Terms of Reference (TOR)

For

The Preparation of DPR under Mid Terai Cluster/Corridor, Nepal

Contract ID No.: UGDP/DUDBC/S/QCBS-2.07/34

Government of Nepal
Ministry of Urban Development
Department of Urban Development and Building Construction
Urban Governance and Development Program: Emerging Towns Project
Project Coordination Office
Babar Mahal, Kathmandu

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1. Background

The Government of Nepal (GoN) is executing the Urban Governance and Development Program: Emerging Towns Project (UGDP: ETP) in Mechinagar, Itahari, and Dhankuta (Eastern Cluster) and Lekhnath, Baglung and Tansen (Western Cluster) municipalities with the assistance from the World Bank and GIZ (limited until June 2014) to support the municipality through appropriate technical and financial investment support. The Project Development Objective (PDO) of UGDP: ETP is to improve capacity of the participating municipalities to plan, implement and fund urban development activities. Therefore, the UGDP: ETP is structured into three components:

1. Strengthening Municipal Planning Capacity for Urban Development;
2. Capacity Building for Municipal Infrastructure Development; and
3. Institutional Development.

A Project Coordination Office (PCO) at Department of Urban Development and Building Construction (DUDBC) has been set up for the day to day preparation and implementation of such activities. The PCO comprises of a Project Director (PD) deputed from the DUDBC. DUDBC/PCO has recruited a Municipal Support Team (MST) with funding from IDA to provide the services of a multidisciplinary team of experts for achieving its main objectives.

The primary objective of block grants under component one is to enhance the capacity of the participating municipalities in the planning and implementation of local level infrastructures. The progress shows that it has been successful and effective in that direction. The participating municipalities have already developed an initial pipeline of 16 sub-projects out of which some are already completed while others are in different stages of completion. The institutional development activities for the municipalities are a core part of the project, and critical for achieving the PDO. Under this component, a number of activities such as training, implementation of revenue billing software, preparation of GIS base maps and building bye-laws, implementation of REP, O&M and IPs have to be implemented with desired result. ID components support the institutional strengthening of project agencies-Ministry of Urban Development (MoUD),the Ministry of Federal Affairs and Local Development (MoFALD),

Department of Urban Development and Building Construction (DUDBC), Town Development Fund (TDF) and Urban Development Training Centre (UDTC). PCO works in close coordination with these agencies for their activities to be well implemented.

As per approved programme of UGDP: ETP for the current fiscal year 2015/016, there is a need to prepare Detail Project Report (DPR) of 16 municipalities- Koshi Haraicha, Birtamod, Damak, Urlabari (Eastern Cluster/Corridor), Gaur, Jaleshwor, Dhanushadham, Rajbiraj, Triyuga (Mid Terai Cluster/Corridor), Byas, Putalibazar, Pokhara, Shuklagandaki, (Western Cluster/Corridor) and Tilottama, Ramgram, Jiri (Mid and Western Nepal and others Cluster/Corridor). These municipalities have been selected on the basis of objectively verifiable criteria.

The primary objective of the preparation of DPR is to make investment for the construction of infrastructures projects in respective municipalities. The criteria for the selection of new emerging municipalities are based on two fundamental premises such as economic potential and urban development needs. This has necessitated looking into economic potential vis-a-vis development needs of the emerging municipalities while developing the criteria. The criteria for the selection of the new emerging municipalities have given due consideration to emerging municipalities nearby ongoing six UGDP: ETP municipalities. The rationale behind this consideration was guided by the fact that the cost for provision of socio-economic infrastructure services and facilities tends to be high when municipalities are scattered than they are clustered. This consideration emphasizes the need for the selection criteria to achieve functional clustering effect among the municipalities selected in order to achieve 'economy of scale' in the provision of basic urban services and facilities.

This study of Gaur, Rajbiraj, Jaleshwor, Dhanushadham, Triyuga (Mid Terai Cluster/ Corridor of 462 sq. km.) involves three stages: i) Indicative Plan and Programme (IP) ii) Pre- Feasibility Study (PFS) and iii) Feasibility Study Report with Detail Design and Drawings (DPRs). During the study, the consultant shall review, inter alia, respective municipality's plans and programmes, Business Plan of DUDBC, National Urban Policy, 2007 and National Urban Development Strategy (NUDS), 2015 in addition to other materials as a part of literature review. The preparation of Indicative Plan shall be within the general principle as visualized by National Urban Development Strategy (NUDS), 2015 prepared by Ministry of Urban Development. In addition to this, the consultant shall also review the Land Use Policy 2012 published by Ministry of Land Reform and Management which seems quite relevant and worth reviewing while preparing the plan.

In order to carry out these crucial works effectively and successfully, there shall be a provision of Expert Review Committee (ERC) at PCO comprising of experts from Professional organizations and related government agencies. In addition to this, there shall also be a provision of Project Appraisal Team (PAT) which shall consists of International and National expert besides representative from PCO to supervise the field works and to provide expert advice to ensure the quality of the outputs. An inclusive 7-9 members Municipal Coordination Committee (MCC) shall be formed under the chairmanship of Executive Officer of municipality with members from political parties, social workers, teachers, women, professionals etc. before the start of field visit of the consultant in each municipality to make local level decisions and support

consultant activities. As per the approved TOR, UGDP: ETP wish to hire the services of reputed and established consulting firms.

