

# Facility Administration Manual

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India: Visakhapatnam–Chennai Industrial Corridor  
Development Program

## ABBREVIATIONS

ADB	:	Asian Development Bank
ADF	:	Asian Development Fund
AFS	:	audited financial statements
APFS	:	audited project financial statements
APSEZ	:	Andhra Pradesh special economic zone
APTransco	:	Transmission Corporation of Andhra Pradesh
APIIC	:	Andhra Pradesh Industrial Infrastructure Corporation
APRDC	:	Andhra Pradesh Road Development Corporation
APSSDC	:	Andhra Pradesh State Skill Development Corporation
CAG	:	Comptroller and Auditor General of India
CDP	:	conceptual development plan
CETP	:	common effluent treatment plant
CPP	:	Consultation and participation plan
CQS	:	consultant qualification selection
DDR	:	due diligence report
DEA	:	Department of Economic Affairs
DISCOM	:	distribution company
DMA	:	district metering approach
DMF	:	design and monitoring framework
DOIC	:	Department of Industries and Commerce
DSAA	:	Diagnostic Studies of Accounts and Auditing
EARF	:	environmental assessment review framework
EIA	:	environmental impact assessment
ELSR	:	elevated service reservoir
EMP	:	environmental management plan
ETP	:	effluent treatment plant
FAM	:	facility administration manual
FFA	:	framework financing agreement
GAAP	:	generally accepted accounting principles
GACAP	:	governance and anticorruption action plan
GDP	:	gross domestic product
GESI	:	gender equality and social inclusion
GoAP	:	Government of Andhra Pradesh
GRC	:	grievance redressal committee
GRM	:	grievance redressal mechanism
GVMC	:	Greater Visakhapatnam Municipal Corporation
HDPE	:	high density poly ethylene
IARS	:	imprest account reconciliation statement
ICB	:	international competitive bidding
IEE	:	initial environmental examination
IEI	:	initial environment inspection
IPP	:	indigenous people plan
IPPF	:	indigenous people planning framework
IT	:	information technology
ITeS	:	information technology-enabled services
km	:	kilometer
LAR	:	land acquisition and resettlement

LIBOR	:	London interbank offered rate
LL	:	lakh liter
MAUD	:	Municipal Administration and Urban Development
MGD	:	million gallon per day
MLD	:	million litres per day
mm	:	millimeter
MPSEZ	:	multiproduct special economic zone
NCB	:	national competitive bidding
NSQF	:	National Skills Qualification Framework
O&M	:	operations and maintenance
PAI	:	project administration instructions
PCU	:	passenger car unit
PEFA	:	program expenditure and financing assessment
PFR	:	periodic financing request
PIU	:	project implementation unit
PMSC	:	project management and supervision consultant
PMU	:	project management unit
PVC	:	polyvinyl chloride
QBS	:	quality-based selection
QCBS	:	quality- and cost-based selection
R&B	:	Roads & Buildings Department
RDO	:	revenue divisional officer
ROSC	:	reports on the observance of standards and codes
RPP	:	regional perspective plan
RRP	:	report and recommendation of the President to the Board
SAR	:	subproject appraisal report
SBD	:	standard bidding documents
SCADA	:	supervisory control and data acquisition
SEZ	:	special economic zone
SOE	:	statement of expenditure
SPRSS	:	summary poverty reduction and social strategy
SPS	:	safeguard policy statement
SST	:	summer storage tank
STP	:	sewerage treatment plant
TMC	:	thousand million cubic feet
TOR	:	terms of reference
TR&B	:	transport roads and building
UAW	:	unaccounted for water
VCIC	:	Visakhapatnam–Chennai Industrial Corridor
VCICDP	:	Visakhapatnam–Chennai Industrial Corridor Development Program
WTP	:	water treatment plant



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## **Facility Administration Manual Purpose and Process**

The facility administration manual (FAM) describes the essential administrative and management requirements to implement the facility and its projects on time, within budget, and in accordance with the policies and procedures of the government and Asian Development Bank (ADB). The FAM should include references to all available templates and instructions either through linkages to relevant URLs or directly incorporated in the FAM.

The State of Andhra Pradesh acting through its Department of Industries and Commerce, Andhra Pradesh Road Development Corporation (APRDC), Andhra Pradesh Industrial Infrastructure Corporation Limited (APIIC), Greater Visakhapatnam Municipal Corporation (GVMC), and Transmission Corporation of Andhra Pradesh (APTransco) are wholly responsible for the implementation of ADB-financed projects, as agreed jointly between the borrower and ADB, and in accordance with the policies and procedures of the government and ADB. ADB staff is responsible for supporting implementation including compliance by the executing and implementing agencies of their obligations and responsibilities for project implementation in accordance with ADB's policies and procedures.

At loan negotiations, the borrower and ADB have agreed to the FAM and ensured consistency with the loan and project agreements. Such agreement is reflected in the minutes of the loan negotiations. In the event of any discrepancy or contradiction between the FAM and the loan agreement, the provisions of the loan agreement shall prevail.

After ADB Board approval of the project's report and recommendations of the President (RRP), changes in implementation arrangements are subject to agreement and approval pursuant to relevant government and ADB administrative procedures (including the Facility Administration Instructions) and upon such approval, they will be subsequently incorporated in the FAM.



## I. PROJECT DESCRIPTION

### A. Rationale

1. The proposed Visakhapatnam–Chennai Industrial Corridor Development Program (VCICDP) will complement the ongoing efforts of the Government of Andhra Pradesh (GoAP) to enhance industrial growth and create high-quality jobs.<sup>1</sup> The VCICDP comprises: (i) a proposed multitranche financing facility (MFF), (ii) a proposed policy-based loan (PBL), and (iii) a proposed administration of a grant to be provided by the Urban Climate Change Resilience Trust Fund<sup>2</sup> (UCCRTF) under the Urban Financing Partnership Facility. The VCICDP will support policy reforms and institutional development in the state; and priority infrastructure investments in the Visakhapatnam–Chennai Industrial Corridor (VCIC). There is also an attached technical assistance (TA) for Capacity Development of Institutions for Industrial Corridor Management in Andhra Pradesh.

2. This document mainly describes the MFF and its implementation arrangements.

3. **India's manufacturing sector.** While India has seen a rapid structural transformation and achieved strong economic growth since 1991, it must continue to create economic opportunities for its large labor force, which is increasing by about 12 million a year, to sustain its economic growth and realize its demographic dividend.<sup>3</sup> With limited prospects for job creation in agriculture, one of the most pressing policy challenges is to create more productive and well-paying jobs in manufacturing and services. Although India's services sector has grown significantly since 1991,<sup>4</sup> manufacturing, which has higher untapped potential, has lagged with a contribution of about 15% to gross domestic product (GDP) and 12% to employment each year over this period.<sup>5</sup> India's National Manufacturing Policy (2011) calls for increasing the manufacturing sector's contribution to at least 25% of GDP and enhancing job creation in manufacturing to create 100 million additional jobs by 2022.<sup>6</sup>

4. **India's industrial corridors and policies to stimulate manufacturing.** India has adopted an industrial corridor approach to stimulate manufacturing and an Act East policy to integrate the Indian economy with Asia's dynamic global production networks.<sup>7</sup> The industrial corridor approach involves the creation of an efficient multimodal transport network supported by quality infrastructure and logistics within a defined geography, and a policy framework that facilitates business operations for integration with global production networks. Industrial corridors are central to India's Make in India initiative, which encourages investments in the manufacturing sector to stimulate growth and create high-quality jobs. In line with these policies, the government and the Asian Development Bank (ADB) identified the East Coast Economic Corridor (ECEC)—India's first coastal corridor—extending over 2,500 kilometers (km) from

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<sup>1</sup> Asian Development Bank (ADB). 2010. *Technical Assistance for Support for South Asia Regional Economic Cooperation*. Manila (TA 7491-REG); and ADB. 2012. *Technical Assistance for Enhancing Economic Analysis and South-South Learning*. Manila (TA 8254-REG). These TA projects supported preparation of the VCICDP.

<sup>2</sup> Financing partners: the Rockefeller Foundation and the governments of Switzerland, the United Kingdom and the United States.

<sup>3</sup> Government of India, Planning Commission. 2011. *Report of the Working Group on Employment, Planning and Policy for the Twelfth Five Year Plan (2012–2017)*. Delhi. The current total labor force is about 530 million.

<sup>4</sup> The share of the services in India's GDP increased from 30% in the 1950s to 45% in FY1991 and 53% in FY2013.

<sup>5</sup> Manufacturing in the People's Republic of China, Malaysia, and Viet Nam contributes 25% or more to their GDPs.

<sup>6</sup> Government of India, Ministry of Commerce and Industry. 2011. *National Manufacturing Policy, 2011*. Delhi.

<sup>7</sup> Details on the industrial corridor approach are available at <http://www.makeinindia.com/live-projects-industrial-corridor>. The government launched five industrial corridors in its FY2015 budget. Under the Act East policy, India plans to have greater strategic role for broader economic and diplomatic engagement across Asia and the Pacific.

Kolkata in West Bengal to Tuticorin in Tamil Nadu. The ECEC aims to stimulate growth through network externalities, linkage with urban and industrial clusters, and by integrating with regional value chains in Southeast and East Asia.<sup>8</sup> The VCIC, which covers more than 800 km of coastline in Andhra Pradesh, is proposed to be developed as the first phase of the ECEC.<sup>9</sup>

**5. Challenges to sustaining industrial growth in Andhra Pradesh.** In the state of Andhra Pradesh the manufacturing sector contributes to 12% of the state's GDP —lagging nationwide figure of 15%. Therefore, there is a pertinent need to usher in greater degree of industrialization. This will involve addressing challenges such as low industrial diversification, and small and labor-intensive manufacturing sector, with low skills, productivity, and earnings. Key infrastructure in industrial clusters remains inadequate to support the burgeoning demand for efficient industrial infrastructure and a robust skill inventory. However in a recent survey, Andhra Pradesh was ranked second among all states in India in ease of doing business.<sup>10</sup> Andhra Pradesh needs to further improve on procedures of doing business, labor-related laws, land management, and taxation laws for it to enhance its competitiveness and benchmark itself with other countries in the region such as Singapore, South Korea, and Malaysia.<sup>11</sup>

**6. Visakhapatnam–Chennai Industrial Corridor as a growth engine for Andhra Pradesh.** To lay the foundation for a long-term investment program, ADB supported the preparation of a conceptual development plan and a regional perspective plan for the VCIC, which included an infrastructure strategy to drive economic growth and the identification of nodes<sup>12</sup> for industrial development, high-potential industrial sectors, and a set of priority projects.<sup>13</sup> The conceptual development plan indicated that the VCIC, with its long coastline and strategically located ports, provides multiple international gateways to connect India with vibrant global production networks. The regional perspective plan identified the VCIC's high potential for generating additional employment and industrial output, which can be achieved from 2015 to 2045.<sup>14</sup> ADB is continuing its support to the GoAP with strategic planning for a long-term, phased investment plan, among others, through master planning of the four identified industrial nodes. The VCICDP, which combines an MFF and a PBL, will build on the existing concentration of industries and increase the density and flow of economic activities along the VCIC in a business-induced scenario against a business-as-usual scenario.

<sup>8</sup> Asian Development Bank Institute. 2015. *Connecting South Asia and Southeast Asia, 2015*. Tokyo. <http://www.adb.org/publications/connecting-south-asia-and-southeast-asia>

<sup>9</sup> ADB. 2016. *Scaling New Heights: Vizag-Chennai Industrial Corridor, India's First Coastal Corridor*. Manila. <http://www.adb.org/publications/scaling-new-heights-vizag-chennai-industrial-corridor>

<sup>10</sup> World Bank. 2015. *Assessment of State Implementation of Business Reforms, September 2015*. Delhi. India was ranked 142 among 189 nations in recent survey on ease of doing business (World Bank. 2016. *Doing Business 2016*. Washington, DC.).

<sup>11</sup> An important parameter of competitiveness is time to start a business, which is 21 days for Andhra Pradesh and 29 days for India. The same figures for other countries are: Singapore-2.5 days; South Korea-4 days; and Malaysia-4 days (World Bank assessment. <http://wdi.worldbank.org/table/5.3>).

<sup>12</sup> A node refers to a geographical area along the industrial corridor with high growth potential and encompassing a production enclave, an urban center, and a port along with a logistics and distribution network. Four nodes have been identified in the VCIC: Visakhapatnam, Kakinada, Amaravati region, and Yeperdu–Srikalahasti. An industrial cluster refers to an identified geographical area of industrial units within a node. For example, Visakhapatnam node comprises four industrial clusters: Pydibhimavaram, Atchutapuram, Nakkapalle, and Bheemunipatnam.

<sup>13</sup> The conceptual development plan is available on the GoAP website. [https://www.apindustries.gov.in/APIndus/Data/Vizag-Chennai%20Industrial%20Corridor\\_Full%20Report.pdf](https://www.apindustries.gov.in/APIndus/Data/Vizag-Chennai%20Industrial%20Corridor_Full%20Report.pdf). Visakhapatnam–Chennai Industrial Corridor: Summary of Conceptual Development Plan (accessible from the list of linked documents in Appendix 2).

<sup>14</sup> Visakhapatnam–Chennai Industrial Corridor: Summary of Regional Perspective Plan (accessible from the list of linked documents in Appendix 2). By 2045, industrial output in the VCIC is expected to rise to about \$295 billion in the business-induced scenario and about \$117 billion in the business-as-usual scenario from about \$16 billion in 2015. The business-induced scenario envisages an investment of \$31 billion by 2045 and \$7 billion by 2020.

7. The MFF is an appropriate modality because (i) the GoAP has a policy framework and a sector road map for infrastructure investments and reforms; (ii) the investments are significant but sequenced, allowing the GoAP to use a phased approach with a well-defined financial envelope; (iii) it allows ADB to have long-term engagement and continuous policy dialogue; and (iv) it enhances project readiness, reduces transaction costs, and supports capacity building. The PBL will complement the MFF through comprehensive state-wide reforms and institutional development to help the VCIC realize its full potential for growth and competitiveness. The PBL is justified based on (i) the financial support required to prepare, implement, and monitor the proposed policy actions; (ii) assessment of the GoAP's overall financial resources; (iii) development financing needs in the industrial sector; (iv) the GoAP's absorptive capacity; and (v) the requirement for capacity building of institutions in the industrial sector. The VCICDP is in line with ADB's country partnership strategy for India.<sup>15</sup>

8. **Impact, outcome and outputs.** The impact of the VCICDP will be an increased contribution of the manufacturing sector to the state's GDP, trade, and employment. The outcome will be enhanced growth and competitiveness of the VCIC. The VCICDP will have three outputs as follows. The PBL will support output 1, and the MFF and the Grant will support outputs 2 and 3. The design and monitoring framework (DMF) for the MFF and Project 1 are in **Appendix 1.**

9. **Output 1: Corridor management strengthened and ease of doing business improved.** This will include (i) capacity development of institutions engaged in corridor management; (ii) support to enhance the ease of doing business, including the establishment of an e-portal and a single-desk system, with incentives for women entrepreneurs; (iii) industrial and sector policies to stimulate industrial development, with special incentives for women; and (iv) improvement in investor promotion, trade facilitation, and logistics.

10. Considering the demand for skilled workers across multiple sectors, the GoAP has committed to use part of the PBL to provide support for high quality content development for training institutions for skills development, and support to Andhra Pradesh State Skills Development Corporation (APSSDC) for training of workers and entrepreneurs every year.

11. **Output 2: Visakhapatnam–Chennai Industrial Corridor infrastructure strengthened and more resilient.** This will include the development of (i) internal roads, water supply, drainage, logistics, and industrial effluent treatment in selected industrial clusters; (ii) roads for connectivity between industrial nodes, ports, and urban areas, and road safety measures; (iii) power transmission and distribution system in the industrial corridor; and (iv) smart cities planning with climate change resilience and continuous water supply in Visakhapatnam.<sup>16</sup>

12. Project 1, which is representative of subprojects to be financed under the MFF,<sup>17</sup> will focus on two of the four VCIC nodes.<sup>18</sup> The industrial area investments reflect the need for high-quality internal infrastructure within the industrial clusters. Project 1 will finance the common industrial effluent treatment facility in Atchutapuram and Naidupeta clusters, and strengthen services (drainage, internal connectivity, internal water supply, and the service center) in Naidupeta cluster. Project 1 includes strengthening and widening of the Samarlakota–

<sup>15</sup> ADB. 2013. *Country Partnership Strategy: India, 2013–2017*. Manila.

<sup>16</sup> Visakhapatnam and Kakinada, which are in the VCIC, are in the government list of the first 100 smart cities.

<sup>17</sup> Project 1 corresponds to tranche 1 of the MFF and Project 2 corresponds to tranche 2 of the MFF.

<sup>18</sup> Priority nodes in Project 1 are Visakhapatnam, a major industrial hub and a port, and Yerpedu–Srikalahasti, an important node with linkages with the Chennai–Bangalore Industrial Corridor and with ports in Krishnapatnam and Chennai. Both nodes are on the arterial spine of the corridor, a national highway, and are also on a rail corridor.

Rajanagaram section (29.6 km) of the state highway to four lanes to improve connectivity from Kakinada Port to National Highway 16. It will also upgrade seven power substations to supply high-quality and reliable power to Visakhapatnam, Naidupeta, and Yerpedu–Srikalahasti industrial clusters. Project 1 will support investments in smart water management in the northwest sector of Visakhapatnam to reduce nonrevenue water and provide continuous water supply. The UCCRTF grant, which is part of Project 1, will finance innovative approaches to climate change resilient urban infrastructure in Visakhapatnam under output 2.<sup>19</sup>

**13. Output 3: Institutional capacities, human resources, and program management strengthened.** This will include (i) the establishment of a project development mechanism; (ii) skills enhancement of workers and entrepreneurs, especially women; (iii) support for project management; and (iv) support for investor promotion.

## **B. Special Features**

**14.** The MFF provides flexibility in making investment decisions according to the needs of the state government in accordance with the sector road map, policy framework and investment plan of infrastructure development for the corridor (available in Appendix 2). It will also allow the implementation of the MFF on the basis of the readiness of individual subprojects. Further, the MFF will support capacity building of the implementing line departments involved in VCICDP. The MFF entails undertaking due diligence work on a sample of representative subprojects and preparing frameworks (including those typically established for safeguards), which makes processing of subsequent tranches quicker and provides ample time for readiness preparedness. However, each subproject included under the subsequent tranches is to be fully appraised and subjected to full due diligence in accordance with the standard ADB operating policies and procedures (Subproject selection criteria are in Appendix 3).

**15. Framework Financing Agreement (FFA).** The FFA is the primary MFF document, which records the agreements between the client and ADB, and establishes the principles by which ADB would provide financing, and the client would avail itself of such financing.<sup>20</sup>

**16. Periodic Financing Request (PFR).** A PFR is a formal request to ADB by the client to finance individual tranches under the MFF comprising individual project component, a batch of subprojects and outputs.<sup>21</sup> Each PFR will specify the tranche amount, the conversion instruments, the financing terms, cost estimates and financing plan, implementation arrangements, advance contracting, and the amount and purpose of retroactive financing, if any, requested. Each PFR will be submitted to ADB along with subproject appraisal reports describing specific part of the MFF supported under the PFR and the broad and specific strategic objectives that are to be met by the PFR. For the second PFR, a report will also be prepared on implementation progress, including compliance with covenants and safeguards, of the first tranche. A DMF will be prepared for the MFF and also for each PFR. Currently the MFF comprises two tranches to be implemented over a period of 8 years from 2016 to 2024 and the Project 1 is to be implemented over a period of 6 years from 2016 to 2022.

**17. Tranches under MFF.** Each tranche will constitute a project loan. ADB will provide tranches to finance subprojects under the MFF, as and when the subprojects are ready for financing, provided Government of India and GoAP are in compliance with the understandings

<sup>19</sup> Grant under the Urban Climate Change Resilience Trust Fund: Strengthening Urban Climate Change Resilience of Visakhapatnam (accessible from the list of linked documents in Appendix 2).

<sup>20</sup> The Framework Financing Agreement is accessible from the list of linked documents to the RRP.

<sup>21</sup> First periodic financing request (PFR) is accessible from the list of linked documents to the RRP.

in the FFA, and the subprojects meet the selection criteria (Appendix 3) and are properly selected following the approval procedures for subprojects. Each tranche may be financed under terms different from the financing terms of previous or subsequent loans. The choice of financing terms will depend on the project and ADB's financing policies, all prevailing at the time the tranche is documented in a legal agreement. Tranches may be provided in sequence or simultaneously, and some may overlap in time with each other.

### **C. Detailed components of MFF Outputs**

18. The VCIC is proposed as a node centric development platform with four nodes: (i) Visakhapatnam node, (ii) Kakinada node, (iii) Amaravati region node, and (iv) Yeperdu–Srikalahasti node. Some of the critical industrial sectors shortlisted for achieving the targeted outcomes are textiles, food processing, metallurgy, chemicals and petrochemicals, electronics, pharmaceuticals, and automobiles. In the future, it is expected to have sectors such as medical equipment, plastics, organic chemicals, aerospace, and information technology or information technology-enabled services. The VCIC is well poised to connect to global production networks of southeast and east Asia.

19. Andhra Pradesh Industrial Infrastructure Corporation Limited (APIIC), GoAP's arm for developing and maintaining industrial parks and special economic zones (SEZ), plays a pivotal role in the proposed MFF. APIIC has prioritized two nodes, Visakhapatnam and Yeperdu–Srikalahasti, for initial investments. Andhra Pradesh Road Development Corporation (APRDC) has identified a few corridors for enhancing connectivity of the industrial nodes to major ports and national arteries. Similarly, Transmission Corporation of Andhra Pradesh (APTransco) is supporting the industrial nodes by establishing and/or upgrading power infrastructure (substations and power transmission lines) in the corridor. Greater Visakhapatnam Municipal Corporation (GVMC), part of the Municipal Administration and Urban Development (MA&UD), has prioritized upgrading of urban drinking water supply in Visakhapatnam municipal area. The investment components of the VCICDP are in line with the priorities of the GoAP. The details are as follows:

#### **1. Industrial Infrastructure**

20. Atchutapuram SEZ is a multi-product SEZ (MPSEZ) developed over an area of 5,595.47 acres of land at Atchutapuram and Rambilli mandals of Visakhapatnam district. Similarly, Naidupeta cluster in the southern part of the state consists of a multi-product SEZ (2,549 acres), Naidupeta Industrial Park (1,244 acres) and Attivaram Industrial Park (406 acres). Many investors have evinced interest in these areas and a few have even started production. Investors would be facilitated in running smooth production operations if some vital infrastructure components, such as bulk water supply and effluent treatment facilities, are installed and commissioned. Due to pressing demand from the existing chemical units, APIIC has already started construction of 1.5 million liters per day (MLD) common effluent treatment plant (CETP) and an outfall system for transporting treated effluent for marine disposal in Andhra Pradesh special economic zone (APSEZ) Atchutapuram. This needs to be augmented to a capacity of 4.5 MLD to cater to the requirement of all allocated units in the chemical sector. Thus, construction of a 3 MLD CETP is planned under the project.

21. The Atchutapuram SEZ is presently using the surplus bulk water from the adjacent apparel SEZ, Brandix, which is yet to expand to its full capacity. To be self-reliant for bulk water, APSEZ has been allocated 95 MLD water from Yeluru left bank main canal, which is 26 km away from the APSEZ area. It is planned to construct intake structure with pumps, collection,

transmission and summer storage facilities<sup>22</sup> under the project. In addition, a 5 MLD water treatment plant is also proposed as part of the project to meet the treated water requirement. APIIC shall be constructing the internal water distribution pipes and the storm water management system using its own resources.

22. There is a similar requirement for upgrading internal infrastructure in Naidupeta cluster of Yerepedu Kalahasti node. Expansion of production capacity of existing units and operations of allotted units are linked to improved internal infrastructure and CETP. Considering the capacity requirement of units already operating and likely to be commissioned, a CETP of 1.0 MLD is planned under the project. As there is no nearby site for disposal of treated effluent, the CETP shall be operating on a zero liquid discharge (ZLD) mode. MPSEZ is a new development requiring all major internal infrastructure components such as internal road network, storm drains, power transmission and communication lines, and internal water distribution pipelines. In addition, a bulk water system to convey the allocated 0.29 thousand million cubic feet water from Telugu Ganga Canal (at 21 km), is targeted to be taken up as a subproject. The scope of work would include intake, pumps, pumping mains, and summer storage facility.<sup>23</sup> These internal infrastructure components in Atchutapuram and Naidupeta will not only provide enhanced services to the existing manufacturing units but also attract several new units to these areas.

## **2. Urban Investments: Water Sector for GVMC**

23. The importance of providing good quality urban services in the feeder cities of the proposed industrial nodes/clusters under VCICDP is clearly well understood by the GoAP. Visakhapatnam is the largest industrial center along the VCIC and shall continue to be the most important urban center in the state. The population of the Visakhapatnam urban area as per 2011 census is 1.89 million and is projected to grow to about 4.92 million over the next 30 years, necessitating sizable investments to augment urban infrastructure and improve service delivery. The GoAP is planning investments in the city in line with the city development plan and water sector objectives of nonrevenue water reduction, demand management, and improvement in service delivery, especially 24x7 supply. The city water supply system is adversely affected by factors such as heavy transmission and distribution losses, high percentage of nonrevenue water (NRW, as high as 40%), infrequent, interrupted, intermittent supply and non-metered connections leading to inappropriate recognition of revenue. Even with these constraints, the city is able to strike a balance between water revenue and expenditure predominantly due to its metered bulk and semi bulk industrial and commercial connections.

24. Visakhapatnam city proposes to implement a water loss reduction and distribution system improvement strategy for a part of the city served by Raiwada canal source, about 60 km away from the city. The water is transmitted through an open channel, originally designed and constructed for irrigation purposes, later transferred to GVMC to meet the city's growing drinking water demand. The channel is mostly unlined and passes through hinterlands resulting in water losses by evaporation, seepage and pilferage. Out of 27 million gallons per day (MGD) water at source of the canal, only about 16.5 MGD reaches destination. Replacement of the canal by a dedicated pipeline would facilitate almost full realization of the allocated quantity at the destination due to negligible water losses.

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<sup>22</sup> This will meet the requirement of 3 months canal closure.

<sup>23</sup> This will meet the requirement of 3 months of canal closure.

25. Water received from Raiwada is treated at the Narava water treatment plant (WTP) and the treated water is distributed in the northwest sector of the city, with a population of 310,000 (2011 census), and is projected at 924,200 in 2044. There are about 41,500 consumer connections in the zone. The projected water demand of the zone is 21 MGD in 2029, and 35 MGD in 2044. It is proposed to take up the water supply system improvements in the city under the project through two packages: (i) laying transmission pipeline from Raiwada reservoir to Narava WTP, and (ii) providing continuous pressurized water supply in northwest zone of GVMC and Anakapalle. The first package envisages laying 59.4 km ductile iron pipeline of size 1600/1100 millimeter (mm) with the related flow measurements, and supervisory control and data acquisition (SCADA).

26. The second package includes 24x7 water supply based on a district metering area (DMA) approach targeting nonrevenue water reduction by replacing 265 km of old asbestos cement and poly vinyl chloride (PVC) distribution network by ductile iron and high density poly ethylene (HDPE) and laying 40 km new distribution lines to increase access of uncovered areas, installing 85 bulk water meters and providing 41,500 house service connections. In addition to this distribution system improvements, there would be corresponding improvements to storage and transmission by way of replacing 7.5 km of existing 1100 mm diameter old PSC transmission line, laying 31 km new feeder mains to reservoirs, laying 3.2 km of 800 mm ductile iron pumping main, constructing a sump and master balancing reservoir and adding 13,900 kiloliter of additional storage reservoirs. The system shall be operated with SCADA by engaging a performance-based operation and maintenance (O&M) contract. The main performance targets would be equitable distribution of water, meeting minimum targeted residual pressure, and 24x7 water supply and establishing and maintaining the nonrevenue water level to below 15%.

### 3. Investments in Connectivity- Roads

27. The roads under the VCICDP have been selected based on the priorities of the GoAP as outlined in the VCIC's CDP. The GoAP identified 10 sections of roads as critical corridors of which three sections, which are vital in terms of debottlenecking of infrastructure in VCIC nodes, have been included as part of the VCICDP. The sections are:

**Table 1: Sections Identified as part of VCICDP**

Corridor	Length in Kilometer	Node
Kakinada – Samarlkot – Rajangaram	56.0	Kakinada
Anakapalle – Atchutapuram	13.6	Visakhapatnam
Nellore – Krishnapatnam	24.6	Yerepedu Kalahasthi

28. The project road sections have configurations ranging from intermediate lane to two lane-paved shoulders:

**Table 2: Project Road Sections**

Project Road Name	Existing Right of Way (m)	Existing Lane Configuration
Kakinada – Samarlkot – Rajangaram (56 km)	30	Two Lane Paved Shoulder
Anakapalle – Atchutapuram (13.6 km)	18-24	Intermediate Lane (except last 1 km)
Nellore – Krishnapatnam	24 to 30	4 Lane (3.5 km) / Two Lane (21 km)

km = kilometer, m = meter.

29. The traffic is expected to increase from around 15,000-passenger car unit (PCU) to a level of around 21,000 PCU by 2020 in these corridors. The proposed interventions in the nodes necessitate strengthening and widening of the roads to two-lane dual carriageway with the following features:

- (i) rural areas: two-lane dual carriageway with paved shoulder of 1.5 meters (m) and earthen shoulder of 1 m with 2:1 slopes along with toe drain; and utility corridor of 2 m. The overall requirement of right of way of is 20 m for road and an additional space of 2.5 m for utilities;
- (ii) built up area: The proposed cross section for the urban area consists of 5.5 m service road, footpath cum drain and two lane dual carriageway excluding earthen shoulder; and
- (iii) flyover along with approaches and slip roads at major intersections with national or state highways.

30. The designs are in accordance with IRC guidelines for upgrading and rehabilitation of existing pavements with a design life of 15 years and 50 years for structural and hydraulic designs. Safety is a priority and the designs incorporate appropriate safety measures. The project road section of Samarlkot–Rajangaram with a length of 29.6 km is proposed for upgrading as part of Tranche 1 and the remaining road sections as part of Tranche 2. In addition to investments, the project would support a road safety management facility that, among other things, would address education, enforcement, engineering, and emergency (details are in Appendix 6).

#### **4. Investments in Power Sector**

31. Based on the study carried out during preparation of CDP and regional perspective plan (RPP), it was observed that one of the key drivers for industrial growth in the VCIC would be availability of reliable quality power supply to industries. Andhra Pradesh is one of the first states to come up with a 24x7 power for all program and the pipeline of power generation projects inside and outside the state, combined with an open access regime permitting industries to select power suppliers is estimated to be sufficient. Power transmission has bottlenecks with expected growth in the industrial demand along the VCIC and the overall transmission expansion plan for Andhra Pradesh was updated based on the assessment of expected growth in the industrial clusters along the VCIC till 2024. The plan is prepared based on transmission planning guidelines in accordance with the norms of the Central Electricity Authority (CEA) under the Ministry of Power, Government of India. The proposed transmission system was also conducted for the transmission system to meet reliability criteria. Along with load flow studies, short circuit studies and stability studies were conducted as per CEA guidelines to update the transmission expansion plan. In order to meet the immediate and future requirements of the industries in the nodes, APTransco and APIIC have identified and prioritized construction and upgrading of substations at 10 locations and associated related transmission lines within VCIC.

32. APTransco has identified the need for power transmission investments in the VCIC nodes of Visakhapatnam, Naidupeta, and Yerpedu-Srikalahasti and the requirement for installation of substations at 10 locations and associated transmission lines. Four of these substations are at voltage levels of 220/132/33 kilo volts (kV), one substation is at 220/132 kV, four substations are at 132/33 kV and one substation is of 400/220 kV along with associated transmission infrastructure. APTransco has proposed gas-insulated substations (GIS) at three locations (i.e., Ozone valley, Kappuluppada and Atchutapuram) owing to constraint in

availability of land and air-insulated substations in other locations, namely Nakkapalle/Chandanada, Pydibhimavaram, Yerpedu, Rachagunneri, Naidupeta, Kakinada and Mangalagiri. The project proposals are optimized based on load flow studies detailed field studies conducted by APTransco in partnership with APIIC to arrive at the least-cost option. In addition, there will be an improvement in the voltage profile within the VCIC region and the schemes would result in reduction of losses. For better evacuation and transmission of power with system reliability and stability, alternatives were examined at various stages of planning to arrive at the optimal solution based on technical and cost considerations. Estimated timelines for completing the scheme is as follows:

**Table 3: Estimated Timelines**

Category	Estimated Timeline
132 kV SS and lines	9 months from award of contract
220/400 kV SS and lines	12 months from award of contract
GIS SS and cabling	18 months from award of contract

GIS = gas-insulated substations, kV = kilovolt,

33. APTransco has assessed the following benefits due to implementation of VCIC project: (i) voltage variation within the acceptable range specified under Indian Electricity Rules; (ii) ability to cater to load growth of about 1,078 megawatts (MW) in the clusters; (iii) reduction of system losses of about 35.5 MW; and (iv) enhanced security of supply for sub-stations to meet the peak load even with an outage event on the single largest transformer. The designs of proposed transmission lines and substations are based on standard designs and drawings complying with statutory requirements of safety and quality standards. The substations and associated transmission lines are divided into three packages. Package 1 and 3 will be taken up under Tranche 1 while Package 2 will be taken up under Tranche 2.

**Table 4: Packages under Tranches 1 and 2**

Package Name	Substation Name, Capacity and Associated Feeder Bays	Name of Overhead line or Underground cable (route length in km)
Package 01	132/33 kV at Yerpedu (2X80 MVA)	Laying of 132kV Double Circuit Line from 220kV Rachagunneri SS to proposed Yerpedu SS (9 kMs)
	400/220kV SS at Rachagunneri (2x315 MVA)	Upgradation of existing AP Transco SS at Rachagunneri from 220 kV to 400 kV including Overhead Line Laying of 400 kV Double Circuit Line from LILO of Krishnapatnam - Chittoor Line (20 kMs)
	220/132/33kV SS at Naidupeta (2x100+2x80+1x50 MVA)	a) Laying of 220 kV Double Circuit Line from 220kV Rachagunneri SS to proposed Naidupeta SS (40 kMs) b) 132 kV LILO (15 kMs) of existing 132 kV Naidupeta – Gudur line to proposed 220/132 kV Menakuru (Naidupeta) SS
Package 02	220/132 kV SS at Pydibhimavaram (3x100)	a) Laying of 220 kV Double Circuit Line from 400 Kv Maradam SS to proposed Pydibhimavaram SS(50 kMs) b) Erection of 132kV Double Circuit Line from proposed 220 kV Pydibhimavaram SS to Tap point of 132 kV LILO going to the existing 132/33 kV SS Pydibhimavaram(2 kMs) c) Erection of 132kV Double Circuit Line from proposed 220 kV SS Pydibhimavaram to existing

Package Name	Substation Name, Capacity and Associated Feeder Bays	Name of Overhead line or Underground cable (route length in km)
		132kV SS Chilakapalem(40 kMs)
	220/132/33kV SS at GMR Kakinada SEZ (2X100+2x80+1x31.5 MVA)	Laying of 220 kV Double Circuit Line from 220 kV Samarikota Switching Station – proposed Kakinada SEZ (50 kMs) (10Km UG Cable + 40kM OH Line)
	132/33 kV SS at Mangalgiri/AIIMS (2X80 MVA)	Laying of 132 kV Double Circuit XLPE Cable from 132kV SS Tadepalli to proposed at Mangalgiri /AIIMS (9 kMs)
Package 03	132/33 kV GIS SS Kapuluppada (2X80 MVA)	Laying of 132kV Double Circuit XLPE Cable from 220 kV SS Diary Farm to proposed GIS at Kapuluppada (14 kMs)
	132/33 kV GIS SS Ozone Valley (2x80 MVA)	Laying of 132kV Double Circuit XLPE Cable from 132kV SS Anandpuram to proposed GIS at Ozone Valley (8 kMs)
	220/132/33kV GIS SS at Achutapuram (2x100+2x80+1x50 MVA)	Laying of 220 kV Multi Circuit OH Line from 220kV Brandix SS to proposed GIS at Achutapuram (8 kMs)
	220/132/33KV Nakkapalle/ Chandanada (2X100+2x80+1x31.5 MVA)	Laying of 220kV Multi Circuit LILO of Parwada - Samalkota and VSS-Kakinada Line to proposed SS at Nakkapalle/Chandanada (16 kMs)

GIS = gas-insulated substations, km = kilometer, kV = kilovolt, MVA =mega volt amp, SEZ = special economic zone.

