

Terms of Reference for the Consultancy Services for “Preparation of Detailed Feasibility Report and Providing Transaction Advisory Services for setting up of Mega Bio CNG plant, Composting plant & Mega Automated MRF facilities, Bio mining of Fresh waste accumulated during the development of the facilities and developing an Eco Park in the reclaimed land including demarcation of boundary, preparation of site layout showing the existing and proposed SWM facilities at Perungudi Dumping Ground for Greater Chennai Corporation”

A. Background:

1. Tamil Nadu is one of the most urbanized states in India. The Government of Tamil Nadu (GoTN) is committed to improve urban infrastructure and simultaneously address institutional strengthening, and targets reforms in urban governance.

1.1 The Government of Tamil Nadu has been implementing urban investment projects with funds assistance from World Bank, JICA and KfW. The investments have made improvements in the living standards of the public, yet there is further scope and accordingly, Government of Tamil Nadu is presently implementing “Tamil Nadu Urban Flagship Investment Program (TNUFIP)” assisted by Asian Development Bank (ADB).

1.2 The TNUFIP is expected to support both the infrastructure needs and the reform program of the Government of Tamil Nadu for sustainable urban infrastructure development and service delivery. The funds will provide financial support to the Government of Tamil Nadu to implement reforms that will unlock the potential of various stakeholders, including municipal bodies, individual households, and private sector investors.

1.3 The impact of TNUFIP will be in improved quality of life for all including the poor and the disadvantaged in Tamil Nadu. The project is envisaged to be implemented in three tranches. The Tamil Nadu Urban Infrastructure Financial Services Limited (TNUIFSL) will implement TNUFIP through a Project Management Unit (PMU).

1.4 As part of proposed TNUFIP – Tranche 3, a sum of around Rs.15.75 crores (US\$ 2.25 million) have been allocated towards providing technical assistance for preparation of Project Reports under the Project Development Consultancy (PDC) to various participating Urban Local Bodies / Boards in Tamil Nadu. Now, the subject study is proposed to be taken up under the PDC of TNUFIP – Tranche 3.

1.5 Chennai is the capital of Tamil Nadu, and India's fourth largest city, by economy and population. The city has a diverse array of economic sectors and is known for its automobile industry and a formidable IT sector. The Greater Chennai Corporation consists of 15 Zones and 200 Wards comprising of a population of around 85 lakhs.

2. The area under Greater Chennai Corporation (GCC) generates around 5500 MT of Solid Waste per day which is being partly source segregated, recycled, processed and remaining waste is being disposed of in two dumping sites at Perungudi and Kodungaiyur.
3. GCC has taken up the project of reclamation of Perungudi Dumping Ground through Bio-mining under the scheme of Swachh Bharath Mission. The Bio mining project are divided into six packages and the work is in progress. The project period is three years, which is expected to be completed by Dec 2023.
4. In this regard, GCC is desirous to engage a competent consulting firm (the Consultant) possessing requisite qualifications who shall prepare the Detailed Feasibility Report (DFR) and provide Transaction Advisory Services for developing Eco Park, Setting up of Mega Bio CNG plant, Composting plant & Mega Automated MRF facilities, Bio mining of Fresh waste accumulated during the development of the facilities in the reclaimed land including demarcation of boundary, preparation of site layout showing the existing and proposed SWM facilities at Perungudi Dumping Ground as per the Terms of Reference (the "ToR").

B. Objectives: The main objective of the assignment is:

5. Preparation of Detailed Feasibility Report (DFR), bid documents, legal documents, proceedings, communication note, project structuring documents etc. as required by the GCC and strictly adhering to TNID Act ,TNTT Act , SWM Rules, all relevant Environment& other rules for developing Eco Park, Setting up of Mega Bio CNG plant, Composting plant & Mega Automated MRF facilities, Bio mining of Fresh waste accumulated during the development of the facilities, in the reclaimed land including demarcation of boundary, preparation of site layout showing the existing and proposed SWM facilities at Perungudi Dumping Ground.
 - 5.1. To prepare the Request for Expression of Interest (REOI), Request for Qualification (RFQ), Request for Technical Proposal (RTP), Request for Proposal (RFP), Concession agreement or Agreement and other documents,

forms, applications etc. for different packages as per the requirement of GCC / GoTN.

- 5.2. To study in detail the technical, financial, legal, regulatory, environmental and social feasibility of the project on a sustainable basis.

C. Scope of Work

6. The scope of services inter-alia intended to be provided by the Consultant under this Terms of Reference (TOR) shall include but not limited to the following: -
 - 6.1. Conduct a reconnaissance and preliminary assessment of the dump site through field visits, review of existing documents, maps and existing data / information.
 - 6.2. Review available information on topographical, geological, sub-soil, ground water, storm water drainage, flooding, land use, rainfall, soil cover, human settlements, flora and fauna, pattern in and around dump sites.
 - 6.3. (a) Carryout the detailed topographic survey of the reclaimed land and demarcate the boundary, prepare the contour of the reclaimed land.

(b) Carryout Biomining operations for the fresh waste dumped at site, during the construction of Facilities as proposed in the reclaimed area.
 - 6.4. Prepare the site layout with land allotted for various existing and proposed SWM facilities including future facilities like wet waste processing facilities (such as Mega Bio CNG plant, windrow/ Compost plant), dry waste recovery facilities (Mega Automated Material Recovery facility) etc. based on the solid waste quantity generation, Physical & Chemical characteristics analysis and other relevant parameters for the best utilization of the reclaimed land.
 - 6.5. Carryout the chemical characterization of the site and recommend the suitable indigenous species of plant, shrub and ramblers suitable for the site.
 - 6.6. Consultant should carry out the legacy gas monitoring analysis and based on suggest suitable Gas Monitoring System include gas flaring system if necessary

7. Prepare the Detailed Feasibility Report for the comprehensive plan for development of Eco Park with green cover and the DFR shall contain but not limited to the following
 - 7.1. Site appraisal and suitability
 - 7.2. Site planning & land use planning
 - 7.3. Lay out designs and architecture for Urban Forest area, park area, bird watching area and any other components suitable for the site.
 - 7.4. Surface drainage design and water management
 - 7.5. Planting structure
 - 7.6. Irrigation design
 - 7.7. Landscape structures and features
 - 7.8. Park furniture design
 - 7.9. Illumination design (to take into consideration energy efficiency, self-sustenance aspects)
 - 7.10. Preparation of design brief after taking Client's additional instructions if any
 - 7.11. Providing 2D photos (bird eye views, top views, side views from various directions), 3D walk (upto 5 mins) through presentation and getting approval of the client.
 - 7.12. Site evaluation, analysis and impact of existing and / or proposed development on its immediate environs.
 - 7.13. Provision and system design for security within and outside the entire campus.
 - 7.14. Any other services that constitute the relevant landscape architectural services.
 - 7.15. Providing a detailed project costing and the bill of quantities of various components of Eco –park.
 - 7.16. Study and suggest suitable methodology for supplying the waste to the facility from the collection location of respective zones and transportation pattern in the facility.
 - 7.17. Study and suggest suitable market analysis for the end products from the facility.
8. **Social, Environmental, Archaeological, Occupational Health and Safety aspects**
 - 8.1. Prepare Resettlement Plan (RP) as per ADB's Safeguards Policy Statement 2009 (SPS 2009) and TNUFIP Resettlement Framework (RF) for the project and