2. The Objective

The main objective of this assignment is to prepare Detail Project Report (DPR) of infrastructure projects in each municipality within one cluster/corridor through following three stages:

- Stage I: To carry out Preliminary Study for Indicative Plan and programme
- Stage II: To carry out Pre-Feasibility Study
- Stage III: To carry out Feasibility Study with Detail Project Report (DPR)

3. The scope of works for eachstage is given below:

Stage I: Preliminary Study for Indicative Plan and Programme

The consultant shall review the existing plans (Periodic /Physical Development /Long Term Development Plans etc) and prepare indicative plan if they are not available or obsolete. The outcome of this study is the preparation of Indicative Plan with program and projects.

a. to collect and review of relevant documents, reports, maps from different sources (desk study)
b. to establish and maintain a field liaison office in the municipalities.
c. to conduct field observation/walk over survey, etc. for collecting specific data and information, measurement, location of key infrastructure data on maps and for supplementing and verification of collected data and information.
d. to conduct an **Introductory Workshop** to brief about the objectives, processes and outcome of the study and formation of Contact Group (CG) from among the local people.
e. to conduct field verification survey and to organize **Stakeholder Consultative Workshop (SCW)-1** where overall vision, key challenges, opportunities along with the possible comprehensive and visible and integrated programmes and projects of the municipality will be discussed**.** CG shall assist the consultant during field works in the collection of data and information etc. The consultant shall present conceptual Indicative Plan in SCW-1.
f. to submit SCW-1 report and discuss and make presentation at PCO about the output of SCW-1.
g. to submit draft inception report with preliminary Indicative plan and preliminary long list of programmes and projects.
h. to analyze the socio-economic status that present the profile of a particular municipality in terms of health and educational status, issue of gender and social inclusion, ethnic groups, sources of livelihood, households size, migration pattern, inflow and out flow of goods and services, existing different types of industries, development potentials and needs, financial institutions, housing condition, squatters, renters etc., demographic and urbanization trends.

i. to analyze financial capacities of municipality, plans and programmes etc. of each municipality in the cluster.
j. to perform institutional capacity analysis that shall state the capability of a particular municipality to implement the projects in terms of human resources and financial.
k. to project population for each municipality for next 20 years with different scenarios (high, medium and low variant) based on the growth rate of 2011 census or prevailing growth rate in case of new municipality.
l. to analyze different types of existing infrastructures including their present condition, coverage and the needs for the future based on the projected population. The consultant shall verify whether or not there are O&M plans of each municipality for existing infrastructures.
m. to analyze opportunities and constraints for development for identification of areas for future expansion based on present physical growth trend and to collect land transaction data from Land Revenue Department for the last five years etc.
n. to prepare Indicative Plan for 20 years time horizon. Further, this plan shall be accompanied by existing land use plan, proposed land use plan, future expansion area along with thematic maps of different infrastructures including roads, drainage/sewerage, electricity, communication etc. in appropriate and agreed scale with PCO using up to date available technology.
o. to develop criteria for the screening of long list of identified programme and projects in consultation with MCC and table of contents for the Pre-feasibility study reports.
p. to Submit Final Inception Reports with Indicative Plan and screened long list of identified programmes and projects to municipalities and PCO.

3.2 Stage II: Pre-Feasibility Study

The outcome of this study is the preparation of **Pre-Feasibility Report (qualitative)**. Therefore, it shall not be limited to the following activities:

a) to organize **SCW-2** and finalize the Indicative Plan and the long list of screened programme and projects based on the criteria developed by the consultant.
b) to submitSCW-2 report with finalized Indicative Plan and long list of programme and projects to municipality and PCO.
c) to prepare guidelines/by-laws for implementation of Indicative plan.
d) to conduct reconnaissance survey by team of multi-disciplinary experts and support staff for further data and information collection.
e) to conduct rapid assessment (Land suitability, social, technical, economic, environmental etc aspects) based on the field data and information, prepare the alternatives that shall be considered during pre-feasibility study and tentative cost estimate, investment plan of each project.
f) to prepare location maps, Conceptual plans, measurement drawings, thematic maps etc.
g) to present and submit **Draft Pre-feasibility Study (PFS)**Report to municipalities and Expert Review Committee (ERC) at PCO.

h) to develop criteria for the short listing from the finalized long list of programme and projects and table of contents for feasibility study reports and DPR.
i) to submit of **Final Pre-Feasibility Study Report** incorporating comments, feedback etc. to PCO and Municipalities.

3.3 Stage III: Feasibility Study with Detail Project Report (DPR)

The following works shall be carried out during this stage and the final outcome of this study is the DPRs which comprises of feasibility report along with detail engineering design and working drawing.

a) to organize **Stakeholder Consultative Workshop -3** for finalizing short listing of selected programme & projects.
b) to SCW-3 report with finalized short list of programme and projects shall be submitted to municipality and PCO.
c) to conduct detail field study for data and information collection.
d) to conduct detail engineering survey and data collection.
e) to analyze data, design, work out alternate program and projects
f) to prepare drawings and cost estimate.
g) to carry out feasibility analysis including economic, social, environmental, financial analysis and other aspects.
h) to organize presentation and consultation meeting at Municipalities.
i) to conduct field verification and additional data and information collection if required.
j) to prepare and submit Interim DPRs to municipalities.
k) to organize Public Hearing.
l) to discuss Interim DPRs with MCC at municipalities and ERC at PCO.
m) to submit Draft Feasibility Study Report with DPRs to PCO and municipalities.
n) to present Draft Feasibility Study with DPR at municipalities and ERC.
o) to incorporate suggestions / comments with verification of site, data, design alternatives etc.
p) to submit Final Feasibility Study Report with DPRs to PCO and municipalities with incorporation of all the comments and feedback.

