in a Services activity which, by its nature, may be in conflict with the assignment that they would carry out for the PEA;
- (e) were directly involved in drawing up the terms of reference or other relevant information for the tender process. This shall not apply to Consultants who have produced preparatory studies for the project or who were involved in a preceding project phase, insofar as the information they prepared, especially feasibility studies, was made available to all Applicants and the preparation of the terms of reference was not part of the activity;
- (f) were during the last 12 months prior to publication of the tender process indirectly or directly linked to the project in question through employment as a staff member or advisor to the PEA, and are or were able in this connection to influence the Award of Contract.

**1.5.3 The Consultant has an obligation to disclose to the Employer any situation of actual or potential conflict that impacts its capacity to serve the best interest of its Employer. Failure to disclose such situations may lead to the disqualification of the Consultant or the termination of its Contract.****1.6 REQUESTED SERVICES****1.6.1 A brief description of the requested consulting Services is presented in the **SP**.**



## 2. Contents and Preparation of the Application

### 2.1 PREQUALIFICATION DOCUMENT AND COMMUNICATION

2.1.1 These Prequalification Documents consist of the sections indicated below, which should be read in conjunction with any Addendum issued in accordance with clause 2.6.

Section I - General Provisions (GP);

Section II - Special Provisions (SP);

Section III - Application Forms:

Form 1: Declaration of Undertaking;

Form 2: Sample Declaration on Conflict of Interest and of Submitting a Proposal;

Form 3: Sample Declaration of Association;

Form 4: Financial Capacity Statement;

Form 5: Project Experience;

Form 6: List of Available Expertise and Human Resource Capacity;

Section IV - KfW Eligibility Criteria;

Section V - KfW Policy – Sanctionable Practice – Social and Environmental Responsibility.

2.1.2 Unless obtained directly from the Employer, the Employer accepts no responsibility for the completeness of the Prequalification Documents, responses to requests for clarification, or Addenda in accordance with GP 2.6. In case of any discrepancies, documents issued directly by the Employer shall prevail.

2.1.3 The Applicant is expected to examine all instructions, forms, and terms in the Prequalification Documents and to furnish with its Application all information or documentation as is required by the Prequalification Documents.

2.1.4 The Application, as well as all correspondence and documents relating to the Application exchanged between the Applicant and the Employer shall be in the language of this document. Any official documents presented in a different language shall be accompanied by a certified translation into the language of this document. The Employer reserves the right to verify the translation. In case of discrepancies the original document shall prevail.

2.1.5 All communication between the Employer and Applicants shall take place in writing. For the purposes of the Prequalification Document in writing shall mean communicated in written form (for example by post, e-mail or facsimile) and delivered with proof of receipt.

### 2.2 DOCUMENTS COMPRISING THE APPLICATION

2.2.1 The Application submitted by the Applicant shall comprise the following:

(a) Application Letter, indicating the Applicant's name, address, telephone, fax and email. If the Applicant is a JV, the Application Letter shall also describe the form of association

and list the JV members.

- (b) A Power of Attorney authorizing the representative of the Applicant, designated in accordance with GP 1.4.1 to submit the Application on behalf of the Applicant. If the Applicant is a Joint Venture, the Power of Attorney shall be provided by the Lead Consultant nominated in the JV agreement or in the Declarations of Association, submitted in accordance with GP 2.2.1(d)(II). If the representative of the Applicant is the owner, member or director of the Applicant or the Applicant's Lead Consultant, if so nominated in accordance with GP 2.2.1(d)(II), a Power of Attorney shall not be necessary.
- (c) Presentation of the Applicant (maximum 10 pages, no brochures). If the Applicant is a single entity, the presentation shall describe the Applicant's type of entity, ownership structure and organisation chart, as well as its main business areas as they apply to the project. If the Applicant is a JV, the presentation shall provide this information about each JV member as well as a description of the intended form of collaboration of the members within the JV.
- (d) Statements and Declarations:
- I. Declaration of Undertaking in the format provided in Section III.
  - II. Declaration on Conflict of Interest and of Submitting a Proposal in the format provided in Section III.
  - III. If the Applicant is an existing JV, the Applicant shall submit a proof of the existing JV Agreement, indicating the Lead Consultant. If the Applicant is a JV, which the members intend to form for the purpose of executing the Contract, each member of the JV shall submit a Declaration of Association, indicating the Lead Consultant, in the format provided in Section III.
  - IV. Statement on conflict of interest as per GP 1.5 is part of the declaration as per (d) ii. above. If the Applicant is a JV, separate statements shall be provided by each member of the JV.
  - V. Financial Capacity Statement in the format provided in Section III and supported by the Applicant's balance sheets and profit and loss Statements. If the Applicant is a JV, separate statements, including the supporting Balance Sheets and Profit and Loss Statements, shall be provided by each member of the JV. All balance sheets and profit and loss statements shall be certified by a reputable auditor.
  - VI. List of project references in the format provided in Section III. The number and timing requirements towards the project references shall be specified in the **SP**. The Employer reserves the right to contact the clients indicated in the references to ascertain the information provided by the Applicant.
  - VII. List of Available Expertise and Human Resource Capacity in



the format provided in Section III.

(e) Any other documentation required in the **SP**.

2.2.2 Applicants shall submit concise and clear, but substantial documents and adhere to the above structure. Any interlineations, erasures or overwriting shall be valid only if initialled by the Applicant's representative designated in accordance with GP 1.4.1.

**2.3  
COST OF  
APPLICATION**

2.3.1 All cost relating to the preparation of the Application, including but not limited to site visits, obtaining information, preparation and submission of the Application, shall be borne by the Applicant.

**2.4  
SIGNING OF THE  
APPLICATION AND  
THE NUMBER OF  
COPIES**

2.4.1 The Applicant shall prepare one original Application as described in GP 2.2 and clearly mark it "ORIGINAL". All documents comprising the original Application shall be typed or written in indelible ink and shall be signed by the Applicant's representative designated in accordance with GP 1.4.1. If the Applicant is a JV, the statements and declarations submitted by the members of the JV in accordance with GP 2.2.1(d)(II)–(VII) shall be signed by duly authorized officials, such as owners or directors of the respective members.

2.4.2 The Applicant shall prepare copies of the signed original Application and clearly mark each of them "COPY". The number and type of copies of the Application shall be in accordance with the **SP**. In the event of any discrepancy between the original and the copies, the original shall prevail.

2.4.3. If electronic copies of the Proposal are required in accordance with GP 2.4.2, they shall be presented as unalterable and printable PDF files on CD or DVD disks, marked accordingly.

**2.5  
CLARIFICATION OF  
PREQUALIFICA-  
TION DOCUMENT**

2.5.1 Applicants may request a clarification of the Prequalification Document until the deadline indicated in the **SP**. Any request for clarification shall be sent in writing or by standard electronic means to the address indicated in the **SP**. Responses shall be in writing or by standard electronic means and shall be sent to all prospective Applicants who have obtained the Prequalification Document directly from the Employer, including a description of the inquiry but without identifying its source, not later than ten (10) Days prior to the deadline for the submission of Applications in accordance with GP 3.2.1.

2.5.2 If necessary, the Employer may send clarifications of the Prequalification Document to all prospective Applicants who have obtained the Prequalification Document directly from the Employer, not later than ten (10) Days prior to the deadline for the submission of Application in accordance with GP 3.2.1.

**2.6  
AMENDMENT OF  
PREQUALIFICA-  
TION DOCUMENT**

2.6.1 At any time prior to the deadline for the submission of Applications but not later than ten (10) Days before the submission date the Employer may amend the Prequalification Document by issuing an Addendum.

- 2.6.2 Any Amendment issued shall be part of the Prequalification Document and shall be communicated immediately in writing to all prospective Applicants who have obtained the Prequalification Document from the Employer.
- 2.6.3 To give Applicants reasonable time to take an Amendment into account in preparing their Applications, the Employer may, at its discretion, extend the deadline for the submission of Applications in accordance with GP 3.2.2.

## 3. Submission of Applications

### 3.1 SEALING AND

3.1.1 The Applicant shall enclose the original and the copies of the Application in a sealed envelope that shall:

### IDENTIFICATION OF APPLICATIONS

- (a) bear the name and address of the Applicant;
- (b) be addressed to the Employer, in accordance with GP 3.2 below;
- (c) bear the project title and/or tender number;
- (d) bear the following words clearly visible „Not to be opened by the Postal Service - Prequalification for “ and the name of the assignment.

3.1.2 The Employer shall not be responsible for misplacement, losing or premature opening of the Application if the envelope is not sealed or marked in accordance with GP 3.1.1. The disposal of original late Applications shall be obligatorily documented in a late Applications protocol, which shall be provided to KfW as part of the opening protocol prepared in accordance with GP 3.2.7 and to the entity, which has submitted the late Application.

### 3.2 DEADLINE FOR SUBMISSION OF APPLICATIONS, OPENING

3.2.1 Applicants may submit their Applications by mail, by courier or by hand, against confirmation of receipt. Applications shall be submitted by the Applicants at the address and no later than the deadline indicated in the **SP**. Any Application received by the Employer after the deadline shall be declared late and rejected, and promptly disposed of.

3.2.2 The Employer may, at its discretion, extend the deadline for the submission of Applications by amending the Prequalification Document in accordance with GP 2.6, in which case all rights and obligations of the Employer and the Applicants subject to the previous deadline shall thereafter be subject to the deadline as extended.

3.2.3 The preparation and the submission of the Applications is the responsibility of the Applicant and no relief or consideration can be given for errors and omissions.

3.2.4 If copies of the Application shall be sent to multiple addresses in accordance with GP 3.2.1, the timely receipt of the original Application in compliance with GP 3.2.1 shall be decisive for the timely submission of the Application.

3.2.5 The Employer's evaluation commission as detailed in **SP1.2.1** shall proceed with the opening of the Applications shortly after the submission deadline as indicated in the **SP** and establish and sign an opening protocol as per GP 3.2.7.

3.2.6 Unless otherwise agreed the Employer's evaluation commission shall be composed of at least three members. One member of the Evaluation commission shall not be staff from the Employer's administration or organisation.

- 3.2.7 At the opening of the Applications the following shall be recorded in the opening protocol: the name and business address of the Applicant or, in case of a Joint Venture, the name and business address of the Joint Venture, the name and business address of the lead member and the names and business addresses of all members; the presence or absence of the Declaration of Undertaking whether they have been received on time and sealed as per GP 3.1.1. and any other information deemed appropriate or as indicated in the **SP**.

## 4. Evaluation-Process of the Prequalification Documents

### 4.1 CONFIDENTIALITY

- 4.1.1 After the opening of the Applications and until the announcement of the prequalification results to the Applicants no communication of any type between the Applicants and the Employer, its staff or any other person involved in the evaluation is permitted except as specified under GP 4.3.
- 4.1.2 Information relating to the Applications, their evaluation and result shall not be disclosed to Applicants or any other persons not officially concerned with the prequalification procedure until the Employer notifies the Applicants of the prequalification results.