34. The Energy Department in Andhra Pradesh is also monitoring the performance of distribution feeders. Data on number of outages and duration of outages along with number of interrupted consumers is being recorded on a daily basis. The Energy Department is reviewing this information and will be taking further initiatives to support 24 hour supply of power to industrial cluster loads along the VCIC while also identifying international standard benchmarks for improving reliability of supply including outage levels.

## 5. Support for Project Management and Supervision Consultant

35. The output on institutional capacities, human resources, and program management will support GoAP in creating a long term project development facility, skills enhancement, investors promotion, and effective management of the project through a project management and supervision consultant. Details of Project Development Facility and Skills Development Component are in Appendix 5 and Appendix 7, respectively. It is expected that the capacity of the project management unit (PMU) will be enhanced during the project and would be institutionalized within the proposed corridor management authority. The consultant besides managing the investment program will also support GoAP in overseeing skill enhancement component. This also includes support for establishment of a state corridor management authority and a project development facility to meet long term needs of the corridor and marketing and promotion of investment destinations of Andhra Pradesh.

## II. IMPLEMENTATION PLANS

### A. Tranche 1 Readiness Activities

**Table 5: Tranche 1 Readiness Activities**

Sl. No	Indicative Activities	2015	2016				2017	Responsibility
		Q4	Q1	Q2	Q3	Q4	Q1	
1	Advance contracting actions	31 Dec 15						GoAP, PIU, PMU & ADB
2	Retroactive financing actions							PMU/ GoAP
3	Establish project implementation arrangements		31 Jan 16					PMU
4	Consultants recruitment process initiated		15 Mar 16					PMU
5	Loan negotiations				5 Jul 16			ADB, Government of India , GoAP
6	ADB Board approval				30 Sept 16			ADB
7	Loan signing					30 Dec 16		ADB, Government of India, GoAP
8	Loan effectiveness						30 Mar 17	GoAP
9	PMSC Mobilized						31 Mar 17	PMU
10	First set of civil works bidding documents prepared and bids invited				01Aug16			PMU, PIU
11	First set of civil works contracts awarded and works started					31 Mar 17		PMU,PIU
12	Second set of civil works bidding documents prepared and bids invited					1 Oct 16		PMU,PIU
13	Second set of civil works contracts awarded and works started						31 Mar 17	PMU,PIU

ADB = Asian Development Bank, GoAP = Government of Andhra Pradesh, PIU = project implementation unit, PMSC = project management and supervision consultant, PMU = project management unit.  
Source: Asian Development Bank estimates.



Activities	2016 (Mth/Qtr)				2017 (Mth/Qtr)				2018 (Mth/Qtr)				2019 (Mth/Qtr)				2020 (Mth/Qtr)				2021 (Mth/Qtr)				2022 (Mth/Qtr)				2023 (Mth/Qtr)				2024 (Mth/Qtr)			
	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	1	2	3	4
training workers, entrepreneurs, and students																																				
3.2 Initiate capacity-building activities of executing and/or implementing agency staff							X																													
<b>B. Management Activities</b>																																				
Establish project management unit with necessary staff			X																																	
Mobilize project management and construction supervision consultant							X																													
Start implementation of GESI action plan								X																												

APSSDC = Andhra Pradesh State Skill Development Corporation, DMF = design and monitoring framework, GESI = gender equality and social inclusion, mth = month, qtr = quarter, VCIC = Visakhapatnam-Chennai Industrial Corridor.

Source: Asian Development Bank estimates.

### III. PROJECT MANAGEMENT ARRANGEMENTS

#### A. Project Implementation Organizations: Roles and Responsibilities

36. The roles and responsibilities of PMU and PIUs are summarized below and described in detail in Appendix 8.

**Table 7: Project Implementation Organizations - Roles and Responsibilities**

<b>Project Implementation Organizations</b>	<b>Management Roles and Responsibilities</b>
Executing agency: Government of Andhra Pradesh through its Department of Industries and Commerce	(i) Overall strategic planning and guidance, and management support; (ii) Coordinate with other departments on project issues; (iii) Mobilize counterpart funding for the project; (iv) Overall management of project implementation; and (v) Overall management of design and implementation of policy loan.
PMU: Directorate of Industries	<p><b>Project Management</b></p> (i) Overall project management; (ii) Recruitment of consultants (PMSC); (iii) Finalize procedures and guidelines, including standard bidding documents and evaluation of bids, for procurement of civil works and equipment in consultation with PIUs and ADB; (iv) Developing annual work plans, job descriptions, staffing schedules and budgets; (v) Establish financial accounting and control systems and ensure accurate and timely report submissions and funds flow from ADB and onwards to the implementing agencies; (vi) Confirm procurement methods as per ICB, IS or NCB, for each subproject component; (vii) Coordinate land acquisition actions for sub projects and proposed projects; and (viii) Coordinate with all PIUs for the implementation of GESI action plan activities. <p><b>Monitoring and Reporting</b></p> (i) Supervise, coordinate and monitor the work of PIUs; (ii) Ensure compliance with loan covenants; (iii) Administer imprest accounts, Prepare project accounts and submit timely statements to ADB and government; (iv) Prepare monthly, quarterly, midterm and final progress reports; (v) Authorization of release of funds for works and goods to PIUs; and (vi) Prepare quarterly and bi-annual monitoring report of GESI action plan implementation <p><b>Institutional Strengthening</b></p> (i) Assist DOIC in formulation and implementation of policy reforms; (ii) Assist DOIC in establishing institutions for corridor management; (iii) Lead reform-related consultations and policy workshops; (iv) Coordinate learning events related to the project and corridor management; and

<b>Project Implementation Organizations</b>	<b>Management Roles and Responsibilities</b>
	<p>(v) Coordinate skill development programs with Andhra Pradesh Skill Development Corporation and GoAP/DOIC.</p> <p><b>Promotion and Marketing</b></p> <p>(i) In consultation with GoAP, prepare promotion plans and coordinate marketing programs with the Government of India; and</p> <p>(ii) Coordinate visits of delegations with respective PIUs and industrial area authorities in the state.</p> <p><b>Project Development</b></p> <p>(i) Oversee additional subprojects to be developed for future financing;</p> <p>(ii) Manage a project development facility; and</p> <p>(iii) Coordinate road safety components through a road safety management facility and related departments.</p>
Project Steering Committee	<p>(i) Policy decisions to support project approvals and implementation;</p> <p>(ii) Review project progress; and</p> <p>(iii) Facilitate/resolve inter departmental coordination for implementation by the PIUs</p>
Implementing Agencies: Project Implementation Units (PIUs)	<p><b>Design</b></p> <p>(i) Oversee design consultants in preparing or prepare in-house the DPRs;</p> <p>(ii) Finalize project components, packages and preparation of contract documents;</p> <p>(iii) Check, verify, and update designs, engineering estimates and contract documents; and</p> <p>(iv) Ensure inclusion of gender-responsive features in the design, and the associated costs.</p> <p><b>Procurement</b></p> <p>(i) Prepare standard bidding documents, DPRs and bidding document for good and works and submit for approval to ADB;</p> <p>(ii) Issue invitation for bids, evaluate bids and submit report for approval to ADB, and award contracts after approval from ADB; and</p> <p>(iii) Check all licenses and statutory approvals.</p> <p><b>Advance Preparation</b></p> <p>(i) Coordinate and confirm shifting of utilities;</p> <p>(ii) Confirm land acquisition requirements, resettlement actions, and assess each site's environmental aspects for detailed design of project component;</p> <p>(iii) Prepare a detailed implementation schedule covering all work stages for each subproject; and</p> <p>(iv) Prepare community consultation and public awareness programs as required.</p> <p><b>Supervision and Monitoring</b></p> <p>(i) Monitor supervision of works;</p> <p>(ii) Supervise, coordinate and monitor the civil works and supply of equipment and materials ensuring sound supervision and quality control and any other technical matters and issue</p>

Project Implementation Organizations	Management Roles and Responsibilities
	<p>certificates for acceptance;</p> <p>(iii) Measurement and recording of acceptable works, check contractors/suppliers invoices and recommend payments to the contractors;</p> <p>(iv) Overall contract management and preparation of variation orders;</p> <p>(v) Assist / coordinate preparation of final measurement and 'as built' drawings;</p> <p>(vi) Monitor project implementation and</p> <p>(vii) Monitor implementation of GESI action plan by the Safeguards Manager (social and gender) in each PIU.</p> <p><b>Accounting and Reporting</b></p> <p>(i) Prepare monthly, quarterly, midterm and final progress reports; and</p> <p>(ii) Payments, accounting and reporting to the PMU and ADB.</p> <p><b>Disbursement</b></p> <p>(i) Submission of withdrawal applications;</p> <p>(ii) Retention of supporting documents; and</p> <p>(iii) Any reporting requirements, including the annual audit report and financial statements.</p>
ADB	<p>(i) Overall supervision of the project; and</p> <p>(ii) Review and approval of procurement packages and disbursements.</p>

ADB = Asian Development Bank, DOIC = Department of Industries and Commerce, DPR = detail project reports, GoAP = Government of Andhra Pradesh, ICB = international competitive bidding, IS = international shopping, NCB = national competitive bidding, PIUs = project implementation units, PMSC = project management and supervision consultant, PMU = project management unit .

Source: Asian Development Bank.

## B. Key Persons Involved in Implementation

### Executing Agency

Government of Andhra Pradesh through its Department of Industries and Commerce

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### Asian Development Bank

Urban Development and Water Division, South Asia Department

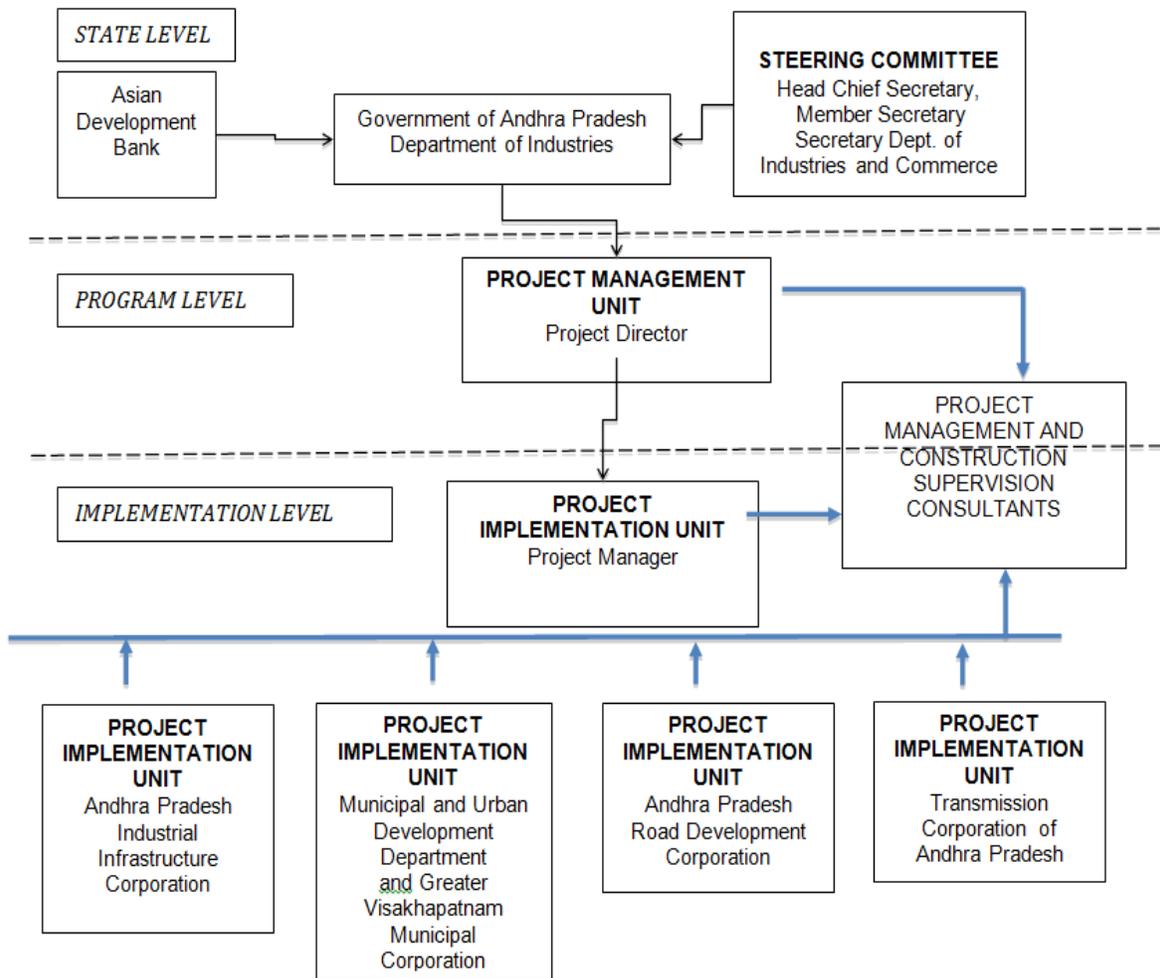
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**C. Project Organization Structure**

**Figure 1: Organizational Structure**



#### IV. COSTS AND FINANCING

37. The government has requested an MFF of up to \$500 million from ADB's OCR and a parallel grant cofinancing of \$5 million from the Urban Climate Change Resilience Trust Fund (UCCRTF), which it will make available to the GoAP under the same terms as the original loan and grant, to help finance the infrastructure investments under the VCICDP.<sup>25</sup> The GoAP will contribute \$215 million to the investment cost of the MFF to finance taxes and duties, resettlement costs, part of incremental cost, financing charges during implementation, and part of the civil works, equipment and consulting services; and will provide the loan and grant proceeds and counterpart funds to the implementing agencies as a mix of loan and grant. The MFF is expected to be drawn in two tranches, subject to the government's submission of related periodic financing requests, execution of the related legal agreements for each tranche, and fulfillment of terms and conditions set forth in the framework financing agreement.<sup>26</sup> Approval for the second tranche is scheduled in 2018. Project 1 of \$358 million will be financed by a loan of \$245 million from ADB's OCR, and will have a 25-year term, including a grace period of 5 years, a 20-year straight line repayment method, an annual interest rate determined in accordance with ADB's LIBOR-based lending facility, a commitment charge of 0.15% per year, and such other terms and conditions set forth in the draft loan and project agreements.<sup>27</sup> The investment program is in Table 8 and financing plan is in Table 9.

**Table 8: Investment Program**  
(\$ million)

Item	Project 1	Amount <sup>a</sup>		Total
		Project 2		
<b>A. Base Cost<sup>b</sup></b>				
1. Internal infrastructure in industrial clusters	73.29	63.51		136.80
2. Urban water supply and climate change resilience	61.51	49.23		110.74
3. Roads and road safety measures	40.92	133.82		174.74
4. Power transmission and distribution	126.90	57.17		184.07
<b>Subtotal (A)</b>	<b>302.62</b>	<b>303.73</b>		<b>606.35</b>
<b>B. Contingencies<sup>c</sup></b>	<b>38.14</b>	<b>41.40</b>		<b>79.54</b>
<b>C. Financing Charges During Implementation<sup>d</sup></b>	<b>17.24</b>	<b>16.87</b>		<b>34.11</b>
<b>Total Project Cost</b>	<b>358.00</b>	<b>362.00</b>		<b>720.00</b>

<sup>a</sup> In end-2015 prices; Exchange rate of US\$ 1 = Rs66 is used.

<sup>b</sup> Includes taxes and duties of \$48.4 million to be financed in cash from government resource. ADB may finance local transportation, insurance costs, and bank charges.

<sup>c</sup> Physical contingencies are computed at 7.0% for civil works and equipment (5% of project costs); include provision for uncertainty associated with quantities, and time of implementation. Price contingencies are computed at 1.4%–1.5% on foreign exchange costs and 5.5% on local currency costs; include provision for potential fluctuation of inflation and exchange rates under the assumption of a purchasing power parity exchange rate.

<sup>d</sup> Includes interest and commitment charges. Interest during construction for ADB loan has been computed at the 5-year forward London interbank offered rate plus a spread of 0.5% as of December 2015. Commitment charges for an ADB loan are 0.15% per year to be charged on the undisbursed loan amount.

Source: Asian Development Bank estimates.

<sup>25</sup> The UCCRTF Grant will be fully administered by ADB.

<sup>26</sup> Framework Financing Agreement (accessible from the list of linked documents in Appendix 2).

<sup>27</sup> Based on these loan terms, the maturity premium payable to ADB is 0.10% per annum.

**Table 9: MFF Financing Plan**

<b>Source</b>	<b>Project 1 Amount (\$ million)</b>	<b>Project 2 Amount (\$ million)</b>	<b>Total Amount (\$ million)</b>	<b>Share of Total (%)<sup>b</sup></b>
Asian Development Bank				
Ordinary capital resources (loan)	245.0	255.0	500.0	69.4
Urban Climate Change Resilience Trust Fund <sup>a</sup> under the Urban Financing Partnership Facility (grant)	5.0		5.0	0.6
Government	108.0	107.0	215.0	30.0
<b>Total</b>	<b>358.0</b>	<b>362.0</b>	<b>720.0</b>	<b>100.0</b>

<sup>a</sup> Financing partners: the Rockefeller Foundation and the governments of Switzerland, the United Kingdom and the United States.

<sup>b</sup> The ADB financing of \$500 million amounts to 70% of the total Project cost of \$715 million.

Source: Asian Development Bank estimates.

### **A. Cost Estimates Preparation and Revisions**

38. The cost estimates have been prepared based on the detailed project reports, where available, or other relevant details of the subprojects. The cost estimate model was prepared using Microsoft Excel and, is available with the project team and PMU. The cost estimates shall be further revised during the implementation by the PMU.

### **B. Key Assumptions**

39. The following key assumptions underpin the cost estimates and financing plan:

- (i) Exchange rate: Rs66 = \$1 (as of December 2015).
- (ii) Price contingencies based on expected cumulative inflation over the implementation period are in Table 10.

**Table 10: Escalation Rates for Price Contingency Calculation**

<b>Item</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>Average</b>
Foreign rate of price inflation	1.5%	1.4%	1.5%	1.5%	1.5%	1.5%
Domestic rate of price inflation	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%

Source: Asian Development Bank estimates.

- (iii) In-kind contributions cannot be easily measured and have not been quantified.

### C. Detailed Cost Estimates by Expenditure Category

**Table 11: Project 1 Cost Estimates by Expenditure Category**  
(\$ million)

Items	Gross		Net		Tax	
	\$	%	\$	%	\$	%
<b>A. Investment Costs</b>						
1 Civil Works	217.37	100.0%	201.55	92.7%	15.82	7.3%
2 Equipment	36.62	100.0%	33.95	92.7%	2.67	7.3%
3 Resettlement	15.45	100.0%	15.45	100.0%	-	0.0%
4 Project Management and Capacity Development	28.56	100.0%	24.94	87.3%	3.62	12.7%
<b>Subtotal (A)</b>	<b>297.99</b>	<b>100.0%</b>	<b>275.88</b>	<b>92.6%</b>	<b>22.10</b>	<b>7.4%</b>
<b>B. Recurrent Costs</b>						
Incremental Administrative Costs	4.64	100.0%	4.05	87.3%	0.59	12.7%
<b>Subtotal (B)</b>	<b>4.64</b>	<b>100.0%</b>	<b>4.05</b>	<b>87.3%</b>	<b>0.59</b>	<b>12.7%</b>
<b>Total Base Cost</b>	<b>302.62</b>	<b>100.0%</b>	<b>279.93</b>	<b>92.5%</b>	<b>22.69</b>	<b>7.5%</b>
<b>C. Contingencies</b>						
1 Physical Contingencies	17.78	100.0%	16.48	92.7%	1.29	7.3%
2 Price Contingencies	<b>20.36</b>	<b>100.0%</b>	<b>18.88</b>	<b>92.7%</b>	<b>1.48</b>	<b>7.3%</b>
<b>Subtotal (C)</b>	<b>38.14</b>	<b>100.0%</b>	<b>35.36</b>	<b>92.7%</b>	<b>2.78</b>	<b>7.3%</b>
<b>D. Financing Charges During Implementation</b>						
1 Interest during Construction	15.92	100.0%	15.92	100.0%	-	-
2 Commitment Charges	1.32	100.0%	1.32	100.0%	-	-
<b>Subtotal (D)</b>	<b>17.24</b>	<b>100.0%</b>	<b>17.24</b>	<b>100.0%</b>	-	-
<b>Total Project Cost</b>	<b>358.00</b>	<b>100.0%</b>	<b>332.53</b>	<b>92.9%</b>	<b>25.47</b>	<b>7.1%</b>

Notes:

1. Numbers may not sum precisely because of rounding.

2. Cost of implementing and monitoring GESI action plan is subsumed in A.1 civil works (gender-responsive design features), A.4 project management and capacity development, and B. incremental administration costs.

Source: Asian Development Bank Estimates.

#### D. Allocation and Withdrawal of Loan Proceeds

**Table 12: Allocation and Withdrawal of Loan Proceeds – Tranche 1 of MFF for Project 1**

Category					ADB
Number	Item	Amount Allocated \$			Percentage and Basis for Withdrawal
		Category	Sub-category	%	
1	Civil Works, Equipment, and Incremental Costs – Infrastructure	199,859,000		78.5%	percent of total expenditure claimed
2	Consulting Services – PMSC, RSF, RPIA	15,205,000		87.3%	percent of total expenditure claimed
3	Unallocated	29,936,000			
	<b>Total</b>	<b>245,000,000</b>			

ADB = Asian Development Bank, PMSC = project management and supervision consultant, RPIA = resettlement plan implementing agency, RSF = road safety facility.

Source: Asian Development Bank estimates.

#### E. Allocation and Withdrawal of Grant Proceeds – Urban Climate Change Resilience Trust Fund (UCCRTF)

**Table 13: Allocation and Withdrawal of Grant Proceeds – UCCRTF**

Category					ADB
Number	Item	Amount Allocated \$			Percentage and Basis for Withdrawal
		Category	Sub-category	%	
1	Civil Works and Equipment – Urban Climate Change Resilience	4,000,000		92.7%	percent of total expenditure claimed
2	Consulting Services – Urban Climate Change Resilience	1,000,000		87.3%	percent of total expenditure claimed
	<b>Total</b>	<b>5,000,000</b>			

Source: Asian Development Bank estimates.

## F. Detailed Cost Estimates by Financier

**Table 14: Project 1 Cost Estimates by Financier**  
(\$ million)

Item	ADB		UCCRTF		Tax	GoAP		%	Total Costs
	\$	%	\$	%		Non-Tax \$	Total		
<b>A. Investment Costs</b>									
1 Civil Works	169.20	77.8%	1.80	0.8%	15.82	30.54	46.36	21.3%	217.37
a. Infrastructure Development	169.20	78.5%	-	-	15.68	30.54	46.22	21.5%	215.43
b. Urban Climate Change Resilience	-	-	1.80	92.7%	0.14	-	0.14	7.3%	1.94
2 Equipment	27.02	73.8%	2.20	6.0%	2.67	4.74	7.40	20.2%	36.62
a. Infrastructure Development	27.02	78.5%	-	-	2.49	4.74	7.23	21.5%	34.25
b. Urban Climate Change Resilience	-	-	2.20	92.7%	0.17	-	0.17	7.3%	2.37
3 Resettlement	-	-	-	-	-	15.45	15.45	100.0%	15.45
4 Project Management and Capacity Development	15.21	53.2%	1.00	3.5%	3.62	8.73	12.35	43.2%	28.56
a. PMSC, RSF, RPIA	15.21	87.3%	-	-	2.20	-	2.20	12.7%	17.41
b. Project Development Mechanism	-	-	-	-	1.27	8.73	10.00	100.0%	10.00
c. Urban Climate Change Resilience	-	-	1.00	87.3%	0.15	-	0.15	12.7%	1.15
<b>Subtotal (A)</b>	<b>211.42</b>	<b>71.0%</b>	<b>5.00</b>	<b>1.7%</b>	<b>22.10</b>	<b>59.46</b>	<b>81.56</b>	<b>27.4%</b>	<b>297.99</b>
<b>B. Recurrent Costs</b>									
Incremental Administrative Costs	3.64	78.5%	-	-	0.59	0.41	1.00	21.5%	4.64
<b>Subtotal (B)</b>	<b>3.64</b>	<b>78.5%</b>	<b>-</b>	<b>-</b>	<b>0.59</b>	<b>0.41</b>	<b>1.00</b>	<b>21.5%</b>	<b>4.64</b>
<b>Total Base Cost</b>	<b>215.06</b>	<b>71.1%</b>	<b>5.00</b>	<b>1.7%</b>	<b>22.69</b>	<b>59.87</b>	<b>82.56</b>	<b>27.3%</b>	<b>302.62</b>
<b>C. Contingencies</b>									
1 Physical Contingencies	13.96	78.5%	-	-	1.29	2.53	3.82	21.5%	17.78
2 Price Contingencies	15.98	78.5%	-	-	1.48	2.90	4.38	21.5%	20.36
<b>Subtotal (C)</b>	<b>29.94</b>	<b>78.5%</b>	<b>-</b>	<b>-</b>	<b>2.78</b>	<b>5.43</b>	<b>8.20</b>	<b>21.5%</b>	<b>38.14</b>
<b>D. Financing Charges During Implementation</b>									
1 Interest during Construction	-	-	-	-	-	15.92	15.92	100.0%	15.92
2 Commitment Charges	-	-	-	-	-	1.32	1.32	100.0%	1.32
<b>Subtotal (D)</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>17.24</b>	<b>17.24</b>	<b>100.0%</b>	<b>17.24</b>
<b>Total Project Cost</b>	<b>245.00</b>	<b>68.4%</b>	<b>5.00</b>	<b>1.4%</b>	<b>25.47</b>	<b>82.53</b>	<b>108.00</b>	<b>30.2%</b>	<b>358.00</b>

ADB = Asian Development Bank, GoAP = Government of Andhra Pradesh, PMSC = project management and supervision consultant, RPIA = resettlement plan implementing agency, UCCRTF = Urban Climate Change Resilience Trust Fund, RSF = road safety facility.

Notes: 1. Numbers may not sum precisely because of rounding.

2. Cost of implementing and monitoring GESI action plan is subsumed in A.1 civil works (gender-responsive design features), A.4 project management and capacity development, and B. incremental administration costs.

3. The annual audits of the project will be conducted by the government.

Source: Asian Development Bank Estimates.

## G. Detailed Cost Estimates by Components

**Table 15: Project 1 Detailed Cost Estimates by Components**  
(\$ million)

Items	Component 1 Internal infrastructure in industrial clusters		Component 2 Urban water supply and climate change resilience		Component 3 Roads and road safety measures		Component 4 Power transmission and distribution		Total Costs
	\$	%	\$	%	\$	%	\$	%	
<b>A. Investment Costs</b>									
1 Civil Works	56.26	25.9%	43.26	19.9%	21.37	9.8%	96.47	44.4%	217.37
2 Equipment	9.93	27.1%	9.66	26.4%	-	-	17.02	46.5%	36.62
3 Resettlement	-	-	0.01	0.0%	10.63	68.8%	4.81	31.1%	15.45
4 Project Management and Capacity Development	6.35	22.2%	7.50	26.3%	8.35	29.3%	6.35	22.2%	28.56
<b>Subtotal (A)</b>	<b>72.54</b>	<b>24.3%</b>	<b>60.43</b>	<b>20.3%</b>	<b>40.35</b>	<b>13.5%</b>	<b>124.66</b>	<b>41.8%</b>	<b>297.99</b>
<b>B. Recurrent Costs</b>									
Incremental Administrative Costs	0.74	16.0%	1.08	23.4%	0.57	12.3%	2.24	48.3%	4.64
<b>Subtotal (B)</b>	<b>0.74</b>	<b>16.0%</b>	<b>1.08</b>	<b>23.4%</b>	<b>0.57</b>	<b>12.3%</b>	<b>2.24</b>	<b>48.3%</b>	<b>4.64</b>
<b>Total Base Cost</b>	<b>73.28</b>	<b>24.2%</b>	<b>61.51</b>	<b>20.3%</b>	<b>40.92</b>	<b>13.5%</b>	<b>126.90</b>	<b>41.9%</b>	<b>302.62</b>
<b>C. Contingencies</b>									
1 Physical Contingencies	4.63	26.1%	3.70	20.8%	1.50	8.4%	7.94	44.7%	17.78
2 Price Contingencies	5.31	26.1%	4.24	20.8%	1.71	8.4%	9.10	44.7%	20.36
<b>Subtotal (C)</b>	<b>9.94</b>	<b>26.1%</b>	<b>7.95</b>	<b>20.8%</b>	<b>3.21</b>	<b>8.4%</b>	<b>17.04</b>	<b>44.7%</b>	<b>38.14</b>
<b>D. Financing Charges During Implementation</b>									
Interest during Construction	4.15	26.1%	3.32	20.8%	1.34	8.4%	7.12	44.7%	15.92
Commitment Charges	0.34	26.1%	0.27	20.8%	0.11	8.4%	0.59	44.7%	1.32
<b>Subtotal (D)</b>	<b>4.49</b>	<b>26.1%</b>	<b>3.59</b>	<b>20.8%</b>	<b>1.45</b>	<b>8.4%</b>	<b>7.70</b>	<b>44.7%</b>	<b>17.24</b>
<b>Total Project Cost</b>	<b>87.72</b>	<b>24.5%</b>	<b>73.05</b>	<b>20.4%</b>	<b>45.58</b>	<b>12.7%</b>	<b>151.65</b>	<b>42.4%</b>	<b>358.00</b>

Notes:

1. Numbers may not sum precisely because of rounding.

2. Cost of implementing and monitoring GESI action plan is subsumed in A.1 civil works (gender-responsive design features), A.4 project management and capacity development, and B. incremental administration costs.

Source: Asian Development Bank Estimates.

## H. Detailed Cost Estimates by Year

**Table 16: Project 1 Detailed Cost Estimates by Year**  
(\$ million)

Item	Total	2016	2017	2018	2019	2020	2021	2022
<b>A. Investment Costs</b>								
1 Civil Works	217.37	-	10.69	60.38	61.16	45.12	37.33	2.69
2 Equipment	36.62	-	1.80	10.17	10.30	7.60	6.29	0.45
3 Resettlement	15.45	-	15.45	-	-	-	-	-
4 Project Management and Capacity Development	28.56	2.38	4.76	4.76	4.76	4.76	4.76	2.38
<b>Subtotal (A)</b>	<b>297.99</b>	<b>2.38</b>	<b>32.69</b>	<b>75.31</b>	<b>76.23</b>	<b>57.48</b>	<b>48.37</b>	<b>5.53</b>
<b>B. Recurrent Costs</b>								
Incremental Administrative Costs	4.64	0.36	0.71	0.71	0.71	0.71	0.71	0.71
<b>Subtotal (B)</b>	<b>4.64</b>	<b>0.36</b>	<b>0.71</b>	<b>0.71</b>	<b>0.71</b>	<b>0.71</b>	<b>0.71</b>	<b>0.71</b>
<b>Total Base Cost</b>	<b>302.62</b>	<b>2.74</b>	<b>33.40</b>	<b>76.02</b>	<b>76.94</b>	<b>58.19</b>	<b>49.09</b>	<b>6.24</b>
<b>C. Contingencies</b>								
1 Physical Contingencies	17.78	0.00	0.87	4.94	5.00	3.69	3.05	0.22
2 Price Contingencies	20.36	0.10	1.70	5.09	6.46	3.06	3.41	0.54
<b>Subtotal (C)</b>	<b>38.14</b>	<b>0.10</b>	<b>2.57</b>	<b>10.03</b>	<b>11.46</b>	<b>6.75</b>	<b>6.46</b>	<b>0.76</b>
<b>D. Financing Charges</b>								
1 Interest During Implementation	15.92	0.02	0.30	1.14	2.32	3.36	4.18	4.61
2 Commitment Charges	1.32	0.37	0.34	0.28	0.18	0.10	0.04	0.00
<b>Subtotal (D)</b>	<b>17.24</b>	<b>0.39</b>	<b>0.64</b>	<b>1.42</b>	<b>2.50</b>	<b>3.46</b>	<b>4.22</b>	<b>4.61</b>
<b>Total Project Cost</b>	<b>358.00</b>	<b>3.22</b>	<b>36.62</b>	<b>87.47</b>	<b>90.90</b>	<b>68.40</b>	<b>59.77</b>	<b>11.61</b>

Notes:

1. Numbers may not sum precisely because of rounding.

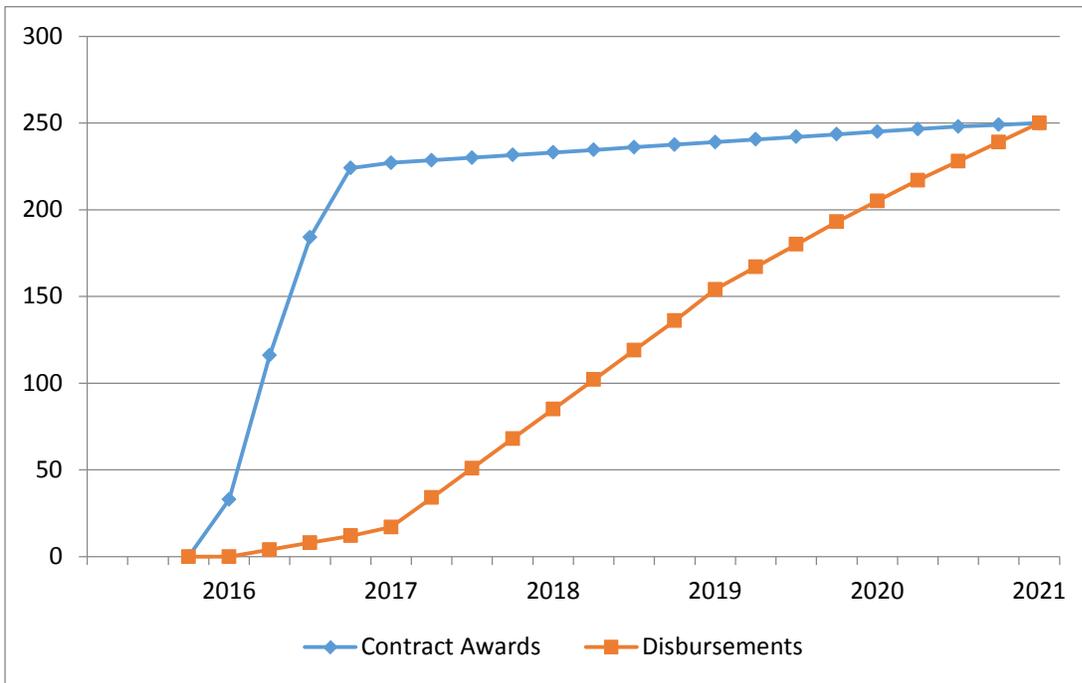
2. Cost of implementing and monitoring GESI action plan is subsumed in A.1 civil works (gender-responsive design features), A.4 project management and capacity development, and B. incremental administration costs.

Source: Asian Development Bank Estimates.

**I. Contract Awards and Disbursement S-Curve**

40. The graph below shows contract awards and disbursement for Project 1 over the life of the project, and annually based on the contract awards and disbursement projections.