- Identify any further resettlement requirements/including social impacts identified during project implementation and costs that may be required and provide all information required in relation to right-of-way access as well as the relocation of existing utilities, if required, and other obstructions at the proposed work sites, including vendor stalls, permanent as well as temporary economic impacts in the project sites.
- 8.2. IPPF: There are no scheduled areas as per Constitution of India, however the consultants to assess the presence of IPs in the study area and propose mitigation measures as per TNUFIPs IPPF.
 - 8.3. Prepare Community Participation and Gender Equality and Social Inclusion as part of (GESI) Action Plan as per ADB guidelines.
 - 8.4. Prepare Initial Environmental Examination (IEE) as per the Environmental assessment and Review Framework (EARF) prepared in line with the ADB's Safeguard Policy Statement 2009 (SPS 2009). List out all the necessary permissions and statutory requirements required prior to construction, such as permissions from Railway, National Highways, Department of Archaeology, Department of Forests and National Parks, and tree-cutting etc.
 - 8.5. Prepare the EMP for during construction and pre/post construction phases.
 - 8.6. In compliance with the EMP, develop a strategy to overcome the difficulties of construction. Propose and implement mechanism for coordination among all stakeholders for smooth construction execution.
 - 8.7. As part of the EMP, prepare project focused Occupational Health and Safety Plan (OHS) to be adopted by the Client and the Contractor.
 - 8.8. Suggest appropriate training requirement on OHS, environmental impacts and mitigation measures, social and gender aspects to the Client and the contractors including contractors' workers.
 - 8.9. Prepare a Grievance Redressal Mechanism (GRM) to handle the concerns of public, complaints, and grievances during project implementation and include in the IEE.
 - 8.10. Carryout consultations with the stakeholders and wherever required conduct site specific consultations disclosing the project information. The details of the consultations shall be included in the IEE.
 - 8.11. As part of the preparation of IEE, carryout Environmental Audit of the existing facilities identifying the concerns for compliance and prepare Corrective Action Plan (CAP) defining remedial actions.
 - 8.12. As part of the preparation of IEE, necessary management plans shall be prepared for all the proposals - any new constructions/ demolition of existing

structures including for waste handling upto safe disposal. Further presence of hazardous materials if any identified, appropriate management measures are to be provided for handling/storage/ disposal as per the applicable regulations.

8.13.Mega Bio CNG Gas Plant

8.13.1. Consultant shall study the feasibility of installing the Mega Bio CNG plant of suitable capacity based on the waste generation from various units in the ISWM facility.

8.13.2. CNG gas plant along with necessary allied units to be designed for the suitable capacity and mechanism to be suggested for utilizing the gas.

8.14.Composting Plant

8.14.1. Study the % of waste characterization in terms of organic, inorganic waste and suggest suitable composting methodology based on the land availability at Perungudi Dumping site.

8.14.2. Composting platform along with necessary allied units to be designed as per the SWM rules 2016 with proper drainage arrangement for collection of leachate and transport to further treatment.

8.15.Market analysis to be carried out to sell the final product.

8.16.Automated Material Recovery Facility (MRF)

8.15.1. Consultant shall study the feasibility of installing Automated MRF based on the waste generation from various units in the Integrated Solid Waste Management facility.

8.15.2. Automated MRF along with necessary allied units to be designed for the suitable capacity and mechanism to be suggested for recycling/reuse for various components in the dry waste and also disposal of RDF.

9. Transaction Advisory Services

- 9.1. Study the capital market and investment scenario pertaining to investment to be made by the private sector and submit a comprehensive capital market report. The consultant must do a thorough financing risk assessment and cost benefit analysis pertaining to project before recommending any PPP or other suitable implementation model as per TNIDB guidelines.
- 9.2. Prepare the cost model and financial model in spreadsheet format with variables in the input sheet and out-put for preparation of various scenarios pertaining to project financing, project cost and bid variable. The sensitive model shall be modular in fashion. The detailed risk matrix and its mitigation measures and make a detailed presentation to client to arrive at the suitable model including project financing risk assessment.
- 9.3. Prepare the detailed feasibility report as per the TNIDB guideline.
- 9.4. Prepare financial model where various sensitivity tests can be carried out. The detailed output needs to be presented to Finance department, MAWS department and TNIFMC.
- 9.5. Do market assessment for project implementation, project operation etc.
- 9.6. The consultant shall carryout all the tasks with adequate stakeholder consultations and assist GCC for project disclosure requirements as per the TNID Act. And as per RF/EARF and ADB Safeguards Policy Statement 2009.
- 9.7. Preparation of Key Performance Indicators (KPI) during pre-operation phase, implementation phase and post implementation phase (post closure) shall be suggested by the consultant as part of the feasibility study. Those key performance indicators should be measurable transparently.
- 9.8. If the project is being implemented in different packages, the consultant shall do the necessary transaction advisory services separately for each package.
- 9.9. The consultant shall prepare the Project Implementation and Operational Plan on how the booming will be carried out.
- 9.10. Review and suggest project compliance requirements -Legal, Acts, Notifications, Standing Orders of the Government of India and Government of Tamil Nadu.
- 9.11. To study, analyse and report the court/legal rulings, guidelines etc, pertaining to the assignment and recommend accordingly.
- 9.12. To make project financing structure – analyse source of funds, grants available, viability gap fund (VGF) and possible options of project financing structure.