4. Methodology

There shall be three stages of study as follows:

4.1 Stage I: Preliminary Study for Indicative Plan and Programme

The total time allocated for this stage is 2 months. The allocated time for each activity is given in the work schedule below. This stage of study includes collection of secondary data and information and its review, field visits, workshops and discussions in each Municipality, other relevant agencies and organizations and PCO. The suggested methodology to carry out this stage of study is as follows:

The consultant shall establish the field office in the cluster municipalities for the field work to liaison with MCC. After two weeks in the field to collect field level data and information, the consultant shall organize half day/one day **Introductory Workshop** open to all interested local people in consultation with **Municipal Coordination Committee (MCC).** During this Introductory Workshop, **a Contact Group (CG)** shall be formed with representatives from local clubs, NGOs, users committee, community development organizations, targeted groups etc. The objective of forming CG is to assist the consultant in the field during data and information collection and field verification and it shall work through MCC to keep consultation process manageable. This CG shall be spatially representative also and if not additional CG needs to be formed. This shall be followed by field verification with necessary questionnaire and check list for interactions with local people, key informants, organizations and agencies etc. After this field verification, the consultant shall organize **Stakeholder Consultative Workshop-1 (SCW)** that shall be attended by representatives of local political parties, professionals, social workers/community leaders, women, teachers etc. During **SCW-1**, the consultant shall present existing plans and programmes including vision of the municipality where there is a plan already prepared and request the participants how they would like to see their city grow in future. As there are no plans in the case of new municipalities, therefore the consultant prepares the base map, develops the vision and explains how the city shall be developed in future. After this presentation the discussion will be held to identify possible comprehensive and integrated programmes and projects in a participatory approach in line with the vision and conceptual Indicative Plans presented.

The consultant shall submit SCW-1 report and discuss and make presentation at PCO about the output of SCW-1.The entire team of experts of the consultant is also expected to be present in this meeting at PCO. After this meeting at PCO the consultant shall submit the Draft Inception Report with preliminary Indicative Plan and long list of identified programmes and projects. The consultant shall concentrates in the preparation of Indicative Plan with draft regulation guidelines and develops the criteria for screening the long list of identified programmes and projects from SCW-1.The consultant shall submit the Final Inception Report with Indicative Plan and long list of identified programmes and projects.

While developing the screening criteria, the consultant shall incorporate strategic project which shall benefit to more than one particular municipality and spatially also locate beyond one municipality border such as link roads, solid waste management (Landfill site), drinking water, drainage, park etc. Furthermore, the consultant shall keep in mind the possibility of identifying more visible, comprehensive and integrated nature of project rather than a number of fragmented projects. Such projects could be land development, redevelopment of the areas, regional/city parks and open spaces, lake/pond rehabilitation, public markets, roads/ring road, land fill site, transport network, regional/city bus parks etc. During the preparation of the above programmes and projects, the consultant shall strictly adhere to Planning Norms and Standard 2015 published by DUDBC.

4.2StageII: Pre- Feasibility Study

The pre- feasibility study helps to eliminate inferior alternatives in a situation where there are several possible methods to achieve the desired objectives, eliminate non-viable projects, eliminate unsuitable locations, decide whether modifications are required for a particular project

to make it a viable one etc. The outcome of this study is the submission of **Pre Feasibility Reports (PFRs).** The total allocated time for pre-feasibility study is 2 months.

The consultant shall conduct **SCW-2** to finalize Indicative Plan and screened long list of programme and projects (with total cost of approx US$ 30-40 millions) based on the criteria developed by the consultant. This indicative plan shall be backed up by appropriate bye laws and guidelines with an objective to materialize the plan. The SCW-2 report with finalized Indicative Plan and long list of programme and projects shall be submitted to municipality and PCO.

After the submission of this report, the consultant with team of multi disciplinary experts including the support staffs of the field office shall visit the field and carryout necessary reconnaissance survey and collect required data and information. During this period the CG shall assist the team in all field level works.

The consultant shall devote another two weeks in the field for rapid assessment focusing on land and soil suitability, social, commercial, institutional, economical and environmental aspects of project analysis following the guidelines of GoN and potential future funding agencies. Based on the field data and information the consultant shall prepare the alternatives, tentative cost estimate and investment plan of each project. The consultant shall coordinate with MCC and PAT shall accompany the team during this period.

The consultant shall prepare location maps, conceptual plans, measurement drawings, thematic maps etc. and prepare draft Pre-feasibility Report and submit to municipality and PCO. The pre-feasibility report shall include the short list of programmes and projects (with cost of approx US$ 15-20 millions) which is found feasible from pre-feasibility study. The municipality and ERC at PCO shall provide necessary comments/feedbacks and suggestions and the consultant shall submit the Final Pre-feasibility Report after incorporating those comments/feedbacks and suggestions to municipality and PCO. In this stage, all listed programme and projects shall be assessed to examine whether or not these projects are worthwhile to conduct feasibility study.

4.3 Stage III: Feasibility Study with Detail Project Report (DPR)

The consultant shall organize **Stakeholder Consultative Workshop -3** for finalizing the short listed programme & projects in pre-feasibility report. The SCW-3 report with finalized short list of programme and projects shall be submitted to municipality and PCO.

After this workshop, detail field study shall be done for data and information collection. During this field work, the consultant shall collect all necessary technical, social, economic etc data and information required for the feasibility study. Based on such data and information, the feasibility study of the finalized short listed programmes and projects as per (a) to (f) below shall be carried out.