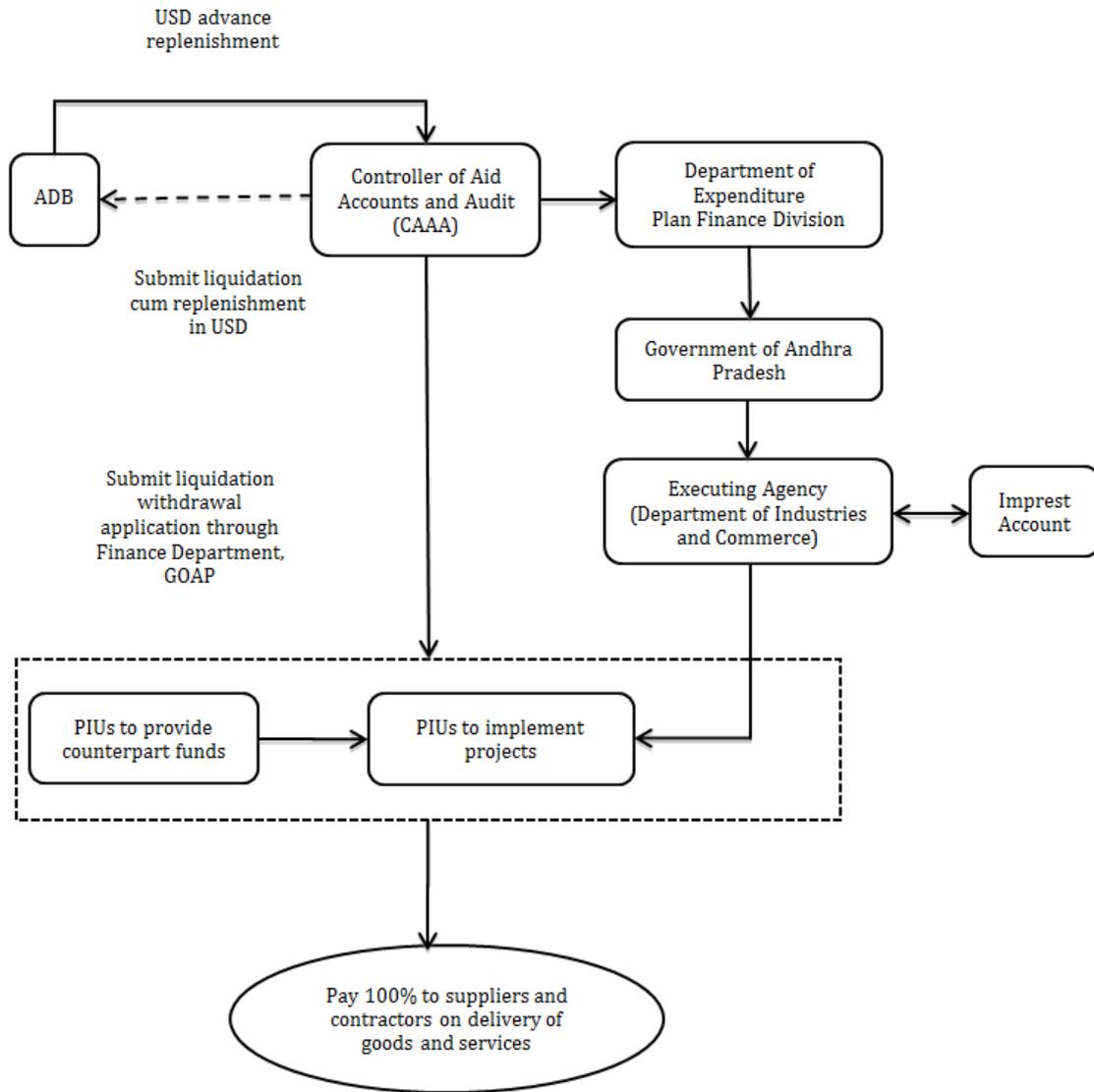
	Contract Awards (\$ million)					Disbursements (\$ million)				
	Q1	Q2	Q3	Q4	Total	Q1	Q2	Q3	Q4	Total
2016	-	-	-	33.00	33.00	-	-	-	-	-
2017	116.00	184.00	224.00	227.00	227.00	4.00	8.00	12.00	17.00	17.00
2018	228.50	230.00	231.50	233.00	233.00	34.00	51.00	68.00	85.00	85.00
2019	234.50	236.00	237.50	239.00	239.00	102.00	119.00	136.00	154.00	154.00
2020	240.50	242.00	243.50	245.00	245.00	167.00	180.00	193.00	205.00	205.00
2021	246.50	248.00	249.00	250.00	250.00	217.00	228.00	239.00	250.00	250.00



US (\$) Million

**J. Fund Flow Diagram**

**Figure 2: Fund Flow Diagram**



ADB = Asian Development Bank, GoAP = Government of Andhra Pradesh, PIUs = project implementation units.

**V. FINANCIAL MANAGEMENT**

**A. Financial Management Assessment**

41. A Financial Management Assessment (FMA) was conducted in accordance with ADB Guidelines for the Financial Management and Analysis of Projects (2005), Financial Due Diligence a Methodology Note (2009), and Financial Management Technical Guidance Note (2015). The FMA was conducted for the PMU representing the executing agency, i.e., Department of Industries and Commerce, and Greater Visakhapatnam Municipal Corporation (GVMC), Andhra Pradesh Industrial Infrastructure Corporation Limited (APIIC), Transmission

Corporation of Andhra Pradesh Limited (APTransco), and Andhra Pradesh Road Development Corporation (APRDC) [all as project implementing units (PIUs)].<sup>28</sup> Their financial management was assessed with focus on funds flow, staffing, accounting policies and procedures, budgeting system, payments, policies and procedures, cash and bank, contract management and accounting, internal controls, financial reporting and monitoring, and internal and external audit, reporting and monitoring, and information systems in relation to administering the proposed loan.

42. ADB's assessment of the GoAP and its agencies reveals that, Andhra Pradesh has sufficient capacity to administer ADB-funded projects, particularly the disbursement procedures of ADB.

43. PMU will act as a coordinating agency between the executing agency and the PIUs in implementing the project. PMU has been set up only recently and recruitment of additional staff for PMU is in progress. PMU will be supported by the project management consultants in developing an institutional set-up appropriate for the implementation of the project.

44. All of the PIUs are well experienced in implementing projects for their entities. They have experienced technical, financial, and administrative staff to manage the affairs of the entity and the project. The PIUs have adequate fund management capability and their accounting system and procedures are adequate.

45. However, the risk factors which need to be addressed include:

- (i) Lack of experience of some PIUs in managing externally assisted projects;
- (ii) Lack of key staff in the PMU including a financial management specialist;
- (iii) Delay in the resolution of audit issues.

46. Despite the highlighted risks, with the ongoing actions by PMU and PIUs in addressing the issues and with the risk mitigation measures proposed, the financial management arrangements are considered satisfactory. The overall risk assessment for the Project is **Moderate**. The action plan includes:

**Table 17: Financial Management Action Plan**

Key Risk	Risk Mitigating Activity	Timeline	Responsible Entity
Inadequate staff capacity	Recruitment or appointment of adequate experienced staff in PMU including a financial management specialist.	Prior to loan effectiveness	PMU
Partially manual accounting	Need to fully computerize accounting systems.	June 2017	PMU
Significant outstanding audit issues	Clarifications / resolution on all audit issues to state audit department, with a road map, with copy to ADB.	June 2017	GVMC
Weak internal control over assets	Update and reconcile fixed asset register.	June 2017	APIIC
Delay in submission of audited project financial statements	Meet the C&AG and request the inclusion of Project 2 in their annual work plan to avoid delays.	Immediately	PMU
Weak internal audit	Appoint a dedicated internal auditor for	December	APRDC/

<sup>28</sup> The Financial Management Assessment report is accessible from the list of linked documents to RRP.

Key Risk	Risk Mitigating Activity	Timeline	Responsible Entity
	an ongoing risk based audit reporting directly to the Board of Directors.	2016	GVMC
Delays in completion of audited financial statements	Completion of external audit and public disclosure of audited financial statements for the FY 2014-15 (APRDC, APIIC) and FY 2012-13 (GVMC).	December 2016	APRDC, APIIC, GVMC

ADB = Asian Development Bank, APIIC=Andhra Pradesh Industrial Infrastructure Corporation, APRDC= Andhra Pradesh Road Development Corporation, C&AG= Comptroller and Auditor General, GVMC= Greater Visakhapatnam Municipal Corporation, PMU = program management unit.

47. A summary of the financial management internal control risk assessment is given below.

**Table 18: Financial Management Internal Control Risk Assessment**

Risk Description	Risk Assessment	Risk-Mitigation Measures
<b>Inherent Risk</b>		
1. Country-Specific Risks (India)	<b>LOW</b> While significant headway is being made with reduction in fiscal deficits and e-governance initiatives, the internal audit functions remain weak at the state level.	Strengthen internal audit at the PIU level.
2. Entity-Specific Risks (GoAP, DOI)	<b>MODERATE</b> (i) In its audit, CAG has pointed out several inadequacies in the GOAP financial management and reporting, including (a) unrealistic budget assumptions, (b) weakness in expenditure monitoring and control, (c) poor internal control in some Departments, (d) poor program implementation, (e) weak expenditure monitoring systems and (f) non reconciliation of expenditure and receipts.  (ii) DOI has limited capacity to handle the budgeting, accounting, internal controls, and reporting functions. However, the PIUs have adequate experience in managing and implementing projects, and some of them have also accessed external assistance from World Bank, JICA, and JBIC. Fund flow is not an issue as it follows the reimbursement method.	(i) GoAP is taking several steps to address the issues raised by the CAG, including e-Governance.  (ii) Andhra Pradesh is a new state. PMU also has just been set up and needs to be staffed adequately with experienced personnel. While some PIUs have experience in managing externally assisted projects, PMU needs to have experienced staff to manage the entire process with ADB, GoI, GoAP, and PIUs.
<b>Overall Inherent Risk</b>	<b>MODERATE</b> Implementing projects in a multi sector is a challenge for the new GoAP. PMU is also a new entity yet to be staffed adequately. Absorption of funds to create infrastructure in energy, roads, water supply, sewerage, etc. is a critical factor in the success of the program.	
<b>Control Risk</b>		
3. Implementing Entity	<b>LOW</b> Whereas implementing agency's capacity in managing a multi-sector program is inadequate, the PIUs have adequate capacity and their financial management is satisfactory. The PIUs have a structured and competent financial management and accounts	Not applicable

Risk Description	Risk Assessment	Risk-Mitigation Measures
	department. Proper controls are in place concerning their business operations.	
4. Funds Flow	<p style="text-align: center;"><b>MODERATE</b></p> <p>GoAP's DOI and Finance Department and the PIUs will manage overall project funds. Reimbursement mechanism along with a project imprest account will be used to cover various payments. Each PIU will have its own project account. However, neither the executing agency nor the PIUs have any experience of managing ADB funds.</p>	Capacity building needs to be provided for adhering to ADB's policies and procedures as also in management of imprest account.
5. Staffing	<p style="text-align: center;"><b>MODERATE</b></p> <p>The PIUs' finance and accounts departments are adequately staffed with competent and experienced personnel. However, the PMU needs to be adequately staffed with experienced staff including a financial management specialist to take care of coordination issues with the PIUs, especially relating to fund transfers, submission of reimbursement claims, etc.</p>	PMU needs to be staffed adequately with experienced personnel.
6. Accounting Policies and Procedures	<p style="text-align: center;"><b>LOW</b></p> <p>Policies and procedures are well documented. While GVMC uses Andhra Pradesh Municipal Accounts Manual, other implementing agencies follow the GAAP and accounting standards as applicable.</p>	Not applicable
7. Internal Audit	<p style="text-align: center;"><b>MODERATE</b></p> <p>The Director of State Audit which conducts annual audit also does internal audit of GVMC's internal processes. APTransco and APIIC have appointed external chartered accountants to do internal audit whereas APRDC is in the process of appointing an external chartered accountant to conduct its internal audit. The external auditors of GVMC and APIIC have indicated that the internal control systems of GVMC and APIIC need strengthening.</p>	GVMC and APIIC need to improve their internal processes. GVMC needs to appoint a separate internal auditor to give more focused attention on adhering to internal processes. APRDC also needs to appoint an internal auditor.
8. Reporting and Monitoring	<p style="text-align: center;"><b>MODERATE</b></p> <p>Comprehensive monthly and quarterly FM reporting systems are in place for all PIUs. Routine reports are produced from the Accounting System – others are prepared on spreadsheets with figures extracted from the accounting system.</p>	Need to fully computerize accounting systems.
9. Information Systems	<p style="text-align: center;"><b>LOW</b></p> <p>APTransco has a comprehensive enterprise resource planning system including financial accounts. GVMC uses the e-Suvidha system for its information system. APRDC also uses the Bills Monitoring System of GoAP. APIIC is in the process of introducing ERP.</p>	Not applicable
<b>Overall</b>	<b>MODERATE</b>	

Risk Description	Risk Assessment	Risk-Mitigation Measures
<b>Control Risk</b>	Some financial management risks, flaws, and imperfections are recognized, but all of them are not high. However, delays in the finalization of audit reports for the past years are found with substantial risks and these need to be tackled with adequate provision of resources.	

ADB = Asian Development Bank, APIIC = Andhra Pradesh Industrial Infrastructure Corporation Limited, APRDC = Andhra Pradesh Road Development Corporation, APTransco = Transmission Corporation of Andhra Pradesh, DOI = Directorate of Industries, ERP = enterprise resource planning, GAAP = Generally Accepted Accounting Principles, GoAP = Government of Andhra Pradesh, GVMC = Greater Visakhapatnam Municipal Corporation, PIU = project implementing unit, PMU = project management unit.

## B. Disbursement

### 1. Disbursement Arrangements for ADB and ADB-administered cofinancier Funds

48. The loan/grant proceeds will be disbursed in accordance with ADB's *Loan Disbursement Handbook* (2015, as amended from time to time),<sup>29</sup> and detailed arrangements agreed upon between the government and ADB. The PMU and PIUs will be responsible for: (i) preparing annual contract awards and disbursement projections; (ii) requesting budgetary allocations for counterpart funds; (iii) collecting supporting documents; and (iv) preparing and sending withdrawal applications to ADB through Treasury, Ministry of Finance. Online training for project staff on disbursement policies and procedures is available.<sup>30</sup> Project staff are encouraged to avail of this training to help ensure efficient disbursement and fiduciary control.

49. **Disbursement Arrangements for UCCRTF Grant.** The grant proceeds will be disbursed in accordance with ADB's *Loan Disbursement Handbook* (2015, as amended from time to time), and detailed arrangements agreed upon between the government and ADB.<sup>31</sup> The PMU and PIUs will be responsible for: (i) preparing annual contract awards and disbursement projections; (ii) requesting budgetary allocations for counterpart funds; (iii) collecting supporting documents; and (iv) preparing and sending withdrawal applications to ADB through Treasury, Ministry of Finance. Procedures similar to loan funds will in general be adopted for grant proceeds.

50. **Imprest fund procedure.** Separate imprest accounts should be established and maintained by the Controller of Aid Accounts and Audits (CAAA) for each funding source. The currency of the imprest account is the US dollar. The imprest account is to be used exclusively for ADB's and UCCRTF's share of eligible expenditures. The CAAA, who established the imprest account in its name, is accountable and responsible for proper use of advances to the imprest account including advances to the sub-accounts.

51. The total outstanding advance to the imprest accounts should not exceed the estimate of ADB's share of expenditures to be paid through the imprest accounts for the forthcoming 6 months. The executing agency may request for initial and additional advances to the imprest accounts based on an Estimate of Expenditure Sheet<sup>32</sup> setting out the estimated expenditures to be financed through the accounts for the forthcoming 6 months. Supporting documents should be submitted to ADB or retained by the executing agency in accordance with ADB's

<sup>29</sup> Loan Disbursement Handbook: <http://www.adb.org/documents/loan-disbursement-handbook>

<sup>30</sup> Disbursement eLearning: [http://wpqr4.adb.org/disbursement\\_elearning](http://wpqr4.adb.org/disbursement_elearning)

<sup>31</sup> The document giving details of the Grant under UCCRTF: Strengthening Urban Climate Change Resilience of Visakhapatnam is accessible from the list of linked documents to RRP.

*Loan Disbursement Handbook* (2015, as amended from time to time) when liquidating or replenishing the imprest account.

52. Separate sub-accounts should be established and maintained by the executing agency for each funding source. The sub accounts are to be used exclusively for ADB and UCCRTF's share and share of eligible expenditures. The executing agency should ensure that every liquidation and replenishment of each sub-account is supported by sufficient documentation in accordance with *ADB's Loan Disbursement Handbook* (2015, as amended from time to time).

53. **Statement of expenditure procedure.**<sup>33</sup> The SOE procedure may be used for reimbursement of eligible expenditures or liquidation of advances to the imprest accounts. Supporting documents and records for the expenditures claimed under the SOE should be maintained and made readily available for review by ADB's disbursement and review missions, upon ADB's request for submission of supporting documents on a sampling basis, and for independent audit.

54. Before the submission of the first withdrawal application, the borrower should submit to ADB sufficient evidence of the authority of the person(s) who will sign the withdrawal applications on behalf of the government, together with the authenticated specimen signatures of each authorized person. The minimum value per withdrawal application is set in accordance with *ADB's Loan Disbursement Handbook* (2015, as amended from time to time). Individual payments below this amount should be paid (i) by the PMU and PIUs and subsequently claimed to ADB through reimbursement, or (ii) through the imprest accounts, unless otherwise accepted by ADB.

### **C. Accounting**

55. The PMU and PIUs will maintain, or cause to be maintained, separate books and records by funding source for all expenditures incurred on the project following relevant standards. The PMU will prepare consolidated project financial statements in accordance with the government's accounting laws and regulations which are consistent with international accounting principles and practices. The PMU and PIUs will maintain separate project accounts and records by funding source for all expenditures incurred under the Project. Each project's financial statements will adhere to generally accepted accounting principles followed in India and the cash basis accounting standards followed by the Government of India. While PIUs follow accrual accounting for preparing entity accounts, for the purpose of project accounting, PIUs would use cash basis. PMU will consolidate project accounts on cash basis.

### **D. Auditing and Public Disclosure**

56. The PMU and PIUs will cause the detailed consolidated project financial statements to be audited in accordance with the government's audit regulations, as supplemented by the terms of reference agreed between ADB, Department of Economic Affairs (DEA) and CAG India in September 2013, by an independent auditor acceptable to ADB. The audited project financial statements together with the auditor's opinion will be presented in the English language to ADB within 6 months from the end of the fiscal year by the executing agency.

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<sup>33</sup> SOE forms are available in Appendix 9B and 9C of *ADB's Loan Disbursement Handbook* (2015, as amended from time to time).

57. The audited entity financial statements of GVMC, APIIC and APRDC, together with the auditor's report and management letter, will be submitted in English to ADB within 1 month after their approval by relevant authorities.

58. The audit report for the project financial statements will include a management letter and auditor's opinions, which cover (i) whether the project financial statements present an accurate and fair view or are presented fairly, in all material respects, in accordance with the applicable financial reporting standards; (ii) whether the proceeds of the loan and grant were used only for the purpose(s) of the project; and (iii) whether the borrower or executing agency was in compliance with the financial covenants contained in the legal agreements (where applicable).

59. Compliance with financial reporting and auditing requirements will be monitored by review missions and during normal program supervision, and followed up regularly with all concerned, including the external auditor.

60. The government, executing and implementing agencies have been made aware of ADB's approach to delayed submission, and the requirements for satisfactory and acceptable quality of the audited project financial statements.<sup>34</sup> ADB reserves the right to require a change in the auditor (in a manner consistent with the constitution of the borrower), or for additional support to be provided to the auditor, if the audits required are not conducted in a manner satisfactory to ADB, or if the audits are substantially delayed. ADB reserves the right to verify the project's financial accounts to confirm that the share of ADB's financing is used in accordance with ADB's policies and procedures.

61. Public disclosure of the audited project financial statements, including the auditor's opinion on the project financial statements, will be guided by ADB's Public Communications Policy 2011.<sup>35</sup> After the review, ADB will disclose the audited project financial statements and the opinion of the auditors on the project financial statements no later than 14 days of ADB's confirmation of their acceptability by posting them on ADB's website. The management letter, additional auditor's opinions, and audited entity financial statements will not be disclosed.<sup>36</sup>

## VI. PROCUREMENT AND CONSULTING SERVICES

### A. Advance Contracting and Retroactive Financing

62. All advance contracting and retroactive financing will be undertaken in conformity with ADB Procurement Guidelines (2015, as amended from time to time) and ADB's Guidelines on the Use of Consultants (2013, as amended from time to time). The issuance of invitations to bid

<sup>34</sup> ADB's approach and procedures regarding delayed submission of audited project financial statements:

- (i) When audited project financial statements are not received by the due date, ADB will write to the executing agency advising that (a) the audit documents are overdue; and (b) if they are not received within the next 6 months, requests for new contract awards and disbursement such as new replenishment of imprest accounts, processing of new reimbursement, and issuance of new commitment letters will not be processed.
- (ii) When audited project financial statements are not received within 6 months after the due date, ADB will withhold processing of requests for new contract awards and disbursement such as new replenishment of imprest accounts, processing of new reimbursement, and issuance of new commitment letters. ADB will (a) inform the executing agency of ADB's actions; and (b) advise that the loan may be suspended if the audit documents are not received within the next 6 months.
- (iii) When audited project financial statements are not received within 12 months after the due date, ADB may suspend the loan.

<sup>35</sup> Public Communications Policy: <http://www.adb.org/documents/pcp-2011?ref=site/disclosure/publications>

<sup>36</sup> This type of information would generally fall under public communications policy exceptions to disclosure. ADB. 2011. *Public Communications Policy*. Paragraph 97(iv) and/or 97(v).

under advance contracting and retroactive financing will be subject to ADB approval. The borrower, GoAP and Directorate of Industries have been advised that approval of advance contracting and retroactive financing does not commit ADB to finance the project.

63. **Advance contracting.** Advance contracting for the MFF was approved by ADB on 16 December 2015 and includes the following packages under Tranche 1: (i) recruitment of project management and supervision consultants (PMSC), including policy reforms and capacity building, and community awareness and participation program; (ii) recruitment of detailed project report consultants; road safety awareness consultants; external monitoring agency for implementing resettlement and rehabilitation; and resettlement plan implementation support agency; and (iii) procurement of six civil works packages for construction of common effluent treatment plant; augmenting utility services; distribution network improvements; road upgrading and rehabilitation; and augmenting power distribution capacity. The steps to be concluded in advance include (i) tendering and bid evaluation for civil works packages; and (ii) recruitment of consultants.

64. **Retroactive financing.** Subject to ADB's approval, retroactive financing will be up to 20% of the total ADB loan amount for eligible expenditures of civil works and consulting services incurred prior to loan effectiveness but not earlier than 12 months prior to the signing of the loan agreement. For the MFF Tranche 1, the maximum amount is about \$48,000,000, the equivalent of 20% of the total ADB loan, incurred before loan effectiveness, but not more than 12 months before the signing of the loan agreement.

## **B. Procurement of Goods, Works, and Consulting Services**

65. All procurement of goods and works will be undertaken in accordance with ADB's Procurement Guidelines (2015, as amended from time to time).

66. International competitive bidding (ICB) procedures will be used for any civil works contract estimated to cost more than \$40 million, and any goods contract estimated to cost more than \$3 million. National competitive bidding (NCB) procedures may be used for any civil works contract estimated to cost \$40 million or less and any goods contract estimated to cost \$3 million or less. Shopping will be used for any civil works contract estimated to cost below \$50,000 and for goods contract estimated to cost below \$25,000. Schedule for procurement of first civil works is in Table 19.

67. Before the start of any procurement, ADB and the government will review the procurement procedures of the relevant agencies (DOIC, PMU and PIUs) to ensure consistency with ADB's Procurement Guidelines (2015, as amended from time to time), and audit and disbursement procedures of the relevant agencies (Finance Department, Audit Office, DOIC, PMU, PIUs) to ensure consistency with ADB's disbursement procedures .

68. An 18-month procurement plan indicating threshold and review procedures, goods, works, and consulting service contract packages and national competitive bidding guidelines is described in Section C, which follows.

69. All consultants corresponding to ADB financing, will be recruited according to ADB's Guidelines on the Use of Consultants (2013, as amended from time to time).<sup>37</sup> The terms of

<sup>37</sup> Checklists for actions required to contract consultants by method available in e-Handbook on Project Implementation at: <http://www.adb.org/documents/handbooks/project-implementation/>

reference for all consulting services are described in Section D, which follows.

70. A minimum of 60 person-months of key international experts; and 1,182 person-months of key national experts are required for PMSC to (i) facilitate project management and implementation, and (ii) strengthen the institutional and operational capacity of the executing agency, and (iii) supervise works implementation and capacity building of Implementing agencies. The consulting firms will be engaged using the quality- and cost-based selection (QCBS) method with a standard quality-cost ratio of 80:20. Schedule of recruitment of PMSC is in Table 20.

**Table 19: Table of Activities for the Procurement of Works (ICB 1S2E)**

Sl. No	Activity	Norm Days	Time frame	Action by	Status
1	Submit bid documents to ADB (after incorporating initial comments)		15-Aug-2016	GoAP	Completed
2	ADB review and no-objection	15	30-Aug	ADB	Not yet due
3	Finalize bid documents	1	31-Aug	GoAP	Not yet due
4	Issue invitation for bids / Advertise in newspapers	1	01-Sep	GoAP, ADB	Not yet due
5	Prepare bids	42	12-Oct	External	Not yet due
6	Bid submission deadline / Public opening of technical proposals	1	13-Oct	GoAP	Not yet due
7	Evaluate technical proposals	15	28-Oct	GoAP	Not yet due
8	Prepare bid evaluation report	7	05-Nov	GoAP	Not yet due
9	Review by Procurement Committee	7	12-Nov	GoAP	Not yet due
10	ADB review and no-objection	10	22-Nov	ADB	Not yet due
11	Public opening of financial proposals	7	29-Nov	GoAP	Not yet due
12	Evaluate financial proposals	10	8-Dec	GoAP	Not yet due
13	Prepare bid evaluation report & recommendation for award	7	15-Dec	GoAP	Not yet due
14	Review by Procurement Committee	7	22-Dec	GoAP	Not yet due
15	ADB review and no-objection	10	02-Jan-2017	ADB	Not yet due
16	Prepare for signing of contract / Contract signing	28	30-Jan-2017	GoAP, Contractor	Not yet due

ADB = Asian Development Bank, GoAP = Government of Andhra Pradesh.

**Table 20: Table of Activities for the Recruitment of PMSC Consultants**

Sl.No	Activity	Norm Days	Time frame	Action by	Status
1	Prepare CSRN / Request for EOI in consultation with ADB		01-Mar-2016	GoAP	completed
2	Advertise in the newspaper and post CSRN in ADB CMS		01-Apr	GoAP	completed
3	Submit EOI	30	20-May	External	completed
4	Submission 1 to ADB: Short listing/Draft RFP		01-Sep	GoAP	not yet due
5	ADB Review and No-Objection	16	17-Sep	ADB	not yet due
6	Issue RFP	7	24-Sep	GoAP	not yet due
7	Submit proposal	45	08-Nov	External	not yet due
8	Submission 2 to ADB: Technical Evaluation	22	30-Nov	GoAP	not yet due
9	ADB Review & No-Objection	12	11-Dec	ADB	not yet due
10	Public Opening of Financial Proposals	14	25-Dec	GoAP	not yet due
11	Submission 3 to ADB: Financial Evaluation/Ranking	15	10-Jan-2017	GoAP	not yet due
12	ADB Review & No-Objection	9	19-Jan-2017	ADB	not yet due
13	Invite 1 <sup>st</sup> Ranked Firm / Negotiate contract	24	12-Feb-2017	GoAP	not yet due
14	Submission 4 to ADB: Draft Negotiated Contract	7	19-Feb-2017	GoAP	not yet due
15	ADB Review & No-Objection	5	24-Feb-2017	ADB	not yet due
16	Contract Signing & Issue Notice to Proceed	21	14-Mar-2017	GoAP, Firm	not yet due

ADB = Asian Development Bank, CMS = consultant management system, CSRN = consulting services recruitment notices, EOI = expression of interest, GoAP = Government of Andhra Pradesh, RFP = request for proposal .

71. The project development consultants will be funded by the Government and will follow government selection procedures. Nevertheless, in recruiting project development consulting services, the following must be complied: (i) the procedures to be used will result in the selection of consultants who have the necessary professional qualifications; (ii) the selected consultants will carry out the assignment in accordance with the agreed schedule; and (iii) the scope of the services is consistent with the needs of the project.

### C. Procurement Plan

72. Before the start of any procurement, ADB and the government will review the procurement procedures of the relevant agencies (DOIC, PMU and PIUs) to ensure consistency with ADB's Procurement Guidelines (2015, as amended from time to time), and audit and disbursement procedures of the relevant agencies (Finance Department, Audit Office, DOIC, PMU, PIUs) to ensure consistency with ADB's Disbursement procedures. Procurement Plan indicating threshold and review procedures, goods, works, and consulting service contract packages and national competitive bidding guidelines is given in Appendix 4.

#### **D. Consultant's Terms of Reference**

73. The outline terms of reference for recruitment of PMSC are in Appendix 10.<sup>38</sup> Terms of references for road safety awareness consultant and external monitoring consultant for resettlement are in Appendixes 11 and 12, respectively.

### **VII. SAFEGUARDS**

74. The GoAP will ensure that all the requirements prescribed in Schedule 5 of the FFA, and the following frameworks that have been prepared with respect to the Facility are complied with during the processing and implementation of VCICDP: (i) environmental assessment and review framework (EARF); (ii) resettlement framework; and (iii) indigenous peoples planning framework (IPPF).

75. The safeguard frameworks cover the Facility specific information and requirements in accordance with ADB's Safeguard Policy Statement (SPS), 2009: (i) the general anticipated impacts of subprojects likely to be financed under the Facility on the environment, involuntary resettlement, and indigenous peoples; (ii) the safeguard criteria that are to be used in selecting projects; (iii) the requirements and procedure that will be followed for screening and categorization, impact assessments, development of management plans, public consultation and information disclosure (including the 120-day disclosure rule, if required), and monitoring and reporting; (iv) the institutional arrangements (including budget and capacity requirements) and government's and ADB's responsibilities and authorities for the preparation, review and clearance of safeguard documents.

76. As for subsequent tranches, at the preparation PFR for Tranche 2, the applicability and relevance of each safeguard framework projects will be reviewed and updated to ensure relevance and consistency with all applicable laws and regulations in India and SPS, 2009 as amended from time to time. In the event that there is a discrepancy between the laws and regulations of India and ADB safeguard policies, the ADB safeguard policies will prevail. In addition, Government of India will carry out due diligence works on ongoing projects to assess the status of compliance with the safeguards-related plans and frameworks. For each project, GoAP is required to submit safeguard monitoring reports semi-annually covering all the aspects and issues from perspectives of environment, land acquisition and resettlement and indigenous people.

77. All executing and implementing agencies will ensure that VCICDP is implemented with active participation of all stakeholders, using participatory practices, and consultation will continue throughout implementation of the Investment Program. Disclosure of relevant information to these stakeholders will continue throughout implementation of the Investment Program. Safeguards will be the responsibility of the PMU and the respective PIUs. The PMU and PIUs will be supported by experts as part of the PMSC.

#### **A. Environmental Safeguards**

78. The VCICDP Project 1 is classified as category B for environmental safeguards. No significant environmental impacts have been identified during project processing and to be

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<sup>38</sup> Terms of reference:  
[http://www.adb.org/Documents/Manuals/Consulting-Services-Operations-Manual/CSOM.pdf?bcsi\\_scan\\_D4A612CF62FE9576=AORY9a8Nho2ezS9Xss/liqEAAAANNiAA&bcsi\\_scan\\_filena me=CSOM.pdf](http://www.adb.org/Documents/Manuals/Consulting-Services-Operations-Manual/CSOM.pdf?bcsi_scan_D4A612CF62FE9576=AORY9a8Nho2ezS9Xss/liqEAAAANNiAA&bcsi_scan_filena me=CSOM.pdf) (paras 65–72).

anticipated during the project implementation. All proposed subproject sites are located outside sensitive areas and any impacts during construction and operation can be avoided and/or mitigated through proper design and good high-quality construction and operations and maintenance practices.

79. Four draft initial environmental examinations (IEEs) with environmental management plans (EMPs) were prepared for Project 1 subprojects during VCICDP processing corresponding to each sector subproject<sup>39</sup> in accordance with SPS, 2009, and government laws. An EARF was prepared to guide future subprojects under subsequent tranche of VCICDP. The executing and implementing agencies will ensure that (i) the design, construction, and operation and maintenance of the subprojects under VCICDP are carried out in accordance with ADB SPS, 2009, applicable laws and regulations in India, the EARF, and respective IEEs; (ii) potential adverse environmental impacts arising from VCICDP are minimized by implementing all mitigation and monitoring measures as presented in the EMP included in the IEEs. The executing and implementing agencies will ensure that:

- (i) Site-specific EMPs (SEMP) are prepared by the contractor prior to construction;
- (ii) Executing and implementing agencies have sufficient resources to implement and record the implementation of the EMPs prepared for VCICDP;
- (iii) Starting from project commencement, the PMU will submit semi-annual environmental monitoring reports to ADB, within 1 month of the close of each half of the calendar year during implementation of each subproject. The report will include, among other things, a review of progress made on environmental measures detailed in the IEEs and EMPs, and monitoring thereof; and problems encountered and remedial measures taken;
- (iv) Detailed engineering designs, civil works and other contracts for VCICDP incorporate applicable environmental measures identified in the IEEs and SEMP;
- (v) Civil works contractors are supervised to ensure compliance with the requirements of the IEEs and SEMP; and
- (vi) For any category A subproject in future tranches, an environmental impact assessment (EIA) is required and should follow the requirements as laid out by ADB SPS 2009 for category A projects.

80. For Project 1 subprojects,<sup>40</sup> described below are the institutional roles and responsibilities to ensure environmental safeguard measures are implemented during design, construction, and operation phases. PMU will appoint a safeguards coordinator as a part of the PMSC team to collect information and progress on environmental and social safeguards compliance. Each PIU will appoint an environmental safeguards officer to oversee the day-to-day implementation of SEMP by the contractors.

### **1. Project Management Unit**

81. The safeguards coordinator in the PMU will:

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<sup>39</sup> Draft IEEs were prepared for Project 1 subprojects in each sector: (i) internal roads, water supply, sewerage, and drainage in selected industrial clusters; (ii) roads for connectivity between industrial nodes and ports, urban areas, other nodes, and road safety measures; (iii) power transmission and distribution system in the industrial corridor; and (iv) urban water supply in Visakhapatnam.

<sup>40</sup> For subprojects under future tranches, same institutional arrangement will be followed for the implementation of the EIA / IEE / EMPs

- (i) confirm existing IEEs/EMPs are updated based on detailed designs and that new IEEs/EMPs are prepared in accordance with the EARF and subproject selection criteria related to safeguards;
- (ii) confirm whether IEEs/EMPs are included in bidding documents and civil works contracts;
- (iii) provide oversight on environmental management aspects of subprojects;
- (iv) ensure SEMP prepared by contractors are cleared by PIUs prior to commencement of civil works;
- (v) establish a system to monitor environmental safeguards of the project including monitoring the indicators set out in the monitoring plan of the SEMP;
- (vi) facilitate and confirm overall compliance with all Government rules and regulations regarding site and environmental clearances as well as any other environmental requirements (e.g., location clearance certificates, environmental clearance certificates, etc.), as relevant;<sup>41</sup>
- (vii) supervise and provide guidance to the PIUs to properly carry out the environmental monitoring and assessments as per the EARF;
- (viii) review, monitor and evaluate the effectiveness with which the SEMP are implemented, and recommend necessary corrective actions to be taken as necessary;
- (ix) consolidate monthly environmental monitoring reports from PIUs and submit semi-annual monitoring reports to ADB;
- (x) ensure timely disclosure of final IEEs/SEMPs in locations and in a form and language accessible to the public and local communities; and
- (xi) address any grievances brought about through the Grievance Redress Mechanism (GRM) in a timely manner.

## **2. Project Implementation Units (PIUs)**

82. Each PIU environmental safeguard officer will:

- (i) include IEEs/EMPs in bidding documents and civil works contracts;
- (ii) review and approve SEMP prepared by contractors;
- (iii) oversee day-to-day implementation of SEMP by contractors including compliance with all government rules and regulations;
- (iv) take necessary action for obtaining rights of way;
- (v) oversee environmental monitoring by contractors;
- (vi) take corrective actions when necessary;
- (vii) submit monthly environmental monitoring reports to PMU;
- (viii) conduct continuous public outreach and awareness building related to environmental management;
- (ix) address grievances brought about through the GRM in a timely manner; and
- (x) organize an induction course for the training of contractors in environmental management to be delivered by PMSC consultants.

83. PMSC's environmental specialist will provide required assistance and regular progress report on safeguards implementation to PIUs, which will then be communicated to PMU.

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<sup>41</sup> All necessary environmental clearances should be obtained prior to contract awards to avoid delay in physical progress of relevant subprojects.