### 4.2 EVALUATION

- 4.2.1 The Employer shall reject an Application that is not substantially responsive to the requirements of this Prequalification Document. In particular, an Application failing to demonstrate that the Applicant fulfils the financial capability requirements set out in the **SP** or lacking the following documents shall be considered not substantially responsive:
- a) Declaration of Undertaking (Form 1)
  - b) Financial Capability Statements and supporting documentation as required (Form 4)
  - c) Declaration on Conflict of Interest and on Submitting an Application (Form 2)
  - d) Power(s) of Attorney authorizing the representative of the Applicant
  - e) If the Applicant is a JV, either proof of the existing Association Agreement or a Declaration of Association (Form 3)
- 4.2.2 The Employer shall evaluate the responsive Applications in terms of the prequalification criteria indicated in the **SP** and award each responsive Application a prequalification score of up to 100 points.
- 4.2.3 For the purposes of scoring individual prequalification sub-criteria in accordance with GP 4.2.2 the Employer shall apply the following qualitative approach to each criteria:
- a) 100% of the max. score: Excellent, no errors or omissions at all are noted. Exhaustive, conclusive, comprehensive, precise and further leading suggestion / idea / offering with respect to the sub-criterion.
  - b) 75% of the max. score: Good, minimal errors or omissions noted. Exhaustive, conclusive, comprehensive and precise with respect to the sub-criterion.
  - c) 50% of the max. score: Unsatisfactory, major errors or omissions noted not comprising the fulfilment of the sub- criterion, basically meets the requirement of the respective sub-criterion.
  - d) 25% of the max. score: Poor, major errors or omissions are noted comprising the fulfilment of the sub-criterion,

substantially deviates from or indicates misunderstanding of the requirement of the respective sub-criterion.

- e) 0 % of the max. score: Insufficient / Fail, does not meet the requirement of the respective sub-criterion at all or does not provide any information regarding the requirement of the sub-criterion.

4.2.4. The Employer shall reject an Application if,

(a) it has determined that the Application is nonresponsive in accordance with GP 4.2.1;

(b) it has awarded the Application a prequalification score, which is lower than the minimum prequalification score of 70 points out of 100. Depending on the nature of the assignment a minimum score may be applied not only to the overall score but also to the achievement of a subscore dedicated to environmental, social, health and safety (ESHS) issues, if specified so in the Special Provisions (SP).

4.2.5 The Employer shall establish a shortlist of qualified Applications determined to be responsive and scoring higher than the minimum prequalification score. The number of Applicants to be invited is generally five (5) but could be increased up to eight (8) if required and subject to prior indication in the SP. However, if the number of prequalified Applicants exceeds this predefined number Applicants will be invited as per their ranking.

#### **4.3 EMPLOYER'S RIGHT TO ACCEPT OR REJECT APPLICATIONS**

4.3.1 The Employer reserves the right to accept or reject any Application, and to annul the prequalification process and reject all Applications at any time, without thereby incurring any liability to the Applicants.

4.3.2 The Employer is not bound to select any Application.

#### **4.4 NOTIFICATION OF PREQUALIFICA- TION AND PUBLICATION**

4.4.1 The Employer shall notify all Applicants in writing on the outcome of evaluation shortly after the finalisation of the evaluation.

4.4.2 In addition, the Employer shall publish the list of prequalified Applicants (including all JV members, if any) who will be invited to submit an Offer (prequalification-result notice), after KfW's No-Objection to the prequalification evaluation report on GTAI's website and in any other media in which the prequalification notice was published.

4.4.3 Applicants that have not been prequalified may write to the Employer to request, in writing, the grounds on which they were not qualified.

4.4.4 Upon such a request the Employer will inform such Applicants on the major shortcomings and weaknesses of their Application.

#### **4.5 REQUEST FOR**

4.5.1 Promptly after the notification of the results of the prequalification, the Employer shall invite the prequalified Applicants to submit their Proposals.

**PROPOSAL**

## SECTION II –SPECIAL PROVISIONS (SP)

*(The references refer to the respective figures in the General Provisions)*

### 1.1.1 EMPLOYER

The Employer is the Public Works Department of the Government of Kerala

The project name and reference number are **Climate-Resilient Reconstruction after Flooding in Kerala**, BMZ-No. 201865286

The prerequisites for disbursements for this assignment are not yet finalized. Any contractual commitment related to this tender procedure is subject to the readiness of disbursement of funds for this assignment.

### 1.2.1 SELECTION OF THE CONSULTANT

The selection will be done by the Employer's evaluation committee.

### 1.4.2 APPLICANTS

The General Sub-Clause applies.

### 1.6.1 REQUESTED SERVICES

#### Indicative Terms of Reference

The final ToR will be issued with the Request for Proposals and the following is subject to modifications.

### BACKGROUND<sup>1</sup>

#### Kerala Context and Challenges with Natural Hazards

Kerala is one of the smaller Indian states by area, located on the southwestern Malabar Coast of the country, having 14 districts and Thiruvananthapuram as capital city. The state is having a population of over 33 million, and is globally recognized for its impressive achievements in human development. Yet, it is highly vulnerable to climate change induced natural disasters due to its location along the sea coast and steep gradient along the slopes of the Western Ghats. The Kerala State Disaster Management Plan (SDMP) identifies 39 hot-spots categorized under two broad heads i.e. Naturally Triggered Hazards (Natural Hazards) and Anthropogenically Triggered Hazards (Anthropogenic Hazards). Kerala is also one of the most densely populated Indian states (860 persons per square kilometers) which makes it even more vulnerable to damages and losses on account of disasters. Floods have been the most common of natural hazards that have been affecting the State, almost annually. Nearly 14.5 per cent of the State's land area is prone to floods, and the proportion is as high as 50% for certain districts. Landslides are a major hazard along the Western Ghats in Wayanad, Kozhikode, Idukki and Kottayam districts. Seasonal drought-like conditions are also common during the summer months. Kerala experienced 66 drought years between 1881 and 2000. Other major natural hazards are lightning, forest fires, soil piping, coastal-erosion and high wind speed. The State also lies in seismic zone III.

In 2018, between June 1 and August 18, Kerala experienced the worst ever floods in its history since 1924. During this period, the State received cumulative rainfall that was 42 per cent in excess of the

<sup>1</sup> For more refer to Post Disaster Need Assessment, United Nations, August 2018



normal average, some areas receiving 3000 to 4000 mm of rain. The torrential rains triggered several landslides and forced the release of excess water from 37 dams across the State, adding to the impact of floods. Nearly 341 landslides were reported from 10 districts. Idukki, being the worst, recorded 143 landslides.

A Joint Rapid Damage and Needs Assessment (JRDNA) was conducted in September 2018 by the Government of Kerala (GoK), supported by the World Bank and the Asian Development Bank (ADB). The assessment estimated the recovery needs at a tune of INR 250 billion (US\$3.56 billion) which is equivalent to 3.6 percent of State's gross domestic product [GSDP] of the priority sectors alone for the fiscal year 17/18. The JRDNA formed the basis for the comprehensive Post-Disaster Needs Assessment (PDNA), led by the United Nations (UN) in October 2018, which estimated the total recovery needs at US\$4.4 billion. The sectors that suffered the worst damage during 2018 disaster event was transport, rural infrastructure, livelihoods, housing, and urban infrastructure.

Flood was again reported this year (2019) in August on account of unprecedented precipitation affecting Wayanad, Malappuram, Kozhikode, Kannur, Palakkad, Thrissur and Ernakulam districts of Kerala. As per Kerala State Disaster Management Authority report around 1,789 houses got fully damaged and 14,542 partially damaged whereas more than 80 landslides reported.

Post the 2018 floods, a State-Partnership between Government of Kerala, GoK and World Bank has been executed under the banner of Resilient Kerala Initiative (RKI). This partnership aims at addressing various interconnected problems for protecting lives, livelihoods, and assets of public and private, as well as securing the sustainable development for the State. As part of this partnership, World Bank sanctioned two Development Policy Operations (DPOs) totaling to US\$250 million on 31st May 2019 with an objective to mainstream disaster risks and climate change impacts information across the State's key areas of development including the roads sector. KfW, has also committed co-funding in this regard, supporting the state's sustainable road sector re-building initiatives, by providing 2 loans up to the amount of 170 Mn Euro and a grant of 3 Mn Euro for accompanying measures. Part of this grant will finance the present technical assistance.

### **Kerala Road Sector and Climate Vulnerability**

The roads/highways are the dominant mode of transport in Kerala catering to around 75% of freight and 85% passenger mobility need. The state has a road network density of around 37 per cent higher than the national average of 387 km per 100 km<sup>2</sup>. The state-highway (SH) and major district road (MDR) network is primarily managed by the Roads and Bridges (R&B) wing of the Public Works Department (PWD) of the State. The national-highways (NH) passing through the state are jointly managed by the NHA and the Ministry of Road Transport Highways (MoRTH) through the NH unit of the R&B. Out of 205,000 km of state road network, PWD manages approximately 1,780 km of national highways, 4,340 km of state highways (SHs), and 27,470 km of major district roads (MDR), together constituting roughly 16 percent of the total road network which carries about 80 percent of road traffic. The given road network is currently under increasing pressure from rapid traffic growth at around 12–14 percent annually. Whereas around 70 per cent of SHs are still single lane, with 54 per cent in poor condition due to frequent damages caused by heavy rainfall.

Recently, through Government Order (Ms) No. 22/2019/PWD dated 04/05/19, The Government of Kerala has enumerated the criterion for selection of Core Road Network (CRN) from the total SH and MDR network. This exercise is being done by Chief Engineer, Maintenance. And as a first step, a road network length of 4283 kms consisting of 3848 Kms of SHs and 435 kms of important MDRs have been shortlisted to commence survey activities through Network Survey Vehicle by Central Road Research Institute (CRRI) who have been appointed consultants by KSTP to develop and operationalize the Road Maintenance Management System (RMMS) for the State Road Network. This RMMS work has started from October 2019 and is expected to be completed by September 2020.

The 2018 floods and landslide disaster resulted into an estimated loss of 1.22 Bn USD to the road sector. Approximately, 48 percent of the state highways and major district roads were reported damaged, mainly due to floods, landslides, earth slips, soil movement, and rock falls. As a part of the

Rebuild Kerala Initiative (RKI), PWD through Kerala State Transport Project (KSTP)<sup>2</sup> intends to reconstruct the roads which were impacted during the event of flood and built climate resilient road assets. The roads works shall be financed partly from the sanctioned 1<sup>st</sup> operations of World Bank Development Policy Loan (DPL) and a KfW bilateral financing of 170 Mn Euro.