The consultant shall conduct detail engineering survey, data collection, data analysis, design, drawing, cost estimate and work out for all alternate projects. After this the consultant shall organize presentation/consultation meeting at municipality. As there may be possibility of further field verification and need for more data and information after presentation in municipality, thus field verification and additional data/information shall be collected. The DPR shall be prepared for all finalized short listed projects. The Interim DPR shall be submitted and presented to municipalities and to PCO for comments and feedbacks. Once this is done, a Public Hearing meeting shall be organized to disseminate the outcome of the study to the local people and all stakeholders. After public hearing, the discussion meeting at municipality and PCO will be held on Interim DPR. The Draft Feasibility Study Report with DPR shall be prepared after incorporation of comments and suggestions received from the municipality and ERC/PCO and submitted and presented to municipality and PCO. The Final Feasibility Study Report with DPR shall be submitted with incorporation of all the comments and feedback from municipality and PCO.

a) **Economic feasibility**: The consultant shall analyze in detail the benefits that shall accrue from a particular project over a period of time and the cost/investment that needs to be made to implement such project through the indicators such as EIRR, Benefit-Cost ratio and others.
b) **Social feasibility**: The proposed project shall benefit the community lagging behind in the society especially children, single women, physically unable people. It shall also look into the displacement and resettlement issues and recommend the socially acceptable measures.
c) Environmental feasibility: The proposed project shall address environmental and disaster risk issues to analyze for likely negative impacts to assess the viable mitigating measures.
d) **Financial feasibility:** It involves the analysis and calculations like Financial Internal Rate of Return (IRR) and Net Present Value (NPV). Further, the consultant shall carry out relevant financial analysis deemed necessary for major infrastructures project in consultation with PCO. Financial analysis shall also cover institutional borrowing capacity, possible contribution by municipality and community etc. as an integral part of the study.
e) **Institutional feasibility:** The proposed projects shall be analyzed for role and responsibility of municipality, stakeholders and agencies directly or indirectly involved in the municipal development process and activities. It shall recommend the implementable institutional framework such as PPP and other viable modalities within the cluster municipalities. This shall include an assessment of the municipality's human resources and their capacity building needs.

f) **Technical feasibility:** The proposed projects must be assessed for geo-seismological and hydrological soundness. Further, it needs to consider the availability of lands and its accessibility, availability of local skilled/unskilled labors, raw materials, appropriate technology etc. Conduct detail engineering survey, design and cost estimate of alternative projects.

The total allocated time for this stage of work is 4 months. The total time period for the completion of entire study for this cluster of 5 municipalities is 8 months.

5.Expected Output

The key outputs for each stage, inter alia, are as follows:

Stage I: Preliminary Study for Indicative Plan and Programme, which shall include:

- Location Map of the cluster municipalities and its interconnection network in 1:2,50,000
- Base map of the each municipality in 1:10,000 or in better scale
- Indicative plan of each municipality with existing basic infrastructure and services in 1:5,000 or in better scale.
- Draft Inception Report with preliminary Indicative Plan and long list of identified programmes and projects.
- The expert's team analysis (each expert shall submit their individual analysis report to consulting team) of the Indicative plan with the location and description of all the major long list of projects including ongoing and prospective projects of other urban sectors' agencies.
- Final Inception Report with Indicative Plan and screened long listed program and projects for further study in each municipality and the expert's team analysis on how the city shall be grown and developed in the near future.

Stage II: Pre-Feasibility Study, which shall include:

- The final Indicative plan of the city in 1:10,000 or in better scale with location and description and final long lists of program and projects with total cost of approx US$ 30-40 millions.
- Preparation of Final planning regulation guidelines.
- Analysis of land suitability, social, environmental, commercial, economic, financial etc. aspect of program and projects along with their alternatives.
- Measurement survey, site plan with location, conceptual design, drawing / sketches, tentative cost estimation and investment plan of the program and projects for further study.
- Draft Pre-feasibility study Report with the short list of programmes and projects (with cost of approx US$ 15-20 millions) which is found feasible from pre-feasibility study.
- Final Pre-feasibility Report with the short list programme and projects those are worthwhile to conduct feasibility study with expert's team analysis.

Stage III: Feasibility Study with Detail Project Report (DPR), which shall include:

- Final Short list of program and projects with total cost of approx US$ 15-20 millions.
- Existing site plans/network plans with proposed design and drawing of the final short listed projects for DPR in 1: 500 to 1:1,000 scales.

- Proposed site plans/ network plans in 1:100 to 1:500or in better scale of the final short listed projects.
- Detail engineering design, cost estimate and investment plan of the same.
- Detail working drawing (1:100) of the final short listed projects and details in 1:50 or in better scale.
- Procurement plan, Bid Documents and other Procurement Documents for procurement of works/ goods and supervision consultants.
- Operation and Maintenance Plan
- Project Implementation, Supervision, Monitoring and Evaluation Plan
- Social and Cultural Safeguard Measures
- Environmental and Disaster Management Plan
- Draft Feasibility Study Report with DPR
- Final Feasibility Study Report with DPR

6. Qualifications of the Consulting Firm and Key Personnel

The Consulting firm must be legally registered/recognized/competent institution. It must have registered in PAN/VAT in their respective country and timely cleared the taxes.

The consulting firm shall have prior experience in preparing Detail Project Report (DPR) of infrastructure Projects including Prefeasibility / Feasibility Study. Consulting firms, which have prepared DPR of municipalities, shall be preferable.

The team shall consist of experts with relevant knowledge and experience in the similar fields and assignment. Key personnel proposed in one Cluster/corridor must not be repeated in other Clusters/corridors.