- 9.13. To study and suggest various project contract structure models / any other successful similar model projects based on the Niti Aayog model document.
- 9.14. The Consultant shall carryout economic analysis as per the TNSUDP framework.
- 9.15. Carryout value for money Analysis (VFM) as per the TNIDB requirement.
- 9.16. The consultant shall prepare feasibility reports, agreements and other documents / reports, departmental note, governmental communications, presentations, REOI, RFQ, NIT, RFP, PIM, concession agreement, legal documents attending frequent meetings at various levels etc as per the decision-making requirement.
- 9.17. The consultant should be full conversant with TINT Act & Rule 2012 and TNID Act & Rule and carryout the bid Process Management strictly adhering to these Rules accordingly.
- 9.18. The consultant shall be engaged till bid process management, issuance of LOA and signing of the agreement with the Contractor.
- 9.19. The consultant shall conduct bidder's solicitation meetings for project as per the tendering requirement and shall submit a comprehensive report with necessary documentation to be prepared and submitted.
- 9.20. Assist GCC in responding to the queries that may be raised during the pre-proposal meetings or anytime during the bid process management by preparing minutes along with clarification / corrigendum to the bid documents as required.
- 9.21. Upon receipt and opening of bids, prepare technical and financial bid evaluation reports with recommendations and shortlisting as required.
- 9.22. The consultant shall assist the Tender Scrutiny committee constructively and shall prepare minute of the meeting and tendering process proceeding including the approval of tender document, amendment to document and response to pre-bid queries.
- 9.23. The consultant would coordinate with client, government, expert committee, tender committee and other government instrumentality and minute the meetings, if necessary, as per the engagement requirement till handing over of the site.
- 9.24. To make presentations at all levels to various Government Agencies/ Government Department at all times during the assignment period as and when required by GCC, even at short period of notice.
- 9.25. To identify and list out the clearances to be obtained for project or project components during various timelines by GCC/Contractor with tentative cost

and duration. All clearances to be listed and discussed with agencies which is concerned at the time of the study itself by the consultant. The clearances will be obtained by contractor.

- 9.26. Study the taxation structure and foreign currency components into the project and recommend the mitigation measures to the currency risk associated with the project.
- 9.27. Assist GCC/GOTN in the bid process management until signing of the contracts with the qualified bidders/concessionaire/contractor as per the project design.
- 9.28. Act, if required on behalf of the Authority and fulfil various reporting requirements regarding project approval, clarification, presentation to decision makers etc and participate on regular meetings for the basis for decision making.
- 9.29. Shall carryout the developer solicitation for active participation in the tendering process and maintain professional relationship.
- 9.30. Assist Authority in signing of the agreement for project implementation with selected contractor/concessionaire; and
- 9.31. Assist GCC in handing over of the site to the selected contractor.
- 9.32. The DFR, bid documents, applications for project clearance from various departments shall be as per the TNIDB requirement and format. The documents can be downloaded from <https://tntenders.gov.in>.

10. Consultant to create the asset register for all the existing infrastructures related to this assignment.

11. Other services related to this project to be provided by the consultant on as required by GCC.

12. Consultant to provide the Monitoring mechanism, capacity building, institutional setup etc. for the effective O&M.

13. Surveys & Investigations

- 13.1. Detailed topography survey of the project site and prepare the contour map.
- 13.2. Carryout the chemical characterization of the soil as per the relevant IS codes, CPHEEO manual, SWM & Environmental norms etc.

14. Environmental Survey

14.1. The consultant shall establish baseline of the project site following the guidelines of the SWM Rules, 2016. The consultant shall carryout baseline environmental surveys minimum at four locations in and around the Project Site.

14.2. The surveys shall include

- (a) ground water (upgradient & down gradient) & surface water (nearby canals)
- (b) leachate quality from the existing dumps, and check for presence of heavy metals & toxics if any,
- (c) noise in the site and nearby habitation around site,
- (d) odor, inside the site and around the boundary & nearby habitations,
- (e) air quality in and around the site (all the directions)
- (f) sub-soil quality
- (g) Landfill gas
- (d) Other site environment parameters rainfall, wind direction, vegetative cover etc. shall be studied based on the site condition. All surveys and analysis shall be carried out by NABL accredited laboratory.

15. Socio Economic Survey

15.1. The Consultant to carry out a census socio economic survey in and around the project site. The sample would be 10 % for the affected (temporary economic impacts/ loss of income & livelihood) and 20 % for the severely affected (permanent impacts). Census to be carried out covering cent per cent of the affected persons.

15.2. All the surveys and investigations shall be carried out as per the relevant IS standards & guidelines and in consultation with GCC. Certification to be obtained from the GCC for all the surveys and investigation.

15.3. Geo-tagged photos shall be captured for all the surveys ensuring date and time of survey along with latitude & longitude. The same to be converted into GIS format and submitted.

16. Handholding Period (3 months)

16.1 Consultant shall assist GCC in all aspects for all packages pertaining to this assignment after award of contract to the concessionaire / contractor by GCC

- 16.2 Consultant shall monitor, evaluate, analysis of the implementation and submit reports to GCC every fortnight.
- 16.3 Consultant shall provide necessary forewarn of issues if any to GCC
- 16.4 Consultant shall assist GCC in preparation of ToR, Invitation for Bids, pre-proposal clarifications, Evaluation process for appointing PMC for this assignment.
- 16.5 Consultant shall review and evaluate the documents submitted by the Concessionaire and the evaluation report to be submitted.
- 16.6 Consultant to create the asset register for all the existing infrastructures related to this assignment.
- 16.7 Consultants examine the Monitoring mechanism, capacity building, institutional setup etc. for the effective O&M as proposed by Concessionaire
- 16.8 Consultant shall propose the proper drainage arrangements inside the Dumping Ground.
- 16.9 Consultant shall review and suggest any modification on circulation pattern for the vehicle movement inside & outside the Dumping Ground proposed by Concessionaire
- 16.10 Consultant shall suggest Innovativeness in all the facilities from collection to treatment & disposal to be evolved.
- 16.11 Other services related to this project to be provided by the consultant on as required by GCC.

17. Study Area / Project Description & Location:

- 17.1. The basic detail of Perungudi Dumping Ground (PDG) is provided in the following table: provide map of the study area

S. No.	Particulars	Description
1	Location	Perungudi, Chennai
2	Co-ordinates	12° 57' 17.48" N; 80° 13'31.03" E
3	Elevation	5- 6 m above MSL
4	Land use	Industrial cum mixed residential

S. No.	Particulars	Description
5	Area (in acres)	225 acres
6	Year of Site Start receiving waste	From 1980's
7	Number of years in use	More than 40 years
8	Neighborhood (Within 1 K.M)	Eastern side by Sai nagar &Perungudi Western side by Ocean Technology & Tambaran Velachery main Road Sothern side by Radial road & Pallikaranai Marshland Northern side by CMWSSB STP & New India colony
9	Daily Waste disposed (MT)	2000-2200 MT
10	Estimated volume of legacy waste	34.28 lakhs m3
11	Site Surrounding	North : CMWSSB STP South : Radial Road West : Marsh land East : Sai nagar
12	Physical Infrastructure (Site has adequate physical infrastructure to meet present operational standards)	<ol style="list-style-type: none"> 1. 15 acres- C&D waste processing plant of 400 TPD capacity. 2. 1.5 acres- Garden Waste processing plant of 80 TPD capacity 3. 1.00 acre transformer yard.
13	Other Facility	<ol style="list-style-type: none"> 1. Facilitate with Concrete roads of about 4 kms 2. 2 nos -UG Sump of 1lac & 20,000 lits capacity

S. No.	Particulars	Description
		<p>3. Watchman room, Operators rooms & Store room</p> <p>4. Facilitate with 12 nos - CCTV</p> <p>5. 7 nos of High mast light & 92 Nos of Street lights</p> <p>6. Container – office room</p> <p>7. 100 KW Genset</p>

18. Data inputs by client:

18.1 Available reports pertaining to the assignments shall be provided to the consultants. Available land details with the local body and enter upon permission will be provided to the consultant after issue of LoI. Greater Chennai Corporation shall make their officials available for consultations.