84. The Andhra Pradesh State Pollution Control Board (APSPCB) has established zonal and regional offices that are staffed with technical and administrative personnel to support the environmental management and monitoring activities of the state. It has an established State Environmental Impact Assessment Authority (SEIAA) to implement the mandates of EIA Notification Act and its implementing rules. The capacity of APSPCB for enforcement and undertaking environmental monitoring of industries is assessed to be limited, particularly in terms of number of suitably trained personnel; also keeping in view expected growth of industries in the next few years. Some of the key areas where APSPCB capacity building and strengthening may be undertaken includes: (i) restoration of environmental quality in problem areas/polluted river stretches; (ii) strengthening of monitoring capabilities for water and ambient air quality monitoring, toxic pollutants, monitoring of aquatic resources; (iii) management of municipal solid waste, biomedical waste, hazardous waste; (iv) monitoring of specific pollutants such as hazardous and persistent pollutants; (v) capacity building of existing APSPCB environmental laboratories; (vi) facilitation of laboratories to achieve accreditation as per ISO/IEC-17025, 1999 Guidelines, by National Accreditation Board for Testing and Calibration Laboratories (NABL), for chemical testing and biological testing; and (vii) capacity building on biodiversity conservation and greenhouse gases accounting and monitoring.

85. Component C of the technical assistance on capacity development of institutions for industrial development include conducting at least two capacity building activities for 100 staff, through training, workshops, seminars, and publications, to enhance the capacity of APSPCB, urban local bodies, and other regulatory agencies to strengthen planning, enforcement, reporting, and monitoring of necessary environmental mechanism for green industrialization.

## **B. Social Safeguards**

86. **Multitranchise financing facility (MFF).** A draft resettlement framework has been prepared conforming to state laws, national law, i.e., the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013, and with ADB's Safeguard Policy Statement 2009. The resettlement framework describes the principles and approach in avoiding, minimizing and mitigating adverse social impacts that may arise in implementing the proposed subprojects under VCICDP. The resettlement framework also provides process for consultations, impact assessment, census and socio-economic surveys and preparation and implementation of mitigation plans or resettlement plan. The entitlement matrix that has been developed, that summarizes the types of losses and the corresponding nature and scope of entitlements; and which is in compliance with state laws, national laws and ADB SPS 2009. The resettlement framework entitlement matrix has been prepared.

87. A draft IPPF has been prepared following the national laws and regulations on the indigenous people or schedule tribes (IP/ST) and ADB SPS (2009), Safeguard Requirement III (SR-III) on indigenous peoples. The framework describes the principles and approach in the event of IP/ST issues are identified in any of the future subprojects or during VCICDP project implementation period. The framework also provides process for meaningful consultations, broad community support, impact assessment, census and socioeconomic surveys, and preparation and implementation of mitigation plans or indigenous people plan (IPP). The resettlement plan and IPP document outlines and checklists and impacts assessment for involuntary resettlement and indigenous people issues have been prepared.

88. **Project 1.** Project 1 of the MFF is categorized as A for involuntary resettlement and C for indigenous peoples. Project 1 is Category A for involuntary resettlement as a total of 634 households or 2,632 persons will be either physically and/or economically displaced. The

resettlement framework<sup>42</sup> and indigenous peoples planning framework (IPPF)<sup>43</sup> have been prepared in accordance with ADB's Safeguard Policy Statement 2009, and applicable laws. For the category A road subproject, engineering alternatives were explored to minimize involuntary resettlement impacts. APRDC will closely monitor identification of resettlement sites for physically displaced persons, establishment of project grievance redress mechanisms, mobilization of the resettlement nongovernment organization and the independent external monitoring agency. For the Category B power subprojects in Project 1, government land is identified for proposed substations. APTransco will ensure selection of alternatives with the lowest IR impact during detailed design. For the Category B GVMC 24x7 water supply subproject, all identified sites belong to government. APIIC subprojects are classified as Category C, as all interventions are proposed on government land. Four resettlement plans and two due diligence reports for Project 1 subprojects have been prepared in consultation with the affected people and will be updated after detailed designs.<sup>44</sup> The overall anticipated involuntary resettlement impacts of Project 1 are: (i) permanent loss of private land to 211 landowners, (ii) permanent loss of 367 private structures, (iii) 98 households face physical displacement, (iv) 144 households face economic displacement, (v) 44 households face physical and economic displacement, and (vi) 176 persons face temporary income loss. The total number of displaced persons facing permanent impacts due to VCICDP project 1 subprojects is 2,632. Vulnerable households comprise 13.9% of total permanently affected households. Mitigation measures in the project 1 social safeguard documents are adequate to address the assessed risks. An assessment of the policy matrix and management plan is undertaken. The policy-based loan (PBL) is categorized as C for involuntary resettlement and C for indigenous peoples as it is not anticipated to have any significant impacts.<sup>45</sup> Regular capacity development activities on social safeguards are proposed, including quarterly training for safeguard officers of PMU and PIUs in year 1, followed by semi-annual training in years 2 and 3 of project implementation, and semi-annual training for at least 40 staff of PMU and PIUs the first 3 years of project implementation. Capacity building training will be undertaken by PMSC.

89. The resettlement plans have been prepared based on the findings of the census and socio economic survey and consultations. Each resettlement plan includes the findings of the census of displaced persons, and their entitlements to restore losses, socio economic characteristics of the displaced persons, institutional mechanisms and implementation schedules, budgets, assessment of feasible income restoration mechanisms, development of resettlement sites and relocation, grievance redress mechanism, coordination of implementation in conjunction with civil works procurement and construction schedules and internal and external monitoring mechanisms. A budget (\$15.45 million) for land acquisition and resettlement (LAR) is included in the overall project budget; the borrower has committed to provide timely budget for LAR. The due diligence report (DDR) prepared in detail the availability of land, free from encumbrance, for subproject components based on site inspection and verification of land documents.

90. No adverse impacts on indigenous peoples are anticipated, and improved facilities will benefit all industries and households including indigenous peoples in the project areas. The project does not impact cultural sites used by indigenous peoples and sites of historical or archeological sites are also not impacted. Meaningful and widespread consultations were held and will continue with all communities in the project area.

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<sup>42</sup> Resettlement Framework (accessible from the list of linked documents in Appendix 2).

<sup>43</sup> Indigenous Peoples Planning Framework (accessible from the list of linked documents in Appendix 2).

<sup>44</sup> Resettlement Plan (accessible from the list of linked documents in Appendix 2).

<sup>45</sup> Environmental and Social Assessment of the Policy Matrix (accessible from the list of linked documents in Appendix 2).

91. The Tranche 1 draft resettlement plans have been disclosed and final resettlement plans incorporating suggestions and concerns of the people along with mitigation measures proposed will be submitted to ADB for review prior to award of contracts. Compensation for land and structure, in accordance with the eligibility and entitlement, will be paid prior to commencement of civil works. The resettlement framework will also guide the development of all future resettlement plans to be prepared and that this will need to be approved by ADB prior to award of contracts.

92. **Future tranches.** Future tranches will be assessed for involuntary resettlement and indigenous peoples impacts and their categorization undertaken. Resettlement plans and IPPs will be prepared as required, and will provide for compensation and mitigation measures to address all assessed impacts, in line with the agreed resettlement framework and IPPF prepared for VCICDP, taking into account ADB SPS 2009 and national and state policies.

### 1. Project Management Unit (PMU)

93. The Social Safeguards and Gender Officer in the PMU with assistance from PMSC social safeguards consultant will:

- (i) review the updated resettlement plans, prepared by the PIUs in accordance with VCICDP resettlement framework, ADB's SPS, 2009 based on final detailed designs and submit to ADB for review, final approval, and disclosure prior to award of contract;
- (ii) ensure payment of compensation and resettlement assistances prior to commencement of civil works;
- (iii) monitor resettlement plan implementation and rehabilitation of displaced persons prior to and during construction;
- (iv) conduct internal monitoring and assist the external monitor in external monitoring of the resettlement process to ensure smooth implementation;
- (v) monitor work of nongovernmental organization (NGO) or agency as required;
- (vi) review quarterly resettlement monitoring reports prepared by resettlement agency or NGO and take required corrective actions, if any and consolidate the reports of Category B or C subprojects;
- (vii) prepare and submit semi-annual safeguard monitoring report to ADB based on the quarterly resettlement reports;
- (viii) address and record grievances through the GRM in a timely manner, and taking quick corrective actions where necessary to facilitate the redressal of grievances in coordination with contractors, NGO, and displaced persons;
- (ix) engage in ongoing meaningful consultations with stakeholders and affected persons;
- (x) implement project GRM and maintain the records;
- (xi) recruit independent external monitoring agency for all Category A subprojects, with endorsement from ADB;
- (xii) ensure project compliance to resettlement framework of VCICDP and ADB SPS including safeguards requirement on indigenous people and Indigenous Peoples Development Framework;
- (xiii) monitor the implementation of corrective action plans (CAP), if any, consistent with the safeguard frameworks; and
- (xiv) monitor the gender equality and social inclusion (GESI) action plan.

## 2. Project Implementation Units (PIU)

94. The PIUs, each to be staffed with a safeguards manager (social and gender) and assisted by the PMSC specialist, will be responsible for:

- (i) updating resettlement plans in accordance with VCICDP resettlement framework, ADB's SPS, 2009 based on final detailed designs with supports from PMSC and/or turnkey contractors;
- (ii) submitting the final resettlement plans to PMU to be submitted to ADB for review, final approval, and disclosure prior to award of contract;
- (iii) implementing resettlement activities through resettlement plan implementation support agency (NGO), line departments, and revenue officials;
- (iv) preparing and reviewing individual entitlement plans/micro plans or implementing resettlement plans and submit for approval;
- (v) identifying suitable land for the resettlement/relocation area in coordination with district administration and initiate transfer/acquisition process, after receiving endorsement for the physically displaced persons;
- (vi) supervising the resettlement plan implementation support NGO/agency involved in implementation;
- (vii) assisting in disbursement of compensation and resettlement assistances;
- (viii) holding periodical and meaningful consultations with the affected people on implementation of land acquisition and resettlement activities;
- (ix) preparing monthly resettlement plan implementation and physical and financial progress reports;
- (x) leading the GRM implementation and record keeping at the project/district/PIU level;
- (xi) updating payment of compensation, disbursement of resettlement assistances, displaced persons socioeconomic data in the database;
- (xii) verifying claims for inclusion as displaced persons and submit report to PMU for decision;
- (xiii) preparing and implementing any CAP, when required, consistent with the frameworks requirements; and
- (xiv) implementing and monitoring the GESI action plan.

95. **Project GRM.** Project GRM will be established at three levels as indicated below to cover both environment and social issues. The GRM will be constituted before issuance of bid documents. The GRM will be disclosed to the affected communities and households prior to the mobilization of contractors in any subproject areas. The Project grievance redress committee, supported by the PMSC consultants as well as the PMU and PIU safeguard officers will be responsible for timely grievance redress on environmental and social safeguards issues and responsible for registration of grievances, related disclosure and communication with the aggrieved party. A complaint register will be maintained at field unit, PIU and PMU levels with details of complaint lodged, date of personal hearing, action taken and date of communication sent to complainant. Contact details, procedures and complaint mechanism will be disclosed to the project affected communities at accessible locations and through various media (i.e. leaflets, newspapers, etc.). Samples of draft project leaflets, Grievance Registration Forms and monitoring templates are in the resettlement framework.

- (i) **1st Level Grievance.** The phone number of the PIU office should be made available at the construction site signboards. The contractors and field unit staff can immediately resolve onsite, seek the advice of the PIU safeguard manager as required, within seven days of receipt of a complaint/grievance.

- (ii) **2nd Level Grievance.** All grievances that cannot be redressed within 7 days at field/ward level will be reviewed by the GRC at district level headed by Joint Collector. GRC will attempt to resolve them within 15 days. The PIU safeguard manager will be responsible to see through the process of redressal of each grievance.
- (iii) **3rd Level Grievance.** All grievances that cannot be redressed within 15 days at district level will be reviewed by the grievance redressal committee (GRC) at state level headed by the Project Director, PMU with support from district GRC, PMU social safeguards and gender officer (SSGO). PMU environmental safeguards officer, and PMC environment and social safeguards specialists. GRC will attempt to resolve them within 15 days. The PMU SSGO will be responsible to see through the process of redressal of each grievance pertaining to social safeguards.

### 3. Grievance Redressal Committee

96. GRC at district level will receive, evaluate and facilitate the resolution of displaced persons concerns, complaints and grievances. The GRC will provide an opportunity to the affected persons to have their grievances redressed prior to approaching the State level LARR Authority, constituted by GoAP in accordance with Section 51(1) of the RFCTLARR Act, 2013. The GRC is aimed to provide a trusted way to voice and resolve concerns linked to the project, and to be an effective way to address displaced person's concerns without allowing it to escalate resulting in delays in project implementation.

97. The GRC will continue to function, for the benefit of the displaced persons, during the entire life of the project including the defects liability period. The entire resettlement component of the project has to be completed before the construction starts, and pending grievances resolved. Other than disputes relating to ownership rights and apportionment issues on which the LARR Authority has jurisdiction, GRC will review grievances involving all resettlement benefits, relocation and payment of assistances. The GRCs will function out of each district where the subprojects are being implemented. The existing setup for coordination, monitoring and grievance redress at district level which meets once a month, will be used for VCICDP. The district level GRC will be chaired by Joint Collector and comprise the Project Engineer of the concerned field unit acting as its member secretary, and the following members: (i) RDO or sub-collector of the division; (ii) Project Director, DRDA; (iii) Chief Executive Officer, Zilla Parishad; (iv) District Panchayat Officer; (v) District Education Officer; (vi) District Medical and Health Officer; (vii) district level representative of DISCOM; (viii) Superintendent, RWS Panchayat Raj Department; (ix) three members from affected persons, with at least one of them a woman DP; and (x) Team Leader of the resettlement plan implementation support NGO or agency. The contact details of the grievances redressal committee, PIUs safeguards manager, and the resettlement plan implementation NGO/agency will be included in the brochures to be circulated among all affected people as a first step in resettlement plan implementation.

98. The Project Director, PMU will be the appellate authority and will be supported by the Safeguards Officer of PMU and team leader of the external monitoring consultant. This will be the highest grievance redressal mechanism at the project level.

99. **Capacity building.** Regular capacity building activities on social safeguards are proposed, including quarterly training for safeguards officers of PMU and PIUs in year 1, followed by semiannual training in years 2 and 3 of project implementation, and semiannual training for at least 40 staff of PMU, PIUs and resettlement NGO in the first 3 years of project

implementation. Capacity building training will be undertaken by PMSC social safeguards expert on safeguards issues of the projects, resettlement framework of VCICDP and ADB Safeguards Policy. The PIU safeguards managers will be further supported by the PMSC experts through on the job training for resettlement plan updating, implementation, complaint resolution and report writing on safeguards.

100. **Civil works contracts.** The PIUs will ensure that bidding and contract documents include specific provisions requiring contractors to comply with all (i) applicable labor laws and core labor standards on prohibition of child labor as defined in national legislation for construction and maintenance activities, on equal pay for equal work of equal value regardless of gender, ethnicity or caste, on elimination of forced or bonded labor, and (ii) the requirement to disseminate information on sexually transmitted diseases including HIV/AIDS to employees and local communities surrounding the project sites. Relevant provisions of the gender equality and social inclusion action plan (GESI) will be shared with the contractors' responsibilities by the PMU and PIUs. Contractors will carry out all environmental and social mitigation and monitoring measures outlined in their contract. PMSC specialists will assist the PMU and PIUs in monitoring contractor's compliance activities.

101. **Prohibited investment activities.** Pursuant to ADB's Safeguard Policy Statement (2009), ADB funds may not be applied to the activities described on the ADB Prohibited Investment Activities List set forth at Appendix 5 of the Safeguard Policy Statement (2009).

## VIII. GENDER AND SOCIAL DIMENSIONS

102. The state has 13.7% of its population living below poverty line (rural and urban), as determined by the erstwhile planning commission, at monthly per capita consumption expenditure of Rs.1,370.84 for urban areas and Rs.1,031.74 for rural areas.<sup>46</sup> Of the total population of the state, scheduled castes constitute 16.41% and the scheduled tribes 7.00%. The Planning Commission's approach paper to the plan identifies infrastructure bottlenecks and lack of adequate long-term funds for infrastructure, as key binding constraints to realizing more equitable and sustainable growth and bridging the gaps between regions, sectors, and people.

103. Project 1 of the MFF and the PBL are classified as effective gender mainstreaming. A poverty and social analysis has been completed.<sup>47</sup> A GESI action plan<sup>48</sup> and a consultation and participation plan (CPP)<sup>49</sup> have been prepared for the MFF with clear targets, responsibilities, and resource allocation for widespread, ongoing, and meaningful participation (available in Appendix 13 and Appendix 14, respectively). The GoAP will implement the GESI action plan and the CPP with support from the PMSC, NGOs, and civil society organizations. The augmentation of water supply and 24x7 subprojects for Visakhapatnam will provide quality and adequate quantity water to all households including the poor households. The time spent in fetching water from nearby places, which is mostly done by the lady of the house or the girl child as indicated in the baseline survey, will be henceforth spent productively in household economic activity, education and socializing. The proposed open house consumer meetings of the GVMC will bring women into the sphere of planning in use of water that matters most to them and redressing grievances more effectively.

<sup>46</sup> Government of India, Planning Commission. 2014. *Poverty Estimates (2011–2012)*. Delhi.

<sup>47</sup> Summary Poverty Reduction and Social Strategy is accessible from the list of linked documents to RRP.

<sup>48</sup> Gender Equality and Social Inclusion Action Plan is accessible from the list of linked documents to RRP.

<sup>49</sup> Consultation and Participation Plan is accessible from the list of linked documents to RRP.

104. The infrastructure improvements in the industrial nodes will lead to growth in industries resulting in greater employment opportunities. Sectors such as textile, pharmaceutical hire more women than other industries and in all the strength of women labor force will increase due to the interventions. Further women have greater chances of being engaged in industry related service sector. Employment will give the women the economic independence and empower them to play a greater role in managing household finances and decision-making. Strengthening the industries' capacity to have a policy to contain sexual harassment at workplace and mechanism to deal with complaints will go a long way in making the workplace safe and the work more congenial.

105. The resettlement framework has provided for additional assistance to vulnerable that includes women headed households (WHH) in terms of training for skill development and one time grant for income generating activities that will benefit the WHH. The CPP aims at increased role of women in project design, implementation and monitoring.

106. Attached as Appendix 15 is the GESI action plan monitoring format to be used for monitoring and reporting.

## **IX. PERFORMANCE MONITORING, EVALUATION, REPORTING, AND COMMUNICATION**

### **A. Project Design and Monitoring Framework**

107. The design and monitoring framework (DMF) for the MFF and Project 1 are in Appendix 1.

### **B. Monitoring**

108. **Project performance monitoring.** The PMU will establish a project performance management system using the targets, indicators, assumptions, and risks in the project DMF. An expanded DMF will be developed that can serve as a monitoring and evaluation (M&E) Framework taking into account the important monitoring parameters in addition to those included in DMF. The baseline data corresponding to indicators and targets set out in the DMF and the M&E Framework could be generated through primary data collected by project preparatory technical assistance consultants and through further data collection during the detailed design stage. Such baseline data, disaggregated by income levels, sex, caste, and ethnicity, should be established within 12 months of loan effectiveness. After establishing the baseline, the PMU will prepare annual, mid-term and end of project monitoring reports using the same indicators and submit the reports to ADB.<sup>50</sup>

109. **Compliance monitoring.** The PMSC will support the PMU in monitoring performance based on DMF, M&E framework and project performance management system (PPMS) for the project. The PMU, with support from PMSC will prepare a quarterly progress report, which among other items; will include compliance of implementation of (i) assurances, covenants and conditions; (ii) safeguards; (iii) GESI; (iv) CPP, etc.

110. **Safeguards monitoring.** The status of implementation of environmental safeguards documents (IEE, EMP, EARF), and social safeguards documents (resettlement plan and

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<sup>50</sup> ADB's project performance reporting system is available at <http://www.adb.org/Documents/Slideshows/PPMS/default.asp?p=evaltool>

resettlement framework) will be discussed at each ADB review mission apart from being integrated into quarterly progress reports. PMU will also submit to ADB separate environmental safeguard semiannual monitoring reports (ESMR) and social safeguards semiannual monitoring reports (SSMR) in the standard templates advised by ADB.

111. **Gender and social dimensions monitoring.** Status of the implementation of the GESI action plan and CPP will be discussed at each ADB review mission apart from being integrated into quarterly progress reports.<sup>51</sup>

### C. Evaluation

112. ADB provides financing for projects that will effectively contribute to the economic and social development of the country concerned and have the strongest poverty reduction impact in conformity with the country and ADB strategies. The government and ADB will jointly review the project at least twice a year. This includes (i) the performance of the PMU, consultants and contractors; (ii) physical progress of projects and effectiveness of safeguards, C&P Plan and the GESI Action Plan; (iii) inclusion of women and vulnerable groups including the poor in project planning and implementation; (iv) achievement of DMF indicators; (v) compliance with loan assurances; and (vi) assessment of project sustainability in technical and financial terms. As the program loan is linked to policy reforms, the quarterly progress report will deal with the policy reforms being implemented in detail. In addition to the regular loan reviews, the government and ADB will undertake a comprehensive midterm review in the third year of project implementation to identify problems and constraints encountered and suggest measures to address them. Specific items to be reviewed will include (i) appropriateness of scope, design, implementation arrangements, and schedule of activities; (ii) assessment of implementation pace against project indicators; (iii) effectiveness of capacity building programs; (iv) compliance with safeguard measures; (v) extent to which the GESI Action Plan and C&P plan are being implemented; (vi) needs for additional support for operation and maintenance (O&M) of the facilities established under the project, (vii) lessons learned, good practices, and potential for replication; and (viii) changes recommended.

113. **Project completion report.** The PMU will submit to ADB, within 6 months of the completion of the project, a project completion report (PCR) that will cover the details of implementation (including changes in scope), costs, monitoring and evaluation of activities, problems encountered, actions taken, and other information requested by ADB and implementing agency.<sup>52</sup>

### D. Reporting

114. The PMU will provide ADB with (i) quarterly progress reports in a format consistent with ADB's project performance reporting system; (ii) consolidated annual reports including (a) progress achieved by output as measured through the indicator's performance targets, (b) key implementation issues and solutions, (c) updated procurement plan, and (d) updated implementation plan for the next 12 months; and (iii) a PCR within 6 months of physical completion of the project. To ensure that projects will continue to be both viable and

<sup>51</sup> ADB's Handbook on Social Analysis: A Working Document, is available at: <http://www.adb.org/Documents/Handbooks/social-analysis/default.asp>, *Staff Guide to Consultation and Participation*: <http://www.adb.org/participation/toolkit-staff-guide.asp>, and, *CSO Sourcebook: A Staff Guide to Cooperation with Civil Society Organizations*: <http://www.adb.org/Documents/Books/CSO-Staff-Guide/default.asp>

<sup>52</sup> Project completion report format is available at: <http://www.adb.org/Consulting/consultants-toolkits/PCR-Public-Sector-Landscape.rar>

sustainable, project accounts and the executing agency audited financial statement together with the associated auditor's report, should be adequately reviewed.

## **E. Stakeholder Communication Strategy**

115. The project preparatory consultants and the implementing agencies coordinated consultations for sample subprojects. The consultations included affected households, beneficiaries of subprojects, elected representatives and other stakeholders. Further, consultations were held during the socio-economic surveys undertaken in sample sub-project areas and census surveys undertaken to assess the magnitude of involuntary resettlement in each sub-project. Policy related issues were discussed through state-level workshops. The feedbacks from these consultations were incorporated in the project design. The project has a larger development agenda of enhancing manufacturing, attracting investments and improving economic growth and employment. Provision of industrial infrastructure, connectivity, environmental infrastructure (water supply, waste water management, sanitation) and other essential forms of infrastructure and services has been based on an understanding of the needs and priorities of users.

116. The project intends to maximize transparency by communicating relevant project information to stakeholders through various communication tools. The PMU has a website to disclose all key project-related information, including the scope, cost, and financial and institutional arrangements of the project, project safeguard reports such as IEE and resettlement plans, and project progress such as procurement, contract award and disbursement. The PMU will also fully disclose relevant project-related information through website and PMU's information center—such as project cost, cost-sharing arrangement, contractor's name, contract price, progress of construction, financial status of municipalities—through public briefings, bulletin boards, municipal annual reports etc.

117. The project has prepared a CPP plan (Appendix 14) for meaningful and widespread consultations during the implementation stage to disseminate information and obtain feedback to improve ongoing design and implementation. This would ensure that the development initiatives under the project are inclusive with effective participation of all stakeholders especially the poor and vulnerable groups. The principal focus of the C&P plan would be to give opportunity to these groups in shaping investment programs so that their voice is heard at all levels of decision making. Meaningful, relevant, and ongoing consultations with the important stakeholders coupled with proper and timely disclosure of information are critical success factors in maintaining public support and mitigating grievances. All relevant information, in a medium easily understood by the target groups, regarding the intent, design, schedule, impacts, and overall benefits of the project need to be disseminated to the stakeholders in time. In order to have coordinated efforts among the executing and implementing agencies as well as public, private, and community stakeholders, the implementation arrangement shall include a component of Community Awareness and Participation Consultant, as part of PMSC, recruited by the PMU, to ensure meaningful, widespread, and continuing consultations and public awareness during project implementation

## **X. ANTICORRUPTION POLICY**

118. The Government, the State, the executing agency, and all implementing agencies are advised of ADB's Anticorruption Policy (1998, as amended from date). Consistent with its commitment to good governance, accountability and transparency, implementation of the

projects under the Facility shall adhere to ADB's Anticorruption Policy.<sup>53</sup> ADB reserves the right to review and examine, directly or through its agents, any alleged corrupt, fraudulent, collusive, or coercive practices relating to the projects under the Facility. In this regard, investigation of government officials, if any, would be requested by ADB to be undertaken by the government.

119. To support these efforts, relevant provisions of ADB's Anticorruption Policy are included in the loan regulations and the bidding documents. In particular, all contracts financed by ADB shall include provisions specifying the right of ADB to audit and examine the records and accounts of the executing and implementing agencies, and all contractors, suppliers, consultants, and other service providers as they relate to the projects under the Facility.<sup>54</sup>

## **XI. ACCOUNTABILITY MECHANISM**

120. People who are, or may in the future be, adversely affected by the project may submit complaints to ADB's Accountability Mechanism. The Accountability Mechanism provides an independent forum and process whereby people adversely affected by ADB-assisted projects can voice, and seek a resolution of their problems, as well as report alleged violations of ADB's operational policies and procedures. Before submitting a complaint to the Accountability Mechanism, affected people should make an effort in good faith to solve their problems by working with the concerned ADB operations department. Only after doing that, and if they are still dissatisfied, should they approach the Accountability Mechanism.<sup>55</sup>

## **XII. RECORD OF CHANGES TO THE FACILITY ADMINISTRATION MANUAL**

121. This draft FAM was prepared at the loan fact-finding mission in November 2015. All revisions and updates during the course of implementation will be retained in this Section to provide a chronological history of changes to implementation arrangements recorded in the FAM.

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<sup>53</sup> Anticorruption Policy: <http://www.adb.org/Documents/Policies/Anticorruption-Integrity/Policies-Strategies.pdf>

<sup>54</sup> Governance and Anticorruption Action Plan II Guidelines. <http://www.adb.org/Documents/Guidelines/GACAP-II-Guidelines.pdf>. See also Sourcebook: Diagnostics to Assist Preparation of Governance Risk Assessments. <http://www.adb.org/documents/books/Diagnostics-to-Assist-Preparation-of-GRAs/default.asp>.

<sup>55</sup> Accountability Mechanism. <http://www.adb.org/Accountability-Mechanism/default.asp>.

### APPENDIX 1: DESIGN AND MONITORING FRAMEWORK <sup>1</sup>

<b>Impacts the Program is aligned with:</b>			
Contribution of the manufacturing sector to the gross domestic product, trade and employment of the state of Andhra Pradesh increased (Government of India National Manufacturing Policy [2011]; <sup>a</sup> the VCIC's conceptual development plan; <sup>b</sup> and the Government of India Trade Policy [2015–2020]) <sup>c</sup>			
<b>Results Chain</b>	<b>Performance Indicators with Targets and Baselines</b>	<b>Data Sources and Reporting</b>	<b>Risks</b>
<b>Outcome</b> Growth and competitiveness of the VCIC enhanced	<p>By 2025:</p> <p>a. Manufacturing sector output in Andhra Pradesh increased to Rs4.2 trillion (\$64 billion) (2015 baseline: Rs1.1 trillion [\$16 billion])</p> <p>b. Gross value added per person engaged in the manufacturing sector increased to Rs1.0 million (2013 baseline: Rs0.483 million per person engaged)<sup>d</sup></p> <p>c. Average daily employment of women in factories in Andhra Pradesh increased to 18% (2010 baseline for former Andhra Pradesh: 13.4%)<sup>e</sup></p> <p>d. 24-hour power supply available for all manufacturing firms in the VCIC and interruption duration not to normally exceed 1 hour a month for feeders in at least 2 VCIC industrial clusters (2016 baseline: 24-hour power supply not available for all manufacturing firms in the VCIC and interruption duration exceeds 5 hours a month)</p> <p>e. 24-hour drinking water supply provided to 64,800 households and nonrevenue water reduced to less than 15% in project area in Visakhapatnam (2015 baseline: 0 for 24-hour supply and 50% for nonrevenue water)</p> <p>f. Traffic in VCIC increased to 21,000 PCU (2015: baseline: 15,000 PCU)</p>	<p>a. Annual survey of industries by Directorate of Economics &amp; Statistics, GoAP</p> <p>b. Annual survey of industries by Ministry of Statistics and Programme Implementation, Government of India</p> <p>c. Statistical Profile on Women Labour by Labour Bureau, Ministry of Labour and Employment, Government of India</p> <p>d–f. Annual reports of the GoAP, DOIC, and PIUs; QPRs of VCICDP</p>	<p>Inadequate investments by the government in critical projects (ports and shipping, national highways, telecommunications, railways) in the VCIC</p> <p>Increased competition from other states in attracting investors</p>

<sup>1</sup> Output 1 under the DMF describes the policy-based loan (PBL). Outputs 2 and 3 are relevant to the MFF.

Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting	Risks
<p><b>Outputs</b></p> <p>1. Corridor management strengthened and ease of doing business improved</p> <p>2. Visakhapatnam–Chennai Industrial Corridor infrastructure strengthened and more resilient</p>	<p>By 2024:</p> <p>1a. Corridor management institutions established and operational (2015 baseline: not applicable)</p> <p>1b. State's rating remains in top five on Ease of Doing Business (2015 baseline: ranked 2nd according to Ease of Doing Business report commissioned by Government of India)</p> <p>1c. New e-portal and single-desk system operational for issuing business-related licenses to more than 90% of the applicants (2015 baseline: 0)</p> <p>1d. New industrial and sector policies notified and implemented with fiscal incentives and special packages for women entrepreneurs (2015 baseline: not applicable)</p> <p>By 2024:</p> <p>2a. 45 km of internal roads improved, with gender-responsive design features<sup>f</sup> and 47 km of storm water drains constructed in industrial clusters (2015 baseline: 0)</p> <p>2b. Four MLD common effluent treatment plants constructed in industrial clusters (2015 baseline: 0)</p> <p>2c. 123 km of pipelines, 27 MLD water treatment plants, and 9,100 million liters of storage tanks constructed in industrial clusters (2015 baseline: 0)</p> <p>2d. 93.6 km of state highways widened, with gender-responsive design features<sup>f</sup> (2015 baseline: 0)</p>	<p>1a. Annual reports of the GoAP and DOIC; QPRs of VCICDP</p> <p>1b. Reports of Department of Industrial Policy and Promotion, Government of India</p> <p>1c–1d. Annual reports of the GoAP and DOIC; QPRs of VCICDP</p> <p>2a–2g. Annual reports of the DOIC and PIUs; QPRs of VCICDP</p>	<p>Lack of political will to continue reforms</p> <p>Inadequate structure and systems of corridor management institutions.</p> <p>Delays in legal processes for enforcement of contracts</p> <p>Inadequate allocation of power and water to meet industrial and urban demand</p> <p>Severe and extreme weather and climate events</p>

Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting	Risks
	<p>2e. One 400 by 220 kV, five 220 by 132 kV and four 132 by 33 kV new substations with a capacity of about 3,170 MVA and related transmission network comprising about 240 km of overhead and 41 km of underground transmission and distribution lines of 400, 220, and 132 kV installed for industrial clusters (2015 baseline: 0)</p> <p>2f. 365 km of new drinking water pipelines constructed or rehabilitated and 64,800 water meters installed in Visakhapatnam (2015 baseline: 0)</p> <p>2g. Climate change resilience plan for Visakhapatnam prepared and adopted for integrated water management solution (2015 baseline: not applicable)</p>		
3. Institutional capacities, human resources, and program management strengthened	<p>By 2024:</p> <p>3a. Project development mechanism with time-bound action plan established</p> <p>3b. Skill enhancement programs conducted for at least 25,000 persons (at least 20% women), including workers, entrepreneurs, and students</p> <p>3c. Capacity development programs, including training on gender and monitoring of gender-disaggregated data, conducted for more than 500 staff of executing and/or implementing agencies (100% women staff participate)</p> <p>3d. Investor promotion plan developed and implemented on time</p> <p>3e. Satisfactory QPRs and audit reports submitted on time (gender-disaggregated data</p>	3a–3e. Annual reports of the DOIC and PIUs; QPRs of VCICDP	High turnover of DOIC and PIU staff

Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting	Risks
	collected)		
<b>Key Activities with Milestones</b>			
<p><b>1. Corridor management strengthened and ease of doing business improved</b></p> <p>1.1 Comply with tranche 1 policy-based loan conditions (March 2017)</p> <p>1.2 Comply with tranche 2 policy-based loan conditions (December 2019)</p> <p><b>2. Visakhapatnam–Chennai Industrial Corridor infrastructure strengthened and more resilient</b></p> <p>2.1 Award first civil works contracts (March 2017)</p> <p>2.2 Award all civil works contracts of Project 1 (March 2018)</p> <p>2.3 Acquire land and implement resettlement plan for Project 1 (December 2018)</p> <p>2.4 Award all civil works contracts of Project 2 (December 2020)</p> <p>2.5 Complete all construction and commission all facilities of Project 1 (December 2021)</p> <p>2.6 Complete all construction and commission all facilities of Project 2 (December 2024)</p> <p><b>3. Institutional capacities, human resources, and program management strengthened</b></p> <p>3.1 Initiate support to APSSDC in preparation and implementation of action plan for training of workers, entrepreneurs, and students (January 2017)</p> <p>3.2 Initiate capacity-building activities of executing and/or implementing agency staff (January 2017)</p> <p><b>Program Management Activities</b></p> <p>Establish project management unit with full staff (September 2016)</p> <p>Mobilize project management and supervision consultant (March 2017)</p> <p>Start implementation of gender equality and social inclusion action plan (Q2 2017)</p>			
<b>Inputs</b>			
<p><b>ADB:</b> \$625 million (MFF of \$500 million, policy-based loan of \$125 million)</p> <p>Urban Climate Change Resilience Trust Fund under the Urban Financing Partnership Facility: \$5 million</p> <p><b>Government:</b> \$215 million</p> <p><b>Technical Assistance Grant (TASF-others):</b> \$1 million</p>			
<b>Assumptions for Partner Financing:</b> Not applicable			

ADB = Asian Development Bank, APSSDC = Andhra Pradesh State Skill Development Corporation, DOIC = Department of Industries and Commerce, GoAP = Government of Andhra Pradesh, km = kilometer, kV = kilovolt, MFF = multitranchise financing facility, MLD = million liters per day, MVA = mega volt ampere, PCU = passenger car unit, PIU = project implementing unit, QPR = quarterly progress report, VCIC = Visakhapatnam–Chennai Industrial Corridor, VCICDP = Visakhapatnam–Chennai Industrial Corridor Development Program.

<sup>a</sup> Government of India, Ministry of Commerce and Industry. 2011. *National Manufacturing Policy*. Delhi.

<sup>b</sup> ADB. 2015. *India's First Coastal Corridor: Vizag-Chennai Industrial Corridor Conceptual Development Plan*. [https://www.apindustries.gov.in/APIndus/Data/Vizag-Chennai Industrial Corridor Full Report.pdf](https://www.apindustries.gov.in/APIndus/Data/Vizag-Chennai%20Industrial%20Corridor_Full_Report.pdf)

<sup>c</sup> Government of India, Ministry of Commerce and Industry, Department of Commerce. 2015. *Foreign Trade Policy, 2015–2020*. Delhi.