Personnel Requirements:

The personnel allocated shall be for Mid Terai cluster / corridor comprising five municipalities. There shall be one Principal Team Leader (PTL) and five Deputy Team Leaders (DTL). In each municipality 1DTL, 1Civil Engineer and 1Office Administrator / Computer Operator shall be working from the beginning to end while other experts shall work as per their inputs.

KEY PERSONNEL REQUIRED

The staffing requirements of key personnel for this assignment shall include a minimum of the following positions:

S No.	Personnel	No.	IP-2 months	PFS-2 months	Feasibility Study with DPR-4 months	Total Inputs in man months	Educational Qualification	Experience	Indicative responsibilities
1	Principal Team Leader	1	2	2	4	8	Minimum Master degree in civil engineering/ architecture/urban planning and management related degree	Minimum 10 years of relevant experience after degree and more than10 years preferable. Experience in similar assignment in different countries.	Responsible for leading the teams in all 3 stages of studies, overall management, coordination, Monitoring and Oversight and Preparation of Progress Reports, responsible for managing workshop and Meetings.
2	Deputy Team Leader/Urban Planner/ Civil Engineer	5	2	2	4	40	Minimum Master degree in civil engineering/ architecture/urban planning and related degree	Minimum 7 years of relevant experience after degree and more than 7 years preferable. Experience in similar assignment in different countries	Responsible for leading the team in all 3 stages of studies, overall management, coordination and provision of technical inputs and carrying out quality control of key deliverables.
3	Economist	1	1	1	2	4	Minimum Master degree in Economics	Minimum 5 years of relevant experience after degree and more than 5 years preferable.	Responsible in all 3 stages of studies, analyzing the economy of municipalities, potentials, development needs linkages between municipalities within the cluster and beyond. Also carry out economic feasibility study.
4	Sociologist	1	1	1	2	4	Minimum Master degree in Sociology/Social Development Studies/anthropologist and related degree	Minimum 5 years of relevant experience after degree and more than 5 years preferable.	Responsible in all 3 stages of the studies, in particular for studying social safeguard issues and social impact assessments of Municipalities and selected projects.

5	Environmentalist/ Environment Engineer	1	1	2	2	5	Minimum Master degree in Environmental Engg./ Environmental Science and related degree	Minimum 5 years of relevant experience after degree and more than 5 years preferable.	Responsible in all 3 stages of the studies, in particular for studying environmental issues of the municipalities and suggesting mitigation measures (EIA/IEE/EMP etc) for the selected projects.
6	Municipal Financial Expert	1	1	1	2	4	Minimum MBA/MBS/M. Com and related degree	Minimum 5 years of relevant experience in financial management after degree and 5 years preferable.	Responsible in all 3 stages of the studies, in particular analysis of urban /municipal finance stakeholders' analysis and mapping, (borrowing capacity, capital investment budgeting including financial feasibility analysis)
7	Hydrologist	1	1	1	1	3	Minimum Master degree in Hydrology and related degree	Minimum 5 years of relevant experience after degree and more than 5 years preferable.	Responsible in all 3 stages of the studies, in particular for walkover survey, rainfall data collection and analysis, flood prediction, ground/surface water use potential/protection and, study of watershed areas etc.
8	Geologist/Eng. Geologist	1	1	1	1	3	Minimum Master degree in Geology/ Engg. Geology and related degree	Minimum 5 years of relevant experience after degree and more than 5 years preferable.	Responsible in all 3 stages of the studies, in particular for walkover survey, Geological study, risk assessment for suitability for infrastructure development etc.
9	Transportation Engineer	1	0	1	3	4	Minimum Master Degree in Transportation Engineering	Minimum 5 years of relevant experience after degree and more than 5 years preferable.	Responsible in 2 stage of the studies, in particular for the transportation area
10	Structural Engineer	1	0	1	3	4	Minimum Master Degree in Structural Engineering	Minimum 5 years of relevant experience after degree and more than 5 years preferable.	Responsible in 2 stage of the studies, in particular for structural analysis
11	Sewerage/Drainage	1	0	1	3	4	Minimum Master Degree	Minimum 5 years	Responsible in 2 stage of the studies,

	Engineer						in Water Resource Engineering/ Hydraulics Engineering/ Integrated Water Resource Management	of relevant experience after degree and more than 5 years preferable.	in particular for
12	Geomatics Engineer	1	1	1	1	3	Minimum Bachelor degree in Geometric Engineering and GIS related degree	Minimum 3 years of relevant experience after degree and more than 3 years preferable.	Responsible in all 3 stages of the studies, in particular for the collection of information, surveying and preparation of GIS based base maps, thematic maps and plans.
13	Civil Engineers	5	1	2	3	30	Minimum Bachelor degree in Civil Engineering	Minimum 3 years of relevant experience after degree and more than 3 years preferable.	Responsible in all 3 stages of the studies, in particular for supporting the experts, surveying, designing, drawing, estimating and facilitating meetings and workshops.
14	Architects	2	1	2	3	12	Minimum Bachelor degree in Architecture	Minimum 3 years of relevant experience after degree and more than 3 years preferable.	Responsible in all 3 stages of the studies, in particular for architectural development of the cities, architectural refinement of the projects, preparation of site plans, concept/final design and drawings.
15	Unallocated experts: Electrical/Urban Design/ Landscape/ Planners/Urban Infrastructure and others	4	1	1	4	24	Expertise in their respective field and mobilized by the consultant as per PCO approval.		Based on Requirements as per PCO approval.
16	Supporting Staff: Office Administrator/Com. Operator	5	2	2	4	40	Experienced in their respective field and mobilized by the consultant as per PCO approval		Supporting in all 3stages of the studies in central and field office management and supporting experts in the field work
17	Supporting Staffs: Sub-Engineer/ Draft Person	5	0	1	2	15	Experienced in their respective field and mobilized by the consultant as per PCO approval		Supporting in 2 stage of the studies in central and field office management and supporting experts in the field work

Detail job description of personnel

1) **Principal Team Leader (PTL)**
   Responsible for leading the teams in all 3 stages of studies, overall management, coordination, monitoring and oversight and conducting regular meetings and progress reporting to the client. Furthermore, the Principal Team Leader shall develop guidelines for DTL to manage and run effectively each team for successful completion of their responsibilities. He shall also develop reporting system, format and ensure timely preparation of project progress Reports.