18.2 Consultant will have to arrange for his own office space, other logistics, etc. at their own cost and risk.

19. Outputs and related payment schedule:

19.1 Details of payment:

S. No.	Report	Outputs required	Related Payment %
Package: I: Setting up of Mega Bio CNG Gas Plant and allied work etc., complete			
Feasibility Stage - Phase I			
1	Submission and approval of Draft Feasibility Report	Eight weeks from the date of LoI.	20%
2	Submission of Dissemination / Stakeholders consultation Report	Two weeks from the date of approval of Draft Feasibility Report (Parallel activity)	5%
3	Submission and approval of Feasibility Report	Four weeks from the date of approval of Draft Feasibility	10%

S. No.	Report	Outputs required	Related Payment %
		Report	
4	On receipt of Project Structuring Approval from TNIDB for feasibility Report	Duly submitted by ULB to TNIDB	10%
Bid Process Management Stage – Phase II			
5	Submission and approval of REOI (if required) and or RFQ and or RTP (if required) and or RFP-Concession Agreement from TNIDB	Four weeks from the date of approval of obtaining Project Structuring Approval from TNIDB	5%
6	Publication of REOI (if required) and or RFQ	Two weeks from receipt of approval for bid documents (REOI and or RFQ and or RTP and or RFP) from TNIDB and obtaining Administrative Sanction (if required).	10%
	Completion of pre-bid meeting and issue of additional clarifications and response to bidder queries	Two weeks from the date of conducting pre-bid meeting.	
	Approval of bid evaluation report for RFQ by the client and shortlist of entities for RFP	Three weeks from the date of bid opening of RFQ by implementing authority	
7	Issuance of RTP (if required) and or RFP to the Shortlisted entities.	Two weeks from receipt of approval for bid evaluation report for RFQ and shortlist of consultants.	15%
	Completion of pre-bid meeting and issue of additional clarifications and response to bidder queries	Two weeks from the date of conducting pre-bid meeting.	
	Approval of bid evaluation report for RFP by the client	Three weeks from the date of bid opening of RFP by implementing authority	
8	Signing of agreement by	Two weeks from the date of	10%

S. No.	Report	Outputs required	Related Payment %
	implementing authority with successful bidder	bid evaluation report of RFP	
Handholding Period - Phase III (After award of Contract)			
9	Submission and approval of Fortnight report. Payment will be done on pro rata basis.	12 weeks from the date of issuance of letter to commence the Handholding Period from GCC	15%
Package: II: Setting up of composting plant & Mega Automated MRF facilities with allied works, etc, complete.			
Feasibility Stage - Phase I			
1	Submission and approval of Draft Feasibility Report	Eight weeks from the date of LoI.	20%
2	Submission of Dissemination / Stakeholders consultation Report	Two weeks from the date of approval of Draft Feasibility Report (Parallel activity)	5%
3	Submission and approval of Feasibility Report	Four weeks from the date of approval of Draft Feasibility Report	10%
4	On receipt of Project Structuring Approval from TNIDB for feasibility Report	Duly submitted by ULB to TNIDB	10%
Bid Process Management Stage – Phase II			
5	Submission and approval of REOI (if required) and or RFQ and or RTP (if required) and or RFP-Concession Agreement from TNIDB	Four weeks from the date of approval of obtaining Project Structuring Approval from TNIDB	5%
6	Publication of REOI (if required) and or RFQ	Two weeks from receipt of approval for bid documents (REOI and or RFQ and or RTP and or RFP) from TNIDB and obtaining Administrative Sanction (if required).	10%

S. No.	Report	Outputs required	Related Payment %
	Completion of pre-bid meeting and issue of additional clarifications and response to bidder queries	One weeks from the date of conducting pre-bid meeting.	
	Approval of bid evaluation report for RFQ by the client and shortlist of entities for RFP	Three weeks from the date of bid opening of RFQ by implementing authority	
7	Issuance of RTP (if required) and or RFP to the Shortlisted entities.	Two weeks from receipt of approval for bid evaluation report for RFQ and shortlist of consultants.	15%
	Completion of pre-bid meeting and issue of additional clarifications and response to bidder queries	One weeks from the date of conducting pre-bid meeting.	
	Approval of bid evaluation report for RFP by the client	Three weeks from the date of bid opening of RFP by implementing authority	
8	Signing of agreement by implementing authority with successful bidder	Two weeks from the date of bid evaluation report of RFP	10%
Handholding Period - Phase III (After award of Contract)			
9	Submission and approval of Fortnight report. Payment will be done on pro rata basis.	12 weeks from the date of issuance of letter to commence the Handholding Period from GCC	15%
Package: III: Biomining of fresh waste accumulated during the development of facilities with allied works, etc, complete			
Feasibility Stage - Phase I			
1	Submission and approval of Draft Feasibility Report	Eight weeks from the date of LoI.	20%

S. No.	Report	Outputs required	Related Payment %
2	Submission of Dissemination / Stakeholders consultation Report	Two weeks from the date of approval of Draft Feasibility Report (Parallel activity)	5%
3	Submission and approval of Feasibility Report	Four weeks from the date of approval of Draft Feasibility Report	10%
4	On receipt of Project Structuring Approval from TNIDB for feasibility Report	Duly submitted by ULB to TNIDB	10%
Bid Process Management Stage – Phase II			
5	Submission and approval of REOI (if required) and or RFQ and or RTP (if required) and or RFP-Concession Agreement from TNIDB	Four weeks from the date of approval of obtaining Project Structuring Approval from TNIDB	5%
6	Publication of REOI (if required) and or RFQ	Two weeks from receipt of approval for bid documents (REOI and or RFQ and or RTP and or RFP) from TNIDB and obtaining Administrative Sanction (if required).	10%
	Completion of pre-bid meeting and issue of additional clarifications and response to bidder queries	One weeks from the date of conducting pre-bid meeting.	
	Approval of bid evaluation report for RFQ by the client and shortlist of entities for RFP	Three weeks from the date of bid opening of RFQ by implementing authority	
7	Issuance of RTP (if required) and or RFP to the Shortlisted entities.	Two weeks from receipt of approval for bid evaluation report for RFQ and shortlist of consultants.	15%
	Completion of pre-bid meeting and issue of additional clarifications and response to	One weeks from the date of conducting pre-bid meeting.	