<sup>d</sup> Government of India, Ministry of Statistics and Programme Implementation. 2015. *Annual Survey of Industries, 2012–2013*. Kolkata (Statement 9B, sections 5-8).

<sup>e</sup> Government of India, Ministry of Labour and Employment. 2014. *Statistical Profile on Women Labour, 2012–2013*. Chandigarh/Shimla (Table 2.2, page 28).

<sup>f</sup> Gender-responsive design features for roads include walking paths, separate toilets for women, telephone helplines, adequate lighting, signage, demarcated road crossings, and safe public spaces.

Source: Asian Development Bank

## DESIGN AND MONITORING FRAMEWORK FOR PROJECT 1

<b>Impacts the Project is aligned with:</b>			
Contribution of the manufacturing sector to the gross domestic product, trade and employment of the state of Andhra Pradesh increased (Government of India National Manufacturing Policy [2011]; <sup>a</sup> the VCIC's conceptual development plan; <sup>b</sup> and the Government of India Trade Policy [2015–2020] <sup>c</sup>			
<b>Program Results Chain</b>	<b>Performance Indicators with Targets and Baselines</b>	<b>Data Sources and Reporting</b>	<b>Risks</b>
<b>Outcome</b> Growth and competitiveness of the VCIC enhanced	<p>By 2025:</p> <p>a. Manufacturing sector output in Andhra Pradesh increased to Rs4.2 trillion (\$64 billion) (2015 baseline: Rs1.1 trillion [\$16 billion])</p> <p>b. Gross value added per person engaged in the manufacturing sector increased to Rs1.0 million (2013 baseline: Rs0.483 million per person engaged)<sup>d</sup></p> <p>c. Average daily employment of women in factories in Andhra Pradesh increased to 18% (2010 baseline for former Andhra Pradesh: 13.4%)<sup>e</sup></p> <p>By 2023:</p> <p>d. 24-hour power supply available for all manufacturing firms in the VCIC and interruption duration not to normally exceed 1 hour a month for feeders in at least one VCIC industrial cluster (2016 baseline: 24-hour power supply not available for all manufacturing firms in the VCIC and interruption duration exceeds 5 hours a month)</p> <p>e. 24-hour drinking water supply provided to 64,800 households and nonrevenue water reduced to less than 15% in project area in Visakhapatnam (2015 baseline: 0 for 24-hour supply and 50% for nonrevenue water)</p> <p>By 2020:</p> <p>f. Traffic in VCIC increased to 21,000 PCU (2015: baseline: 15,000 PCU)</p>	<p>a. Annual survey of industries Direcotrate of Economics &amp; Statistics, GoAP</p> <p>b. Annual survey of industries by Ministry of Statistics and Programme Implementation, Government of India</p> <p>c. Statistical Profile on Women Labour by Labour Bureau, Ministry of Labour and Employment, Government of India</p> <p>d–f. Annual reports of the GoAP, DOIC, and PIUs; QPRs of VCICDP</p>	<p>Inadequate investments by the government in critical projects (ports and shipping, national highways, telecommunications, railways) in the VCIC</p> <p>Increased competition from other states in attracting investors</p>

Program Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting	Risks
<p><b>Output:</b> 1. Visakhapatnam–Chennai Industrial Corridor infrastructure strengthened and more resilient</p>	<p>By 2022:</p> <p>1a. 45 km of internal roads improved, with gender-responsive design features<sup>f</sup> and 47 km of storm water drains constructed in industrial clusters (2015 baseline: 0)</p> <p>1b. Four MLD common effluent treatment plants constructed in industrial clusters (2015 baseline: 0)</p> <p>1c. 43 km of water pipelines constructed in industrial clusters (2015 baseline: 0)</p> <p>1d. 26 km of state highways widened, with gender-responsive design features<sup>f</sup> (2015 baseline: 0)</p> <p>1e. One 400 by 220 kV, three 220 by 132 kV and three 132 by 33 kV new sub-stations with a capacity of about 2,321 MVA and related transmission network comprising about 173 km. of overhead and 41 km of underground transmission and distribution lines of 400, 220 and 132 kV installed for industrial clusters (2015 baseline: 0)</p> <p>1f. 365 km new drinking water pipelines constructed or rehabilitated and 64,800 meters installed in Visakhapatnam (2015 baseline: 0)</p> <p>1g. Climate change resilience plan for Visakhapatnam prepared and adopted for integrated water management solution (2015 baseline: not applicable)</p>	<p>1a–1g. Annual reports of the DOIC and PIUs; QPRs of VCICDP</p>	<p>Inadequate allocation of power and water to meet industrial and urban demand</p> <p>Severe and extreme weather and climate events</p>
<p>2. Institutional capacities, human resources, and program management strengthened</p>	<p>By 2022:</p> <p>2a. Project development mechanism with time-bound action plan established</p> <p>2b. Skill enhancement programs conducted for at least 5,000 persons (at least 20% women), including workers, entrepreneurs and students</p> <p>2c. Capacity development programs, including training on gender and monitoring of gender-disaggregated data, conducted for more than</p>	<p>2a–2e. Annual reports of the DOIC and PIUs; QPRs of VCICDP</p>	<p>High turnover of DOIC and PIU staff</p>

Program Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting	Risks
	500 staff of executing and/or implementing agencies (100% women staff participate) 2d. Investor promotion plan developed and implemented on time 2e. Satisfactory QPRs and audit reports submitted on time (gender-disaggregated data collected)		

### Key Activities with Milestones

#### 1. Visakhapatnam–Chennai Industrial Corridor infrastructure strengthened and more resilient

- 1.1 Award first civil works contracts (March 2017)
- 1.2 Award all civil works contracts of Project 1 (March 2018)
- 1.3 Acquire land and implement resettlement plan (December 2018)
- 1.4 Complete all construction and commission all facilities of Project 1 (December 2021)

#### 2. Institutional capacities, human resources, and program management strengthened

- 2.1 Initiate support to APSSDC in preparation and implementation of action plan for training of workers, entrepreneurs, and students (January 2017)
- 2.2 Initiate capacity-building activities of executing and/or implementing agency staff (January 2017)

#### Program Management Activities

- Establish project management unit with full staff (September 2016)
- Mobilize project management and supervision consultant (March 2017)
- Start implementation of gender equality and social inclusion action plan (Q2 2017)

#### Inputs

**ADB:** \$245 million

Urban Climate Change Resilience Trust Fund under the Urban Financing Partnership Facility: \$5 million

**Government:** \$108 million

**Technical Assistance Grant (TASF-others):** \$1 million

**Assumptions for Partner Financing:** Not applicable

ADB = Asian Development Bank, APSSDC = Andhra Pradesh State Skill Development Corporation, DOIC = Department of Industries and Commerce, GoAP = Government of Andhra Pradesh, km = kilometer, kV = kilovolt, MFF = multitranchise financing facility, MLD = million liters per day, MVA = mega volt ampere, PCU = passenger car unit, PIU = project implementing unit, QPR = quarterly progress report, VCIC = Visakhapatnam–Chennai Industrial Corridor, VCICDP = Visakhapatnam–Chennai Industrial Corridor Development Program.

<sup>a</sup> Government of India, Ministry of Commerce and Industry. 2011. *National Manufacturing Policy*. Delhi.

<sup>b</sup> ADB. 2015. *India's First Coastal Corridor: Vizag-Chennai Industrial Corridor Conceptual Development Plan*. [https://www.apindustries.gov.in/APIndus/Data/Vizag-Chennai Industrial Corridor Full Report.pdf](https://www.apindustries.gov.in/APIndus/Data/Vizag-Chennai%20Industrial%20Corridor_Full_Report.pdf)

<sup>c</sup> Government of India, Ministry of Commerce and Industry, Department of Commerce. 2015. *Foreign Trade Policy, 2015–2020*. Delhi.

<sup>d</sup> Government of India, Ministry of Statistics and Programme Implementation. 2015. *Annual Survey of Industries, 2012–2013*. Kolkata (Statement 9B, sections 5-8).

<sup>e</sup> Government of India, Ministry of Labour and Employment. 2014. *Statistical Profile on Women Labour, 2012–2013*. Chandigarh/Shimla (Table 2.2, page 28).

<sup>f</sup> Gender-responsive design features for roads include walking paths, separate toilets for women, telephone helplines, adequate lighting, signage, demarcated road crossings, and safe public spaces.

Source: Asian Development Bank.

## APPENDIX 2: INDUSTRY AND ECONOMIC CORRIDORS IN ANDHRA PRADESH: SECTOR ROAD MAP, POLICY FRAMEWORK AND INVESTMENT PLAN

### A. Road map

1. **Challenges to sustaining industrial growth in Andhra Pradesh.** In the State of Andhra Pradesh the manufacturing sector contributes to 12% of the State's GDP —lagging nationwide figure of 15%. Therefore, there is a pertinent need to usher in greater degree of industrialization. This will involve addressing challenges such as low Industrial diversification, and small and labor-intensive manufacturing sector, with low skills, productivity, and earnings. Key infrastructure in industrial clusters remains inadequate to support the burgeoning demand for efficient industrial infrastructure and a robust skill inventory. However in a recent survey, Andhra Pradesh was ranked second among all states in India in ease of doing business.<sup>1</sup> Andhra Pradesh needs to further improve on procedures of doing business, labor-related laws, land management, and taxation laws for it to enhance its competitiveness and benchmark itself with the developed countries in the region such as Singapore, South Korea, and Malaysia.<sup>2</sup>

2. **Visakhapatnam–Chennai Industrial Corridor (VCIC) as a growth engine for Andhra Pradesh.** To lay the foundation for a long-term investment program, ADB supported the preparation of a conceptual development plan (CDP) and a regional perspective plan (RPP) for the VCIC, which included an infrastructure strategy to drive economic growth and the identification of nodes<sup>3</sup> for industrial development, high-potential industrial sectors, and a set of priority projects.<sup>4</sup> The CDP indicated that VCIC, with its long coastline and strategically located ports, provides multiple international gateways to connect India with vibrant global production networks. The RPP identified VCIC's high potential for generating additional employment and industrial output that can be achieved over the next 30 years.<sup>5</sup> ADB is continuing its support to the GoAP for strategic planning for a long-term, phased investment plan, among others, through master planning of the four identified industrial nodes. The VCICDP, which is a combination of an MFF and a PBL, will build on the existing concentration of industries and increase the density and flow of economic activities along the VCIC in a business-induced scenario compared to a business-as-usual scenario.

<sup>1</sup> World Bank. 2015. *Assessment of State Implementation of Business Reforms, September 2015*. Delhi. India was ranked 142 among 189 nations in recent survey on ease of doing business (World Bank. 2016. *Doing Business 2016*. Washington, DC.).

<sup>2</sup> An important parameter of competitiveness is time to start a business, which is 21 days for Andhra Pradesh and 29 days for India. The same figures for other countries are: Singapore-2.5 days; South Korea-4 days; and Malaysia-4 days (World Bank assessment. <http://wdi.worldbank.org/table/5.3>).

<sup>3</sup> A node refers to a geographical area along the industrial corridor with high growth potential and encompassing a production enclave, an urban center, and a port along with a logistics and distribution network. Four nodes have been identified in the VCIC: Visakhapatnam, Kakinada, Amaravati region, and Yerepedu-Sri Kalahasti. An industrial cluster refers to an identified geographical area of industrial units within a node. For example, Visakhapatnam node comprises four industrial clusters: Pydibhimavaram, Atchutapuram, Nakkapalle, and Bheemunipatnam.

<sup>4</sup> The VCIC's conceptual development plan is available on the GoAP's website: [https://www.apindustries.gov.in/APIndus/Data/Vizag-Chennai%20Industrial%20Corridor\\_Full%20Report.pdf](https://www.apindustries.gov.in/APIndus/Data/Vizag-Chennai%20Industrial%20Corridor_Full%20Report.pdf)  
Summary of VCIC's conceptual development plan (accessible from the list of linked documents in Appendix 2).

<sup>5</sup> Summary of VCIC's regional perspective plan (accessible from the list of linked documents in Appendix 2). By 2045, the industrial output in VCIC is expected to rise to an estimated \$295 billion in the business-induced scenario and an estimated \$117 billion in the business-as-usual scenario from the current level of \$16 billion. The business-induced scenario will require an investment of \$31 billion in 30 years and \$7 billion in 5 years.

3. **Administration of the manufacturing sector in the state.** Following are the main entities of the state to implement the industrial sector activities:

- (i) **Department of Industries and Commerce.** This is responsible for governing the overall industrial activities in the state;
- (ii) **Directorate of Industries.** This is the apex department, assisting industries in setting up industrial units, obtaining the approvals, sanctioning incentives and providing marketing assistance;
- (iii) **Andhra Pradesh Industrial Infrastructure Corporation (APIIC).** Nodal agency for development and operation of industrial areas, parks, and estates in the state with all attendant infrastructures

4. The sector is supported for skill development through multiple government and other institutions like Andhra Pradesh State Skill Development Corporation (APSSDC); Andhra Pradesh Productivity Council (APPC); National Skill Development Corporation (NSDC); Skill Development Center under the Commissioner of Technical Education; and Micro, Small and Medium Enterprises (MSME) Development Institute, Hyderabad.

5. **Issues faced by manufacturing sector.** Andhra Pradesh contributes less than 4% of the total national manufacturing output, while leading states like Gujarat, Maharashtra and Tamil Nadu contribute 18.8%, 16.7% and 11.7%, respectively. The gross value added (GVA) per employee, which is one of the measures of efficiency of manufacturing sector, is Rs.0.53 million GVA/employee in the organized sector for Andhra Pradesh compared to Gujarat (Rs.1.44 million GVA/employee), Maharashtra (Rs.1.21 Million GVA/employee), and Haryana (Rs.0.87 million GVA/employee).<sup>6</sup> This trend is underscored by the fact that high technology and high value-added industries contribute barely 15% to the industrial output of the state. Industrialization in Andhra Pradesh faces the following challenges:

- (i) limited diversification and low adoption of technology: principal sectors contributing to the state's manufacturing sector are food processing, pharmaceuticals, mining and metals, machinery and equipment, chemicals, and textiles. There is skewed geographical spread—56% of the investment is concentrated in two districts (Visakhapatnam and Chittoor) and around 80% of the total investment is contributed by 1.4% of total number of industries. This is coupled with low transition from secondary to tertiary level (e.g., food processing industry has marginally advanced to tertiary level of processing, electronic industry has marginally moved from assembly units to manufacturing and units);
- (ii) majority of the employment is in labor-intensive jobs, impacting productivity;
- (iii) one-third of the manufacturing output is from unregistered industries, which is consistent for a decade implying that the unorganized sector has not transitioned into organized manufacturing;
- (iv) infrastructure constraints within the industrial clusters and inadequate connectivity infrastructure and services have impacted competitiveness;
- (v) weak enabling factors for manufacturing adversely affecting industry potential: use of obsolete technology, shortage of raw materials and their price volatility, limited availability of skilled man-power, shortage of quality power, deficiency of logistic infrastructure, inadequate rake supply, poor internal infrastructure (drainage, effluent treatment, etc.) quality and poor last mile connectivity, lack of finance as well as knowledge of sources of finance;

<sup>6</sup> Government of India. 2015. *Annual Survey of Industries, 2012–2013*. Delhi.

- (vi) challenges to doing business: the state ranks second in terms of ease of doing business ranking which is much better as compared to its peers; however, Industrial units still face significant operational challenges; and
- (vii) land availability: investors in Andhra Pradesh are looking for industrial land free from encumbrances and with efficient facilities.

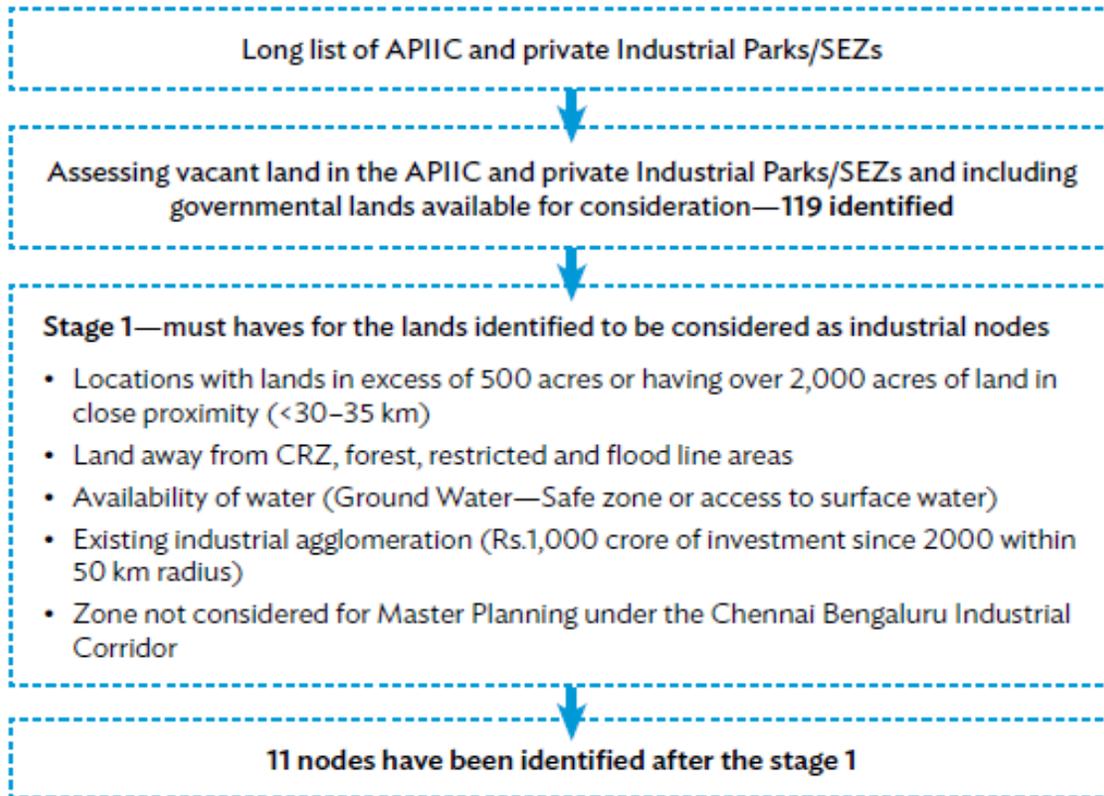
6. **Strengths and Potential of VCIC.** A transport corridor at the heart of VCIC that extends north to south over 800 km along the coast connecting a set of economic nodes justifies the potential for the region to develop as an industrial corridor. The corridor includes prominent networks like National Highway 5, which is a part of Golden Quadrilateral, the Kolkata-Chennai rail route and seven non-captive operational ports. NH network of 2268 km and railway network of 2,113 km combined facilitate easy movement of goods in and outside the corridor. Four existing major ports along with upcoming four non-major ports in the VCIC corridor complemented with .36 million twenty foot equivalent units (TEU) of dry ports provides impetus to the logistics infrastructure.

7. **Sectors and sector development plans.** With the support of the existing logistics infrastructure, growth in 78 industries in Andhra Pradesh are present driven by domestic or export demand. These industries can be broadly divided into 25 distinct sectors. “What is” and “what could be analysis” at the state, country, and global levels using parameters such as trends in foreign direct investment (FDI), other investments, exports and output identified seven key sectors with the following traits: high growth rates driven by domestic and/or export demand; competitive and comparative advantage at both the state and country levels; create employment opportunities and drive wages higher; and new and/or expanding and can be attracted to the corridor.

8. Following are the seven key sectors proposed for development plans in the coming years: Food Processing; Pharmaceuticals; Auto and Auto Components; Textiles; Metallurgy; Chemical and Petrochemicals; and Electronics.

9. Development plans of the above sectors aimed at achieving benchmark targets set by different states in India in parameters like total output, average factory productivity, average employee productivity, gross value added (GVA), and average investment per factory.

10. **Node-based approach.** Key prerequisite for supporting the expected growth by these seven sectors is the availability of land. Based on the discussions undertaken with the state government officials, 119 locations in government industrial park and special economic zones (SEZs) and private industrial parks and SEZs were identified as having vacant land. The focus of VCIC’s industrial transformation has been on enabling existing industrial agglomerations. Hence, all locations that were shortlisted have been analyzed for the presence of industrial units in close proximity to the shortlisted land parcels thus leading to a node based development approach. In addition, instead of identifying a single contiguous land parcel, attempts were made to identify a cluster of land parcels in close proximity to create nodes of substantial size.

**Figure 1: Node Selection Criteria**

11. Detailed analysis based on the framework in Figure 1 was undertaken to identify potential zones for development. Zones that are being considered under other corridor projects, such as CBIC, were not considered under this project to eliminate duplication of development efforts. The 11 potential clusters identified were further screened on set of important (good-to-have) factors:

- (i) proximity to existing or planned ports of less than 50 km for industries such as metallurgy, chemicals & petrochemicals and textiles;
- (ii) proximity to raw material (<25km) for industries such as food processing; and
- (iii) proximity to a city (<50km) for industries such as automobile, pharmaceuticals, medical equipment, electronics and aerospace.

12. Each location was further analyzed on the existing availability of connectivity infrastructure, skilled manpower and logistics infrastructure. Based on the analysis combined with discussions with governmental officials from Andhra Pradesh, following nodes were identified.

**Table 1: Identified Nodes**

Node	Land Parcels	District	Estimated Area (acres)
1	Visakhapatnam (Atchutapuram, Nakkapalle)	Visakhapatnam	4,500
2	Kakinada	East Godavari	5,000
3	Amaravati region	Krishna	4,000
4	Yerpedu-Srikalahasti	Chittoor	5,000

13. The northern node is centered on Visakhapatnam and is in close proximity to the ports of Visakhapatnam and Gangavaram, and the industrial activities in the immediate hinterland of these ports. The southern node is close to the urban centers of Tirupati and Nellore, the port cluster from north of Chennai to Krishnapatnam, and the industrial zones in their immediate hinterland, most notably Sri City. The two nodes in the central region are primarily green field; Amaravati and Kakinada.

14. **VCIC development objectives:** The node-based industrialization strategy proposed for VCIC is targeted to achieve regional and global competitiveness. Infrastructure development and urbanization are critical to attain this core objective. In order to achieve industrial transformation, following development objectives were proposed:

- (i) **Increase the manufacturing sector's contribution to state and national output.** Current contribution of manufacturing sector to GSDP<sup>7</sup> of Andhra Pradesh is 10% which is below India's average of 15%.
- (ii) **Level regional industrialization.** Current industrialization is skewed towards Visakhapatnam and East Godavari. Visakhapatnam's manufacturing sector comprise 22% of districts GDP while for East Godavari, it is 13%.
- (iii) **Improve labor productivity:** Many industries in VCIC are engaged in labor-intensive activities in the formal sector where the small scales of operation and lack of technology, lower skills result in low-levels of productivity and wages.
- (iv) **Enhance regional and global competitiveness:** Industries in VCIC should seek to link with global value chains to drive export growth and competitiveness.

15. **Imperatives for achieving objectives:** In order to obtain the above objectives, enabling policy environment, infrastructure development and skill upgrading are the most important levers. As the corridor will be primarily oriented towards manufacturing, the development focus can be categorized as follows:

- (i) **Multimodal Transport Infrastructure to enable competitive supply chains.** Nodes of manufacturing do not function in isolation, but as part of a supply chain, aligning with domestic or global value networks. Inbound and outbound logistics from the industrial nodes will need to consider capacity and service provision at key infrastructure gateways like ports and airports, as well as the network connectivity between the nodes, gateways, and hinterland consumption centers.
- (i) **Energy Infrastructure.** Access to 24-hour supply, reliable network infrastructure and cost of power are important elements for augmenting the ability for value added manufacturing. Several industries proposed for VCIC's industrialization

<sup>7</sup> Gross state domestic product (GSDP) is composed of three major components – agriculture, industry and services sectors. Manufacturing is a part of Industry sector. Manufacturing is classified as registered and unregistered manufacturing sector (Socioeconomic Survey of Andhra Pradesh, 2014-15).

- strategy—including pharmaceuticals, automobiles, and oil refineries, cement plants etc. have high dependence on power.
- (ii) **Urban infrastructure:** With the development of nodes in the corridor region, increase in population will need more water supply and sewage treatment plants both for sustenance and industrial requirement. Key sources of water supply in Andhra Pradesh are ground water and surface water.
  - (iii) **Policy initiatives:** The action plan for any successful economic corridor also hinges on institutions and regulations supporting the ease of doing business. Single Window Systems, Information Technology enabled systems, integrated check-post at borders and rationalizing value-added taxes and entry tax structures across participating states are some of the policy initiative enabling ease of doing business.
  - (iv) **Skills development:** Critical to enhanced manufacturing levels in the corridor necessitates skill upgrading and thereby employability of local population. The foundation for the effort being establishment of centers of excellence and in upgrading/ strengthening local skill upgrading centers.

16. **Project identification.** To support the expected growth, projects needs to be identified in each of the infrastructure sub-classes. The process of projects identification is done in the backdrop of projects already planned or proposed by the Government. A three-pronged approach was followed to identify projects.

- (i) **Corridor-level intervention.** Projects related to strengthening spinal and grid connectivity from the perspective of the overall competitiveness of VCIC as it is part the larger East Coast Corridor from Chennai to Kolkata.
- (ii) **Node level intervention 1.** Projects connecting the four nodes identified with the core gateway ports and airports proximal to the nodes. Each node was mapped against a specific port cluster and airport node.
- (iii) **Node level intervention 2.** The strategy was to identify projects to inter-connect nodes, gateways and hinterland centers outside the VCIC region.

17. After project identification, each of them is assessed for strategic importance to the node and categorized as critical, need to have or good to have. Critical projects address the gaps in connectivity issues between the hinterland centers and the coast. Need to have projects have limited effect in the short term but can be considered as a mean to support long term growth. Further, state of readiness of the projects was addressed based on the following categories:

- (i) Conceptualization
- (ii) Feasibility being studied
- (iii) Feasibility assessed
- (iv) Procurement
- (v) Implementation

18. Critical and vital, need to have projects that are in a high state of readiness are proposed for immediate or short-term execution. Projects that are good-to-have or have a low state of readiness are proposed for medium- or long-term execution.

## **B. Strategic Context**

19. **India's manufacturing sector.** While India has seen a rapid structural transformation and achieved strong economic growth since 1991, it must continue to create economic

opportunities for its large labor force, which is increasing by about 12 million a year, to sustain its economic growth and realize its demographic dividend.<sup>8</sup> With limited prospects for job creation in agriculture, one of the most pressing policy challenges in India is to create more productive and well-paying jobs in manufacturing and services. India's services sector has had significant growth and increased wages since 1991.<sup>9</sup> Manufacturing, which has higher untapped potential, is lagging and has contributed almost at the same level of 15% of GDP and 12% of employment each year over this period.<sup>10</sup> India's National Manufacturing Policy (2011) calls for increasing the manufacturing sector's contribution to at least 25% of GDP and enhancing job creation in manufacturing to create 100 million additional jobs by 2022.<sup>11</sup>

**20. India's industrial corridors and policies to stimulate manufacturing.** India has adopted an 'industrial corridor' approach to stimulate manufacturing and an "Act East Policy" to integrate the Indian economy with dynamic global production networks of Asia.<sup>12</sup> The industrial corridor approach involves creation of an efficient multimodal transport network supported by quality infrastructure and logistics within a defined geography, and a policy framework that facilitates business operations for integration with global production networks. Industrial corridors are central to India's "Make in India" initiative, which encourages investments into the manufacturing sector to stimulate growth and create high quality jobs. In line with these policies, the government and ADB identified the East Coast Economic Corridor (ECEC), which is India's first coastal corridor extending over 2,500 kilometers (km) from Kolkata in West Bengal to Tuticorin in Tamil Nadu. The ECEC aims to stimulate growth through network externalities, linkage with urban and industrial clusters and by integrating with regional value chains in Southeast and East Asia.<sup>13</sup> The VCIC, which covers more than 800 km of coastline in Andhra Pradesh, is proposed to be developed as the first phase of ECEC. The VCICDP is in line with ADB's country partnership strategy for India.<sup>14</sup>

### C. Policy Framework

**21. Industrial Corridors** entail creating globally comparable infrastructure in a designated pathway, and providing a conducive and competitive environment for setting up businesses. Industrial corridors are normally conceived along major transport arteries, typically rail trunk routes, as they provide the vital connectivity to the area/ region and facilitate efficient movement of freight and people. They enable optimal utilization of a region's potential for growth by facilitating economic agglomeration and industrial clustering. An industrial corridor might have a number of industrial clusters. An industrial cluster is a geographically proximate group of interconnected companies and associated institutions in a particular field, linked by commonalities and complementarities (external economies). Enterprises can better improve their competitiveness due to the presence of specialized suppliers of raw materials, parts and components, machinery, skills and technology as well as other supporting services. The industrial corridors have three complementary components: trade and transport corridors, production clusters producing goods both for domestic consumption and exports, and urban

<sup>8</sup> Government of India. Planning Commission. 2011. *Report of the Working Group on Employment, Planning and Policy for the Twelfth Five Year Plan (2012-2017)*. Delhi. Current total labor force is estimated at 530 million.

<sup>9</sup> Share of services sector in India's GDP increased from 30% in 1950s to 38% in 1980s, and to 56% in FY2013.

<sup>10</sup> Manufacturing in the People's Republic of China, Malaysia, and Viet Nam contributes 25% or more to their GDPs.

<sup>11</sup> Government of India, Ministry of Commerce and Industry. 2011. *National Manufacturing Policy, 2011*. Delhi.

<sup>12</sup> Details of industrial corridor approach are available on <http://www.makeinindia.com/live-projects-industrial-corridor>  
Five industrial corridors have been launched by the government in its budget for FY2015.

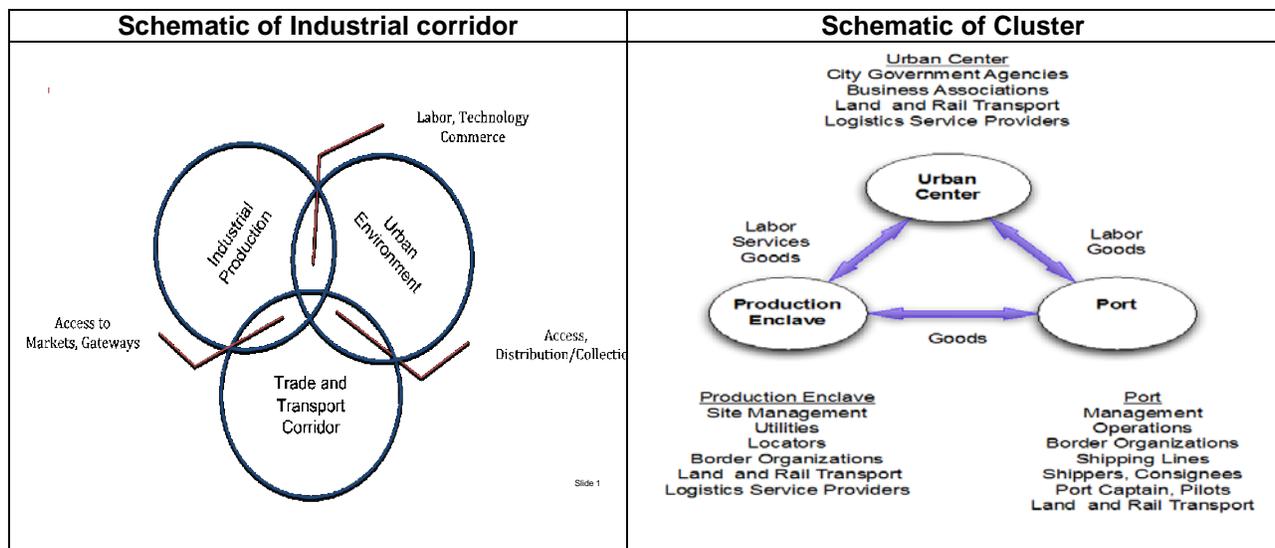
<sup>13</sup> Asian Development Bank Institute. 2015. *Connecting South Asia and Southeast Asia, 2015*. Tokyo. <http://www.adb.org/publications/connecting-south-asia-and-southeast-asia>

<sup>14</sup> ADB. 2013. *Country Partnership Strategy: India, 2013–2017*. Manila.

centers along the corridor. Each cluster is composed of an urban center, a transport hub, and one or more production enclaves, each contributing to the activities of the others.

22. Successful “industrial corridors” involve operationalization of an efficient multimodal transport network within a defined corridor supported by quality infrastructure, logistics, and an enabling policy environment, that includes support for trade facilitation, distribution networks, urban clusters, and international gateways. Such corridors facilitate growth by easing infrastructure bottlenecks, improving access to markets, stimulating trade and investment, and boosting productivity and efficiency through associated network externalities and agglomeration effects. Industrial corridors also promote inclusive growth by expanding economic opportunities in backward regions and providing forward linkages with urban centers and industrial clusters. Furthermore, strategically located national industrial corridors boost regional cooperation through increased investments and trade, production fragmentation and specialization, and linking domestic producers with global production networks (Figure 2).

**Figure 2. Schematic of Industrial corridor and Schematic of Cluster**



23. To make industrial corridors contribute to the NMP, policy reforms are essential. An illustrative list of measures that are essential include policies for spearheading rationalization and simplification of business regulations, including the use of single window clearance mechanisms; an “exit policy” that aims to balance firms’ needs for adjusting employment levels in response to market conditions with workers’ needs for income security; financial and institutional mechanisms for technology development, especially for SMEs; large scale infrastructure development and; clustering by means of setting up National Investment and Manufacturing Zones. Given the complex factors, dimensions, stakeholders, among others, that through complex interplay will define the effectiveness of industrial corridors, it is essential to underpin the policy reform agenda under a robust framework. The purpose of the framework is to anchor the policy dialogue, and assist in defining policy reforms in a phased manner. Figure 3 provides the framework of the Industrial Corridor Development, which is explained further in this section.

**Figure 3. Industrial Corridor Development Framework**

### 1. Regulation of firms

24. Improving ease of doing business would be the prerequisite for success of any industrial corridor. The two key regulatory dimensions which would need to be addressed are:

- (i) improving investment climate which essentially covers ease of securing requisite clearances/licenses/approvals from respective government agencies for setting up businesses, as well as renewal of the same during the normal course of business, and winding operations down (when reallocating capital and labor to more productive uses makes economic sense); and
- (ii) streamlining logistics both at intra and inter-state level through harmonized tax policies and inspection procedures.

#### a. Investment climate

25. Making the investment climate conducive for establishment and operation of industrial undertakings involves simplifying the processes, reducing the timelines and ensuring greater transparency associated with clearances / compliances required for: (i) establishment of new units or expansion, modernization, and diversification of existing units; (ii) operating a business in its normal course; and (iii) exiting a business when capital and labor can be redeployed to more productive uses. These fall under various categories including entrepreneur's memorandum I and II; VAT and other tax related; labor related compliances; environmental clearances; power and water connections.

#### b. Ease of logistics

26. Logistics, in the context of industrial corridors, essentially covers: (i) Intra-state movement of inputs and outputs across separate administrative jurisdictions (districts for example); (ii) Inter-state movement of goods; and (iii) movement of goods across international

borders. These include integration of check posts; streamlined inspection and clearance processes; and inter-state coordination mechanisms.

## **2. Infrastructure development**

27. Industrial corridors need development of basic infrastructure, establishment and operation of production activities, the trade and transport between clusters of production and consumption and the value added by the supply chains used domestically and in international trade. The major factors for the cohesive development of the corridor will be the presence of good connectivity and availability of skilled workforce along the network. The influence area for each corridor is different (50–150 km). The ideal distance on either side is dependent on various parameters, which include coverage of significant population and area, integrating with the existing and planned major industrial developments, inclusion of major urban centers in the vicinity and capitalizing on existing infrastructure strengths. Infrastructure and proactive/planned urbanization are critical to the success of industrial corridors.

### **a. Planning and financing**

28. Infrastructure investment requirements will be huge. The goal of the government is to enable as much investments as possible from private sector or through well designed public-private partnerships (PPPs). Where infrastructure investments are not fully bankable, governments may need to incentivize through viability gap financing and other mechanisms to reduce project risks or undertake/guarantee some of the risks. A predictable and effective infrastructure regulatory regime will be critical for credible and well-funded private sector to participate in the infrastructure development along the industrial corridors.

29. Monetization of land value can be a significant process through which infrastructure, especially in a cluster, can be financed. Historically, some of the highest appreciations in assets take place when agricultural land is converted for commercial or industrial use in urban areas. If properly ring-fenced, land used for industrialization and associated urban growth around industrial corridors could be monetized, as has been successfully demonstrated in the People's Republic of China, for funding next round of infrastructure development or expanding the scope and depth of the existing industrial corridors. Special institutional mechanisms are required for upfront infrastructure investments in the acquired non-urban land, and then to monetize developed land to recover infrastructure investments.