2) **Deputy Team Leader (DTL)**
   Responsible for leading the team under the Principal Team Leader's guidance, overall management, coordination and provision of technical inputs and carrying out quality control of key deliverables and delivery of outputs in time. The deputy team leader shall arrange workshops and presentation meetings, collect individual analysis report of each stage from each expert and shall consolidate and synthesize them and provide as inputs to technical engineering team/planning for their consideration.

3) **Economist**
   Economist is expected to be involved in all three stages of study shall be responsible for studying economic and demographic aspect including projection of population, analysis of development needs and potentialities, inflow and out flow of goods and services, market study, linkages between municipalities within the cluster and beyond, migration pattern etc. In addition to this, Economist shall also assist the team in economic analysis to ensure the viability of identified top six/seven projects from economic point of view and also assist in analyzing the economic aspect for implementation of projects.

4) **Sociologist**
   Sociologist is expected to be involved during all the three stages of the study and shall be responsible for studying social safeguard issues of the identified and prioritized projects thoroughly foreseeing in advance the likely impact and protest/dissatisfaction from the local people by raising the issues like resettlements, displacements, compensation often seriously affecting and hindering the implementation of the particular project. In addition to this, Sociologist shall also study the local culture, social values and norms including local festival celebrations.

5) Environmentalist/Environment Engineer

Responsible in all 3 stages of the studies, in particular for studying environment issues of pollution like industrial, air, water, and solid waste management of Municipality. Furthermore, the expert shall also study and analyze state of natural resources and propose strategies to conserve them to make the livable city. The expert shall analyze the environmental viability and develop criteria for selection of projects for feasibility study and DPR preparation. The expert shall see the likely negative impacts from the proposed projects for DPR and propose mitigating measure like IEE/EIA/EMP to address such negative impacts.

6) Municipal Financial Expert

The Expert is expected to be involved during all the 3 stages of the studies. During the appraisal stage, the expert shall appraise the financial management system, check whether present system is adequate to carry out future plans/projects, analyze the gap and recommend reform measures in the present system. The expert shall develop criteria for selection of projects. During the second stage of study, the expert shall carry out financial feasibility analysis of the selected project. Similarly, during the third stage of study, the expert shall carry out complete package for the proper implementation of the reforms/new system in the municipality of the particular municipality and assess closely the trends of revenue and expenditure pattern of municipality for the last five years and make projection of the future.

7) Hydrologist

Responsible in all 3 stages of the studies, in particular for data and information collection from the related agencies, walkover survey with measurement of water discharge, ground water level and quantification, identification of the need of hydrological station, quantification and calculation of rainfall, study of watershed areas, analysis of hydrological data for determination of flood hydrographs for different years of return period and identification of water sources and preparation of hydrological suitability map for all selected project and alternatives projects.

8) Geologist/Engineering Geologist (EG)

Responsible in all 3 stages of the studies, in particular for the preparation of inventory of geological condition through walkover survey and support planning team by suggesting areas for urban growth and expansion as well areas for controlling urban growth during appraisal study. During feasibility study, Geologist/EG shall assist in the study for infrastructure development in particular area and carry out geological risk assessment to ensure feasibility of projects. Similarly, during DPR, he/she shall assist in locating

strategic projects from the point of view of geological suitability analysis and suggest team the appropriate measures for the protection of important selected project against natural calamities.

9) Transportation Engineer

Responsible in Pre Feasibility and Feasibility and DPR stage of the studies, in particular for the analysis of the existing transportation system of municipalities, planning functional design, operation and management of urban transportation system, planning of different mode of transportation system.

10) Structural Engineer

Responsible in Pre Feasibility and Feasibility and DPR stage of the studies, in particular for the design and analysis of building, bridges etc. including economic and social infrastructure projects.

11) Sewerage/Drainage Engineer

Responsible in Pre Feasibility and Feasibility and DPR stage of the studies, in particular for the design and analysis of sewerage system, sewerage treatment plant, storm water drainage systems and other related works.

12) Geomatics Engineer /GIS Expert

Responsible in all 3 stages of the studies, in particular for the collection of information and preparation of GIS base maps, thematic maps and plans during the appraisal study and assist in the preparation of land suitability analysis for selected and alternative projects including preparation of different maps like land use, thematic maps, etc. towards the preparation of Indicative Plan.

13) Civil Engineer

Responsible in all 3 stages of the studies, in particular in supporting the other members of the team during appraisal study. During feasibility study, civil engineer shall assist in design, drawing and estimation for selected and alternative projects. Similarly, during DPR, the civil engineer shall support the team in designing, drawings, cost estimate including bid document preparation.

14) Architect

Responsible in all 3 stages of the studies, in particular for studying the architectural history of city and preparation of inventory of important structures and sites during the first phase of the study, preparation of site plans, alternate design and drawings in the second phase of the study. And detail design and drawing of selected projects. The

architect shall help other experts in enhancing the aesthetic value of selected projects for DPR during design period.