In order to ascertain the roads to be financed under RKI, PWD through Kerala State Transport Project (KSTP) carried out a road prioritization study for a total of 59 roads<sup>3</sup> constituting 1609 km distributed in all the 14 districts of Kerala. These 59 roads listed were spread across north to south of the state having varying terrains – hilly, rolling, flood plain and coastal. Based on the prioritization exercise, around 710 kms of roads were identified for preparation of DPRs and award of work contracts covering rehabilitation and climate resilience works. The roads prioritized for RKI were divided into 3 clusters i.e. North, Central and South. The list of the RKI roads is provided in **Annex 1**.

### **PROJECT EXECUTING AGENCY**

The designated Project Executing Agency (PEA) is the Public Works Department (PWD). For the first Kerala State Transport Project (KSTP I), funded by the World Bank, a project implementation unit was set up and called KSTP. This unit has now taken responsibility for many new projects in the State, whether domestically or externally funded. It was agreed that KSTP shall be the main implementing body for the present technical assistance.

### **RATIONALE FOR THE TECHNICAL ASSISTANCE**

As part of RKI, GoK received USD 250 Mn loan in form of DPO (Development Policy Operations) to accomplish studies related to Road Sector Reform including climate studies, to be carried out through Technical Assistance (TA). The state government has also signed a loan for EUR 170 Million with KfW, co-funding the Bank's reform initiatives with the State.

The state understands the importance of integrating disaster and climate risk information in all its development planning. Thus, it wishes to invest part of the above-mentioned loan funding to conduct climate vulnerability assessment of its Core Road Network (CRN) and develop a work program on climate resilience measures to be taken for the network. The proposed TA will also directly support GoK in building RD's capacity in climate change adaptation planning and asset management. The execution of priority measures to be suggested under the prioritized work program for 3 Clusters shall be financed through the World Bank and KfW loans.

### **STUDY OBJECTIVES**

The first objective of this assignment is to conduct climate change vulnerability assessment of the CRN and then develop a work program that shall consist of climate change and disaster resilience strategy, climate change and disaster planning guidance manual and institutional strengthening through training and exposure visit of the PWD staff. To achieve this objective, the assignment will focus on:

- Vulnerability assessment of 500 km of CRN (Critical Network) to be selected from:
  - (A) 300 km of which 100km each from North, South and Central clusters road stretch selected for rehabilitation under World Bank and KfW loans. Together, these three sums up to 700 km of road stretch. The 100 km to be selected from each cluster should be representative of the inherent vulnerability of that region.
  - (B) Rest 200 km from other stretches of CRN, other than three clusters selected for rehabilitation with Banks' loan facility.
    - Review engineering design report (DPR) of a 30 km of road stretch from climate change and disaster risk aspects thus identified during the above studies and recommend changes, if necessary.
    - Integrate Climate Data into Road Maintenance and Management System (RMMS).
    - Preparation of Climate Resilience and Disaster Planning Strategy and Recommend Appropriate Design Standards for the State based on the vulnerability analysis of 500 km of selected road sections and suggest funding mechanism for implementation of the recommendations for integrating in PWD Code and Manual;
    - Preparation of Guidance Manual on Integration of Climate Change and Disaster Risk into Road Development (SH and MDRs only) covering entire value-chain from planning, designing, construction and maintenance.

<sup>2</sup> KSTP is a road institutional arrangement under PWD which manages all externally funded road projects in the State of Kerala.

<sup>3</sup> Identified by the various Divisions of R&B Wing of PWD post 2018 Flood and Landslides

- Training and Capacity Building of PWD staff on ways and means to integrate climate and disaster information into planning, designing, construction and maintenance of roads including approaches to carry-out vulnerability assessment.

The TA studies will focus on the core road network of the State only. However, it is desired that the outputs (e.g., guidelines/methodologies, and recommendations etc.), be applicable to both core and non-core network (entire SH and MDR network). The TA does not refer to any rural and PMGSY road, for which the need and approach may be different. The assessment should be able to highlight if there is any conflict/ influence from other sectors whose policy and/ or activities influence the road sector.

### Scope of works

Public domain research suggests that several governments (local to province/ state level) have applied different assessment methods to understand climate change needs and disaster risk of given infrastructure. In such cases the choice of methodology has been mostly driven by availability of data and information. Consultant is thus encouraged to understand the tried and tested methods for road sector and customized per need of Kerala. The Consultant is thus expected to review the following studies: Adaptation of Roads to Climate Risk and Climate Change in Morocco, Integrated Feeder Road Development Project in Mozambique, the Risk Management for Roads in a Changing Climate (RIMAROCC), and Roads for Today Adapted for Tomorrow (ROADAPT), and others.

When developing Vulnerability Assessment Guidelines for Kerala, the Consultant is also encouraged to review vulnerability assessment frameworks in place and applied in UK, USA<sup>4</sup> or other countries. For instance, the UK Framework suggests using four primary criteria (uncertainty, extent of disruption, severity of disruption, and rate of climate change) to assess vulnerabilities, which provides a basis for future planning and prioritization<sup>56</sup>.

### Task 1: Vulnerability Assessment of Kerala's Core Road Network

**Sub-task 1.1: Data Collection and Consultations:** The Consultant will gather all available current and historical climate, geological, hydrological, seismological and socio-economic data and information for all 14 districts of Kerala, including projections of future climate under different scenarios. The Consultant will collect and collate available information about climate threats, climate impacts and climate resilience options relevant to State Road Network (SH & MDR). This data may include rainfall, temperature, geological information, mudflow, landslide and seismological data. Historical data will provide clues as to how road infrastructure assets may withstand future climate stressors; while projected climate information would be useful to estimate future climate conditions to plan for.

The Consultant will hold discussions with various State agencies like State Disaster Management Authority, Department of Environment and Climate Change, Department of Forest and Wildlife, Department of Earth Science, Department Soil Conservation, State Chapter of Geological Survey of India, Local Municipalities, Environmental NGOs, and other relevant stakeholders such as those involved in environmental policy making, weather forecasting, and meteorology to get a perspective of the different types of climate change and natural hazards to the State road network and their historical, present and future occurrence, and risk levels. Consultations shall also be held with the DPR Consultants for the RKI roads and the reports prepared for "Landslide Hazard Mapping and Policy Making in Kerala" which is being carried out and will be adopted objectively, if suitable.

### Sub-Task 1.2 Climate Change and Natural Hazard Vulnerability Assessment

- (i) Based on data and knowledge gathered from sub-task 1.1, and in consultations with PWD and KSTP, identify geographical areas having higher hazard and exposure risks:
  - a) Through further consultation and use of best available climate change and natural hazard risk information, identify existing and likely future key hazard types and risk levels (e.g. extreme rainfall and temperature events, floods, landslides, cyclones, coastal inundation, sea-level rise, etc.) in Kerala.
  - b) Assess demographic and socioeconomic data and identify areas with high densities of

<sup>4</sup> Examples include but not limited to: (i) US FHWA's Climate Change and Extreme Weather Vulnerability Assessment Framework. December 2012, [https://www.fhwa.dot.gov/environment/climate\\_change/adaptation/publications/vulnerability\\_assessment\\_framework/](https://www.fhwa.dot.gov/environment/climate_change/adaptation/publications/vulnerability_assessment_framework/); (ii) UK Highways Agency's Climate Change Risk Assessment. 2011, [http://assets.highways.gov.uk/about-us/climate-change/HA\\_Climate\\_Change\\_Risk\\_Assessment\\_August\\_2011\\_v2.pdf](http://assets.highways.gov.uk/about-us/climate-change/HA_Climate_Change_Risk_Assessment_August_2011_v2.pdf)

<sup>5</sup> UK Highways Agency's Climate Change Risk Assessment. 2011, [http://assets.highways.gov.uk/about-us/climate-change/HA\\_Climate\\_Change\\_Risk\\_Assessment\\_August\\_2011\\_v2.pdf](http://assets.highways.gov.uk/about-us/climate-change/HA_Climate_Change_Risk_Assessment_August_2011_v2.pdf)

<sup>6</sup> M. D. Meyer, A. Amekudzi, and J. P. O'Har (2010). Transportation Asset Management Systems and Climate Change: Adaptive Systems Management Approach. *Transportation Research Record: Journal of the Transportation Research Board*. P. 17.

population, especially the poor or other vulnerable people.

c) Assess existing data and Government development plans and identify the location of (1) critical services and (2) major economic activities, existing and planned.

d) Undertake a critical assessment of the economic potential of high-risk areas and rank these on a rigorous (but appropriate in the context of Kerala) methodological analysis that the Consultant proposes.

(ii) Utilize the information from point (i) above to identify 500 Km of critical road network, 300 km from the RKI List of Roads as provided in Annex 1 (100 km from each of 3 Clusters) and another 200 km from rest of the CRN that are reckoned to be more vulnerable to existing and future disaster risks in line with the categories set out in the table below. *Since the DPR for 300km under three clusters are available, consultant can collect the available information from PWD.*

		Hazard Frequency and/or Impact Severity	
		High	Low
Exposure /Vulnerability	High	First priority areas	Second priority areas
	Low	Second priority areas	Third priority areas

a) Hazard may be assessed using the established methodology of hazard mapping, or any other methodology that the Consultant proposes that is appropriate in the context of Kerala.

b) Exposure/Vulnerability should consider multi-criteria analysis such as geographical terrain, drainage pattern, road geometry, construction standards and material used, history of maintenance, traffic characteristics along with other socio-economic indicators such as - the size of population, the level of poverty, concentration of critical social services and major economic activities, among other indicators that the Consultant proposes that are appropriate in the context of Kerala.

(iii) Once the 500 km road network is identified from the above exercise the likely severity and frequency of risk impacts for all major links of this road network shall be analyzed. By using the relevant resources, the analysis should forecast possible impacts of severe weather events on the transport network within study areas. This assessment will require the Consultant to:

a) Carry out field visits, site inspections and vulnerability assessment for the 500 km network.

b) Map out the existing transport network, within the specified locations, and assess existing and forecasted traffic data that will help identify critical road links for local socio-economic development.

c) Identify the transport links, within the specified locations that were disrupted in recent severe weather events or considered to be susceptible to disruption during disaster.

d) Identify critical transport links, within the specified locations, that could serve as important means of escape, access to emergency relief or for the transport of agricultural or other economic assets.

e) Prepare GIS linked maps to visually illustrate at-risk areas, as well as critical transport links and locations of critical services and facilities.

(iv) Assess the impact of loss of connectivity and access in priority areas based on the experience of recent severe weather events

a) Review existing data and conduct key informant interviews or focus groups, and assess the extent of the loss of connectivity and basic access.

b) Assess the impact of such loss of connectivity and access on the lives and livelihood of vulnerable population and overall economic activities.