S. No.	Report	Outputs required	Related Payment %
	bidder queries		
	Approval of bid evaluation report for RFP by the client	Three weeks from the date of bid opening of RFP by implementing authority	
8	Signing of agreement by implementing authority with successful bidder	Two weeks from the date of bid evaluation report of RFP	10%
Handholding Period - Phase III (After award of Contract)			
9	Submission and approval of Fortnight report. Payment will be done on pro rata basis.	12 weeks from the date of issuance of letter to commence the Handholding Period from GCC	15%
Package: IV: Development of Eco- Park with allied works, etc, complete			
Feasibility Stage - Phase I			
1	Submission and approval of Draft Feasibility Report	Eight weeks from the date of LoI.	20%
2	Submission of Dissemination / Stakeholders consultation Report *	Two weeks from the date of approval of Draft Feasibility Report (Parallel activity)	5%
3	Submission and approval of Feasibility Report	Four weeks from the date of approval of Draft Feasibility Report	10%
4	On receipt of Project Structuring Approval from TNIDB for feasibility Report	Duly submitted by ULB to TNIDB	10%
Bid Process Management Stage – Phase II			
5	Submission and approval of REOI (if required) and or RFQ and or RTP (if required) and or RFP-Concession Agreement from TNIDB	Four weeks from the date of approval of obtaining Project Structuring Approval from TNIDB	5%

S. No.	Report	Outputs required	Related Payment %
6	Publication of REOI (if required) and or RFQ	Two weeks from receipt of approval for bid documents (REOI and or RFQ and or RTP and or RFP) from TNIDB and obtaining Administrative Sanction (if required).	10%
	Completion of pre-bid meeting and issue of additional clarifications and response to bidder queries	One weeks from the date of conducting pre-bid meeting.	
	Approval of bid evaluation report for RFQ by the client and shortlist of entities for RFP	Three weeks from the date of bid opening of RFQ by implementing authority	
7	Issuance of RTP (if required) and or RFP to the Shortlisted entities.	Two weeks from receipt of approval for bid evaluation report for RFQ and shortlist of consultants.	15%
	Completion of pre-bid meeting and issue of additional clarifications and response to bidder queries	One weeks from the date of conducting pre-bid meeting.	
	Approval of bid evaluation report for RFP by the client	Three weeks from the date of bid opening of RFP by implementing authority	
8	Signing of agreement by implementing authority with successful bidder	Two weeks from the date of bid evaluation report of RFP	10%
Handholding Period - Phase III (After award of Contract)			
9	Submission and approval of Fortnight report. Payment will be done on pro rata basis.	12 weeks from the date of issuance of letter to commence the Handholding Period from GCC	15%

Note:

19.2. The amount to be quoted by the consultant is for two issues of REOI and / or RFQ and / or RFP, issuance of pre bid clarifications and two set of bid evaluation with necessary revisions to the Feasibility Report with modified as suggested by the client, etc., complete. If there is a need for revising the Feasibility Report and bid documents, for reissue of REOI and / or RFQ and or RFP for third time, it will be considered as an additional work and 10% of the contract value alone will be paid to the same consultant, towards repetition of output no: 6 to 8 (Bid process Management stage).

19.3 If the project is being implemented in multiple packages, the consultant shall do the necessary transaction advisory services / Bid process Management / etc., separately for each package as on required basis. The payment shall be made on Prorata basis.

19.4 The consultant should submit seven copies of all the above reports along with soft copy (MS word, Excel, AutoCAD, GIS, PDF, others) of the report for review. All the pages in reports shall be printed in duplex mode except for A3 pages. Separate Reports has to be prepared for each package (if more than one package is finalized by the client).

19.5 Consultants shall submit periodical monthly, quarterly reports in detail to the clients and shall attend periodical reviews to be conducted by the clients with various departments of the government. Consultants shall make presentations to clients and to various departments as required during various stages of the assignment.

19.6 The costs for conducting stakeholder consultations have to be borne by the consultants.

20. Review Expert Committee:

20.1 A committee will be formed to review the reports submitted by the consultant.

The committee may consist of -

1. Representatives from Greater Chennai Corporation
2. Representatives from TNUIFSL
3. Representatives from TNPCB
4. Representatives from Anna University
5. Representatives from Indian Institute of Technology, Chennai

6. Representative from Finance (Infrastructure Cell) Department
7. Any other expert as desired by Greater Chennai Corporation

21. Team Composition & Qualification Requirements for the Key Experts (and any other requirements which will be used for evaluating the Key Experts)

22. Team Composition with estimated Input: The Consultant team comprises of National Key-experts with estimation of 24 person-months for DFR, National Key-experts with estimation of 14 person-months for TA services, Hand holding period 10 person-months and national Non-key experts of 20 person-months, excluding those required for Consultant's administrative, clerical and support staff. The duration of the Consultancy is 12 months. The key experts' positions with their estimated inputs are provided in Table 1, 2, 3 & 4 below:

Table 1: Team Composition - Key Experts (Preparation of DFR)

S. No.	Position	Person Months
A	National Key Experts	
1	Team Leader / Project Development Expert	3
2	Solid Waste Management Expert	3
3	Landscape Architect	4
4	Horticulturist	2
5	Botanist	2
6	Legal expert	3
7	Financial Specialist	3
8	Environmental Safeguard Personnel	2
9	Social cum Resettlement Safeguard Personnel	2
	National Key Experts Sub-Total	24

Table 2: Team Composition - Key Experts (TA Services)

S. No.	Position	Person Months
A	National Key Experts	
1	Team Leader / Project Development Expert	5
2	Solid waste management Expert	2
3	Contract Management Expert / Procurement Expert	3

S. No.	Position	Person Months
4	Legal expert	2
5	Financial Specialist	2
	National Key Experts Sub-Total	14

Table 3: Team Composition - Key Experts - Handholding Period of 12 weeks (Period will start on issuance of letter to commence the Handholding period from GCC)

S. No	Position	Person Month
1	Team Leader / Project Development Expert	3
2	Solid Waste Management Expert	1
3	Contract Management Expert / Procurement Expert	1
4	Structural Engineering Expert	1
5	Legal Expert	1
6	Financial Specialist	1
7	Environmental Safeguard Expert	1
8	Social cum Resettlement Safeguard Expert	1
	National Key Experts Sub-Total	10

Table 4: Team Composition – Non-Key Experts

S.No.	Position	Person Months
1.	Geo-Technical Expert	2
2.	Structural Engineer	2
3.	Mechanical Engineer	2
4.	Quantity Surveyor	2
5.	Field Engineers (2 Nos) (2 * 4)	8
6.	CAD Engineer	4
	Total of Non-Key Experts	20

Consultant shall deploy the support staff viz Environmental Expert, Social Expert and other experts, on as required basis based on the project conditions.