15) Support Staff

Secretarial support staff is expected to be involved throughout the study period and assist teams relating to secretarial works like computer typing, report compilation and reproduction, photo copying, registry works etc. including any other works as directed by the teams during the study period.

7. Deliverables for Each Municipality

S No.	Reports: for each municipality	Contents	Timeline (after signing the contract)
1.	Submission of Draft Inception Report (3sets hard copy and 1 soft copy)	Background, methodology, data sources, list of literature reviewed, list of collection of maps, staffing, key outputs, plan for accomplishing work, schedule of activities and delivery, preliminary Indicative Plan, long list of program and project etc.	4.5 weeks
2.	Submission of Final Inception Report (3sets hard copy and 1 soft copy)	Background, methodology, data sources, list of literature reviewed, list of collection of maps, staffing, key outputs, plan for accomplishing work, schedule of activities and delivery, Indicative Plan, screened long list of program and project etc.	8 weeks
3.	Submission of Draft Pre-Feasibility Report (3 sets hard copy and 1 soft copy)	Draft Pre-feasibility Report with analysis of Land suitability, social, technical, economic, environmental etc. and tentative cost estimate, investment plan etc	15 weeks
4.	Submission of Final Pre-Feasibility Report (3 sets hard copy and 1 soft copy)	Final Pre-feasibility Report with analysis of Land suitability, social, technical, economic, environmental etc. and tentative cost estimate, investment plan etc	16 weeks
5.	Submission of Draft Feasibility Study Report with DPR (3 sets hard copy and 1 soft copy)	Draft feasibility study report with DPR including Engineering Survey, data analysis, design, and work out alternate projects, drawing and cost estimate, tender documents, specification and BOQ, Economic, social , financial analysis etc.	28 weeks
6.	Submission of Final Feasibility Study Report with Final DPR (6 sets hard copy and 1 soft copy)	Final feasibility study report with Final DPR report incorporating comments, suggestions and feedback received on the draft report.	32 weeks

The consulting firm shall report to the Project Director DUDBC, PCO and work in full coordination with the PCO as well as concerned municipality. The draft reports shall be submitted to the PCO for review and feedback and recommendations. The final report shall have the revision and recommendations incorporated.

All reports and other written outputs shall be submitted to UGDP: ETP in electronic and hard copies. These electronic copies shall include relevant reports as well as underlying data related to the reports. These shall become property of UGDP: ETP. In addition, 1 copy each of all relevant reports shall be provided to each of the study municipality.

8. Payment schedule for Each Municipality's Report

The payment shall be made in six installments in the following manner: feasibility study report with DPR

S No.	Deliverables	Payment of contracted amount (%)	Payment Condition
1.	Draft Inception Report	15	Upon acceptance of Draft Inception Report by the Client
2.	Final Inception Report	10	Upon acceptance of Final Inception Report by the Client
3.	Draft Pre-feasibility Study Report	10	Upon acceptance of Draft PFS by the Client
4.	Final Pre-feasibility Study Report	10	Upon acceptance of Final PFS by the Client
5.	Draft Feasibility Report with draft DPR	35	Upon acceptance of Draft Feasibility Study Report with Draft DPR by the Client
6.	Final Feasibility Study Report with Final DPR	20	Upon acceptance of Final Feasibility Study Report with Final DPR by the Client

Note: Taxes shall be levied on all payments as per prevailing financial rules and regulations of the government of Nepal

9. Contract Duration of Service

The consulting firm shall complete the assignment within 8 months from the date of signing the contract.

10. Facilities to be Provided by the Client

The client shall provide all available related project documents (study reports, PDP, Periodic plans, GIS maps, Base Maps, business plans, manuals, guidelines, norms and standards etc.) to the consulting firm for quality and timely output of the assignment.