The vulnerability assessment methodology and tools developed by the Consultant for 500 km of critical road network should be feasible for replication on the entire state's road network (SH &MDR).

**Sub-Task 1.3: Development of Prioritized Work Program:** Based on the results of vulnerability assessment of conducted under Task 1.2, the Consultant will prepare a work program of priority climate and disaster adaptation investments for these 500 km of the critical network and other engineering interventions at specific risk locations to improve the resilience of the road network. This will be achieved by the following:

- Identification of potential climate resilience options that respond to the assessed vulnerabilities and that are technically feasible and appropriate;
- Identification of expected outcomes as a result of the proposed potential adaptation options.

- Estimation of the costs and benefits of the potential adaptation options.
- Development of a prioritized program of investments at specific locations to improve the resilience of the road network, and define the general nature of each of the proposed investments. Provide typical drawing and cost estimates for such engineering climate resilient design options.
- Discussion of the Draft Work Program with PWD, KSTP, DPR Consultants for RKI Roads and all other relevant stakeholders in Kerala for inclusion of climate resilient measures in the work contracts.

#### **Outputs from Task 1:**

- Site Visit Reports for the entire 500 km of the identified Critical Road Network;
- Results of the vulnerability assessment of 500 km of Critical Road Network, and
- Work Program of priority climate resilience measures for 500 km of Critical Road Network.

#### **Task 2: Climate Resilience Audit of Road Engineering Design**

**Sub-task 2.1: Guidelines for Climate Resilience Audit.** This Task will focus on the provision of guidance for R&B to ensure that climate resilience and adaptation measures are implemented at projects/contracts levels. Using the information obtained from the task above, the Consultant is expected to prepare clear and practical Guidelines (methodology) for climate change resilience audit of road designs and existing roads. The results of Task 1 should inform the Consultant which assets are highly disruptive and time critical<sup>7</sup> that they become the center of a climate resilience audit. This Guidelines Manual should comprise a step-by-step guide to check for climate change adaptation measures in the engineering designs. The Guidelines should be developed in a format that they could be applicable not only for audits of new designs but also for climate resilience monitoring and inspection of existing roads. The Guidelines should also include the following:

- Guidance on design, construction, maintenance for climate resilience of vulnerable roads and structures;
- Guidance on hydrological criteria to be taken into account in the design of bridges and drainage structures;
- Guidance on engineering, resource efficiency and bioengineering measures to counter climate impacts on pavements, surfacing, bridges, earthworks and drainage structures.

The proposed Guidelines for road engineering design audits should be discussed and validated with R&B engineers and other stakeholders and should be prepared in a format ready for official approval by the respective government authority in Kerala.

**Sub-task 2.2: Climate Resilience Audit of a Road Design for RKI road.** The Consultant will use proposed Guidelines to carry out a pilot climate resilience audit of the engineering design prepared by the DPR Consultant for a 25-30 km high priority road. The recommendations of the climate resilience audit of the engineering design shall be prepared in a format ready for R&B to recommend the improvements of the design for that 25-30 km section of road. The results of the audit will be shared for review and feedback with R&B. The detailed review of the DPR Consultants outputs will also provide insights on the gaps and understanding on the ways to integrate the scope of climate resilience works under DPR Consultant's Terms of Reference (ToR).

#### **Outputs from Task 2:**

- Guidelines for climate resilience road engineering design audit in Kerala; and
- Recommendations of the pilot climate resilience audit of a 30 km road design for a High priority RKI road.
  - Prepare "Draft TORs" for conducting vulnerability assessment of road projects by the DPR Consultants including study of floods maps, hydrological data of catchment areas, assessment of rainfall data, alternate design analyses, landslide and related geotechnical/geo-morphological analyses.

#### **Task 3: Integrating Road Maintenance Management System with Climate Data**

To improve its climate change related risk assessment and resilience planning, PWD needs to

<sup>7</sup> For example, the UK Highway Agency's Climate Change Risk Assessment identified the following vulnerabilities as "being highly disruptive and time critical with high level of confidence in the appraisal: (i) First Tier: pavement skid resistance and, identifying best ways of investing resources and investment resources and investment appraisals; (ii) Second Tier: wind actions (loads) applied to superstructures, designs for increased scour for foundations, pavement material integrity, strategic geographic importance of a region, network resilience, budgeting, and staffing; and (iii) Third Tier: Pavement materials specification and construction details, design of pavement foundations, design of bearings and expansion joints, surface water drainage, attenuation and outfalls, pavement maintenance, and flooding." M. D. Meyer, A. Amekudzi, and J. P. O'Har (2010). Transportation Asset Management Systems and Climate Change: Adaptive Systems Management Approach. *Transportation Research Record: Journal of the Transportation Research Board*.

update/include in the database of the Road Maintenance Management System (RMMS) necessary indicators related to climate change and disaster risk. This task should be largely informed by the previous Tasks: what type and format of data and for which assets (core and non-core network) should be collected, and what collection methods should be used, whether the data needs to be geo-tagged etc. The Consultant will provide recommendations on the following:

**Sub-task 3.1: Define data type and format for a given asset.** The Consultant will define data to be collected at project and network levels, and will define the structure of the data in a format easily convertible into a geodatabase for compatibility with RMMS being implemented by PWD;

**Sub-task 3.2: Define method of the data collection.** This concerns frequencies, responsibilities, budget and the procedures for updating the database. The Consultant will clarify which of the determine data is collected by other government agencies and will advise on how that data could be integrated in RMMS;

**Sub-task 3.3: Define data analysis and recommend resilience measures.** The Consultant will define the methodology to analyze the data and report results to facilitate the selection of the most suitable resilience measures from alternative design options including bio-engineering solutions and inform PWD's multi-year and annual planning processes.

**Sub-task 3.4: Define performance indicator for long-term maintenance contract.** The Consultant should suggest performance indicators that are relevant to climate change and disaster mitigation to be inbuilt into long-term third-party contracts for asset maintenance.

**Outputs from Task 3:**

- (i) Recommendations for the development of a Climate Change Database to integrate with the RMMS being developed by PWD for planning and decision-making processes;
- (ii) Climate and Disaster related performance indicators for long-term maintenance contract.

**Task 4: Climate Resilience and Disaster Planning Strategy and Design Standards for Climate Works**

Based on the vulnerability analysis, the Consultant will then prepare a Climate Resilience and Disaster Planning Strategy that will: (i) outline a general climate change adaptation policy framework and objectives for the state road sector; (ii) recommend a program of engineering interventions for specific risks and hazard categories and (iii) propose specific policy reforms required to provide a foundation for climate change adaptation and to address natural hazard vulnerability in the road sector. This will be achieved by carrying out the following task:

**Sub-task 4.1:** Identifying potential adaptation options that respond to the assessed vulnerabilities and that are technically feasible and appropriate in the Kerala context. The analysis should include:

- a) Specific interventions for different natural hazards and risks categories like different types of floods (fluvial and pluvial) and landslides;

**Sub-task 4.2:** Review current transport planning processes, the institutional and legal framework for the roads sector (e.g. relevant legislation), national and international construction standards for climate works, maintenance (routine, periodic and emergency) methods, and related processes and assess their adequacy in the light of projected climate change and natural hazard vulnerability. Recommend suitable reforms, such as (but not limited to):

- a) Embedding consideration of climate change and disaster risk management issues into road planning processes and its integration with other modes to reduce risks;
- b) Suggest Draft Design Standards for Climate works based on review of national and international codes, manuals and practices;
- c) Employing new approaches to maintenance that take into account climate change and natural hazards; and
- d) Mainstreaming climate change adaptation and disaster risk management into the road sector from infrastructure and operational perspectives.

**Sub-task 4.3:** Review the institutional and legal framework as relevant to the implementation of Climate Change Adaptation and Disaster Risk Management, and recommend specific reforms needed to:

- a) Improve management of traffic and access to road infrastructure during and following natural disasters.
- b) Enhance quick response procedures to ensure that assets are repaired and restored quickly following severe weather damage.
- (iv) Suggest an optimal climate risk management and disaster and climate financing framework for state road network in Kerala.

**Outputs from Task 4:**

- (i) Climate Resilience and Disaster Planning Strategy for State Road Network
- (ii) Draft Design Standards for State Road Climate Works

### **Task 5. Development of Guidelines for “Vulnerability Assessment and Work Program of Priority Measures” for Road Network**

**Sub-task 5.1:** Based on the methodology used in the vulnerability assessment of 500 km of critical road network (Task 1), the Consultant will prepare a clear and practical methodology for vulnerability assessment of road network that can be replicated for the Kerala State Road Network. This Guidelines is expected to comprise step-by-step principles for identification and prioritization of climate threats/natural hazard and disaster risks and impacts which R&B can use for any of their State Highways (SHs) and Major District Roads (MDRs). The Guidelines should describe:

- Type and format of data needed for the climate change vulnerability assessment of road assets in Kerala;
- Key hazard types and risk levels (e.g. extreme rainfall and temperature events, floods, coastal storms, landslides, heat waves, sea-level rise, etc.) in Kerala and for their impact on different systems’ assets—built (infrastructure), natural and social—as well as those systems with cross cutting influences, e.g. economic and institutional systems.
- Methodologies for determining the adequacy of existing assets to resist climate impacts; and that also consider Kerala’s environmental regulation;
- Recommended methods for mapping, preferably GIS-based ones, of infrastructure assets in vulnerable areas, and inventory of critical assets that are susceptible to climate change impacts;
- Recommended methods for monitoring of asset condition in conjunction with environmental conditions (e.g., temperature, precipitation, geology, wind to determine of climate change affects performance);
- Methodology for incorporation of risk assessment into performance modeling and assessment;
- Methodology for prioritization of risk areas and assets and identification of high-risk areas and highly vulnerable assets; the prioritization methodology should be based on a multi-criteria analysis, with various criteria of different ranking to assess the vulnerability and impact of climate change hazards to state road infrastructure in Kerala;
- Methodology to apply different Climate Resilient Design Standards/Specifications for different climate risks and hazards;
- Methodology for the development of a work program of priority climate resilience measures for vulnerable road assets/at risk areas.

#### **Outputs from Task 5:**

- i) Guidelines for “Vulnerability assessment and Development of work program” for priority climate resilience measures of the state road network in Kerala.

### **Task 6: Training and Knowledge Dissemination**

The Consultant will organize a knowledge dissemination initiative (at-least 6 Nos Workshops) to be attended by PWD Engineers and other relevant stakeholders in Kerala. At the workshop, the Consultant will present the results of the vulnerability assessment and work program of priority measures for 500 km critical road network, as well as demonstrate how to use the developed assessment methodologies for the vulnerability assessment, climate works engineering design standards and methodology for climate resilience engineering design audits. During the technical assistance, the Consultant will hold several workshops to present preliminary results of each task to seek feedback and recommendations of R&B and other stakeholders, prior to the finalization of its main outputs. At least 2 exposure visits for select few PWD staff (5 Nos for each visit) in the region to the countries facing similar climate issues.