### **b. Proactive urbanization**

30. India's urbanization has been challenged by "ribbon development", which is the result of new industrial clusters developing away from existing cities with limited investment in transportation or urban development. Through proactive and planned urbanization that is synchronized and synergized with surrounding industrialization, a more efficient and productive economy can emerge around the industrial corridors. This means that new industrial clusters away from existing cities should be supported by investments in (i) supportive urban development near industrial clusters at a safe distance, (ii) improved urban infrastructure in existing cities, and (iii) regional mass transit connecting existing urban areas, new urban areas and new industrial clusters.

31. The existing large cities may service the needs of the growing urban population while the rural and peri-urban areas around these cities may be developed into large industrial clusters, to service the need for industries. Government will have to ensure that the connectivity

infrastructure between these urban nodes and industrial clusters is of high quality, in order to maximize the synergies between them. The proximity to these large urban agglomerations might also ensure the availability of a larger pool of skilled and semi-skilled workers for the industries.

### **3. Services and skills**

32. In addition to infrastructure, a number of ancillary services are required to make clusters within an industrial corridor operate effectively, and to ensure that synergies between clusters over the industrial corridor are established and exploited. These services can be under two broad heading: (i) those that are related directly to industrial production, inventory, movement of goods and logistics; and (ii) those that relate to human capital and technology/knowledge related.

#### **a. Trade facilitation and others**

33. Globally, efficiency of distribution network has improved dramatically with the introduction of modern logistics, the primary component of which has been the distribution center. Distribution centers are typically located near one of three places: the point of production, the final market or a modal interchange. For the typical cluster they would be within the production enclave at the periphery of the urban center or in the area behind the port. Building efficient logistics will entail, among others, establishment of: inland container depots, distribution centers, portnet information systems, e-governance platforms providing similar services; and port community organizations. Trade facilitation, applicable to both international and interstate trade, is critical to ensure smooth movement of goods across borders, and involves mainly: (i) customs modernization and harmonization, (ii) standards and conformity assessment, (iii) cross-border facilities improvement, (iv) through transport facilitation, and (v) institution and capacity building.

#### **b. Skilled workers and technology**

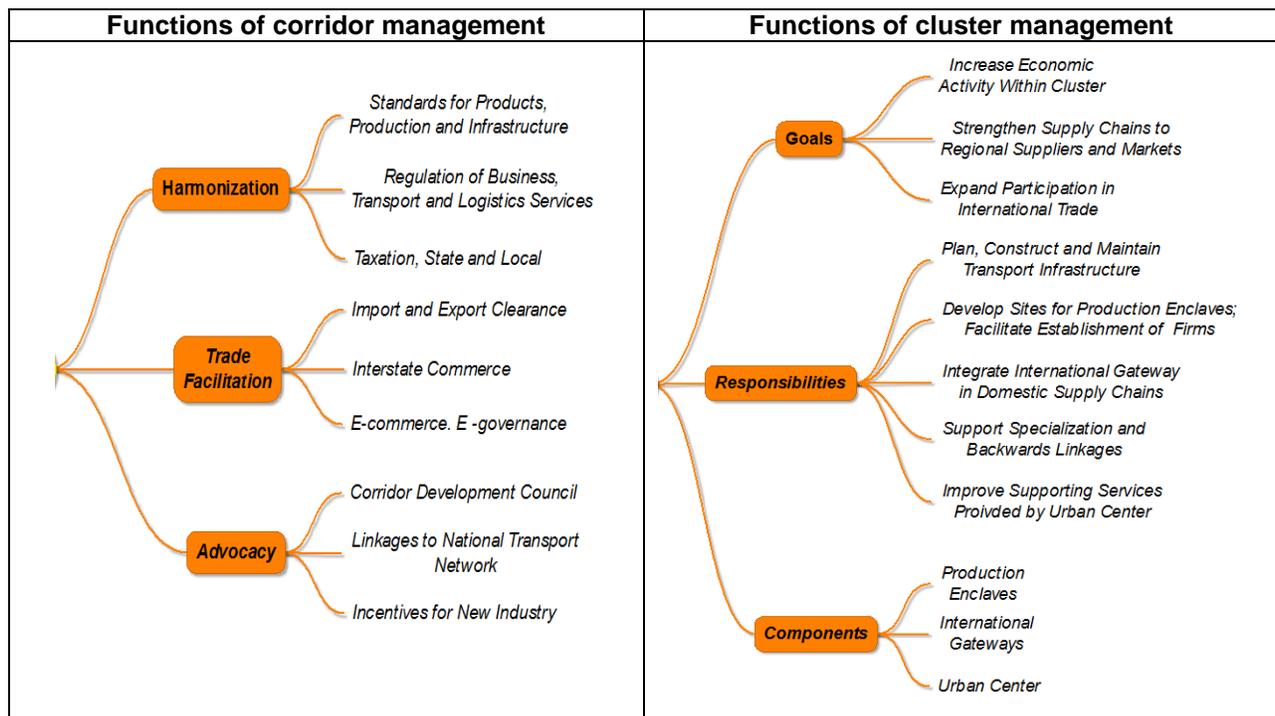
34. Productivity gains have two key dimensions (i) innovation and adaption of appropriate technology; and (ii) skilled and motivated workforce; industry needs both to flourish. To be at the frontiers of global competitiveness, the industrial corridor should be nationally and internationally renowned for the strength of key knowledge sectors. The corridor should be a place of quality employment, skills training and education at all level. New partnerships between industry and universities and research centers within the corridor and also between the entities in the corridor and across the world will be essential to develop cutting-edge advantage.

35. What links innovation and technology to human capital are the industry-university-national research laboratory linkages. The governments need to play proactive role in the industrial corridors to enable and ensure strong linkages between industry and universities within the corridor and outside the corridor. In terms of skill variation across the corridor, the gap in case of skilled and semi-skilled labor is expected to be very high. The workforce requirement for the manufacturing, services and primary sectors along the corridor will depend upon the opportunities being created in the manufacturing sector. Government will have to create a strategy to improve this demand significantly by boosting the manufacturing sector along the corridors.

#### 4. Institutions for integration

36. Coordination failures among diverse entities of the government at each level (central, state, local government) is compounded further by the sheer number of stakeholders involved, resulting in significant challenges for an industrial corridor to be established and succeed. Lack of empowered institutional structures both at the corridor level and at the cluster level lead to number of failures that cannot be addressed by the markets on their own, especially when such institutions are necessary to provide single-window solution for stakeholders to deal with plethora of regulatory, tax and policy issues. Only through concerted efforts of the governments, such empowered institutions could be established; these, however, entail changes in several acts and rules. The Figure 4 below lists indicative functions of corridor and cluster management entities.

**Figure 4: Functions of corridor management and Functions of cluster management**



##### a. Corridor management – national level

37. Given the three tier government structure of India—central, state and local—a national level corridor development entity will be required to encourage establishment of regional corridor development entities. An indicative list of tasks of such a national level corridor management entity would be as follows:

- (i) ensure that the states do not restrict/impair inter-state trade, investment and labor mobility;
- (ii) reconcile respective states' existing standards and regulations that govern trade, investment or labor mobility, with agreement on not establishing new standards or regulations that operate to restrict or impair the same;
- (iii) ensure uniformity/standardization in policies and regulations;
- (iv) Prescribe minimum threshold service levels for individual compliances across different administrative jurisdictions in the corridor;

- (v) enable integration of channels for regulatory compliance across individual agencies/organizations to the extent possible so as to minimize the number of government interfaces for businesses/units; and
- (vi) evolve suitable mechanisms for monitoring service levels, initiating remedial measures as well as dispute resolution.

#### **b. Corridor management – regional level**

38. There are two types of regulatory issues which need to be addressed as part of corridor management, those which are specific to a particular state and issues which involve more than one state (transit across state borders, for example). An indicative list of actions to be implemented by the state governments is as below.

- (i) Set up empowered institutional structures for according clearances / approvals prior to business commencement through Single Window system, including those for industrial undertakings setting up in industrial areas.
- (ii) Make land available for the development of industrial clusters along the corridor and simplify process of obtaining developed land for potential industrialists.
- (iii) Develop IT-enabled systems to ensure (i) tracking of time taken by respective government departments in giving requisite clearances, (ii) updates to entrepreneurs on status of application for setting up business, and (iii) tracking of time taken to disburse incentives as per applicable policies/regulations.
- (iv) Ensure joint inspections based on pre-defined checklists, with provision for entrepreneurs to furnish the requisite information through IT-enabled systems.
- (v) Delegate powers of providing urban services in Industrial Areas to respective developers through changes to requisite regulations.
- (vi) Set up institutional mechanisms to address grievances of investors.
- (vii) Closely examine the full range of regulations, central and state-level, that affect entry and exit decisions of firms, and recommending changes to these.
- (viii) Harmonize tax rates and policies providing goods and area based tax exemptions to ensure uniformity across participating states.
- (ix) Establish integrated check-posts involving multiple state government departments as against separate departmental check posts at the inter-state borders.
- (x) Ensure joint personnel deployment and common inspection at the inter-state borders by officials from concerned state governments.
- (xi) Set up institutional mechanisms to address grievances of entrepreneurs.

#### **c. Cluster management**

39. The functions of cluster management entities would be to establish linkages between cluster components required to allow reliable delivery of goods and services. The gateway ports need to improve their container handling facilities but, more important, the flow of goods through the port needs to be more efficient and better integrated. The port should function not as an impediment to trade but rather as a part of the supply chains serving the international trade.

40. Activity in the production enclaves needs to be increased. This may involve expansion of industrial zones, simplification of regulation related to doing business, and improvements in the supporting services provided by the management of these zones. The urban center would need to support the production activity in a variety of ways especially providing housing, education and other services for the persons working in the industrial enclaves. The cluster

management entity should also support delivery of the goods produced through development of urban freight distribution networks.

## 5. Stakeholders engagement

41. The domestic and foreign stakeholders can be broadly categorized as: government, private sector, civil society, nongovernment organizations, universities and think tanks, media, bilateral and multilateral agencies, financiers. A brief description of these stakeholders is given under different categories:

42. Government engagement of industrial corridors is through various ministries at both Central and State Governments, along with concerned departments and agencies. Some of key stakeholders include:

- (i) **Central government.** Ministry of agriculture and food processing; civil aviation; coal; commerce and industry; communications and information technology; corporate affairs; environment and forests; finance; human resource development; labor and employment; micro, small and medium enterprises; mines; power; non-conventional energy; petroleum and natural gas; railways; road transport and highways; science and technology; urban development; water resources.
- (ii) **State government.** Ministry of agriculture, water supply, energy and petrochemicals, finance, food, civil supplies and consumer affairs, forest and environment, health, family welfare, higher and technical education, higher and technical education, labor and employment, mines and minerals, panchayat, rural housing and rural development, road and buildings, science and technology, tourism and civil aviation, transport, urban housing construction.
- (iii) **Local governments.** The third tier local governments have a critical role to play in providing basic services within their respective jurisdictions, which have significant impact on the ability of the industrial corridors to draw highly skilled managers and workers. These include basic service provision: health, education, sanitation, solid waste management, among others) and regulation of land use.

43. **Private sector.** An illustrative list of stakeholders from private sector includes providers of infrastructure, services, industrialists, bankers, among others.

- (i) Infrastructure – special economic zone (SEZ) developers, transport connectivity providers, port operators, residential land developers
- (ii) Services – logistics providers, environmental services providers—sewerage, solid waste, communications providers, education, medical facilities, entertainment, cultural activities
- (iii) Industrialists – domestic and international industrial associations, industrialists
- (iv) Others – bankers, financial intermediaries, and capital market players.

44. **Others.** In addition to the government and private sector, the others include universities, think tanks, civil society representatives including nongovernment organizations, media, bilateral and multilateral agencies, associations representing business interests of foreign investors, among others.

**a. Promotion**

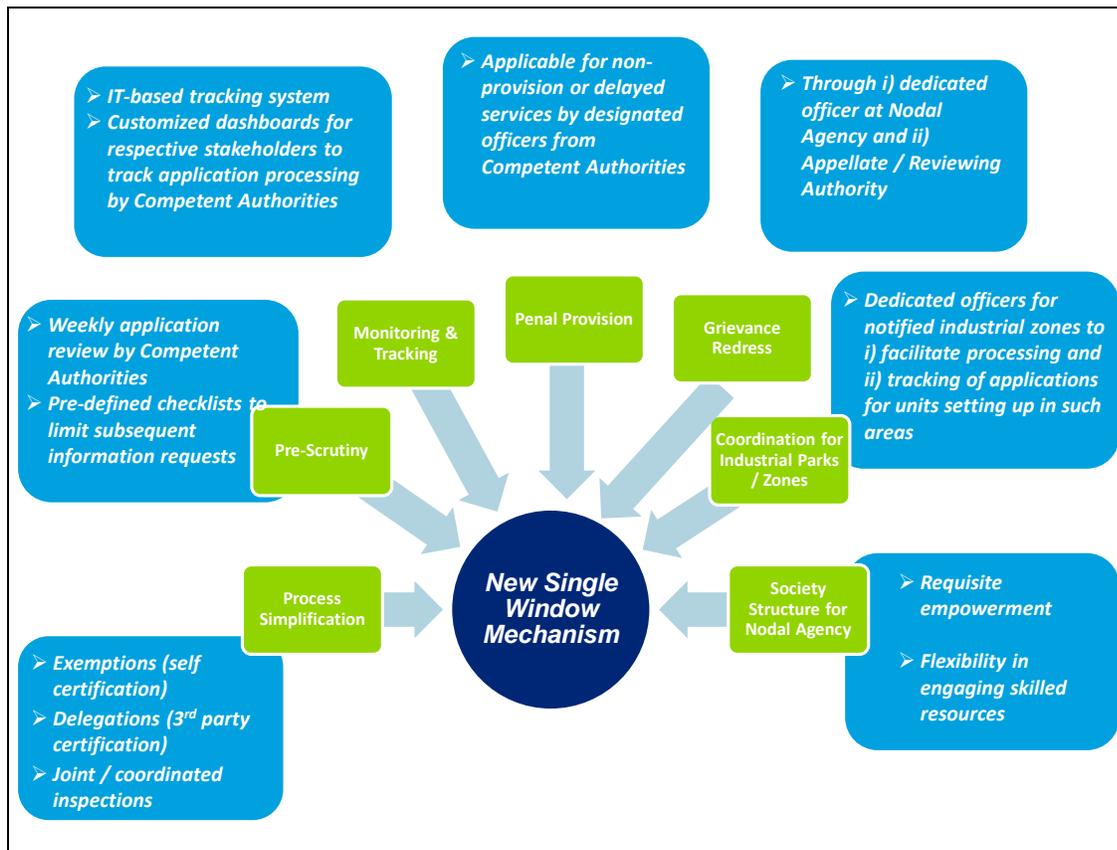
45. Given the varied number of stakeholders, it is important for government to engage in industrial corridor promotion activities. The objective of the promotion is to make it easy for industrialists and entrepreneurs and other stakeholders to do business. Promotion could also include identification of international markets of common interest where co-located offices can be pursued; develop and participate in collaborative international trade and investment initiatives of common interest; develop common messaging when jointly targeting and engaging foreign governments and foreign industry; among others. The advocacy role of the corridor involves attracting new industry to the region and ensuring that each cluster has a reasonable level of access to the national transport network. Promotion could be done using many different options including:

- (i) Use of dynamic websites to create synergies among the stakeholders through easy to access information; and
- (ii) Use of other information, communication and technology.

**b. Empowerment**

46. In a globalized world where competition is intense and profit margins are thin, and where unrelated global events have significant impact on business and trade, the industrialists are compelled to constantly explore alternative locations that give them maximum sustainable advantage to compete locally and globally. An empowered industrialist and other stakeholders feel more attracted to remain and continue to operate in one location or expand across an industrial corridor. Empowerment of stakeholders is a cross-cutting theme that regulation, infrastructure, services, institutions need to take care of. At the least stakeholders should be engaged for feedback on policy and implementation, skill partnerships, among others.

Figure 5: State level



47. **Investments for enabling the manufacturing sector:** The GoAP's industrial policy 2015-2020 has a vision to develop Andhra Pradesh as the most preferred destination for investors by providing favorable business climate, excellent infrastructure, good law and order and peaceful industrial relations. The policy targets fiscal benefits to underprivileged sections including women entrepreneurs. The GoAP has also launched a massive program for development of the special investment regions through capital investment and policy implementation. To increase the share of manufacturing GDP to 15% by 2020, attract an investment of Rs2,000 billion and generate additional employment of 1.0 million, GoAP is undertaking several initiatives:

- (i) a blueprint for seven missions,<sup>15</sup> including industry sector mission with a six point agenda across skill, gender, technology, infrastructure, funding and improved business environment under its Vision 2050.
- (ii) to enhance the “ease of doing business”, the state government has also created a “single desk policy,” which aims to provide all clearances within 21 days;
- (iii) setting up of industrial corridors and large industrial complexes;
- (iv) incentive framework for attracting industries; and
- (v) an online portal for industrial land availability

<sup>15</sup> Infrastructure mission, primary sector mission, social empowerment mission, urban development mission, industry sector mission, services sector mission, and knowledge and skill development mission.

## 48. Opportunities based on development initiatives:

- (i) an opportunity to leverage its existing industrial infrastructure base to attract large investments, e.g., investments by Isuzu and investment by Xiaomi-Foxconn in Sri City;
- (ii) the industry and infrastructure missions will be supported by the existing sector policies to set out specific action points for achieving industrial development;
- (iii) a multimodal transport hub to enhance cargo mobility in domestic and import-export trade such as multi-modal logistic parks by a joint venture of Visakhapatnam Port Trust and Balmer Lawrie & Co. Ltd.; and by Container Corporation of India;
- (iv) expanding the base of registered firms by bringing the unorganized sector in the ambit of organized sector;
- (v) initiatives such as special zones and clusters shall promote planned integrated development with several economic benefits; and
- (vi) the new industrial and sector policies shall provide financial support to the MSME to help them scale up their operations.

49. **Manufacturing sector development–next steps:** In support of the government’s vision of manufacturing-driven economic transformation, the road map for the sector development program aims to achieve the following targets:

- (i) improve the existing industrial infrastructure within the industrial areas, thereby enhancing competitiveness in manufacturing;
- (ii) implement the notified Industrial policies, along with other sector specific policies for attracting investments and strengthening employment potential in target sectors;<sup>16</sup>
- (iii) enhance “ease of doing business” by initiating business process re-engineering of current systems, and processes linked to starting, operating and closing business in Andhra Pradesh;
- (iv) create a project development mechanism for undertaking project development activities for large industrial infrastructure projects like industrial corridors;
- (v) establish centers of excellence for skill development with the support of private sector. Upgrade skill development infrastructure under the APSSDC and National Skill Qualification Framework;
- (vi) improve support infrastructure such as testing and quality assurance, research and development, warehousing and logistics, shared support services, etc.;
- (vii) prepare an idle land inventory for future manufacturing linked investments to promote optimum utilization of existing land bank;
- (viii) develop urban infrastructure around the industrial cluster to create efficient ecosystem in order to enable the envisaged accelerated industrial growth;
- (ix) develop and strengthen transport and logistics infrastructure to link the industrial areas to key consumption centers and gateways; and
- (x) promote development of logistics services including cold storage and organized trucking facilities around large and mega industrial parks, etc.

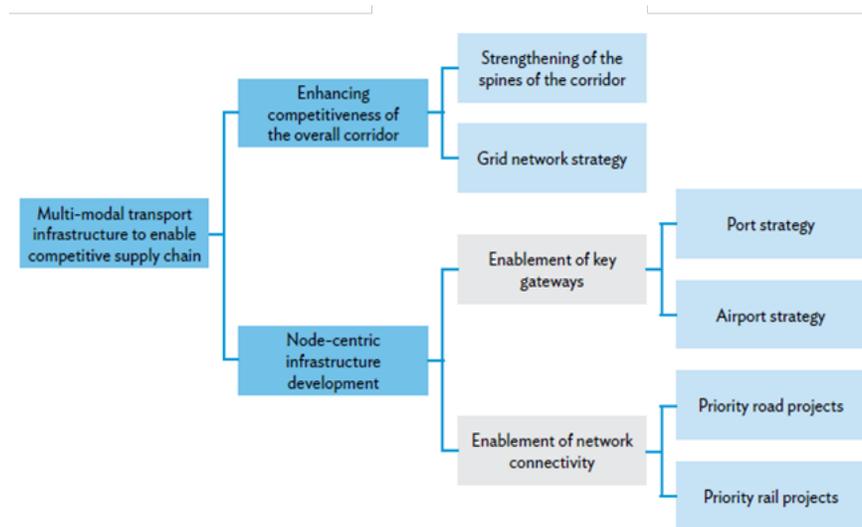
50. **Enabling competitive manufacturing through infrastructure development.** The node-based industrialization strategy proposed for VCIC is targeted to achieve regional and

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<sup>16</sup> Auto and auto component, biotechnology, textile, aerospace & defense, food processing, leather, marine and aqua, and MSMEs.

global competitiveness. Infrastructure development is one of the most important levers needed to attain this core objective. The focus has been on assessing the current state of infrastructure, both in terms of quantity and quality across categories, and identifying critical capacity gaps and other issues. This assessment was then compared with a supply-side assessment of key initiatives at various stages of execution in the pipeline. The initiatives were assessed for their strategic importance for VCIC, as well as for their readiness for implementation. Using this sequential assessment, a near-term roadmap was developed and the approach adapted to the specific context of different infrastructure categories. Around 46 connectivity projects were identified for implementation using the above approach. The framework presented below focused on corridor and node specific infrastructure requirements.

**Figure 6: Framework for Assessment**



51. **Strengthen existing spinal routes.** Existing spinal routes should be upgraded with state-of-the-art connectivity to enable ports and industries in the region to become integrated within the overall East Coast Economic Corridor network. Some of the projects that are considered for this purpose include the 6-laning of the entire stretch of NH5, a parallel expressway close to the coastline, and a dedicated freight corridor (DFC) on the Chennai–Kolkata route.

52. **Strengthen the grid network.** The grid network should provide cross-connectivity between important linearly aligned National Highway and trunk rail routes to reduce the overall time, cost, and distance of evacuation of cargo from gateways and nodes to the hinterlands. For this purpose, a select set of road and rail links are proposed to fill the existing gaps in cross-connectivity.

53. **Port-centric strategy.** The port-centric development strategy aims to align with large-scale, manufacturing-led economic development through the nodes and integrate India into global manufacturing supply chains. The port development strategy should target brownfield development of two or three mega container ports close to the nodes (primary candidates are the Visakhapatnam–Gangavaram and Krishnapatnam clusters), with the ability to handle large container vessels of 10,000+ twenty-foot equivalent units and the necessary supporting multi-modal connectivity and supply chain and logistics infrastructure. From a bulk cargo perspective, the state may enable port capacity creation across the coastline by prioritizing movement of

energy cargo (thermal coal, liquid natural gas) that will be important for the development of the VCIC region.

54. **Airport strategy.** In the short- to medium-term, sufficient capacity exists to cater to the expected base demand. Therefore, the strategy should be focused on enhancing the base demand by incentivizing direct airline services to the existing airports through service upgrades and operational de-bottlenecking, and considering the short distance to the neighboring airport hubs (three of India's top six international airports), facilitating excellent road connectivity to these hubs from the cities and cargo-generating centers is likely to be more capital efficient in the short-term. In the long-term (beyond 10 years). Master-planning of the VCIC region should consider demand from business-induced scenarios resulting from political developments in the overall state, development of the coastal corridor, and additional economic investments.

55. **Energy and water strategy.** Power availability and reliability of supply are more critical challenges in the VCIC region, which is part of India's southern grid in the country. A set of projects for immediate-, medium-, and long-term execution were identified. Twenty-nine generation projects have been proposed in the region over the next 10 years with cumulative capacity of nearly 34 gigawatts to enhance availability. Fifty-one transmission projects have also been proposed over the same period with evacuation capacity of close to 22 gigawatts. The addition of generation capacity is expected to be dominated by independent power producers, whereas transmission capacity will come predominantly through public sector investments. In addition, the Government will enhance reliability at the consumer level through reviewing standards of performance in industrial clusters and benchmarking these to enhance competitiveness. In order to increase the reliability and availability of industrial water in the state of Andhra Pradesh, the following steps are required: (i) identify need for new reservoirs or desalination projects in areas with poor surface water availability; (ii) develop reservoirs at key industrial nodes; (iii) focus on water use efficiency to increase productivity in the shortlisted industry sectors; (iv) introduce water recycling in the shortlisted industries based on international standards; and (v) rationalize and/or remove differential.

56. Beyond investments in physical infrastructure, the study also recommended changes in the regulatory framework to improve the investment climate and provide ease of logistics. This can be done by implementing technology; providing single window; reduce burden of inspections for starting, operating and closing business in Andhra Pradesh; as well as the ease of logistics to provide to industries by providing integrated check posts and bringing in uniformity on entry taxes and documentation.

#### **D. Investment Program**

57. **State investment plans:** In line with the promulgation of policies which aims to meet the target of per capita income of \$16,500 by 2029-2030, the GoAP has estimated investment requirements of \$31 billion by 2045 and \$7 billion by 2020 in VCIC alone. Of the total investment requirements, \$2 billion has been assessed for development as a part of the VCICDP (primarily ADB support is expected). Funding for the infrastructure project will be sourced mainly from private investments, government, or multilateral agencies. Of the total fund required for investments in infrastructure as a part of VCICDP, ADB along with GoAP has committed to fund \$720 million (Table 2). At present, infrastructure funding in the annual budget of GoAP 2015-2016 is \$1.3 billion. This reflects large and significant gap in project funding on the state project. Similar significant gaps exist in central government projects such as those of National Highways Authority of India (NHAI) roads, major ports and airports, and railways. Overall investment needs by priority sector for 2030 horizon is placed at \$30.8 billion (Table 3).

**Table 2: Investment Program for VCICDP**  
(\$ million)

Item	Amount <sup>a</sup>		Total
	Project 1	Project 2	
<b>A. Base Cost<sup>b</sup></b>			
1. Internal infrastructure in industrial clusters	73.29	63.51	136.80
2. Urban water supply and climate change resilience	61.51	49.23	110.74
3. Roads and road safety measures	40.92	133.82	174.74
4. Power transmission and distribution	126.90	57.17	184.07
<b>Subtotal (A)</b>	<b>302.62</b>	<b>303.73</b>	<b>606.35</b>
<b>B. Contingencies<sup>c</sup></b>	<b>38.14</b>	<b>41.40</b>	<b>79.54</b>
<b>C. Financing Charges During Implementation<sup>d</sup></b>	<b>17.24</b>	<b>16.87</b>	<b>34.11</b>
<b>Total (A+B+C)</b>	<b>358.00</b>	<b>362.00</b>	<b>720.00</b>

<sup>a</sup> In end-2015 prices; Exchange rate of US\$ 1 = Rs66 is used.

<sup>b</sup> Includes taxes and duties of \$48.4 million to be financed in cash from government resource. ADB may finance local transportation, insurance costs, and bank charges.

<sup>c</sup> Physical contingencies are computed at 7.0% for civil works and equipment (5% of project costs); include provision for uncertainty associated with quantities, and time of implementation. Price contingencies are computed at 1.4%–1.5% on foreign exchange costs and 5.5% on local currency costs; include provision for potential fluctuation of inflation and exchange rates under the assumption of a purchasing power parity exchange rate

<sup>d</sup> Includes interest and commitment charges. Interest during construction for ADB loan has been computed at the 5-year forward London interbank offered rate plus a spread of 0.5% as of December 2015. Commitment charges for an ADB loan are 0.15% per year to be charged on the undisbursed loan amount.

Source: Asian Development Bank estimates.

**Table 3: Summary of Investments Required in VCIC**  
(\$ million)

Investments by Sector	Short-term Investment (2015-2020)	Medium-term Investment (2021-2030)	Long-term Investment (2031-2045)	Total
<b>Urban Infrastructure</b>	<b>2,382.0</b>	<b>2,205.0</b>	<b>10,140.3</b>	<b>14,727.3</b>
Water Supply	592.3	478.0	2,339.8	<b>3,410.2</b>
Sewerage	891.7	275.0	1,355.8	<b>2,522.5</b>
Solid Waste Management	73.5	93.7	661.5	<b>828.7</b>
Storm Water Drainage	699.2	1,058.5	4,340.2	<b>6,097.8</b>
Urban Bus Transport	125.3	299.8	1,443.0	<b>1,868.2</b>
<b>Transportation Infrastructure</b>	<b>3,949.0</b>	<b>6,510.8</b>	<b>4,622.5</b>	<b>15,082.3</b>
Airports	338.3	86.3	20.3	<b>445.0</b>
Roads	3,538.5	1,970.8	1,896.3	<b>7,405.5</b>
Railways	72.2	4,453.7	2,705.8	<b>7,156.7</b>
<b>Energy</b>	<b>740.7</b>	<b>865.7</b>	-	<b>1,606.3</b>
Load Growth and System Improvement	740.7	865.7	-	<b>1,606.3</b>
<b>Total</b>	<b>7,071.7</b>	<b>9,581.5</b>	<b>14,762.8</b>	<b>31,416.0</b>

Source: VCIC's regional perspective plan.

## E. Financing Plan

58. The government of India has requested an MFF of up to \$500 million from ADB's OCR and a parallel grant cofinancing of \$5 million from the UCCRTF, which it will make available to the GoAP under the same terms as the original loan and grant, to help finance the infrastructure investments under the VCICDP. The MFF is expected to be drawn in two tranches, subject to the government's submission of related periodic financing requests, execution of the related agreements for each tranche, and fulfillment of terms and conditions set forth in the framework financing agreement. Approval for the second tranche is scheduled in 2018. Project 1 of \$358 million will be financed by a loan of \$245 million from ADB's OCR, and will have a 25-year term, including a grace period of 5 years, a 20-year straight line repayment method, an annual interest rate determined in accordance with ADB's LIBOR-based lending facility, a commitment charge of 0.15% per year, and such other terms and conditions set forth in the draft loan and project agreements. The GoAP will contribute \$215 million to the investment cost of the MFF to finance taxes and duties, resettlement costs, part of incremental cost, financing charges during implementation, and part of the civil works, equipment, and consulting services; and will provide the loan proceeds and counterpart funds to the implementing agencies as a mix of loan and grant. The UCCRTF grant, fully administered by ADB, will finance innovative approaches to climate change resilient urban infrastructure.<sup>17</sup> The financing plan is in Table 4.

**Table 4: Financing Plan**

<b>Source</b>	<b>Project 1 Amount (\$ million)</b>	<b>Project 2 Amount (\$ million)</b>	<b>Total Amount (\$ million)</b>	<b>Share of Total (%)<sup>b</sup></b>
Asian Development Bank				
Ordinary capital resources (loan)	245.0	255.0	500.0	69.4
Urban Climate Change Resilience Trust Fund <sup>a</sup> under the Urban Financing Partnership Facility (grant)	5.0		5.0	0.6
Government	108.0	107.0	215.0	30.0
<b>Total</b>	<b>358.0</b>	<b>362.0</b>	<b>720.0</b>	<b>100.0</b>

<sup>a</sup> Financing partners: the Rockefeller Foundation and the governments of Switzerland, the United Kingdom and the United States.

<sup>b</sup> The ADB financing of \$500 million amounts to 70% of the total Project cost of \$715 million.  
Source: Asian Development Bank estimates.

<sup>17</sup> Grant under UCCRTF: Strengthening Urban Climate Change Resilience of Visakhapatnam.

### **APPENDIX 3: CRITERIA FOR SUBPROJECT SELECTION AND PROCESSING PROJECT 2**

1. The Government of Andhra Pradesh (GoAP) has selected four agencies for implementing the VCICDP. Each implementing agency shall prepare feasibility studies and detailed project reports, identifying the gaps between current and target levels of infrastructure improvement, estimating the interventions required to fill the gaps, and propose subprojects for financing under both Project 1 and Project 2 of the MFF. The implementing agencies shall approve the reports and send them through DOIC to Government of Andhra Pradesh for acceptance. ADB shall then review the reports. All the subprojects proposed for funding under Project 1 and Project 2 should meet the subproject selection criteria outlined below.

#### **A. General**

2. Based on the conceptual development plan (CDP), the GoAP has identified and selected implementing agencies, components, and subprojects that should be supported under the VCICDP to achieve the desired impact. The GoAP through a Steering Committee would identify the infrastructure requirements in the investment region after conducting consultative meetings with all the implementing agencies to know the demand from the concerned stakeholders. Further the demands would then be prioritized and sent to DOIC and the GoAP. The GoAP, in consultation with DOIC, will finalize the list of subprojects to be included in the project. Subproject formulation shall be guided by well laid out instructions and responsibilities after analyzing the gaps in services. The tentative costs also shall be worked out for various subprojects.

#### **B. Subproject Locations**

3. The subprojects should be implemented in the Visakhapatnam–Chennai Industrial Corridor and should form part of any of the identified nodes: Visakhapatnam, Kakinada, Amaravati region, and Yerpedu-Srikalahasti.

#### **C. Selection of Implementing Agencies**

4. The selection of implementing agencies should be based on their potential to support engines of growth in the investment region. The nodal agencies working in the region responsible for providing urban services, power, developing industrial nodes/clusters and constructing roads shall be primarily considered for inclusion for support under the VCICDP. The operational selection criteria used for selection shall be that the implementing agencies contribute no less than 30% of the related costs of the subproject; the implementing agencies internally agree to be part of the VCICDP and shall agree on taking over the assets on completion and to allocate necessary budget for its operation and maintenance (O&M). In case the created assets are proposed to be operated by a line agency, its willingness shall also be obtained; the implementing agencies must not have been supported by any previous ADB/multilaterally-funded projects for investment for the same purpose; the investment shall be in the identified nodes/clusters; the investment is for/in an industrial park/special economic zone (SEZ) or in a urban local body (ULB) that is important for industrial development and has been identified as such by the state's industrial policy.

5. Based on the foregoing criteria, 4 implementing agencies have been selected for support in Andhra Pradesh. Other implementing agencies that meet the foregoing selection criteria may subsequently be included in the VCICDP if additional financial resources become available

through budget savings or initially selected implementing agencies drop out because they fail to meet the criteria for continued support.

#### **D. Selection of Components**

6. Based on discussions and consultations at both the state and implementing agency levels, it was concluded by the ADB and the Government, that the VCICDP should support implementing agencies in developing five basic infrastructure services and a skill development program that are essential in creating an investor friendly industrial environment, namely: (i) water supply systems within industrial areas; (ii) improving water supply in adjoining urban nodes; (iii) effluent collection and treatment in industrial parks and SEZs; (iv) roads – both internal roads in industrial parks/SEZs and connectivity improvement projects between manufacturing zones, logistics hub and ports/terminal; road safety aspects; (v) projects aiming improvement of power supply to the industrial nodes/clusters; (vi) skill development projects; and (vii) facility for project development in DOIC.

#### **E. Selection of Subprojects and Readiness for Implementation**

7. In selecting subprojects and initiating processing of Project 2, the GoAP should check and ensure the following:

- (i) Institutional capacities, human resources, and program management strengthened adequately for smooth and effective implementation of Project 1 and Project 2 as detailed out in Output 3.
- (ii) Implementation arrangements will have been put in place including among others, adequate strengthening of PMU and PIUs; establishment of necessary systems, processes and documents for effective implementation of the VCICDP, especially for procurement, financial management, safeguards, and social and gender.
- (iii) All subprojects should demonstrate the required effective economic internal rate of return and should demonstrate cost-effectiveness in comparison with alternatives.
- (iv) The implementing agencies shall make available hindrance free land for implementing the works.
- (v) All subprojects will have prepared resettlement plans, if required, in accordance with the resettlement framework.
- (vi) All subprojects will meet environmental subproject selection criteria and will have prepared initial environmental examinations, including environmental monitoring plans, in accordance with the environmental assessment and review frameworks.
- (vii) All subprojects will have prepared indigenous peoples development plans, if required, in accordance with the indigenous people's development framework.
- (viii) All subprojects will have carried out due diligence and prepared detailed project reports, including detailed engineering designs, procurement documents, including bidding documents, in accordance with the requirements of ADB and DEA.
- (ix) Preparation of procurement plan, recruitment of consultants and procurement of civil works and goods will have been carried out as per the DEA and ADB requirements.
- (x) Necessary capacity building activities will have been carried out for the PMU and PIU staff to ensure effective implementation of the VCICDP.