23. Expected Qualification Requirements and Tasks assigned to the Key experts:

The Consultant is expected to propose experts adequately qualified and experienced to undertake efficiently the task/ responsibility assigned to them. The tasks/ responsibility assigned and detailed educational qualification and experience requirement for the respective expert are as mentioned below.

23.1. Team Leader / Project Development Expert (National): Team leader will be responsible for overall project management, administration and ensure overall compliance of contract agreement, deliverable management, policy documentation, interaction with the policy makers for project budgetary, bid-process management etc. Team Leader shall be a Graduate in Engineering with MBA Finance with minimum 20 years of experience in preparation of feasibility reports, project structuring, bid documents, concession agreement, bid evaluation, scrutiny of reports, etc. Team leader must have similar project experience (solid waste management projects with PPP assignment) as Team Leader for at least two assignments for a city in India of more than 10 lakh population.

23.2 Solid Waste Management Expert (National): The duty of the Solid Waste Management Expert is to review analytically the present waste management system and evaluate the lacking sustainable elements and to review waste management practices and consider issues for improving Waste Management System. He will be responsible for all surveys including fresh and legacy waste quantification & characterization, exploring various options for reclamation of project site, all engineering aspects, costing etc. for the proposals. A post-graduate in environmental / public health engineering with minimum 15 years of experience in design of municipal solid waste treatment facilities and experience in multilateral assisted projects.

23.3 Landscape Architect (National): Landscape architects will have a responsibility for holistic approach to design and closely work with allied professions (Civil engineers, Surveyors, etc) to prepare a proposal. to create detailed plans indicating new topography, vegetation, walkways, and other landscaping details, storm water drainage (integrate art and cultural elements). They then analyse the natural elements of the site, such as the climate, soil, slope of the land, drainage, and vegetation. At all stages, they evaluate the project's impact on the local ecosystem. Landscape Architect will be responsible for preparation

of comprehensive plan for Eco Park, landscape design, urban forestry, green cover etc. A post-graduate in Architecture / Landscape Architecture with minimum 10 years of experience in design and implementation of parks.

23.4 Horticulturist (National): The responsibility of Horticulturist is to provide solutions necessary to create aesthetically pleasing, functional, and environmentally sound eco park. He shall be also responsible for design of urban forest. Bachelor's degree in Horticulture / Forestry with about 10 years' experience in design and implementation of parks.

24 Botanist (National): Botanist shall be responsible for identification of flora and fauna, selection of species, plantation methods, maintenance etc. He is also responsible for analyzing ways to manage plant conservation and contributing to climate studies. Master's Degree in Botany with about 10 years' experience in design and implementation of parks.

24.1 Legal expert (National): Responsible for review of legal and regulatory provisions, preparation of legal documents related to the project, review and analysis of legal documents submitted by the bidders for implementation & post project award phase etc. A law graduate with minimum of 10 years of experience in in contract development or contract management.

24.2 Financial Specialist (National): Responsible for preparation of various project structure, financial modelling and analysis viz sources of funds, grants availability, viability gap fund and other revenue options linked, carryout economic analysis and value for money analysis, financial reports etc. Chartered Accountants / Cost Accountant / MBA in Finance with minimum 7 years of experience in municipal finance, especially in developing financial models.

24.3 Environmental Safeguard Personnel (National): Post graduate in Environmental Science/ Engineering / Planning with overall experience of 10 years in EIA studies and implementation of EMPs, of which a minimum of 3 years shall be on infrastructure projects funded by multilateral organizations like ADB The Tasks: (i) Identifying regulatory clearance requirements and finalizing the documentary requirement in obtaining the same; (ii) Preparing EMP / site specific Environmental Plan (ii) Preparing IEE & EMP; ensure that IEE reflects the final design. (iii) Suggest mechanisms to redress the complaints such that the complaints/grievances are addressed in a timely manner and resolutions are properly documented when encountered during implementation; (iv) carrying

out consultations (iv) Assistance in any other environmental safeguard related tasks as required.

24.4 Social cum Resettlement Safeguard Personnel (National): Post graduate in Social science (Sociology/Social Work/Economics/Development Studies), ii) have 10 years of experience in preparing Resettlement/ Social/ Gender safeguard plans for urban infrastructure projects, The tasks are i) Based on final designs, carry out census and socio-economic surveys /verification surveys for the affected people and prepare resettlement plan (RP) in line with the TNUFIP resettlement framework (RF), ii) Identify requirement for any EUPs/NOCs for sub-project sites and assist in documentation / process in obtaining the same. Prepare any additional safeguard documentation, if required, such as due diligence reports, iii) conducting public consultation and disclosure activities, as part of preparation of RFP.

23.10.Structural Engineering Expert: The role and responsibility of Structural Engineering Expert is to provide technical details for the activities to be performed at construction site. The main focused responsibility of a structural engineer is to bring a structure that will ensure safety and durability till the service period. He shall help the architects to achieve their vision of the project planned. Postgraduate in Structural Engineering with 10 years of experience in structural design of buildings and urban infrastructure projects.

24. Expected Qualification Requirements to the Non-Key Experts:

24.1.The Consultant is expected to deploy Non-key Experts having qualified and experienced as described hereunder to undertake efficiently their task/ responsibility as below.

24.2. Geo-Technical Expert (Non-Key Expert): The role and responsibility of Geo-Technical Expert is to explore and survey the construction site thoroughly. He will also be responsible for performing various laboratory tests on soil, rock, and groundwater samples. He shall be delegating tasks to the technical team for on-site inspections.Postgraduate in Geo-technical Engineering with 10 years of experience in design of foundation for the civil structures.

24.3. Structural Engineer (Non-Key Expert): The role and responsibility of Structural Engineering Expert is to provide technical details for the activities to be performed at construction site. The main focused responsibility of a

structural engineer is to bring a structure that will ensure safety and durability till the service period. He shall help the architects to achieve their vision of the project planned. Postgraduate in Structural Engineering with 5 years of experience in structural design of buildings and urban infrastructure projects.

24.4. Mechanical Engineer (Non-Key Expert): The role and responsibility of Mechanical Engineer is to plan and implement preventative mechanical and electrical maintenance and servicing of plant and equipment, to identify the causes of mechanical and electrical breakdown or underperformance of plant and equipment and to ensure that all maintenance/servicing and repair works are undertaken in accordance with health, safety, environmental and industry legislative and regulatory standards, including approved codes of practice safe systems of work. Graduate in Mechanical Engineering with 10 years' experience in design and maintenance of mechanical plants and equipments in solid waste management projects.

24.5. Quantity Surveyor (Non-Key Expert) - The role and responsibility of Quantity Surveyor is conducting feasibility studies i) to estimate materials, time and labour costs, ii) preparing, negotiating and analysing costs for tenders and contracts, iii) coordination of work effort, iv) advising on a range of legal and contractual issues and v) valuing completed work and arranging for payments. Graduate in Civil Engineering with 10 years' experience in estimation of **urban** infrastructure projects.