#### **Output from Task 6:**

- i) Compiled Report presenting the results of the 6-dissemination workshop and 2 Exposure Visits.
- ii) Final Dissemination workshop post submission of Draft Final Report and Findings Report.

### **ESTIMATED LEVEL OF EFFORT**

The level of effort required from the Consultant is estimated at 12 months. In addition, the Consultant is expected to submit three hard copies and three CDs of each report in English.

Deliverables	Requirement
Inception Report*	The Inception Report shall be submitted within 4 weeks since the contract commencement. The Inception Report shall summarize the findings related to the existing data and the relevant literature review, presenting an understanding of the assignment and the objectives. It should present an overall approach and detailed program, work plan and completion schedule for the services. It should also discuss constraints and challenges identified by the Consultant and ways to address them in order to timely and effectively deliver the assignment.
Interim Report 1*	Interim Report 1 shall be submitted within 6 months since the contract commencement. The report shall present outputs from Task 1, 2 and 3 which will include the following: Group A Report: (i) Site Visit Reports for the entire 500 km of the identified Critical road network; (ii) Results of the vulnerability assessment of 500 km of Critical road network; Group B Report: (iii) Work Program of priority climate resilience measures for 500 km of critical road network; (iv) Climate Resilience Audit of 30 km of Road Engineering Design and Guidelines for climate resilience road engineering design audit in Kerala; (v) Recommendations for the development of a Climate Change Database to enhance the current RMMS used by Roads Department of Kerala for planning and decision-making processes.
Interim Report 2	Interim Report 2 shall be submitted within 9 months since the contract commencement. The Report will present outputs from tasks 4 and 5 the scope of works, which will include the following: Group C Report: <ul style="list-style-type: none"> <li>• Climate Resilience and Disaster Planning Strategy and Design Standards for Climate Works;</li> </ul> Group D Report: <ul style="list-style-type: none"> <li>• Guidelines for “Vulnerability assessment and Development of work program” for priority climate resilience measures on the state road network in Kerala.</li> </ul>
Report on Dissemination Workshop	All the six knowledge dissemination workshops and 2 Exposure Visits will be completed by 12th month. At the close of each workshop and Exposure Visit, a Key Findings Report shall be submitted within 15 days from the date of the event/trip. The Combined Report presenting the results of all the dissemination workshops and exposure visits shall be submitted at the end of 10th month.
Draft Final Report	The Draft Final Report shall be submitted no later than 11 months since the contract commencement, and incorporate World Bank’s and KfW’s comments as well as the feedback received from the R&B and other stakeholders on the previous Interim Reports. Report E: Draft Climate Resilience and Disaster Planning Strategy and Design Standards for Climate Works Report F: Draft Manual and Guidelines for “Vulnerability assessment and Development of work program” and “Climate Resilience Engineering Audits” Report G: Findings Report of the Final Dissemination workshop
Final Report	The Final Report should address comments on the Draft Final Report and feedback from the Final Knowledge Dissemination workshop. The Final Report should be submitted within 2 weeks after receiving the feedback from the Final Dissemination workshop and World Bank’s and KfW’s comments and no later than one week before the expiration of the contract for these services.

\* Note: For these Reports, a Final version is expected to be submitted by the Consultant within 15 days from the receipt of Client comments.

#### **REQUIRED SKILLS/ EXPERIENCE**

The assignment is expected to be executed by a firm with team of Consultants with the following competencies:



- Detailed Road Engineering Design and technical specifications;
- Climate change hazard assessment and mitigation;
- Extensive international experience on road projects;
- Solid knowledge of the institutional and policy process required in the implementation of climate change adaptation measures;
- Excellent ability to consult with key decision makers and stakeholders in the road sector; relevant ministries, municipalities, environmental agencies, NGOs, and communities; and
- Knowledge of and fluency of the Malayalam will be an added advantage.

It is expected that the firm or team of Consultants will include, but not limited to, persons with the following roles:

<b>Key Staff</b>	<b>Qualifications</b>	<b>Experience</b>	<b>Envisaged Time Inputs</b>
Senior Road Engineer/Team Leader	Bachelor's degree in civil engineering, with post-graduate qualification in roads-related discipline.	15 years or more experience in the field of road engineering, out of which minimum of 5 years post-graduate experience as Team Leader. 2 years experience with CCA and/or DRM-related projects. Experience with RAMS and transport network management systems.	<b>12</b>
Disaster Risk Assessment Specialist/climate change specialist/Deputy Team Leader	Bachelor's degree in Civil Engineering, Road Planning, Geology or other relevant Disaster Management subject required as well as a relevant post graduate qualification.	10 Years or more experience in Environment and/or Climate Change. He/she should have at least 5 years of international experience in the fields of natural disaster assessment, mitigation and remediation. At least should have experience of one Indian state which has developed Climate Adaptation/Resilience Strategy for Roads/Transport Infrastructure.	<b>9</b>
Economist	Master's degree in Economics required.	10 years post graduate experience. Conversant with cost/benefit analysis and standard economic modeling tools such as RED and HDM4.	<b>1</b>
GIS/Mapping Specialist	Masters of Computer Science or Engineering Degree required	Minimum of 5 years of GIS experience working with hazard and vulnerability mapping. Conversant with Esri/Arc Info and data exchange tools between GIS, RAMS and Auto CAD. Experience with mobile GIS data collection tools.	<b>2</b>

<b>Key Staff</b>	<b>Qualifications</b>	<b>Experience</b>	<b>Envisaged Time Inputs</b>
Geotechnical engineer	At a minimum a Bachelor's degree in engineering discipline with Post Graduate in Geotechnical Engineering	At least 10 years of experience in positions requiring proficiency with the analysis of landslide and slip circle failures, geo-technical and bio-engineering applications for road and bridge protection works. Some CCA and/or DRM-related project experience preferred. Experience in hill and coastal roads.	<b>6</b>
Engineering Hydrologist/Drainage Engineer	Master's degree in Physical Geography, Earth Science or Engineering required with a strong focus on hydrology. Preferably master degree.	At least 10 years' relevant experience in engineering hydrology including 3 years of experience of hydrological and hydraulic modeling software such as HY8 or HEC RAS. CCA and/or DRM-related project experience in the road sector required.	<b>6</b>
Environmental Specialist	At a minimum a Master's degree in science or engineering discipline (Biology, Chemistry, Geology, Civil or Chemical Engineering)	At least 10 years of experience in positions requiring proficiency with the analysis and application of environmental regulations; skills in the application of environmental and technical concepts, bio-engineering applications for road protection works is also required. Experience in similar studies preferable in coastal and hilly States.	<b>2</b>
Social Expert (National)	Bachelor's degree in social/gender/micro-finance. Preferably Master's degree.	At least 10 years experience in dealing with acquisition/compensation/land use issues as well as experience in setting up plant nurseries etc..	<b>1</b>
National Legal Expert	Suitable national lawyer qualification	At least 10 years experience in dealing with land use regulations, disputes and land acquisition/compensation issues. Experience in the infrastructure/road sector.	<b>1</b>
Structural Engineer	Bachelor's degree in structural engineering. Preferably Master's degree.	At least 10 years experience of design/rehabilitation of bridge structures, including bridge foundations works, retaining walls, water retention structures/drainage structures and bridge erosion protection works.	<b>2</b>

Additionally, time inputs for Support Staff shall be considered for a total time of 24 person-months. The support shall include GIS technician, field personnel and 2 road engineers with a Degree in Civil Engineering & with at-least 5 years in Road engineering design experience.

#### **Estimated Schedule**

This consultancy will indicatively run from 1<sup>st</sup> November, 2020 to 30<sup>th</sup> October, 2021. The Total Time envisaged is 12 months.

#### **Management and Logistical Support**

The Consultant will report directly to the KSTP-Project Director for Technical Assistance. The Consultant will liaise with World Bank Task Team Leader and KfW Project Manager and other State Agencies working on roads, environment, disaster risk management and climate change issues in Kerala i.e. RB&D, State Disaster Management Authority, Department of Environment and Climate Change, Department of Forest and Wild Life, Department of Earth Science, Department Soil Conservation, State Chapter of Geological Survey of India

### Payment Schedule

The following percentage payments will be made on approval of the respective reports

Deliverables	Percentage of contract price to be paid
Inception Report	10%
Interim 1 Reports	25%
Interim 2 Reports	25%
Report on Dissemination Workshops and Exposure Visits	10%
Draft Final Reports	15%
Final Reports	15%

### Useful Publications

The following are the materials which the Consultants are recommended to review or consult when starting this assignment:

- Ingerop, NOVEC, ACTERRA Environment Climat (2015). Adaptation of Roads to Climate Risk and Climate Change in Morocco. Final Report.
- E. Jenelius, Road Network Vulnerability Analysis of Area-covering Disruptions: A Grid-based Approach with Case Study. Transportation Research Part A 46.
- E. Jenelius, T. Peterson, and L.-G. Mattson (2006). Importance and Exposure in Road Network Vulnerability Analysis. Transportation Research Part A 40.
- JICA, Ministry of Urban Development, Republic of Armenia. The Study on Landslide Disaster Management in the Republic of Armenia. Final Report. February 2006.
- M. D. Meyer (2006). Design Standards for U.S. Transportation Infrastructure: The Implications of Climate Change. Georgia Institute of Technology: Atlanta, Georgia.
- M. D. Meyer, A. Amekudzi, and J. P. O'Har (2010). Transportation Asset Management Systems and Climate Change: Adaptive Systems Management Approach. *Transportation Research Record: Journal of the Transportation Research Board*.
- S. Muzira, M. Humphreys, and W. Pohl. 2010. Georhazard Management in the Transport Sector. Transport Note TN-40. World Bank: Washington, DC.
- C. Pusch (2004). Preventable Losses: Saving Lives and Poverty through Hazard Risk Management: A Comprehensive Risk Management Framework for Europe and Central Asia. Disaster Risk Management Working Paper Series No. 9. World Bank: Washington, DC.
- S. Sadek, R. Ramadan, and H. Nagi (2005). A GIS-based Landslide Hazard Framework for Road Repair and Maintenance. American University of Beirut.
- Stockholm Environment Institute and UNDP Armenia (2009). The Socio-Economic Impact of Climate Change in Armenia. Yerevan, Armenia.
- World Bank, ISDR, CAREC. Central Asia and Caucasus Disaster Risk Management Initiative: Risk Assessment and for Central Asia and Caucasus Study Review.
- UNEP (2015). Outlook on Climate Change Adaptation in the South Caucasus Mountains.