8. In addition to the above the subprojects shall have to be in line with the finance-plus criteria set forth by DEA, Government of India.
9. Water supply subprojects shall ensure source sustainability, a minimum per capita supply level of 135 liters per capita per day (lpcd), have an agreement for fixation of an appropriate volume based water tariff, show willingness to pay by consumers, ensure 100% metering, ensure coverage of urban poor and establish a ring-fenced accounting system.
10. Storm water management system shall be limited to be within industrial areas including transferring the collected effluent to the nearby public drainage system.
11. Effluent treatment subprojects shall ensure treatment to the standards of its reuse in industrial sectors using latest technologies, consider treated effluent and byproducts as sources of revenue, comply to disposal standards and have capacities decided on a modular approach ensuring no unutilized capacities.
12. Road subprojects shall demonstrate the debottlenecking requirements, establish connectivity between industrial zones and gateway and have complete design as per the project standards. The sections shall not pass through wildlife reserve or eco-sensitive zones. The detailed design shall address all the issues related to improving the road geometrics and enhancing the road safety based on the proper analysis of both primary and secondary data. Gender-responsive design features for roads and industrial subprojects will include walking paths/service lanes, separate toilets for women, telephone helplines, adequate lighting, safety measures such as signage and demarcated road crossings, well-lit and safe public spaces and industrial clusters. Operation and maintenance arrangements for such facilities created will be clearly defined to ensure their sustainability.
13. Subproject for improving supply and quality of power shall provide reliable power supply, ensure capacity to cope up with future growth in demand and availability of alternate power supply in case of any outage, shall result in improvement of the voltage profiles and reduction in losses, should be based on system and load studies.

#### **F. Approval Procedures for Subprojects**

14. All the subprojects will be prepared and processed as follows:
  - (i) With the assistance of DOIC each implementing agency prepares feasibility reports and detailed project reports meeting the subproject selection criteria.
  - (ii) Implementing agencies send their DPRs via the DOIC to GoAP for approval and to ADB for review to ensure their compliance with provisions in the framework financing agreement.
  - (iii) The implementing agencies with the support of DOIC and the PPTAC/DSC prepares detailed engineering reports (DERs) along with detailed cost estimates for the subprojects.
  - (iv) The DOIC undertakes detailed appraisal of the subprojects with the assistance of the project management and design supervision consultants, and prepares a summary subproject appraisal report in an ADB compliant format.
  - (v) Power subprojects shall generate a financial rate of return which is higher than weighted average cost of capital; whereas in case of water subprojects this shall not be insisted upon. In case of industrial infrastructure subprojects in industrial clusters, the cost of such subprojects (including appropriate overheads) should

be recovered from industrial units either as capital recovery or a revenue charge. In case of nonrevenue generating subprojects like road subprojects, cash-flow analysis should confirm that, with reasonable government subsidy, the implementing agency has the financial capacity to meet O&M and debt costs to sustain infrastructure and service delivery.

- (vi) Economic internal rate of return (EIRR), for the subprojects shall be above the economic opportunity cost of capital (EOCC) estimated at 12%.
- (vii) The subproject was prepared in compliance with the FFA (including ADB's Social Dimensions and Safeguard Requirements set forth in Schedule 5 to the FFA);
  - (a) The implementing agencies will follow the ADB procedures as outlined in the environmental assessment and review framework (EARF) and resettlement framework (RF). The implementing agencies will submit the environmental, social and indigenous peoples due diligence reports, environment and social safeguard checklists, and categorization forms, along with detailed subproject files, to ADB. Each respective tranche loan documentation will specify whether, for non-category A subprojects, this submission is for review and approval, or for information.
  - (b) As outlined in the EARF, for a subproject likely to be classified as category A for any environment, involuntary resettlement, or indigenous peoples impacts under tranche 2, the implementing agencies will refer the subproject to ADB and provide relevant environmental and social information to ADB early in its due diligence process, and submit the draft environmental impact assessment (EIA), resettlement plan and/or indigenous people plan (IPP) to ADB for review and clearance before the subproject is approved for use of funds from the ADB facility. The draft EIA report will be made publicly available at least 120 days before the approval of the subproject, and the draft resettlement plan and draft IPP will be made publicly available before the approval of the subproject.
- (viii) The DOIC sends all the sub project appraisal reports based on the DERs to ADB for review and approval in a format agreed between GoAP and ADB. ADB may advise DOIC to modify the reports if necessary.
- (ix) Based on ADB's approval, and subject to any modifications and measures required by ADB, the DOIC and GoAP prepare periodic financing requests for ADB financing.
- (x) Periodic financing requests are formally submitted to ADB through the Government for further processing.

## **G. Monitoring during Implementation**

15. The GoAP, acting through the DOIC, is responsible for monitoring of implementation of all subprojects.

## APPENDIX 4: PROCUREMENT PLAN

### Basic Data

<b>Project Name:</b> Vishakhapatnam-Chennai Industrial Corridor Development Program (VCICDP)	
<b>Project Number:</b> 48434	<b>Approval Number:</b> TBA
<b>Country:</b> INDIA	<b>Executing Agency:</b> Department of Industries, Government of Andhra Pradesh (GoAP)
<b>Project Procurement Classification:</b> B	<b>Implementing Agencies:</b> Andhra Pradesh Transmission Company (APTransco); Andhra Pradesh Road Development Corporation (APRDC); Andhra Pradesh Industries Investment Corporation (APIIC); and Greater Visakhapatnam Municipal Corporation (GVMC)
<b>Procurement Risk:</b> Moderate	
<b>Project Financing Amount:</b> \$ 715 million <b>ADB Financing:</b> \$ 500 million <b>Cofinancing (ADB Administered):</b> \$5 million <b>Non-ADB Financing:</b> \$ 215 million	<b>Project Closing Date:</b> TBA
<b>Date of First Procurement Plan</b> {loan/grant approval date}:	<b>Date of this Procurement Plan:</b> 9 March 2016

#### A. Methods, Thresholds, Review and 18-Month Procurement Plan

##### 1. Procurement and Consulting Methods and Thresholds

Except as the Asian Development Bank (ADB) may otherwise agree, the following process thresholds shall apply to procurement of goods and works.

Procurement of Goods and Works		
Method	Threshold	Comments
International Competitive Bidding (ICB) for Works	\$40,000,000	
International Competitive Bidding for Goods	\$3,000,000	
National Competitive Bidding (NCB) for Works	Beneath that stated for ICB, Works	Only the first bid document from each Implementing Agency is subject to prior review.
National Competitive Bidding for Goods	Beneath that stated for ICB, Goods	Only the first bid document from each Implementing Agency is subject to prior review
Shopping for Works	Below \$50,000	
Shopping for Goods	Below \$25,000	

Consulting Services	
Method	Comments
Quality and Cost Based Selection (QCBS)	
Quality Based Selection	
Consultants' Qualifications Selection	
Government Selection	For Project Development Mechanism consulting packages. The EA will comply with the ADB Guidelines requirements that (i) the procedures to be used will result in the selection of consultants who have the necessary professional qualifications, (ii) the selected consultants will carry out the assignment in accordance with the agreed schedule, and (iii) the scope of the services is consistent with the needs of the project.

## 2. Goods and Works Contracts Estimated to Cost \$1 Million or More

The following table lists goods and works contracts for which the procurement activity is either ongoing or expected to commence within the next 18 months.

Package Number	General Description	Estimated Value <sup>1</sup>	Procurement Method	Review [Prior / Post/Post (Sample)]	Bidding Procedure	Advertisement Date (quarter/year)	Comments
VCICDP-APIIC/01	Construction of Common Effluent Treatment (CETP) plant at Atchutapuram and Naidupet Industrial cluster Lot 1 - 3 MLD CETP at APSEZ Achutapuram (\$17.87 million) Lot 2 - 1 MLD CETP at MPSEZ, Naidupet (\$4.19 million)	22.06	NCB	Prior	1S2E	Q1/2016	Plant  Will serve as master bid document
VCICDP-APIIC/03	Augmenting utility services for Naidupet Industrial cluster. [SWD, power, internal road and one stop centre]	41.58	ICB	Prior	1S2E	Q1/2016	Large Works  Will serve as master bid document
VCICDP-GVMC/02	Distribution Network improvements for NRW reduction and 24x7 supply in GVMC area.	52.8	ICB	Prior	1S2E	Q2/2016	Large Works  Will serve as master bid document
VCICDP-APRDC/01	Upgrading & Rehabilitation of 'Samarikota to Rajanagaram' Section of 'Kakinada – Rajanagaram' Road to '2 Lane Dual Carriageway Standard'	31.74	NCB	Prior	1S2E	Q2/2016	Large Works  Will serve as master bid document
VCICDP-APTransco/01	Augmenting power distribution capacity for meeting Industry demand at Kapuleppada, Ozone Valley, Nakkapalle/ Chandanada and Achutapuram, locations	48.87	ICB	Prior	1S2E	Q2/2016	Plant
VCICDP-	Augmenting power	74.00	ICB	Prior	1S2E	Q1/2016	Plant

<sup>1</sup> Total cost including taxes and contingencies/provisional sum. In December 2015 prices; Exchange rate of US\$ 1 = Rs 66 is used.

Package Number	General Description	Estimated Value <sup>1</sup>	Procurement Method	Review [Prior / Post/Post (Sample)]	Bidding Procedure	Advertisement Date (quarter/year)	Comments
APTransco/03	distribution capacity for meeting Industry demand at Rachagunneri, Naidupeta and Yerpedu locations						Will serve as master bid document
VCICDP-UCCRTF/01	Procurement of SCADA, GIS, and hydraulic modeling hardware & software and equipment	1.000	NCB	Prior	1S2E	Q1/2017	Goods Funded by UCCRTF
VCICDP-UCCRTF/02	Construction of facilities for Integrated systems control and disaster management, and water quality testing laboratory	1.800	NCB	Prior	1S2E	Q1/2017	Works Funded by UCCRTF
VCICDP-UCCRTF/03	Procurement of equipment for Integrated systems control and disaster management facility and water quality testing laboratory	1.200	NCB	Prior	1S2E	Q1/2017	Goods Funded by UCCRTF

### 3. Consulting Services Contracts Estimated to Cost \$100,000 or More

The following table lists consulting services contracts for which the recruitment activity is either ongoing or expected to commence within the next 18 months.

Package Number	General Description	Estimated Value <sup>2</sup>	Recruitment Method	Review (Prior / Post)	Advertisement Date (quarter/year)	Type of Proposal	Comments
VCICDP/PMSC	Project Management and Supervision Consultancy (PMSC) including Policy reforms & Capacity building and Community Awareness and Participation	14.31	QCBS	Prior	Q1/2016	Full technical proposal	International (80:20) PMSC will be engaged for 6 years to cover Tranches 1 & 2

<sup>2</sup> Total cost including contingencies/provisional sum but excluding indirect local taxes. In December 2015 prices; Exchange rate of US\$ 1 = Rs 66 is used.

Package Number	General Description	Estimated Value <sup>2</sup>	Recruitment Method	Review (Prior / Post)	Advertisement Date (quarter/year)	Type of Proposal	Comments
	program						
VCICDP/RSA-01	Road Safety awareness consultants	1.0	QCBS	Prior	Q2/2016	Simplified technical proposal	National
VCICDP/RSA-02	Road Safety awareness consultants	1.0	QCBS	Prior	Q2/2016	Simplified technical proposal	National
VCICDP/RPI-01	Resettlement Plan implementation support agency	1.1	QCBS	Prior	Q2/2016	Simplified technical proposal	National Support to project implementation units for Tranches 1 & 2
VCICDP-UCCRTF/04	Consultant for climate change resilience support to GVMC	1.0	QCBS	Prior	Q1/2017	Full technical proposal	National Funded by UCCRTF

#### 4. Goods and Works Contracts Estimated to Cost Less than \$1 Million and Consulting Services Contracts Less than \$100,000 (Smaller Value Contracts)

Goods and Works								
Package Number	General Description	Estimated Value	Number of Contracts	Procurement Method	Review [Prior / Post/Post (Sample)]	Bidding Procedure	Advertisement Date (quarter/year)	Comments
None								

#### B. Indicative List of Packages Required Under the Project

The following table provides an indicative list of goods, works and consulting services contracts over the life of the project, other than those mentioned in previous sections (i.e., those expected beyond the current period).

Goods and Works							
Package Number	General Description	Estimated Value <sup>3</sup>	Estimated Number of Contracts	Procurement Method	Review [Prior / Post/Post (Sample)]	Bidding Procedure	Comments
VCICDP-APIIC/02	Augmenting utility services for Atchutapuram	32.52	1	NCB	Prior	1S2E	Large Works For Tranche 2

<sup>3</sup> Total cost including taxes and contingencies/provisional sum. In December 2015 prices; Exchange rate of US\$ 1 = Rs 66 is used.

Goods and Works							
Package Number	General Description	Estimated Value <sup>3</sup>	Estimated Number of Contracts	Procurement Method	Review [Prior / Post/Post (Sample)]	Bidding Procedure	Comments
	Industrial cluster, Visakhapatnam [Summer storage and bulk water supply]						
VCICDP-APIIC/04	Providing bulk water facility and summer storage in Naidupet Industrial cluster	35.19	1	NCB	Prior	1S2E	Large Works For Tranche 2
VCICDP-GVMC/01	Supply and Laying of water supply pipeline along the Raiwada canal	51.46	1	ICB	Prior	1S2E	Large Works For Tranche 2  If this subproject is not ready, an alternative water supply distribution subproject in Visakhapatnam may be considered
VCICDP-APRDC/02	Upgrading & Rehabilitation of 'Kakinada to Samarlkota' Section of 'Kakinada – Rajanagaram Road' to 'Dual 2 Lane Carriageway Standard'	56.54	1	ICB	Prior	1S2E	Large Works For Tranche 2
VCICDP-APRDC/03	Widening and strengthening of Anakapalle - Atchutapuram road (MDR-1007) to divided four lane from km 1.670 to km 15.450	23.8	1	NCB	Prior	1S2E	Large Works For Tranche 2
VCICDP-APRDC/04	Widening and strengthening of Nellore - Krishnapatnam road (MDR-3207) to divided four lane from km 1.700 to km 24.760	20.7	1	NCB	Prior	1S2E	Large Works For Tranche 2

<b>Goods and Works</b>							
<b>Package Number</b>	<b>General Description</b>	<b>Estimated Value<sup>3</sup></b>	<b>Estimated Number of Contracts</b>	<b>Procurement Method</b>	<b>Review [Prior / Post/Post (Sample)]</b>	<b>Bidding Procedure</b>	<b>Comments</b>
VCICDP-APRDC/05	Implementation of ICT-based Intelligent Traffic Management Systems, Moving-weighting-bridges, check posts, blind spots improvements or other components (to be identified later)	10.8	1	NCB	Prior	1S2E	Large Works For Tranche 2
VCICDP-APTransco/02	Augmenting power distribution capacity for meeting Industry demand at Pydibhimavaram, Mangalgiri and Kakinada SEZ locations (substation, cable, transmission lines and associated civil works)	55.04	1	ICB	Prior	1S2E	Large Works For Tranche 2

<b>Consulting Services</b>							
<b>Package Number</b>	<b>General Description</b>	<b>Estimated Value (cumulative)</b>	<b>Estimated Number of Contracts</b>	<b>Recruitment Method</b>	<b>Review (Prior / Post)</b>	<b>Type of Proposal</b>	<b>Comments</b>
None							

**C. List of Awarded and On-going, and Completed Contracts**

None

**D. Non-ADB Financing**

The following table lists goods, works and consulting services contracts over the life of the project, financed by Non-ADB sources.

<b>Goods and Works</b>				
<b>General Description</b>	<b>Estimated Value (cumulative)</b>	<b>Estimated Number of Contracts</b>	<b>Procurement Method</b>	<b>Comments</b>
None				

<b>Consulting Services</b>				
<b>General Description</b>	<b>Estimated Value (cumulative)</b>	<b>Estimated Number of Contracts</b>	<b>Recruitment Method</b>	<b>Comments</b>
Project Development Consultants	10.0	3	Government selection	<p>National 3 packages costing around USD 3 million each to be funded solely by the Government. Expected to prepare detailed project reports and procurement documents for future investments.</p> <p>The EA will comply with the ADB Guidelines requirements that (i) the procedures to be used will result in the selection of consultants who have the necessary professional qualifications, (ii) the selected consultants will carry out the assignment in accordance with the agreed schedule, and (iii) the scope of the services is consistent with the needs of the project.</p>

## APPENDIX 5: PROJECT DEVELOPMENT MECHANISM

### A. Objective

1. The project development mechanism will be used to enhance readiness of future investment projects by taking advance actions to prepare the projects. Specifically, the facility can be used for:

- (i) feasibility studies including techno economic assessments;
- (ii) surveys and investigations;
- (iii) engineering design of projects;
- (iv) preparation of bidding documents
- (v) support for policy, regulatory, and governance reforms; and
- (vi) capacity building support to the government agencies.

### B. Mechanism for Use

2. The size of the project development mechanism will be Rs.660 million (\$10 million) and will be funded by the Government. The project management unit (PMU), Directorate of Industries will be the implementing agency for this facility. PMU, in consultations with the project implementation units (PIUs), will identify projects that have to be prepared for future infrastructure investments in line with the objectives. PMU, with support from project management and supervision consultant, will prepare consulting packages, and also prepare the terms of reference of the consultants. Procurement of consultants will be carried out using government selection procedures. PMU will comply with the ADB Guidelines requirements that (i) the procedures to be used will result in the selection of consultants who have the necessary professional qualifications, (ii) the selected consultants will carry out the assignment in accordance with the agreed schedule, and (iii) the scope of the services is consistent with the needs of the project. PMU will be responsible for monitoring performance of the consultants recruited under the facility.

## APPENDIX 6: ROAD SAFETY MANAGEMENT FACILITY

### A. Overview

1. The Global Status Report on Road Safety, 2013 estimates that more than 231,000 people are killed in road traffic crashes in India every year. Approximately half of all deaths on the country's roads are among vulnerable road users—motorcyclists, pedestrians and cyclists. A heterogeneous traffic mix, which includes high-speed vehicles sharing the road space with vulnerable road users, unsafe road infrastructure and poor-condition vehicles contribute to the high fatality rates seen on India's roads.

2. Andhra Pradesh is unfortunately ranked among top five states in terms of road accidents. Andhra Pradesh has adopted various measures to enhance road safety, especially in the meeting of Andhra Pradesh Road Safety Council on 1 September 2015. Under the proposed Visakhapatnam–Chennai Industrial Corridor Development Program (VICIDP), support will be provided to Andhra Pradesh Road Development Corporation (APRDC) for implementing high-priority items focusing on four e's—education, enforcement, engineering, and emergency.

3. Some new initiatives under consideration and implementation of the Government of Andhra Pradesh (GoAP) are:

- (i) All commercial vehicles registered in Andhra Pradesh shall compulsorily have global positioning system (GPS) tracking systems;
- (ii) A district wise road safety committee to be made operational;
- (iii) Issue smart registration books, which could be chip-enabled or machine-readable cards;
- (iv) All road tax payments are online;
- (v) Vehicle fitness to be automatized. An instrument, to be fitted on a vehicle, shall monitor multiple parameters while driving and idling;
- (vi) Design and e-enablement of integrated toll plaza. Working on two pilots at Tada and Icchapuram;
- (vii) Driving tests to be done “in camera” and digital video would be handed over to the assessor for records and driving improvement, pending license;
- (viii) Trauma care centers for every 50 kilometers of national and state highways; and
- (ix) Establishment of Transport Safety Authority.

4. **Road Safety Action Plan.** Salient features include:

- (i) prosecution of drunken drivers, drivers without driving license and suspension of driving licenses for repeat offenders and drunken drivers;
- (ii) compulsory helmets from 15 December 2015;
- (iii) joint road safety enforcement and education of drivers by police and transport;
- (iv) counseling for auto rickshaw drivers to appear for class X exams and submit the mark sheet as proof for obtaining commercial vehicle driving license;
- (v) counseling for avoiding overloading of goods vehicles;
- (vi) handheld devices are proposed to be given to all the enforcement officials with finger print authentication and auto capture of GPS location along with date and time stamp. These devices will pull the data of previous violations by drivers from cloud data storage. Also transport field officers shall wear body mounted and vehicle mounted cameras, to capture every interaction with the citizen in a non-editable format. This is to help public get a fair dealing;

- (vii) public safety measures like signage and pedestrian crossings;
- (viii) ramps for people with special needs – women, children, disabled and elderly;
- (ix) dedicated road side lanes for pedestrians, especially for women with headloads on market days, and for NMV like bicycles;
- (x) well-lit streets, terminals, bus stands, junctions and parking bays;
- (xi) separate toilets for men and women in bus stands; and
- (xii) better route planning to cater to women's transport needs.

5. **Proposed Financing.** A provision of \$2 million for road safety awareness program and \$10 million for a civil works package has been kept under the VCICDP. This component will be further developed in consultation with Transport Commissioner and APRDC.

## APPENDIX 7: SKILLS DEVELOPMENT COMPONENT

### A. Skills Development – Vision

1. The new state of Andhra Pradesh has a population of 49.4 million (Census 2011) while the corridor has a population of 35.5 million which is more than 71 percent of the state population. The 9 districts of the corridor are the coastal districts that span over the 800 kilometers coastline of the state. 5 districts of the corridor (Chittoor, East Godavari, Guntur, Krishna and Visakhapatnam) house over 47% of the state's population with Chittoor and Visakhapatnam acting as the two employment poles. The state has embarked on a vision to become a developed state by 2029, where people have equal opportunities and dignified livelihoods to prosper through inclusive, sustainable, socioeconomic growth and become competitive and responsible global citizens. A key enabler would be a highly skilled and knowledge driven economy focusing on higher productivity and per capita output. Thus, there is a need for quality jobs, greater innovation and more entrepreneurs.

2. With the proposed interventions in the industrial development in the Visakhapatnam–Chennai Industrial Corridor (VCIC), the priority sectors are estimated to generate nearly 9.4 million additional jobs over the estimated projection period of 30 years spanning till 2045-2046. This is in addition to the existing 0.27 million direct jobs in the manufacturing sector under selected industries.<sup>1</sup> It is estimated that food-processing sector remains highest contributor to manufacturing job market due to its labor-intensive nature in the corridor; however its overall contribution towards value addition and employment generation is estimated to drop relatively. As estimated, automobiles, pharmaceuticals, electronics, chemicals and petrochemicals are among the highest value addition sectors, estimated to drive up the overall employee productivity and generate nearly 25% of the additional employment. This employment and industry diversification is estimated to boost the productivity by 30% during the projection period when compared with the present productivity. This may however not be limited to the corridor and could extend to the entire state. To achieve such an industry profile, the skill level of employment also needs to undergo significant transformation by adding more high skilled jobs in hi-tech and high value added sectors.

### B. Focus Industrial Sectors and Subsectors

3. Target industries were shortlisted through a market assessment of 78 industries (as per NIC classification) classified into 25 groups to identify potential sectors that can strengthen the manufacturing output of the corridor. These sectors were evaluated on both demand and supply side parameters to identify those that have current and future demand for domestic as well as export markets. Additionally, selected sectors were also assessed on relative trade advantage (RTA) and revealed competitive advantage (RCA) both at national and state level to identify most competitive sectors from both India's and VCIC's perspective.

4. Of the seven industry sectors shortlisted in the CDP, 2/3 of the industrial output is generated from food processing, chemicals and petrochemicals, and textile sectors. Sectors like automobiles, electronics and pharmaceuticals are estimated to have the potential to generate significant employment opportunities, although pharmaceuticals and automobiles are the sectors that can drive wages for industrial workers upwards. Based on the sector analysis,

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<sup>1</sup> Government of Andhra Pradesh. *Annual Survey of Industries–GoAP–Directorate of Economics and Statistics (2011-2012)*.

seven sectors and 25 subsectors identified to achieve the objectives of industrialization in VCIC are listed below.

**Table 1: Potential Sectors that can strengthen Manufacturing Outputs**

Industrial Sector	Industry	
Food Processing	1. Meat Processing 2. Marine processing 3. Vegetable and animal oils	4. Dairy products 5. Grain mill, starches and products 6. Ready to Eat
Textiles	7. Spinning, weaving and finishing 8. Other textiles	9. Apparel 10. Knitted and Crocheted apparel
Chemicals & Petrochemicals	11. Refined petroleum products 12. Basic chemicals, fertilizers, nitrogen compounds	13. Other Chemical Products 14. Plastic products
Pharmaceuticals	15. All Pharmaceuticals	
Metallurgy	16. Basic Iron & Steel 17. Basic precious and non-ferrous metals	18. Casting of metals
Electronics	19. Electronic components 20. Computers & Peripheral	21. Communication equipment 22. Optical instruments
Auto & Auto Components	23. Motor vehicles 24. Bodies for motor vehicles, manufacture of trailers and semi-trailers	25. Parts and accessories

### C. VCIC Job Demand Projection

5. The corridor currently employs about 2.7 lakh (0.27 million) people in direct jobs (workers, supervisory/managerial) in the VCIC selected industries based on data from Annual Survey of Industries, Andhra Pradesh (2011-2012). VCIC project intervention is estimated to create approximately 9.4 million additional direct jobs in the corridor against the usual historic projected growth of 4.5 million that is a gain of nearly five million jobs that would have been otherwise generated. In terms of sectoral split, food processing related industries are likely to continue as a major source of employment although sunrise sectors like auto and electronics are expected to garner a higher share going forward. Due to its existing strong base in auto and electronics industry, Krishna node of the corridor is assumed to have a higher share in the employment although development of alternative auto and electronic clusters can alter this split. As per estimates, five districts will add 76 percent of the jobs. Chittoor has the potential to add up to 20 lakh jobs, East Godavari up to 14 lakhs, Krishna to the tune of 13 lakh additional jobs, and Visakhapatnam and Guntur is expected to add approximately 12 lakh jobs till 2046.

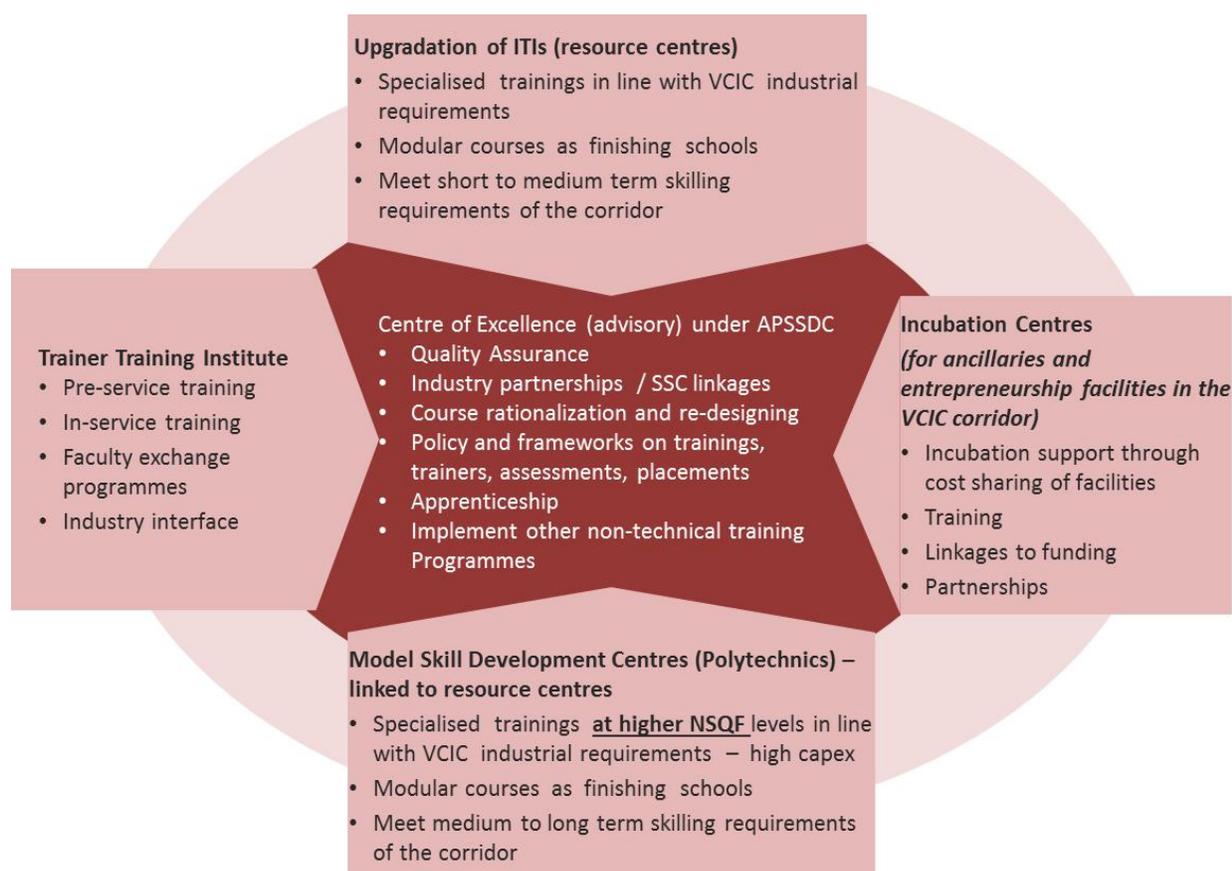
### D. Employment and skill requirements

6. For the corridor to achieve the desired level of manufacturing and industrial skills, two broad targets need to be achieved through skilling initiatives which are a) High Labor Force Participation Rate (LFPR), and b) higher proportion of the population being highly skilled. The corridor is projected to have a population of 3.9 crores in 2020 with a working age population of 67% (LFPR – census 2011) which is nearly 2.6 crores out of which it is estimated that nearly 15 lakh persons shall be employed by the VCIC shortlisted sectors.

7. Of the total employed personnel, it is estimated that 30% will be the managerial and supervisory cadre and 20% will be the low skilled labor. Majority of the skilled work force demand in VCIC is estimated to be generated in high value added sectors like automobiles, electronics and pharmaceuticals that need high-tech and high – skilled work force. It is

estimated that these three sectors shall generate more than 25% of the corridor employment demand. Most of these jobs will be aligned to the competency requirements laid down for levels 3 to 6 under India's National Skills Qualification Framework (NSQF).<sup>2</sup>

8. Therefore, it would be important to develop a program which supports the skilling needs of VCIC from the perspective of **Infrastructure Development, Policy Framework as well as Administration & Governance**. Various components of such a program are described below:



**Figure 1**

## **E. Infrastructure Development (Physical and Knowledge)**

### **1. Physical Infrastructure**

9. The existing skilling infrastructure is as below:

**Table 2: Existing Skilling Infrastructure**

<b>Departments</b>	<b>Skilling Infrastructure</b>	<b>Capacity</b>
Department of Labour & Employment	470 ITIs	1.23 lakh

<sup>2</sup> The National Skills Qualifications Framework (NSQF), notified by Government of India on 27 December 2013, is a competency-based framework that organizes all qualifications according to a series of levels of knowledge, skills and aptitude. The levels from one to ten are defined in terms of learning outcomes and skills which the learner must possess, regardless of whether they are obtained through formal, non-formal or informal learning.

Departments	Skilling Infrastructure	Capacity
Department of Technical Education	306 Polytechnics	87,000
Commissionerate of Collegiate Education	154 Jawahar Knowledge Centers	20,000
Andhra Pradesh Skill Development Corporation	17 Skill Development Centers	14,000
	12 Youth training centers	3,000
Andhra Pradesh Board of Intermediate Education	48 Exclusively Vocational Junior Colleges	38,746
Total		2.85 lakh

10. The infrastructure partly caters to the need for the target sectors of VCIC.<sup>3</sup> It will be critical to further develop centers targeted towards the sectors of food Processing, textiles, chemicals & petrochemicals, pharmaceuticals, metallurgy, electronics, and auto & auto components. Moreover, currently there is a gap in training requirements as APSSDC is facing shortage of funds for the growing training needs (planned training of about 50,000 workers/students/entrepreneurs every year over the next 3 years) in the state. In order to cater to the skill requirements of VCIC over the next few years, following steps could be undertaken by GoAP.

- (i) Upgrading of one/two select large government ITIs in each of the VCIC districts that could emerge as resource centers for high cost trainings as well as mass scale trainings (required during the construction phase of the VCIC corridor). These upgraded ITIs could run modular or short to medium term technical and soft courses and act as finishing schools in line with the demand requirements of industries in the VCIC corridor;
- (ii) Creation of Model Skill Development Centers within the existing polytechnic infrastructure in VCIC Nodes, which would be geared towards the identified sectors. Such centers would be responsible for specialized trainings (aligned to higher NSQF levels) catering to industry needs (as per identified sectors in VCIC districts). They would run medium to long term courses which would act as finishing schools for the industry requirements;
- (iii) Develop two incubation centers within the key industrial estates of VCIC; which would primarily cater to the requirements of promoting entrepreneurship in line with National Skill and Entrepreneurship Policy 2015. The incubation centers would promote incubation support through cost sharing of facilities, entrepreneurship and technical trainings, facilitate linkages to Government of India funding and facilitate industry partnerships;
- (iv) Establish advanced training Institute to ensure adequate availability of trainers in the skills required for VCIC in particular and entire state in general. They would cater to Pre-service training, In-service training of trainers, assist in faculty exchange programs and facilitate Industry interface;
- (v) Further a “center of excellence” may be established under APSSDC to provide policy support and advice on streamlining of systems for hiring good quality trainers, investing in training of trainers, rationalizing outdated existing courses and designing new courses in line with VCIC requirement, establishing linkage with “Sector Mentor Councils at a State Level and SSCs at a national level, quality assurance, for the various training institutes. The center of excellence shall be able to advise the training institutes on achieving the NSQF (National

<sup>3</sup> The exact nature of the infrastructure and the specific focus areas for the centers may be determined by a detailed skill gap assessment study carried out separately.

- Skills Qualifications Framework) accreditation. The state assessment bodies under the NQAF (National Quality Assurance Framework) can be set up under the APSSDC in consultation with the SSCs in the form of “evaluation cells”; and
- (vi) Provide high quality equipment/training materials for developing institutions for skills development, which could include, among others, support to ITIs, and district/mandal skill development centers.

11. With regard to the project development bidding and project management of physical infrastructure, it is advisable to nominate an agency with the requisite engineering skills and experience in comparable projects. Therefore, APIIC could be proposed as the PIU for the skills projects while the projects may be promoted and advised upon by the APSSDC.

## 2. Knowledge Infrastructure

12. Apart from physical infrastructure, it is critical to develop and upgrade knowledge infrastructure, which may be promoted and developed by APSSDC. Moreover, the APSSDC will have to engage consultants for handholding APSSDC in implementing the APSSDC action plan specifically with respect to rolling out the training plan, infrastructure development, content development etc. The proposed activities under knowledge infrastructure are as under:

- (i) VCIC’s district wise demand assessment and GIS mapping of industrial clusters to create a demand-supply driven training ecosystem;
- (ii) Undertaking labor market surveys to match youth aspirations with the projected industry demand for skilled workers;
- (iii) Engaging qualified training service providers to impart the required vocational training;
- (iv) Ensuring that the training is aligned to the competency requirements laid down in the NSQF;<sup>4</sup>
- (v) Strengthening industry engagement to maximize opportunities for on-the-job training and placements;
- (vi) Identifying and scaling innovative models of skilling which may be suitable for VCIC sectors/trades;
- (vii) Entering into memoranda of understanding with sector skill councils to leverage NSQF compliant courses and leveraging assessments in line with the identified sectors of VCIC;
- (viii) Validating course curriculum and instructional content with the proposed industries in the VCIC corridor jointly with National Instructional Media Institute (NIMI); and
- (ix) Establishing a quality assurance and M&E system to track the effectiveness of the training.

13. The cost of infrastructure development will be \$14.77 million. The cost breakup is provided in Annexure 1.

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<sup>4</sup> With effect from 27 December 2016, no government funding will be provided for technical education and vocational training programs which are not aligned to NSQF. Also, all announcements for jobs in the central government, state governments, and public sector enterprises will have to define eligibility criteria in terms of NSQF. Hence, this Project will support APSSDC in aligning all training programs to NSQF on a priority basis.

## **F. Policy Framework**

14. Provide support for preparation for VCIC specific policy/notifications/processes/manuals for the initiatives planned under VCIC such as evaluation cell, center of excellence, training protocols, assessment procedures, and procurement guidelines.