24.6. Field Engineers (Non-Key Expert) - The role and responsibility of Field Engineer is i) to conduct site visits, monitor schedules, and supervise technicians ii) Running field operations, offering technical support, and troubleshooting on-site issues, iii) Ensuring on-site efficiency and safety at all times and iv Estimating costs, approving project designs, and preparing contracts. Graduate in Civil Engineering with 5 years of experience in water supply / sewerage systems / storm water drainage projects and other similar urban infrastructure projects.

24.7. CAD Engineer (Non-Key Expert) – The role and responsibility of CAD Engineer is i) Designing project frame works, ii) producing detailed construction and design plans for architects and engineers from other disciplines to follow iii) Collaborating with industrial and packaging engineers to develop, manufacture and market products. Diploma in Engineering with 7 years of experience in preparation network drawings, structural drawings in Auto CAD for water supply / UGSS / SWD /SWM projects including data imports from GPS, Total Station, checking of vertical and horizontal profiles etc.

25. Note:

- 25.1 Adequate support staff like civil engineer, structural engineer, geo technical engineer, surveyors, institutional, capacity building, soil experts, etc., may be brought in by the consultants from allied and associated fields with adequate experience to ensure that the objectives of the project are achieved within the stipulated timelines.
- 25.2 The Team Leader / Project Development Expert shall be full time professional for all the activities i.e DFR, TA services& Handholding period and to be stationed in Chennai till the completion of Study.
- 25.3 A site plan showing the layout is attached (Enclosure -III) with this ToR for Bidder's reference only.
- 25.4 The Consultant shall make necessary presentations to Authority and to various departments as required during various stages of the assignment with necessary key experts as required basis.
- 25.5 Any and all material shared during the course relating to the Projects are confidential including but not limited to the recommendations, information being shared, (the "Confidential Information") shall not be made public or shared with any other party without the prior written consent of the other Parties to this agreement or the Party to whom such Confidential Information belongs.
- 25.6 In case of any specific meeting requirement required by the TNUIFSL / GCC for project related work, it shall be attended by the consultant and report shall be furnished within a reasonable time. No additional cost will be provided to the Consultant for attending multiple meetings.

26. PROCEDURES FOR REVIEW OF PROGRESS REPORTS.

The review committee will review the reports submitted by the consultant. The decisions/suggestion carried out will be reviewed in the next meeting. The comments or views on the various reports will be given to the consultant within 15 days of submission. In addition to this, TNIDB/GoTN will review the Reports as required. Based on the review Committee / TNIDB/GoTN the consultant should carry out the suggestions/ comments within the timeline.

OUTLINE CONTENTS OF INITIAL ENVIRONMENTAL EXAMINATION REPORT

1. Executive Summary

Describe concisely the critical facts, significant findings, and recommended actions of environmental assessment study as documented in the report.³

2. Introduction

1. purpose of the report, including (a) identification of the project and project proponent; (b) brief description of the nature, size, and location of the project and of its importance to the country; and (c) any other pertinent background information; and
2. Extent of the IEE study: scope of study, magnitude of effort, person or agency performing the study, and acknowledgement.

3. Description of the Project

1. Describe the proposed project; its major components, including any associated facility required by and for the project (for example, access roads, power lines, water supply, quarries and borrow pits, and spoil disposal),
2. Include drawings and maps showing the project's layout and components, the project site, and need for the project, project location, the project's area of influence.

4. Policy, Legal, and Administrative Framework

Discuss national and local legal and institutional framework within which the environmental assessment is carried out. Also discuss the ADB Safeguards Policy Statement and compliance requirements and gaps if any to be addressed

5. Description of the Environment (Baseline Data)

Describes relevant physical, biological, socioeconomic and cultural conditions within the study area.

6. Anticipated Environmental Impacts and Mitigation Measures

1. Identify, predict and assesses the project's likely positive and negative direct and indirect impacts to physical, biological, socioeconomic and

impacts on livelihoods and physical cultural resources in the project's area of influence

2. Examine alternatives to the proposed project site, technology, design and operation. Also state the basis for selecting the particular project design, location etc.
3. Identify mitigation measures to avoid, reduce, mitigate, or compensate for adverse environmental impacts (in that order of priority)

7. Information Disclosure, Consultation, and Grievance Redress Mechanism

1. describe the process undertaken to involve the public in project design
2. Summarize the consultation and disclosure activities undertaken during project preparation
3. Summarize comments and concerns received from beneficiaries, local communities, and other stakeholders and how these comments have been addressed in project
4. Describes the planned information disclosure and consultation activities during the implementation.
5. Describe the grievance redressal framework – process, responsibilities and timelines.

8. Environmental Management Plan

1. Summarize stage wise (design, construction and operation) environmental impacts and detail mitigation and management measures (Table 1)
2. Describe monitoring measures (Table 2)
3. Describe implementation arrangements and responsibilities for EMP implementation
4. Describe the monitoring & reporting requirements

Table A8-1: Summary Environmental Impacts and Mitigation Measures

Project stage	Potential Environmental Impacts	Proposed Mitigation Measures	Performance standard	Institutional Responsibility		Cost estimates
				Implementation	Monitoring	
Pre-construction phase						
Construction phase						

Project stage	Potential Environmental Impacts	Proposed Mitigation Measures	Performance standard	Institutional Responsibility		Cost estimates
Operation and maintenance phase						

Table A8-2: Environmental Monitoring Plan

Project stage	Mitigation measure	Parameters to be monitored	Performance standard	Location	Measurements	Frequency	Responsibilities	Cost
Pre-construction phase								
Construction phase								
Operation and maintenance phase								

9. Conclusion and Recommendation

1. Provide the conclusions drawn from the screening process & IEE and recommendations.
2. Provide need for any further assessment if any.

Guidance for preparation of Resettlement Plan (RP) as per Resettlement Framework (RF) and ADB's Safeguard Policy Statement 2009 (SPS 2009)

OUTLINE OF RESETTLEMENT PLAN

The comprehensiveness of a resettlement plan would be according to the potential involuntary resettlement impacts/risks and size of the project. The resettlement plan must adequately addresses all involuntary resettlement issues pertaining to the project, describes specific mitigation measures that will be taken to address the issues and outlines institutional requirement and resources required to implementation of the resettlement plan. The following outline of resettlement plan is suggested for the present project.

A. Executive Summary

This section provides a concise statement of project scope, key survey findings, entitlements and recommended actions.

B. Project Description

This section provides a general description of the project, discusses project components that result in land acquisition, involuntary resettlement, or both and identify the project area. It also describes the alternatives considered to avoid or minimize resettlement. Include a table with quantified data and provide a rationale for the final decision.