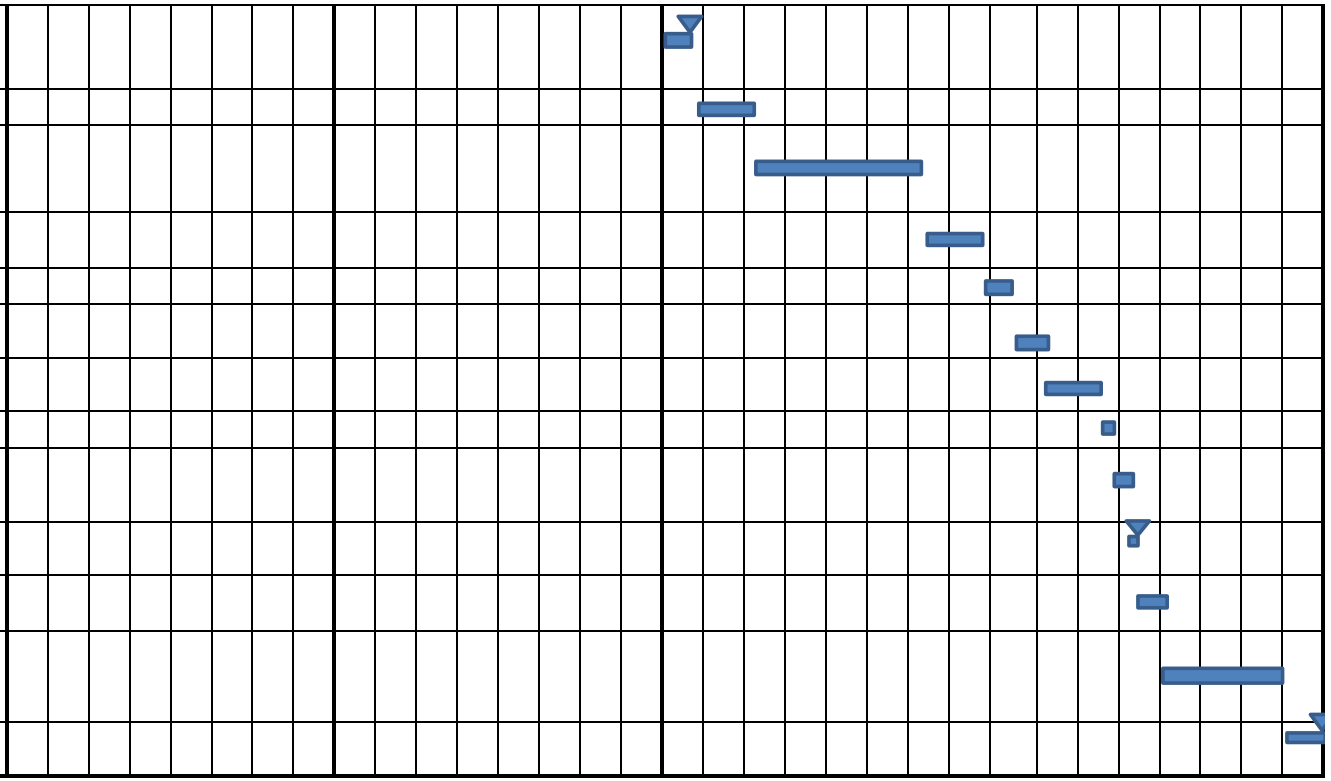
11. Selection Criteria:

The consulting Firm shall be selected following Quality and Cost Based Selection Method (QCBS) set out in the Consultant Guidelines: Selection and Employment of Consultants [under IBRD Loans and IDA Credits & Grants] by World Bank Borrower, January 2011 ("Consultant Guidelines"). Only short listed firms with the most appropriate qualifications and references shall be invited to submit technical and financial proposals.

12. Work Schedule

Work Schedule for Preparation of Feasibility Study Report with Detail Project Report (DPR) of Mid Terai Cluster/Corridor (8 months)

S N.	Particulars	Days	Preliminary Study for Indicative Plan and Program								Pre-Feasibility Study								Feasibility Study (FS) with Detail Project Report (DPR)															
			1st month				2nd month				3rd month				4th month				5th month				6th month				7th month				8th month			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
A	**PRELIMINARY STUDY FOR INDICATIVE PLAN, PROGRAMME AND PROJECTS -STAGE 1**	**60**																																
1	Desk study (central and local level)	9																																
2	Field visit and study: Walk over survey by the Team of Experts for data, maps, information collection	12																																
3	Introductory workshop (1/2-1day and formation of Contact Group (CG)	5																																
4	Field verification and 1 day Stakeholder / Municipal Authority Consultative Workshop (SCW)-1 **(potential long list)**	8																																
5	Discussion/Presentation at PCO and Submission of **Draft Inception Report** with preliminary indicative plan and long list of programme & Projects	4																																
6	Preparation of further Indicative Plan and development of criteria for screening of of Identified long list of programme & Projects	**20**																																
7	Submission of **Final Inception Report with indicative plan and screened long list of programme & Projects** to PCO and Municipalities	2																																
B	**PRE-FEASIBILITY STUDY (PFS)-STAGE 2**	**60**																																
8	Stakeholder Consultative Workshop -2 (Final Indicative plan with regulation guidelines and Final long list of programme & Projects)	5																																
9	Reconnaissance survey by the team of multi disciplinary experts and support staffs for further data and information collection	12																																
10	Rapid Assessment (Land suitability, social, technical, economic,environmental etc aspects) based on the field data and information, prepare the alternatives, tentative cost estimate and investment plan of each project	16																																
11	Preparation of location maps, Conceptual plans, measurement drawings, thematic maps etc	12																																
12	Presentation and submission of **Draft Pre-feasibility study Report** with short List of feasible programs and projects to municipalities and Expert Review Committee (ERC) at PCO	4																																
13	Submission of **Final Pre-Feasibility study Report with short List of feasible programs and projects** incorporating comments/feedback etc. to PCO and municipalities	12																																
C	**FEASIBILITY STUDY (FS) WITH DETAIL PROJECT REPORT (DPR) -STAGE 3**	**120**																																

14	Stakeholder Consultative Workshop -3 (Final short List of feasible programs and projects for feasibility study and DPR)	5	
15	Detail field study for data and information collection	12	
16	Engineering Survey, data collection, data analysis, design, work out alternate projects, drawing and cost estimate	28	
17	Data and information collection and Feasibility Analysis (Economic, social, financial etc.)	12	
18	Presentation/Consultation meeting at Municipalities	5	
19	Field Verification and additional data/information collection	4	
20	Preparation and Submission of **Interim Feasibility Study Report with DPR** to municipalities	12	
21	Public Hearings	2	
22	Discussion at municipalities and Expert Review committee (ERC) at PCO on **Interim Feasibility Study Report with DPR**	4	
23	Submission of **Draft Feasibility Study Report with DPR** to PCO and Municipalities	2	
24	Presentation on **Draft Feasibility Study Report with DPR** at Municipalities and ERC	7	
25	Incorporation of suggestions / comments with verification of site, data, design alternatives etc and finalize Feasibility Study Report with DPR	20	
26	Submission of **Final Feasibility Study Report with DPR.**	7	