### Some Presentations

- Adapting Road Infrastructure to Climate Extremes and Change: Experience from Small Pacific Island States. September 2015.Presentation.
- Bhutan: Improving The Resilience and Affordability of Roads and Bridges. Presentation. 2015. World Bank: Washington, DC.
- Prevention is Better than Cure: Bioengineering Applications for Climate Resilient Slope Stabilization of Transport Infrastructure Assets. Presentation by A. Faiz, B.H. Shah, A. Faiz. 2015. *First International Conference on Surface Transportation System Resilience to Climate Changes and Extreme Weather Events*. Washington, DC.
- Prioritization of Transport Infrastructure Investments under the Belize Climate Resilience Investment Project. Presentation. 2016. World Bank: Washington, DC.

**Annex I: Package wise list of RKI roads**

<b>District</b>	<b>Road Name</b>	<b>Road Length</b>	<b>Cluster Name/Total Length in KM</b>
Kannur	Edoor – Companynirath - Anapanthy - Angadikkadavu– Vaniyappara - Charal - Valavupara - Kacherikkadavu - Palathumkadav road	24	<b>Northern Cluster, 295 KM</b>
Kannur	Uruvachal Manakkayi valalay(including bridge parellel to aqueduct at valalay)- Keezhallur Therur Palayod-Vellaparamba Karimbala Colony Maruthaayi road	20	
Kasaragod	Kumbla- badiadka-Mulleria road	30	
Kozhikode	Koyilandy Thamrassery Mukkam Areekode Edavanna road: 1) km 0.00 to 25.00-Koyilandy to Poonoor: 2) km:25.00 to 37.500-Poonoor- Omassery 3) km 37.500 to 51.200 Omassery to Eranhimav	53	
Malappuram	Perumbilavu-Nilambur road	24	
Malappuram	Quilandy - Edavanna road	33	
Palakkad	Palakkad -Perinthalmanna road	37	
Palakkad	Thavalam Mully road	29	
Wayanad	Vythiri-Tharuvana road	21	
Wayanad	Mananthavady - Vimalanagar - Kulathada - Valad HS - Periya road	25	
Ernakulam	Mookannoor ezhattumugham road and Blachippara Palissery road	20	<b>Central Cluster, 243 KM</b>
Ernakulam	Kakkadassery - Kaliyar road	21	
Ernakulam	Muvattupuzha - Theni SH road	16	
Ernakulam	Kumarakom Nedumbassery road (proposed SH)	21	
Idukki	Neyyassery Thokkumbansaddle road	29	
Idukki	Chemmannar Gap road (except km 10.650)	20	
Palakkad	Nenmara - Nelliampathy road	31	
Thrissur	Kodungallur- shornur SH road	34	
Thrissur	Vazhakkodu Plazhy road	23	
Thrissur	Thrissur Kuttippuram road (SH 69)	30	
Kottayam	Gandhinagar-Medical College-Babu Chazhikadan road-Kottayam- Parippu road-Athirampuzha Liessue-Kaippuzha-Mannanam- Pulikkuttissery-Parolickal-Muttappally road	22	<b>Southern Cluster, 171 KM</b>
Kottayam	Vadayar Chandappalam- Mulakkulam Road and Vadayar Kallattippalam Muttuchira road	25	
Pathanamthitta	Pathanamthitta Ayroor – Muttukudukka Illathupadi – Muttukudukka Prakkanam – Prakkanam Elavumthitta - Kulanada Ramanchira – Thannikkuzhy Thonnamala road	28	
Pathanamthitta	Mallapally, Komalam Paduthodu Kalloopara Chengaroor Komalam Kavungumprayar	23	

	Pattakala, TMV road		
Pathanamthitta	Malamekkara Kunnathukala Chala Puthenchanda factory Junction Azad Junction road	9	
Pathanamthitta	Adoor-Chengenuur road	24	
Trivandrum	Trivandrum Ponmudi (From Nedumangad to Ponmudi) road	41	
	<b>Total KM</b>	<b>709</b>	

### 2.2.1 DOCUMENTS COMPRISING THE APPLICATION

Interested consultants are requested to submit a concise and clear, but substantial prequalification documentation and to adhere to the above structure. Non-compliance with this invitation or faulty information shall lead to non-qualification. Any surplus of information not specific to the material requested will be penalized.

In case of an association, the statements and declarations must be signed and submitted by all members of an association. Missing statements or declarations will lead to a rejection of the respective Expression of Interest.

#### 2.2.1 (d) V Financial Capacity

Independently certified statement of financial capacity of the lead consultant showing the necessary annual turnover exceeding INR 100 million. Such statements include balance sheets, statement of turnover or annual tax statement or profit and loss account, all of the last three calendar/financial years. The statements should be abridged but certified.

#### 2.2.1(d)(VI) Project References:

List of references, strictly related to this project, successfully completed or currently carried out by the lead consultant and association partners as per Form 5, covering projects of the last ten years and strictly related to the envisaged services (maximum 15 references for the association, one page each).

In the case of a joint application of associated firms, the presented references will be evaluated on a cumulative basis. However, in particular the leading firm shall demonstrate its experience with regard to similar projects and its regional experience.

#### 2.2.1 (d) VII List of Available Expertise and Human Resource Capacity:

List of available personnel for the envisaged services with information about education, professional experience, regional experience, years with firm, specific project-related experience and experience in similar positions (use Form 6). At this stage, only short information is required. This list shall allow a profound judgment on the consultants' general ability to provide the required personnel having the specific experience for the project in case of an offer. Personnel belonging to the firm or having a long cooperation with the firm receives more points. Sufficient staff resources to cover contingencies are a bonus. Use one line per person for short information only.

Also use Form 6 to give an overview of the development of the structure of the staff resources.

#### 2.2.1 (e) Other documentation:

Brief CVs of personnel proposed for backstopping and home office support (maximum 4 CVs, maximum 5 pages each).

### **2.4.1 SIGNING OF THE APPLICATION AND THE NUMBER OF COPIES**

In addition to the original Application document, 3 hard copies shall be submitted.

Each original and copy of the Application shall include a soft copy as unalterable and printable PDF file on a CD / DVD disk or USB flash drive, marked accordingly.

### **2.5.1 CLARIFICATION OF PREQUALIFICATION DOCUMENT**

The address for any clarifications regarding this application is as follows:

Project Director, Kerala State Transport Project (KSTP), SREE BALA Building,  
Keston Road, Kowdiar P.O, Thiruvananthapuram – 695 003, Kerala State, India.  
E-mail: [pdkstp@gmail.com](mailto:pdkstp@gmail.com), [cepmtkstp@gmail.com](mailto:cepmtkstp@gmail.com)

Copy to:

Mr. Michael Nogues,  
Email: [nogues.michael@gmail.com](mailto:nogues.michael@gmail.com)

The deadline for seeking clarifications by Applicants is 17 days prior to the submission date as per SP 3.2.1

### 3.2.1 DEADLINE FOR SUBMISSION OF APPLICATIONS

The original Application and copies of the Application shall be submitted at the following address:

Project Director, Kerala State Transport Project (KSTP), SREE BALA Building, Keston Road, Kowdiar P.O, Thiruvananthapuram – 695 003, Kerala State, India.

The original *Application* shall be submitted at the above address at or before 16 00 hr as per IST on 20<sup>th</sup> June 2020. The applications received by the above time will be opened at 16 30 hr on the same day in above office.

## 4.2 EVALUATION

4.2.1 The Applicant shall provide the following duly completed documentation:

### Stage 1: Preliminary Examination

EVALUATION		PASS or FAIL Only
(1)	Declaration of Undertaking ( <b>Form 1</b> ).	
(2)	Declaration on Conflict of Interest and of Submitting a Proposal ( <b>Form 2</b> ).	
(3)	In case of an association – the intended contractual arrangement with international and local firms, nominating the lead consultant and including letters of intent of participating firms (in case of local partners a fax copy of such letter of intent is sufficient) ( <b>Form 3</b> ).	
(4)	Financial capacity statement ( <b>Form 4</b> ) and independently certified statements of financial capacity.	
<b>Result of Preliminary Examination in Stage 1</b>		<b>Pass/Fail</b>

4.2.1 The Applicant shall demonstrate the following financial capabilities:

### Stage 2: Financial Capacity

Criterion	Requirement	Single Entity	Joint Venture			Submission Requirements
			All Parties Combined	Each Party	One Party	
Turnover annually	<i>Minimal annual turnover over the last 3 years</i> ≥ INR 100 Million	Must meet req.	-	-	INR 100 Million. (Lead Consultant)	GP 2.2.1. d) V / Form 4

Current Ratio	<i>Average Current ratio (average of the last 3 years)</i> > 1.03	Must meet req.	-	> 1.03	-	GP 2.2.1. d) V / Form 4
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4.2.2 Responsive Application as per GP 4.2.1 will be evaluated in accordance with the following criteria and scoring system:

Qualification criteria*	Scoring Range
<b>1. Applicant's Experience</b>	<b>50</b>
<p>1.1 Experience in delivering similar services: The maximum number of points is given for the minimum number of references indicated for each sub-criterion.</p> <ul style="list-style-type: none"> <li>- Vulnerability Assessment of Road Network of similar nature (2 references) (9)</li> <li>- Climate Resilience Audit of Road Engineering Design of similar nature (2 references) (9)</li> <li>- Climate Resilience and Disaster Planning Strategy and Design Standards for Road Works of similar nature (2 references) (8)</li> <li>- Development of Guidelines for Vulnerability Assessment for Road Network of similar nature (2 references) (8)</li> <li>- Experience in internationally funded development projects of similar nature (2 references) (8)</li> </ul> <p>This sub-criterion is evaluated on the basis of the project references submitted in accordance with GP 2.2.1(d)(VI).</p>	
1.2 Experience with working-conditions in developing and/or transition countries. This sub-criterion is evaluated on the basis of the project references submitted in accordance with GP 2.2.1(d) (VI) (maximum points for 5 references).	5
1.3 Experience with working-conditions in Kerala. This sub-criterion is evaluated on the basis of the project references submitted in accordance with GP 2.2.1(d)(VI) (maximum points for 4 references).	3
<b>2. Applicant's Capabilities</b>	<b>45</b>