C. Scope of Land Acquisition and Resettlement

This section:

- (i) discusses the project's potential impacts, and includes maps of the areas or zone of impact of project components or activities;
- (ii) describes the scope of land acquisition (provide maps) and explains why it is necessary for the main investment project;
- (iii) summarizes the key effects in terms of assets acquired and displaced persons; and
- (iv) provides details of any common property resources that will be acquired.

D. Methodology for Impact Assessment

This section outlines the methodology and tools adopted for:

- (i) resettlement screening
- (ii) land acquisition planning
- (iii) socioeconomic survey
- (iv) census survey or inventory of assets and livelihood loss
- (v) consultation with stakeholders

E. Socioeconomic Information and Profile

This section outlines the results of the social impact assessment, the census survey, and other studies, with information and/or data disaggregated by gender, vulnerability, and other social groupings, including:

- (i) define, identify, and enumerate the people and communities to be affected;
- (ii) describe the likely impacts of land and asset acquisition on the people and communities affected taking social, cultural, and economic parameters into account;
- (iii) discuss the project's impacts on the poor, indigenous and/or ethnic minorities, and other vulnerable groups; and
- (iv) identify gender and resettlement impacts, and the socioeconomic situation, impacts, needs, and priorities of women.

F. Stakeholders Consultation and Participation

This section:

- (i) identifies project stakeholders, especially primary stakeholders;
- (ii) describes the consultation and participation mechanisms to be used during the different stages of the project cycle;
- (iii) summarizes the results of consultations with affected persons (including host communities), and discusses how concerns raised and recommendations made were addressed in the resettlement plan; and
- (iv) describes the process for consultation with affected persons during project implementation.

G. Legal Framework

This section:

- (i) describes national and local laws and regulations that apply to the project and identify gaps between local laws and ADB's policy requirements; and discuss how any gaps will be addressed.

- (ii) describes the legal and policy commitments from the executing agency for all types of displaced persons;
- (iii) outlines the principles and methodologies used for determining valuations and compensation rates at replacement cost for assets, incomes, and livelihoods; and set out the compensation and assistance eligibility criteria and how and when compensation and assistance will be provided.
- (iv) describes the land acquisition process and prepare a schedule for meeting key procedural requirements.

H. Entitlements, Assistance and Benefits

This section:

- (i) defines displaced persons' entitlements and eligibility, and describes all resettlement assistance measures (includes an entitlement matrix);
- (ii) specifies all assistance to vulnerable groups, including women, and other special groups; and.
- (iii) outlines opportunities for affected persons to derive appropriate development benefits from the project.

I. Relocation of Housing and Settlements

This section:

- (i) describes options for relocating housing and other structures, including replacement housing, replacement cash compensation, and/or self-selection (ensure that gender concerns and support to vulnerable groups are identified);
- (ii) describes alternative relocation sites considered; community consultations conducted; and justification for selected sites, including details about location, environmental assessment of sites, and development needs;
- (iii) provides timetables for site preparation and transfer;
- (iv) describes the legal arrangements to regularize tenure and transfer titles to resettled persons;
- (v) outlines measures to assist displaced persons with their transfer and establishment at new sites;
- (vi) describes plans to provide civic infrastructure; and
- (vii) explains how integration with host populations will be carried out.

J. Income Restoration and Rehabilitation

This section:

- (i) identifies livelihood risks and prepare disaggregated tables based on demographic data and livelihood sources;

- (ii) describes income restoration programs, including multiple options for restoring all types of livelihoods (examples include project benefit sharing, revenue sharing arrangements, joint stock for equity contributions such as land, discuss sustainability and safety nets);
- (iii) outlines measures to provide social safety net through social insurance and/or project special funds;
- (iv) describes special measures to support vulnerable groups;
- (v) explains gender considerations; and
- (vi) describes training programs.

K. Resettlement Budget and Financing Plan

This section:

- (i) provides an itemized budget for all resettlement activities, including for the resettlement unit, staff training, monitoring and evaluation, and preparation of resettlement plans during loan implementation.
- (ii) describes the flow of funds (the annual resettlement budget should show the budget-scheduled expenditure for key items).
- (iii) includes a justification for all assumptions made in calculating compensation rates and other cost estimates (taking into account both physical and cost contingencies), plus replacement costs.
- (iv) includes information about the source of funding for the resettlement plan budget.

L. Information Disclosure

This section:

- (i) describes the activities undertaken to disseminate project and resettlement information during project design and preparation for engaging stakeholders;
- (v) confirms disclosure of the draft resettlement plan to affected persons and includes arrangements to disclose any subsequent plans; and
- (vi) describes the planned information disclosure measures (including the type of information to be disseminated and the method of dissemination) during project implementation.

M. Grievance Redress Mechanisms

This section describes mechanisms to receive and facilitate the resolution of affected persons' concerns and grievances. It explains how the procedures are accessible to affected persons and gender sensitive.

N. Institutional Arrangements

This section:

- (i) describes institutional arrangement responsibilities and mechanisms for carrying out the measures of the resettlement plan;
- (ii) includes institutional capacity building program, including technical assistance, if required;
- (iii) describes role of nongovernmental organizations (NGOs)/consultants, if involved, and organizations of affected persons in resettlement planning and management; and
- (iv) describes how women's groups will be involved in resettlement planning and management,

O. Implementation Schedule

This section includes a detailed, time bound, implementation schedule for all key resettlement and rehabilitation activities. The implementation schedule should cover all aspects of resettlement activities synchronized with the project schedule of civil works construction and provide land acquisition process and timeline.

P. Monitoring and Reporting

This section describes the mechanisms and benchmarks appropriate to the project for monitoring and evaluating the implementation of the resettlement plan. It specifies arrangements for participation of affected persons in the monitoring process. This section will also describe reporting procedures.

Appendixes to Resettlement Plan

The resettlement plans shall have the following appendixes:

1. Filled in Social Screening Form & resettlement impact categorisation checklist (duly signed)
2. Land details of all the project sites (Sl.No, component, location, extent available, extent required, land use, ownership, remarks, GPS coordinates).
3. FMB extracts and Adangal (ownership) records.
4. Details of pipe line alignment and network (length, size of pipe, available RoW, pipe line location).
5. Strip map /plan of pipe line alignment details.
6. Photographs, orientation drawings of the sites.
7. Details of Public/Stakeholder consultations – newspaper clippings, photographs, Minutes, proceedings etc.
8. Entitlement matrix of resettlement framework

9. List of affected person/displaced person with basic socioeconomic details and address details.
10. List of AD/displaced person with entitlements
11. Key base line socio economic indicators (indicators as per Table 10 of this resettlement framework)
12. Formats for reporting of R&R implementation progress.
13. Translated R&R brochures explaining key features of resettlement framework.
14. Copies of communication relating to land acquisition/alienation.
15. Format for certification of availability/readiness of sites.