<b>Qualification criteria*</b>	<b>Scoring Range</b>
<p><b>2.1 Qualitative assessment of the Applicant’s available Expertise</b></p> <p>The quality of the expertise appropriate for the project team profiles described in GP 1.6 and listed in SP 1.6.1, to which the Applicant has access (Maximum points for Specialists/engineers in each discipline).</p> <ul style="list-style-type: none"> <li>1- Senior Road Engineer/Team Leader (7)</li> <li>2- Disaster Risk Assessment Specialist/climate change specialist/Deputy Team Leader (5)</li> <li>3- Economist (2)</li> <li>4- GIS/Mapping Specialist (2)</li> <li>5- Geotechnical Engineers (4)</li> <li>6- Engineering Hydrologist/Drainage Engineer (4)</li> <li>7- Environmental Specialists (2)</li> <li>8- Social Expert (National) (2)</li> <li>9- National Legal Expert (2)</li> <li>10- Structural Engineer (2)</li> </ul> <p>This sub-criterion is evaluated on the basis of the list submitted in accordance with GP 2.2.1(d)(VII).</p>	<p>32</p>
<p><b>2.2 Quantitative assessment of the Applicant’s Human Resource Capacity</b></p> <p>The extent to which the Applicant has access to personnel appropriate for the tasks described in GP 1.6. This sub-criterion is evaluated on the basis of the List submitted in accordance with GP2.2.1(d)(VII).</p> <ul style="list-style-type: none"> <li>- Assessment of the personnel structure in regard to the tasks expected. (5) <ul style="list-style-type: none"> <li>- Assessment of the key personnel in permanent employment and always available to monitor the team and provide back-up services from the home office (max. 4 CVs of max. 5 pages each). (5)</li> </ul> </li> <li>- Permanent ESHS department in the firm’s structure (3)</li> </ul>	<p>13</p>
<p><b>3. Is the Application concise and related to the project?</b></p>	<p><b>5</b></p>
<p><b>Overall Total Score</b></p>	<p><b>100</b></p>

4.2.5 The number of prequalified Applicants to be invited to submit a Proposal is limited to five (5).

## **SECTION III – APPLICATION FORMS**

**Form 1– Declaration of Undertaking****Declaration of Undertaking****Contract**

**To:** ("Project Executing Agency")

1. We recognise and accept that KfW only finances projects of the Project Executing Agency ("PEA")<sup>3</sup> subject to its own conditions which are set out in the Funding Agreement it has entered into with the PEA. As a matter of consequence, no legal relationship exists between KfW and our company, our Joint Venture or our Subcontractors under the Contract. The PEA retains exclusive responsibility for the preparation and implementation of the Tender Process and the performance of the Contract.
2. We hereby certify that neither we nor any of our board members or legal representatives nor any other member of our Joint Venture including Subcontractors under the Contract are in any of the following situations:
  - 2.1) being bankrupt, wound up or ceasing our activities, having our activities administered by courts, having entered into receivership, reorganisation or being in any analogous situation;
  - 2.2) convicted by a final judgement or a final administrative decision or subject to financial sanctions by the United Nations, the European Union or Germany for involvement in a criminal organisation, money laundering, terrorist-related offences, child labour or trafficking in human beings; this criterion of exclusion is also applicable to legal Persons, whose majority of shares are held or factually controlled by natural or legal Persons which themselves are subject to such convictions or sanctions;
  - 2.3) having been convicted by a final court decision or a final administrative decision by a court, the European Union, national authorities in the Partner Country or in Germany for Sanctionable Practice in connection with a Tender Process or the performance of a Contract or for an irregularity affecting the EU's financial interests (*in the event of such a conviction, the Applicant or Bidder shall attach to this Declaration of Undertaking supporting information showing that this conviction is not relevant in the context of this Contract and that adequate compliance measures have been taken in reaction*);
  - 2.4) having been subject, within the past five years to a Contract termination fully settled against us for significant or persistent failure to comply with our contractual obligations during such Contract performance, unless this termination was challenged and dispute resolution is still pending or has not confirmed a full settlement against us;
  - 2.5) not having fulfilled applicable fiscal obligations regarding payments of taxes either in the country where we are constituted or the PEA's country;
  - 2.6) being subject to an exclusion decision of the World Bank or any other multilateral development bank and being listed on the website <http://www.worldbank.org/debarr> or respectively on the relevant list of any other

<sup>2</sup>Capitalised terms used, but not otherwise defined in this Declaration of Undertaking have the meaning given to such term in KfW's "Guidelines for the Procurement of Consulting Services, Works, Plant, Goods and Non-Consulting Services in Financial Cooperation with Partner Countries".

<sup>3</sup>The PEA means the purchaser, the Employer, the client, as the case may be, for the procurement of Consulting Services, Works, Plant, Goods or Non-Consulting Services.

multilateral development bank (*in the event of such exclusion, the Applicant or Bidder shall attach to this Declaration of Undertaking supporting information showing that this exclusion is not relevant in the context of this Contract and that adequate compliance measures have been taken in reaction*); or

2.7) being guilty of misrepresentation in supplying the information required as a condition of participation in the Tender.

3. We hereby certify that neither we, nor any of the members of our Joint Venture or any of our Subcontractors under the Contract are in any of the following situations of conflict of interest:

3.1) being an Affiliate controlled by the PEA or a shareholder controlling the PEA, unless the stemming conflict of interest has been brought to the attention of KfW and resolved to its satisfaction;

3.2) having a business or family relationship with a PEA's staff involved in the Tender Process or the supervision of the resulting Contract, unless the stemming conflict of interest has been brought to the attention of KfW and resolved to its satisfaction;

3.3) being controlled by or controlling another Applicant or Bidder, or being under common control with another Applicant or Bidder, or receiving from or granting subsidies directly or indirectly to another Applicant or Bidder, having the same legal representative as another Applicant or Bidder, maintaining direct or indirect contacts with another Applicant or Bidder which allows us to have or give access to information contained in the respective Applications or Offers, influencing them or influencing decisions of the PEA;

3.4) being engaged in a Consulting Services activity, which, by its nature, may be in conflict with the assignments that we would carry out for the PEA;

3.5) in the case of procurement of Works, Plant or Goods:

i. having prepared or having been associated with a Person who prepared specifications, drawings, calculations and other documentation to be used in the Tender Process of this Contract;

ii. having been recruited (or being proposed to be recruited) ourselves or any of our Affiliates, to carry out works supervision or inspection for this Contract;

4. If we are a state-owned entity, and compete in a Tender Process, we certify that we have legal and financial autonomy and that we operate under commercial laws and regulations.

5. We undertake to bring to the attention of the PEA, which will inform KfW, any change in situation with regard to points 2 to 4 here above.

6. In the context of the Tender Process and performance of the corresponding Contract:

6.1) neither we nor any of the members of our Joint Venture nor any of our Subcontractors under the Contract have engaged or will engage in any Sanctionable Practice during the Tender Process and in the case of being awarded a Contract will engage in any Sanctionable Practice during the performance of the Contract;

6.2) neither we nor any of the members of our Joint Venture or any of our Subcontractors under the Contract shall acquire or supply any equipment nor operate in any sectors under an embargo of the United Nations, the European Union or Germany; and

- 6.3) we commit ourselves to complying with and ensuring that our Subcontractors and major suppliers under the Contract comply with international environmental and labour standards, consistent with laws and regulations applicable in the country of implementation of the Contract and the fundamental conventions of the International Labour Organisation<sup>4</sup> (ILO) and international environmental treaties. Moreover, we shall implement environmental and social risks mitigation measures when specified in the relevant environmental and social management plans or other similar documents provided by the PEA and, in any case, implement measures to prevent sexual exploitation and abuse and gender based violence.
7. In the case of being awarded a Contract, we, as well as all members of our Joint Venture partners and Subcontractors under the Contract will, (i) upon request, provide information relating to the Tender Process and the performance of the Contract and (ii) permit the PEA and KfW or an agent appointed by either of them, and in the case of financing by the European Union also to European institutions having competence under European Union law, to inspect the respective accounts, records and documents, to permit on the spot checks and to ensure access to sites and the respective project.
8. In the case of being awarded a Contract, we, as well as all our Joint Venture partners and Subcontractors under the Contract undertake to preserve above mentioned records and documents in accordance with Applicable Law, but in any case for at least six years from the date of fulfillment or termination of the Contract. Our financial transactions and financial statements shall be subject to auditing procedures in accordance with Applicable Law. Furthermore, we accept that our data (including personal data) generated in connection with the preparation and implementation of the Tender Process and the performance of the Contract are stored and processed according to the Applicable Law by the PEA and KfW.

Name: \_\_\_\_\_ In the capacity of: \_\_\_\_\_

Duly empowered to sign in the name and on behalf of<sup>5</sup>: \_\_\_\_\_

Signature:

Dated:

<sup>4</sup>In case ILO conventions have not been fully ratified or implemented in the Employer's country the Applicant/Bidder/Contractor shall, to the satisfaction of the Employer and KfW, propose and implement appropriate measures in the spirit of the said ILO conventions with respect to a) workers grievances on working conditions and terms of employment, b) child labour, c) forced labour, d) worker's organisations and e) non-discrimination.

<sup>5</sup> In the case of a JV, insert the name of the JV. The person who will sign the application, Bid or Proposal on behalf of the Applicant/Bidder shall attach a power of attorney from the Applicant/Bidder.

## Form 2 – Sample Declaration on Conflict of Interest and of Submitting a Proposal

### Declaration on Conflict of Interest and of Submitting a Proposal

Project (name and country):

Tender Ref./ Project ID:

We *[insert the name of the Applicant]* hereby declare that we are an independent Consultant and we, nor any member of the JV in which we are member, nor any Sub-Consultant listed below have a conflict of interest as per GP 1.5.

We hereby declare that in the event of being prequalified by the Employer, we shall submit a Proposal, subject to the details of the tender documents.

*[Insert the following text if the Application includes one or several Sub-Consultants, whose qualifications should be considered by the Employer in the pre-qualification process:*

“We request that the qualifications of the following Sub-Consultant(s) shall be considered by the Employer in the pre-qualification process,

*[List Sub-Consultants here]*

If short-listed, we undertake to submit a Proposal that includes all of the above Sub-Consultants.”]

*[Signature of the authorised representative of the Applicant, designated in accordance with GP 1.4.1]*

**Form 3– Sample Declaration of Association****Declaration of Association**

Project (name and country):

Tender Ref./ Project ID:

We hereby declare our intent to associate with the following firms for the purpose of forming a Joint Venture:

*[Insert the names of the other JV members here]*

*[Insert the name of the Lead Consultant]* shall be the Lead Consultant.

We hereby confirm that we have not associated with any other firms for the purposes of this assignment and that we will not submit an application separately from the firms listed above. Further, we understand that if a Consultant appears as an associate in more than one Application, all Applications in which the Consultant appears shall be disqualified.

In the event that this JV is awarded a Contract, we shall perform the Services in the composition and in the form of cooperation described above.

*[Signature of the authorised representative of the Applicant, designated in accordance with GP 1.4.1]*

### Form 4 – Financial Capacity Statement

*[This table is provided for illustrative purposes only. Adjust the table to reflect the financial capability requirements set out in accordance with GP 4.2.1]*

<b>Financial data</b>	<b>2 years before last year<sup>6</sup> &lt;specify&gt; EUR</b>	<b>Year before last year &lt;specify&gt; EUR</b>	<b>Last year &lt;specify&gt; EUR</b>	<b>Average<sup>7</sup> EUR</b>
Annual turnover <sup>8</sup>				
Current assets <sup>9</sup>				
Current liabilities <sup>10</sup>				
Current ratio (current assets/current liabilities)				

If annual accounts are not yet available for the last year, please provide latest estimates or provisional figures. Figures in all columns must be calculated on the same basis to allow a direct, year-on-year comparison to be made (or, if the basis has changed, please provide an explanation of the change as a footnote to the table).

Natural persons without balance sheet shall provide appropriate information.

<sup>6</sup>Last year = last accounting year for which the entity's accounts have been closed.

<sup>7</sup>Amounts entered in the 'Average' column must be the mathematical average of the amounts entered in the three preceding columns of the same row.

<sup>8</sup>The gross inflow of economic benefits (cash, receivables, other assets) generated from the ordinary operating activities of the enterprise (such as sales of goods, sales of Services, interest, royalties, and dividends) during the year.

<sup>9</sup>A balance sheet account, that represents the value of all assets that are reasonably expected to be converted into cash within one year in the normal course of business. Current assets include cash, accounts receivable, inventory, marketable securities, prepaid expenses and other liquid assets that can be readily converted to cash.

<sup>10</sup>A company's debts or obligations that are due within one year. Current liabilities appear on the company's balance sheet and include short term debt, accounts payable, accrued liabilities and other debts.



**Form 5 – Project Experience**

Ref no:	Project title							
Name of legal entity (declaring Consultant)	Project Country	Overall project value (EUR)*	Proportion carried out by the legal entity (%)*	Provided staff input (person months)	Name of client	Origin of funding	Dates (start/end)	Name of JV members, if any
...	...	...	...	...	...	...	...	...
Detailed description of project (background, objectives and main activities)						Services provided by the legal entity for the project		
...						...		

\* If the overall project value refers to overall project cost inclusive of Consulting Services please indicate the consulting fee separately. The portion carried out by the legal entity refers to that figure.

## Form 6 –List of Available Expertise and Human Resource Capacity

### 1. Access to Expertise Required for the Assignment

Complete the list below to demonstrate the extent to which you have access (internally / externally) to expertise required for this assignment / for the project team profiles described in GP / SP 1.6. Include home-office project management/administration and back-stopping personnel. Include freelance personnel and Sub-Consultant staff, if applicable (see Form 2 in Section III). Do not attach CVs as no detailed evaluation of candidates for the project team shall be carried out at the prequalification stage. The Applicant shall not present a potential project team. The focus is on access and availability to project relevant expertise. It is understood that prequalified Applicants are not required to include staff named below into the Proposal.

No.	Project team profile /areas of required expertise as per GP / SP 1.6 <sup>11</sup>	Education/Degree	Years of Professional Experience	Relationship with / Years within the Applicant <sup>12</sup>	Country/Regional Experience	Relevant Project References (Description of project-related experience)	Languages

<sup>11</sup> The project team profiles should be identical to the project team profiles listed in GP / SP 1.6. The information provided in the “Education/Degree” and “Relevant Project References) should demonstrate that the expert’s core specialization is appropriate for the respective project profile.

<sup>12</sup> For freelance experts (e.g. with retainer Contracts or formal agreements) indicate “FE” and how long the expert has been associated with the Applicant. For Sub-Consultant staff indicate “Sub”. Staff from Affiliated firms of the Applicant shall be considered as Sub-Consultant staff.

**Form 6 continued**

**2. Human Resource Capacity**

Complete the list below to demonstrate the permanent staff available in the areas of expertise required in this assignment as described in GP / SP 1.6. The focus here is on the Applicants human resource capacity and breadth in relation to the required expert Services.

*[To avoid misunderstanding insert a separate sheet for each JV members here]*

Departments / Divisions in the firm relevant to the project team profile / areas of required expertise as per GP / SP 1.6	Staff		Total staff appropriate for the specialisation
	Permanent staff in the Applicants firm	Freelance staff	

Total staff number of the Applicant			
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Please substantiate above statements with (an) organizational chart(s) of the firm or the relevant parts of the firm.

# SECTION IV–ELIGIBILITY CRITERIA

## Eligibility in KfW-Financed Procurement

1. Consulting Services, Works, Goods, Plant and Non-Consulting Services are eligible for KfW financing regardless of the country of origin of the Contractors (including Subcontractors and suppliers for the execution of the Contract), except where an international embargo or sanction by the United Nations, the European Union or the German Government applies.
2. Applicants/Bidders (including all members of a Joint Venture and proposed or engaged Subcontractors) shall not be awarded a KfW-financed Contract if, on the date of submission of their Application/Offer or on the intended date of Award of a Contract, they:
  - 2.1 are bankrupt or being wound up or ceasing their activities, are having their activities administered by courts, have entered into receivership, or are in any analogous situation;
  - 2.2 have been
    - (a) convicted by a final judgement or a final administrative decision or subject to financial sanctions by the United Nations, the European Union and/or the German Government for involvement in a criminal organisation, money laundering, terrorist-related offences, child labour or trafficking in human beings; this criterion of exclusion is also applicable to legal Persons, whose majority of shares are held or factually controlled by natural or legal Persons which themselves are subject to such convictions or sanctions;
    - (b) convicted by a final court decision or a final administrative decision by a court, the European Union or national authorities in the Partner Country or in Germany for Sanctionable Practice during any Tender Process or the performance of a Contract or for an irregularity affecting the EU's financial interests, unless they provide supporting information together with their Declaration of Undertaking (Form available as Appendix to the Application/Offer which shows that this conviction is not relevant in the context of this Contract and that adequate compliance measures have been taken in reaction;
  - 2.3 have been subject within the past five years to a Contract termination fully settled against them for significant or persistent failure to comply with their contractual obligations during Contract performance, unless this termination was challenged and the dispute resolution is still pending or has not confirmed a full settlement against them;
  - 2.4 have not fulfilled applicable fiscal obligations regarding payments of taxes either in the country where they are constituted or the PEA's country;
  - 2.5 are subject to an exclusion decision of the World Bank or any other multilateral development bank and are listed in the respective table with debarred and cross-debarred firms and individual available on the World Bank's website or any other multilateral development bank unless they provide supporting information together with their Declaration of Undertaking which shows that this exclusion is not relevant in the context of this Contract or
  - 2.6 have given misrepresentation in documentation requested by the PEA as part of the Tender Process of the relevant Contract.

3. State-owned entities may compete only if they can establish that they (i) are legally and financially autonomous, and (ii) operate under commercial law. To be eligible, a state-owned entity shall establish to KfW's satisfaction, through all relevant documents, including its charter and other information KfW may request, that it: (i) is a legal entity separate from their state; (ii) does not currently receive substantial subsidies or budget support; (iii) operates like any commercial enterprise, and, inter alia, is not obliged to pass on its surplus to their state, can acquire rights and liabilities, borrow funds and be liable for repayment of its debts, and can be declared bankrupt.

## SECTION V – KfW POLICY – SANCTIONABLE PRACTICE – SOCIAL AND ENVIRONMENTAL RESPONSIBILITY

### **1) Sanctionable Practice**

The PEA and the Contractors (including all members of a Joint Venture and proposed or engaged Subcontractors) must observe the highest standard of ethics during the Tender Process and performance of the Contract.

By signing the Declaration of Undertaking the Contractors declare that (i) they did not and will not engage in any Sanctionable Practice likely to influence the Tender Process and the corresponding Award of Contract to the PEA's detriment, and that (ii) in case of being awarded a Contract they will not engage in any Sanctionable Practice.

Moreover, KfW requires to include in the Contracts a provision pursuant to which Contractors must permit KfW and in case of financing by the European Union also to European institutions having competence under European law to inspect the respective accounts, records and documents relating to the Tender Process and the performance of the Contract and to have them audited by auditors appointed by KfW.

KfW reserves the right to take any action it deems appropriate to check that these ethics rules are observed and reserves, in particular, the rights to:

- (a) reject an Offer for Award of Contract if during the Tender Process the Bidder who is recommended for the Award of Contract has engaged in Sanctionable Practice, directly or by means of an agent in view of being awarded the Contract;
- (b) declare misprocurement and exercise its rights on the ground of the Funding Agreement with the PEA relating to suspension of disbursements, early repayment and termination if, at any time, the PEA, Contractors or their legal representatives or Subcontractors have engaged in Sanctionable Practice during the Tender Process or performance of the Contract without the PEA having taken appropriate action in due time satisfactory to KfW to remedy the situation, including by failing to inform KfW at the time they knew of such practices.

KfW defines, for the purposes of this provision, the terms set forth below as follows:

**Coercive Practice** The impairing or harming, or threatening to impair or harm, directly or indirectly, any person or the property of the person with a view to influencing improperly the actions of a person.

**Collusive Practice** An arrangement between two or more persons designed to achieve an improper purpose, including influencing improperly the actions of another person.

**Corrupt Practice** The promising, offering, giving, making, insisting on, receiving, accepting or soliciting, directly or indirectly, of any illegal payment or undue advantage of any nature, to or by any person, with the intention of influencing the actions of any person or causing any person to refrain from any action.

**Fraudulent Practice** Any action or omission, including misrepresentation that knowingly or recklessly misleads, or attempts to mislead, a person to obtain a financial benefit or to avoid an obligation.

**Obstructive Practice** Means (i) deliberately destroying, falsifying, altering or concealing evidence material to the investigation or the making of false statements to investigators, in order to materially impede an official investigation into allegations of a Corrupt Practice, Fraudulent Practice, Coercive Practice or Collusive Practice, or threatening, harassing or intimidating any Person to prevent them from disclosing their knowledge of matters relevant to the investigation or from pursuing the investigation, or (ii) any act intended to materially impede the exercise of KfW's access to contractually required information in connection with an official investigation into allegations of a Corrupt Practice, Fraudulent Practice, Coercive Practice or Collusive Practice.

**Sanctionable Practice** Any Coercive Practice, Collusive Practice, Corrupt Practice, Fraudulent Practice or Obstructive Practice (as such terms are defined herein) which is unlawful under the Financing Agreement.

## **¶ Social and Environmental Responsibility**

Projects financed in whole or partly in the framework of Financial Cooperation have to ensure compliance with international Environmental, Social, Health and Safety (ESHS) standards (including issues of sexual exploitation and abuse and gender based violence). Contractors in KfW-financed projects shall consequently undertake in the respective Contracts to:

- (a) comply with and ensure that all their Subcontractors and major suppliers, i.e. for major supply items comply with international environmental and labour standards, consistent with Applicable Law and regulations in the country of implementation of the respective Contract and the fundamental conventions of the International Labour Organisation (ILO) and international environmental treaties and;
- (b) implement any environmental and social risks mitigation measures, as identified in the environmental and social impact assessment (ESIA) and further detailed in the environmental and social management plan (ESMP) as far as these measures are relevant to the Contract and implement measures for the prevention of sexual exploitation and abuse and gender-based violence.