## **G. Administration and Governance**

- (i) Capacity building of PIU/ APSSDC to conceptualize, plan and execute training programs specifically catering to the skilling requirement of VCIC; and
- (ii) Developing a Market Information System that provides real time picture on demand and supply indicators such as job opportunities, skilled candidates, trainers, training centers.

## **H. Conclusion**

15. In order to achieve the VCIC objectives the overall skill development strategy of the state should be suitably harnessed to provide impetus to the areas critical for achieving the VCIC objectives. Such a strategy should be encapsulated in a program comprising creation and upgrading of critical infrastructure, supported by a strong governance and policy mechanism. Moreover the devised strategies may be based on the NSQF framework notified by the Cabinet Committee on Skill Development (Ministry of Finance – DEA – Govt. of India). The framework identifies qualification in form of knowledge, skills and aptitude acquired through formal, non-formal or informal learning. The framework proposes to include educational institutions ranging from schools, vocational training institutes, higher education institutes, unions, technical training institutes, professional associations etc. This framework will be useful in bringing uniformity in skill development initiatives, mapping of skill development, quantifying the skill levels across the corridor in industrial sectors that demands multiple form of skills at various levels.

16. Further, in order to meet the infrastructure (physical and knowledge) needs for skill development in VCIC, following funding requirements could be evaluated.

- (i) Piggy-backed technical assistance, which is a proposed \$1.0 million grant from ADB, and the project management and supervision consultant (PMSC), which is the main loan consultant, to provide support for (a) capacity building of the APSSDC, including consulting services and handholding support; and (b) developing contents, training modules and conducting a few critical trainings; and
- (ii) APSSDC could consult Finance Department for possible support under the Program Loan (\$125 million) for the infrastructure development components.

## APPENDIX 8: ROLES AND RESPONSIBILITIES OF THE PROJECT MANAGEMENT UNIT AND PROJECT IMPLEMENTATION UNITS

### A. Project Implementation Units

#### 1. Structure of Project Management Unit

Position	Tasks
Project Director	Overall Project Management
Deputy Collector (Revenue Officer)	Management of land-related issues
Procurement Officer	Procurement of consultants, civil works, goods, and NGOs, etc.
Senior Engineer	Technical officer with engineering background and preferably experience of multilateral projects
Institutional Coordination and Policy Reforms officer	Policy and Institutional support
Investment Promotion Officer	Coordination of VCICDP promotion, marketing
Monitoring and Evaluation Officer	Monitoring project results, including GESI action plan activities
Environmental Safeguards Officer	Environmental safeguards compliance
Social Safeguards and Gender Officer	Resettlement compliance, social, gender
Chief Accountant and Financial Management Officer	Project accounting, audit and reporting
Accountant	Accounting
Office Manager	Office management

Staff	Responsibilities
Project Director	<p><b>As head of the PMU:</b></p> <p><b>Overall Management of the project:</b></p> <ul style="list-style-type: none"> <li>(i) Day-to-day administration of the project implementation;</li> <li>(ii) Assist the Steering Committee in reviewing project progress;</li> <li>(iii) Overall implementation of the project- conceptualization to completion;</li> <li>(iv) Oversee project management by PIU's;</li> <li>(v) Coordination of tasks with ADB and GoAP;</li> <li>(vi) Reporting on project performance (Prepare monthly, quarterly midterm and final progress reports) to GoAP and ADB;</li> <li>(vii) Ensure compliance of loan covenants; and</li> <li>(viii) Prepare Project accounts and submit timely statements to ADB and Government.</li> </ul> <p><b>Policy and Reforms</b></p> <ul style="list-style-type: none"> <li>(i) Lead Policy and reform design, implementation and monitoring- as outlined in the Policy Matrix, including process reengineering and related tasks of implementing solutions aimed at ease of doing business and in infrastructure management.</li> </ul> <p><b>Operational</b></p> <ul style="list-style-type: none"> <li>(i) Finalize procedures and guidelines for procurement of PMSC and their selection by the PMU under advance procurement actions and formally appoint the PMSC and;</li> <li>(ii) In coordination with PIU's develop annual Project work plans, job descriptions, staffing schedules and equipment budgets; and</li> <li>(iii) Coordinate with the PIU's in establishing, testing and reviewing financial accounting and control systems and ensuring accurate and timely report submissions and funds flow from the ADB and onwards to the implementing agencies.</li> </ul> <p><b>Procurement Related</b></p> <ul style="list-style-type: none"> <li>(i) Finalize procedures and guidelines for procurement of civil works and</li> </ul>

Staff	Responsibilities
	<p>equipment PMU under advance procurement actions;</p> <p>(ii) Finalize standard bidding documents for the project; and</p> <p>(iii) Develop procedures and prepare guidelines for evaluation of bids of contractors/suppliers including their post-qualification wherever necessary.</p> <p><b>Engineering</b></p> <p>(i) Oversee project development activities by PIU's in Design of additional projects by DPR consultants and project development facility.</p> <p><b>Development</b></p> <p>(i) Manage Project Development Facility; and</p> <p>(ii) Coordinate with APRDC activities of Road Safety Facility.</p>
Deputy Collector (Revenue Officer)	<p>(i) Management of land management aspects of the projects and proposed development plans of DOIC;</p> <p>(ii) Review and advise on resettlement aspect of the sub projects; and</p> <p>(iii) In consultation with the District Collectors and APIIC identify and map land available around existing APIIC facility and oversee Master Plan preparation.</p>
Procurement Officer	<p><b>Key Task: Project Management and Procurement</b></p> <p><b>Overall Management of the project:</b></p> <p>(i) Support Project Director Day-to-day administration of the project; and</p> <p>(ii) Reporting on project performance (Prepare monthly, quarterly midterm and final progress reports) to GoAP and ADB.</p> <p><b>Operational</b></p> <p>(i) Finalize procedures and guidelines for procurement of PMSC and their selection by the PMU under advance procurement actions and formally appoint the PMSC;</p> <p>(ii) Prepare, or as necessary, amend existing procedures and guidelines for site supervision, quality control and disbursement including guidelines and detailed job descriptions for engineers, supervisors, accountants, etc.; and</p> <p>(iii) In coordination with PIUs, develop annual project work plans, job descriptions, staffing schedules and equipment budgets.</p> <p><b>Procurement Related</b></p> <p>(i) Review evaluation reports, comment and coordinate approval with ADB for activities being performed by PMU on works, services and good;</p> <p>(ii) Update procurement plan as necessary; and</p> <p>(iii) Lead in consultation with officers, procurement of services by PMU.</p> <p><b>Engineering</b></p> <p>(i) Oversee project development activities by Design consultants and project development consultants as appointed by the project development facility.</p>
Senior Engineer	<p><b>Operational</b></p> <p>(i) Assist Project Director in preparation, or as necessary, amend existing procedures and guidelines for site supervision, quality control and disbursement including guidelines and detailed job descriptions for engineers, supervisors, accountants, etc.;</p> <p>(ii) In coordination with GVMC and APIIC (&amp; APTransco) develop annual Project work plans; and</p> <p>(iii) Coordinate overall project management with PMSC.</p> <p><b>Engineering / Design</b></p> <p>(i) Review and appraise projects being developed by Design consultants as well as project development consultants.</p> <p><b>Monitoring and Evaluation</b></p> <p>(i) Contribute to M&amp;E for activities related to investment components.</p>
Institutional Coordination and Policy Reforms officer	<p><b>Policy and Institutional Support and reform support</b></p> <p>(i) Lead Policy and process re-engineering efforts aimed at ease of doing business, and in service delivery;</p>

Staff	Responsibilities
	<ul style="list-style-type: none"> <li>(ii) Coordinate with GVMC actions related to capacity building and smart city efforts;</li> <li>(iii) Lead and support AP Skill Development Corporation in planning, coordination, support and monitoring of the component; and</li> <li>(iv) Coordinate implementation TA components with GoAP, ADB and consultants.</li> </ul>
Investment Promotion Officer	<ul style="list-style-type: none"> <li>(i) Coordination of manufacturing facility development and investor needs with the area developers (APIIC);</li> <li>(ii) Preparation of promotion and marketing plan for various nodes;</li> <li>(iii) Coordination with DIPP on specific marketing / policy events;</li> <li>(iv) Coordination of visits to specific destinations, feedback and response management;</li> <li>(v) Design of promotion materials of the corridor and other requirements as outlined by GoAP; and</li> <li>(vi) Coordinate with visitors to visit proposed facilities and coordinate with agencies on investor needs.</li> </ul>
Monitoring and Evaluation Officer	<p><b>Project and Results Monitoring</b></p> <ul style="list-style-type: none"> <li>(i) Develop the PPMS involving the use of projected targets, performance indicators, assumptions and risks specified in the DMF;</li> <li>(ii) Review Government project M&amp;E procedures and systems in general, with particular reference to policy and investment / development projects;</li> <li>(iii) Advise and train project staff in the overall requirements for monitoring and evaluation, including performance against overall project milestone, safeguards monitoring and financial commitments;</li> <li>(iv) Assist in the preparation of format for quarterly physical and financial progress report on project achievement, including an annual summary progress report and train project staff in preparing such reports;</li> <li>(v) Assist training project staff in managing the monitoring of resettlement activities and implementation arrangements and preparation of quarterly reports on the status of resettlement plan implementation, information of people affected and assistance provided to displaced people;</li> <li>(vi) Oversee the baseline data and information gathering, conduct necessary surveys and conduct analysis of survey results;</li> <li>(vii) Assist in harmonizing the requirements for monitoring and evaluation of the government and ADB and in developing the project's monitoring and evaluation framework;</li> <li>(viii) Assist and train the project staff in preparing detailed data monitoring formats, survey designs and schedule of monitoring and evaluation activities;</li> <li>(ix) Assist in the preparation of scope of services and TOR for the conduct of detailed monitoring and evaluation studies, procurement and selection of service providers; and</li> <li>(x) Assist in the overall monitoring and evaluation of the GESI action plan implementation and in the reporting of GESI action plan activities and achievements, including preparation of monitoring formats for quarterly and bi-annual progress reports on GESI action plan implementation.</li> </ul>
Environmental Safeguards Officer	<p><b>Environment Compliance in Consultation with PIU:</b></p> <ul style="list-style-type: none"> <li>(i) confirm existing IEEs/EMPs are updated based on detailed designs and that new IEEs/EMPs are prepared in accordance with the EARF and subproject selection criteria related to safeguards;</li> <li>(ii) confirm whether IEEs/EMPs are included in bidding documents and civil works contracts;</li> <li>(iii) provide oversight on environmental management aspects of subprojects;</li> <li>(iv) ensure SEMP prepared by contractors are cleared by PIUs prior to</li> </ul>

Staff	Responsibilities
	<p>commencement of civil works;</p> <ul style="list-style-type: none"> <li>(v) establish a system to monitor environmental safeguards of the project including monitoring the indicators set out in the monitoring plan of the SEMP;</li> <li>(vi) facilitate and confirm overall compliance with all Government rules and regulations regarding site and environmental clearances as well as any other environmental requirements (e.g., Location Clearance Certificates, Environmental Clearance Certificates etc.), as relevant;<sup>1</sup></li> <li>(vii) supervise and provide guidance to the PIUs to properly carry out the environmental monitoring and assessments as per the EARF;</li> <li>(viii) review, monitor and evaluate the effectiveness with which the SEMP are implemented, and recommend necessary corrective actions to be taken as necessary;</li> <li>(ix) consolidate monthly environmental monitoring reports from PIUs and submit semi-annual monitoring reports to ADB;</li> <li>(x) ensure timely disclosure of final IEEs/SEMPs in locations and in a form and language accessible to the public and local communities; and</li> <li>(xi) address any grievances brought about through the GRM in a timely manner.</li> </ul>
Social Safeguards and Gender Officer	<p><b>Safeguard compliance</b></p> <p>The role is to implement the policies and operational procedures of Resettlement Framework and Indigenous People Planning Framework, and other requirements under the GESI and CPP, supported by VCICDP and also be proactive in identifying likely safeguard issues that could be relevant in the context of its portfolio of projects.</p> <p>The following are the responsibilities of the Social Safeguards and Gender Officer to be carried out in consultation with the PIU:</p> <ul style="list-style-type: none"> <li>(i) review resettlement plans prepared by the PIUs in accordance with VCICDP resettlement framework, ADB's Safeguards Policy Statement (SPS, 2009) based on final detailed designs and submit to ADB for review, final approval, and disclosure prior to award of contract;</li> <li>(ii) ensure payment of compensation and resettlement assistances prior to commencement of civil works;</li> <li>(iii) monitor resettlement plan implementation and rehabilitation of displaced persons prior to and during construction;</li> <li>(iv) conduct internal monitoring and assist the external monitor in external monitoring of the resettlement process to ensure smooth implementation;</li> <li>(v) monitor work of nongovernmental organization (NGO) or agency as required;</li> <li>(vi) review quarterly resettlement monitoring reports prepared by resettlement agency or NGO and take required corrective actions, if any and consolidate the reports of Category B or C subprojects</li> <li>(vii) prepare and submit semi-annual safeguard monitoring report to ADB based on the quarterly resettlement reports;</li> <li>(viii) address and record grievances through the GRM in a timely manner, and taking quick corrective actions where necessary to facilitate the redressal of grievances in coordination with contractors, NGO, and displaced persons;</li> <li>(ix) engage in ongoing meaningful consultations with stakeholders and affected persons;</li> </ul>

<sup>1</sup> All necessary environmental clearances should be obtained prior to contract awards to avoid delay in physical progress of relevant subprojects.

Staff	Responsibilities
	<ul style="list-style-type: none"> <li>(x) implement project GRM and maintain the records;</li> <li>(xi) for all Category A subprojects, recruit independent external monitoring agency with endorsement from ADB;</li> <li>(xii) ensure project compliance to resettlement framework of VCICDP and ADB Safeguards Policy Statement including safeguards requirement on indigenous people and Indigenous Peoples Development Framework;</li> <li>(xiii) monitor the implementation of corrective action plans, if any, consistent with the safeguard frameworks;</li> <li>(xiv) facilitate all PIU/PMU staff in understanding the GESI action plan;</li> <li>(xv) coordinate with PIUs for implementation of GESI action plan;</li> <li>(xvi) assist in conducting gender sensitization workshops;</li> <li>(xvii) participate in consultation meetings on gender components organized by PIU with PIU/PMU staff;</li> <li>(xviii) supervise and monitor GESI action plan implementation;</li> <li>(xix) prepare quarterly and bi-annual reports on progress of GESI action plan; and</li> <li>(xx) take corrective measures as required, to ensure proper implementation of GESI action plan activities.</li> </ul>
Chief Accountant and Financial Management Officer	<ul style="list-style-type: none"> <li>(i) Overall Financial Management;</li> <li>(ii) Responsible for Maintenance of accounts and records with respect to the project;</li> <li>(iii) Assist the Project Director for preparing financial forecast for the year and each quarter;</li> <li>(iv) Assist the Nodal Officer/ Project Officers in preparation of the budget;</li> <li>(v) Consolidate the accounts from different units of the project;</li> <li>(vi) Assist the Project Director in getting the account audited;</li> <li>(vii) Prepare disbursement claims for funds from funding agencies;</li> <li>(viii) Classify the expenditure and maintain the account manually and using appropriate software;</li> <li>(ix) Ensure timely disbursement of payments and writing of cash books and other records of account;</li> <li>(x) Prepare the financial statements and bank reconciliation statement;</li> <li>(xi) Generate financial information as required; and</li> <li>(xii) Any other function assigned by the Project Director, Procurement Experts and others through the Nodal Officer.</li> </ul>
Accountant	<p>The auditor will be carry out his tasks in accordance with the relevant national standards of auditing, and will include such tests and controls as the auditor considers necessary under the circumstances.</p> <p>In conducting audit special attention should be paid to the following:</p> <ul style="list-style-type: none"> <li>(i) Ensure that the accounting and financial management systems remain reliable and effective in design and to assess the extent to which they are being followed;</li> <li>(ii) Review the efficacy, adequacy and application of accounting, financial and operating controls and thereby ensure the accuracy of the books of accounts;</li> <li>(iii) Verify that the system of internal check is effective in design and operation in order to ensure the prevention of and early detection of defalcations, frauds, misappropriations and misapplications;</li> <li>(iv) Identify and modify areas of significant inefficiencies in existing systems and suggest necessary remedial measures;</li> <li>(v) Confirm the existence of financial propriety in all decision and verify compliance to government and statutory requirement;</li> <li>(vi) Confirm that the agreed procurement procedures and arrangements have been followed for works, goods and services;</li> </ul>

Staff	Responsibilities
	<p>(vii) Check that all expenditure on works funded by the project, including procurement of goods and services, has the necessary supporting documents and have been incurred in accordance with the agreed rules and relevant financing agreement;</p> <p>(viii) Verify that all the goods procured and issues are supported by valid receipt and issue document (namely Goods Receipts Sheet, Indent and unstamped receipt) and are recorded in the Priced Store Ledger/Bin Card and also closing balances worked out correctly. Physical verification of assets and other inventories would be taken up as deemed necessary by the auditor;</p> <p>(ix) Confirm that bank authorization given to PMU for incurring expenditure under the project is used for purpose intended. To establish this, the auditor should visit PIUs and conduct such audit/tests as may be deemed appropriate and necessary for the purpose of the audit;</p> <p>(x) Check that the Statements of Expenditure submitted for the ADB on a monthly basis reconcile with the expenditures reported under the Financial Management Reports, also submitted to the ADB on a quarterly basis; and</p> <p>(xi) Oversee adequate records are maintained regarding the assets created and assets acquired by the project, including details of cost, identification and location of assets; and that the physical verification of assets is being carried out with due diligence.</p> <p><b>Extent and coverage of internal audit:</b> The extent and scope of internal audit will be as follows:</p> <p>(i) The internal auditor shall exercise 100% check of awarded contract for construction;</p> <p>(ii) The auditor will vouch 100% of cash payment vouchers, bank statements and transfer entry vouchers and cheque payments shall be vouched to cover 50% of the transaction in each of the months selected;</p> <p>(iii) A list showing the months / year for which vouching has been carried out shall be mentioned in the report;</p> <p>(iv) Routine errors or omissions or commissions noted during the course of internal audit may be rectified on the spot; and</p> <p>(v) While conducting internal audit in a subsequent phase, the auditor will ensure that the compliance report on audit observations pointed out in the reports relating to earlier audit is made and corrective actions taken on those points are furnished in the Audit Report of the subsequent phase.</p> <p><b>Internal Audit Reports</b> The report should be structured in a manner to provide the following: audit observations;</p> <p>(i) Implications of the observations;</p> <p>(ii) Suggested recommendations;</p> <p>(iii) Management's comments/agreed actions;</p> <p>(iv) Status of actions on the previous recommendations;</p> <p>(v) Internal auditor should prepare and submit a consolidated report on a six monthly basis, summarizing unit wise reports and highlighting the critical issues which require the immediate attention of the PMU and Program Steering Committee; and</p> <p>(vi) Reports should be submitted to the Project Director, PMU within 30 days of the close of each period of 6 months.</p>
Office Manager	<p>The Manager Administration and Human Resources would be responsible to assist Project Director in all administrative aspects and Human Resources issues of the Project.</p> <p>Assist Project Director in recruitment of staff consultants, attend all staff issues of PIUs and PMU.</p>

Staff	Responsibilities
	<p><b>Human Resources</b></p> <ul style="list-style-type: none"> <li>(i) Assist preparation, and if necessary, amend existing procedures and guidelines relating to staffing;</li> <li>(ii) Liaise with Project Director in identifying recruitment needs, processing of work permits and visas of Consultants in a correct and timely fashion, and other matters in relation to relocation of employees or other resources;</li> <li>(iii) Draft contractual documents (Appendices, Services Requests etc.) upon request (from Project Director ), follow up on those documents;</li> <li>(iv) Ensure that all consultants/ Staff (internal, external and employees) fill out their time sheets and expense reports correctly and on time.;</li> <li>(v) Check for accuracy and approve all relevant time sheets and expenses and review and approve all travel requests; and</li> <li>(vi) Process expenses for staff and follow up on the needs of per diem reimbursements.</li> </ul> <p><b>Office administration</b></p> <ul style="list-style-type: none"> <li>(i) Prepare office manual and procedures;</li> <li>(ii) Responsible for all of the Services related activities such as coordination of meetings, event management, seminars etc. and contractual documentation;</li> <li>(iii) Manage project office and perform reception duties, provide general assistance to senior management, including, but not limited to, information about features of contracts, drafting of tables and relevant correspondence, time sheets, travel &amp; accommodation booking, meetings, agenda, etc.; and</li> <li>(iv) Perform other such duties, functions and services, consistent with status or vocational ability, as may from time to time be required.</li> </ul> <p><b>Management</b></p> <ul style="list-style-type: none"> <li>(i) Keep an inventory of the equipment and goods for the project office;</li> <li>(ii) Administer the daily office operations and coordinate logistic requirements for the project office; and</li> <li>(iii) Carry out other works as required by the Project Director.</li> </ul>

ADB = Asian Development Bank, APIIC = Andhra Pradesh Industrial Infrastructure Corporation, APIIC = Andhra Pradesh Industrial Infrastructure Corporation, APRDC = Andhra Pradesh Road Development Corporation, APTransco = Transmission Corporation of Andhra Pradesh, CPP = consultation and participation plan, DMF = Design and Monitoring Framework, DOIC = Department of Industries and Commerce, DPR = detailed project report, EARF = environmental assessment review framework, GESI = gender equality and social inclusion, GoAP = Government of Andhra Pradesh, GRM = grievance redress mechanism, GVMC = Greater Visakhapatnam Municipal Corporation, IEE = initial environmental examination, M&E = monitoring and evaluation, NGO = nongovernment organization, PIU = project implementing unit, PMSC = project management and supervision consultant, PMU = project management unit, SEMP = site-specific environmental management plan, TOR = terms of reference, VCIC = Visakhapatnam–Chennai Industrial Corridor, VCICDP = Visakhapatnam–Chennai Industrial Corridor Development Program.

## B. Project Implementation Units

### 1. APRDC Head Office

1. The Safeguards specialists of APRDC currently working on a World Bank Project will coordinate all environmental and social aspects of the projects. Similarly all accounting and disbursements will be managed the existing FM structure as payments are made through the treasury system of GoAP.

Position	Job Description
Project Director APRDC	<p>The Head of the PIU</p> <p><b>Overall Management of the project:</b></p> <ul style="list-style-type: none"> <li>(i) Day-to-day administration of the project;</li> </ul>

Position	Job Description
	<ul style="list-style-type: none"> <li>(ii) Overall implementation of the project- conceptualization to completion;</li> <li>(iii) Provide necessary guidance for the Engineers in particular and the PIU staff in general on implementation of the Project, oversee project management by engineers;</li> <li>(iv) Manage all the issues of project implementation including the resettlement, land acquisition, coordination with other agencies;</li> <li>(v) Reporting on project performance (monthly, quarterly midterm and final progress reports) to PMU; and</li> <li>(vi) Review and submission of Project accounts to ADB/ GoAP.</li> </ul> <p><b>Operational</b></p> <ul style="list-style-type: none"> <li>(i) In coordination with PMU develop annual project work plans, staffing schedules and budgets; and</li> <li>(ii) Coordinate with the PMU in establishing, testing and reviewing financial accounting and control systems and ensuring accurate and timely report submissions and funds flow to the project.</li> </ul> <p><b>Procurement Related</b></p> <ul style="list-style-type: none"> <li>(i) Overall review and finalization of all procurement packages and coordinate the process for procurement of civil works and equipment.</li> </ul> <p><b>Engineering and Safety</b></p> <ul style="list-style-type: none"> <li>(i) Overall review of designs and estimates and advise PMSC on additional projects being developed under the loan; and</li> <li>(ii) Lead road safety program activities in coordination with Transport Commissioner of the State.</li> </ul>
Executive Engineer Head office	<p>The Senior Engineer will be the executive head of the PIU and would be in charge of the day-to-day activities.</p> <p>Relevant general management tasks for the PIU will govern the functions of Senior Engineer.</p> <p><b>Operational</b></p> <ul style="list-style-type: none"> <li>(i) Assist Project Director in preparation, or as necessary, amend existing procedures and guidelines for site supervision, quality control and disbursement including guidelines and detailed job descriptions for engineers, supervisors, accountants, etc.;</li> <li>(ii) In coordination with Field Executive Engineers, develop annual Project work plans; and</li> <li>(iii) Prepare monthly, quarterly, mid-term and final progress reports.</li> </ul> <p><b>Engineering</b></p> <ul style="list-style-type: none"> <li>(i) Review's design reports as submitted by Executive Engineers and advise on finalization of detailed designs, drawings, specifications, bills of quantities, cost estimates, tender documents and associated contract documentation for procurement of works and equipment in the Project under ICB, NCB and Shopping;</li> <li>(ii) Overseeing quality assurance and implementation activities under all the sub-projects; and</li> <li>(iii) Review of bills and approvals for review by Project Director and the accounts unit.</li> </ul> <p><b>Procurement Related</b></p> <ul style="list-style-type: none"> <li>(i) Based on standard bidding documents for the project, prepare guidelines for evaluation of bids of contractors/suppliers including their post-qualification wherever necessary; and</li> <li>(ii) The Senior Engineer will lead procurement/ bidding (Issue of bidding document, bid evaluation, finalize contract agreement etc.).</li> </ul> <p><b>Accounting</b></p> <ul style="list-style-type: none"> <li>(i) Monitor all billing and payments towards works and goods provided.</li> </ul>

Position	Job Description
Deputy Executive Engineer HQ, procurement and Compliance Officer	<p>The Engineers whose task are:</p> <p><b>Preparation</b></p> <ul style="list-style-type: none"> <li>(i) Oversee preparation of additional projects by design consultants; and</li> <li>(ii) Oversee project implementation plans including land acquisition and shifting of utilities.</li> </ul> <p><b>Design</b></p> <ul style="list-style-type: none"> <li>(i) Review of design, estimates and bid documents;</li> <li>(ii) Assist PIU in requisite approvals from authorities; and</li> <li>(iii) Oversee the process of bidding, IFB, evaluation and award.</li> </ul> <p><b>Supervision</b></p> <ul style="list-style-type: none"> <li>(i) Periodic site supervision of works;</li> <li>(ii) Quality assurance and recording measurements;</li> <li>(iii) Reviewing measurements and advise on bills;</li> <li>(iv) Assist Senior Engineer in all activities related to technical and procurement issues from evaluation to commissioning of works, including variation orders;</li> <li>(v) Review progress on payments to contractors/ suppliers;</li> <li>(vi) Prepare monthly, quarterly, mid-term and final progress reports; and</li> <li>(vii) Assist / Coordinate preparation of final measurement and 'as built' drawings.</li> </ul> <p><b>Quality Control and Check Measurements</b></p> <ul style="list-style-type: none"> <li>(i) Responsibility for quantity surveys and check measurements.</li> </ul>
Environmental Safeguards	<p><b>Environmental Safeguards</b></p> <ul style="list-style-type: none"> <li>(i) include IEEs/EMPs in bidding documents and civil works contracts;</li> <li>(ii) review and approve SEMP prepared by contractors;</li> <li>(iii) oversee day-to-day implementation of SEMP by contractors including compliance with all government rules and regulations;</li> <li>(iv) take necessary action for obtaining rights of way;</li> <li>(v) oversee environmental monitoring by contractors;</li> <li>(vi) take corrective actions when necessary;</li> <li>(vii) submit monthly environmental monitoring reports to PMU;</li> <li>(viii) conduct continuous public outreach and awareness building related to environmental management;</li> <li>(ix) address grievances brought about through the GRM in a timely manner; and</li> <li>(x) organize an induction course for the training of contractors in environmental management to be delivered by PMSC consultants.</li> </ul>
Safeguards Manager (Social and Gender)	<p>The role is to implement the policies and operational procedures of Resettlement Framework and Indigenous People Plan, and requirements under the GESI. The Safeguards Manager will:</p> <ul style="list-style-type: none"> <li>(i) update resettlement plans in accordance with VCICDP resettlement framework, ADB's Safeguards Policy Statement (SPS, 2009) based on final detailed designs with supports from PMSC and/or turnkey contractors;</li> <li>(ii) submit the final resettlement plans to PMU to be submitted to ADB for review, final approval, and disclosure prior to award of contract;</li> <li>(iii) implement resettlement activities through resettlement plan implementation support agency (NGO), line departments and revenue officials;</li> </ul>

Position	Job Description
	<ul style="list-style-type: none"> <li>(iv) prepare and review of individual entitlement plans/micro plans or implementing RP and submit for approval;</li> <li>(v) identify suitable land for the resettlement/relocation area in coordination with District administration and initiate transfer/acquisition process, after receiving endorsement for the physically displaced persons;</li> <li>(vi) supervise the resettlement plan implementation support NGO/agency involved in RP implementation;</li> <li>(vii) assisting in disbursement of compensation and resettlement assistances;</li> <li>(viii) holding periodical and meaningful consultations with the affected people on implementation of Loan Agreement and resettlement activities;</li> <li>(ix) prepare monthly resettlement plan implementation and physical and financial progress reports;</li> <li>(x) lead the GRM implementation and record keeping at the project/district/PIU level;</li> <li>(xi) update payment of compensation, disbursement of resettlement assistances, affected persons socio-economic data in the database;</li> <li>(xii) verification of claims for inclusion as affected persons and submit report to PMU for decision;</li> <li>(xiii) prepare and implement any CAP, when required, consistent with the frameworks requirements;</li> <li>(xiv) coordinate with agency or nongovernment organization in the implementation of GESI action plan;</li> <li>(xv) liaise with PMU, engineering team, PMSC and line departments for implementation of gender responsive design features;</li> <li>(xvi) assist in preparing gender sensitization workshop modules, IEC materials;</li> <li>(xvii) participate in consultation meetings on gender components;</li> <li>(xviii) prepare quarterly and bi-annual reports on progress of GESI action plan in the road sector;</li> <li>(xix) supervise implementation of gender responsive road design features, and road safety measures; and</li> <li>(xx) prepare and implement corrective measures as required, to make GESI action plan effective.</li> </ul>

ADB = Asian Development Bank, APRDC = Andhra Pradesh Road Development Corporation, CAP = corrective action plan, , DOIC = Department of Industries and Commerce, DPR = detailed project report, EARF = environmental assessment review framework, GESI = gender equality and social inclusion, GoAP = Government of Andhra Pradesh, GRM = grievance redress mechanism, ICB = international competitive bidding, IEC = information, education, communication, IFB = invitation for bids, NCB = national competitive bidding, NGO = nongovernment organization, PIU = project implementing unit, PMSC = project management and supervision consultant, PMU = project management unit, SEMP = site-specific environmental management plan, VCIC = Visakhapatnam–Chennai Industrial Corridor, VCICDP = Visakhapatnam–Chennai Industrial Corridor Development Program.

## 2. Field Units (2 field units covering 4 projects)

Position	Job Description
Executive Engineer Positions 2 covering 4 subprojects.	<p>The Senior Engineer will be the executive head of the PIU and would be in charge of the day-to-day activities.</p> <p>Relevant general management tasks for the PIU will govern the functions of Senior Engineer.</p> <p><b>Operational</b></p> <ul style="list-style-type: none"> <li>(i) All approvals required to be taken from Project Director APRDC shall be routed through the Executive Engineer at HQ;</li> </ul>

Position	Job Description
	<ul style="list-style-type: none"> <li>(ii) Assist Project Director in preparation, or as necessary, amend existing procedures and guidelines for site supervision, quality control and disbursement including guidelines and detailed job descriptions for engineers, supervisors, accountants, etc.;</li> <li>(iii) In coordination with Project Manager develop annual Project work plans;</li> <li>(iv) Prepare implementation schedule and plan for work including implementation of works in relation to the resettlement plans;</li> <li>(v) Ensure complete payment and other resettlement assistants provided to the affected people prior to displacements (physical and economical) and starts of civil works in the affected areas;</li> <li>(vi) Prepare monthly, quarterly, mid-term and final progress reports; and</li> <li>(vii) Assist/coordinate in the preparation of final measurement and 'as built' drawings.</li> </ul> <p><b>Engineering</b></p> <ul style="list-style-type: none"> <li>(i) Review and update if necessary detailed designs, drawings, specifications, bills of quantities, cost estimates, tender documents and associated contract documentation for procurement of works and equipment in the Project under ICB, Shopping or NCB;</li> <li>(ii) Supervise, coordinate and monitor the work of the PMSCs and carry out periodic checks of works;</li> <li>(iii) Supervise, coordinate and monitor the work of the PMSC ensuring sound supervision and quality control during construction of sub-project components and any other technical matters;</li> <li>(iv) Overseeing all quality assurance and implementation activities under all the sub-projects; and</li> <li>(v) Review of bills and approval for review by Project Director and the accounts unit.</li> </ul> <p><b>Accounting</b></p> <ul style="list-style-type: none"> <li>(i) Monitor all billing and payments towards works and goods provided.</li> </ul>
2 Deputy Executive Engineer	<p>Responsible for all the Engineering, Monitoring, checking bills and quality control activities assign by the Senior Engineer.</p> <ul style="list-style-type: none"> <li>(i) Assist Project Manager/ Executive Engineer on all matters at site relating to road works; and</li> <li>(ii) Responsible for the Horizontal &amp; Vertical profile and quality of road work, level and quality of Bridge work and cross drainage structures.</li> </ul>
2 AEE Assistant Engineer for each EE	<ul style="list-style-type: none"> <li>(i) Supervision and coordination of Works</li> <li>(ii) Support final resettlement plan implementation and GRM disclosure;</li> <li>(iii) Support the GRM implementation, complaint record keeping and problem solving</li> </ul>

APRDC = Andhra Pradesh Road Development Corporation, GRM = grievance redress mechanism, ICB = international competitive bidding, NCB = national competitive bidding, PIU = project implementing unit, PMSC = project management and supervision consultant.

### 3. Project Implementation Unit - APTransco

Position	Job Description
Chief Engineer Construction (Project Manager)	<p>The Head of the PIU.</p> <p><b>Overall Management of the project:</b></p> <ul style="list-style-type: none"> <li>(i) Day-to-day administration of the project;</li> <li>(ii) Overall implementation of the project- conceptualization to completion;</li> <li>(iii) Provide necessary guidance for the Engineers in particular and the PIU staff in general on implementation of the Project, oversee project management by engineers;</li> <li>(iv) Manage all the issues of Project Implementation including the</li> </ul>

Position	Job Description
	<p>resettlement and land acquisition issues;</p> <p>(v) Reporting on project performance (monthly, quarterly midterm and final progress reports) to PMU; and</p> <p>(vi) Review and submission of Project accounts to ADB/ GoAP.</p> <p><b>Operational</b></p> <p>(i) In coordination with PMU develop annual Project work plans, staffing schedules and budgets;</p> <p>(ii) Coordinate with the PMU in establishing, testing and reviewing financial accounting and control systems; and</p> <p>(iii) ensuring accurate and timely report submissions and funds flow to the project.</p> <p><b>Procurement Related</b></p> <p>(i) Overall review and finalization of all procurement packages and coordinate the process for procurement of civil works and equipment.</p> <p><b>Engineering</b></p> <p>(i) Overall review of designs and estimates</p>
<p>Superintending Engineer Project Monitoring</p>	<p>Overall monitoring of project implementation by field units of APTransco.</p> <p><b>Operational</b></p> <p>(i) Assist Project Manager in preparation, or as necessary, amend existing procedures and guidelines for site supervision and quality control;</p> <p>(ii) In coordination with Implementation Units (Superintending Engineer offices) develop annual Project work plans;</p> <p>(iii) Prepare monthly, quarterly, mid-term and final progress reports (Physical and Financial); and</p> <p>(iv) Prepare inputs for monitoring progress in relation to Design and Monitoring Framework.</p> <p><b>Engineering</b></p> <p>(i) Overseeing all quality assurance and implementation activities under all the sub-projects; and</p> <p>(ii) Review progress of land transfers and associated resettlement implementation if any.</p> <p><b>Accounting</b></p> <p>(i) Monitor all billing and payments towards works and goods provided.</p>
<p>Project Coordinator PIU Head Office (Deputy Engineer (Under Chief Engineer Projects)</p>	<p>The Project Coordinator, at the head office will support the Chief Engineer Project and Head of PIU and Superintending Engineer Project Monitoring in on day-to-day activities. He will coordinate with field level implementation units who will implement the project.</p> <p><b>Operational</b></p> <p>(i) All approvals required to be taken from Project Manager shall be routed through the project Coordinator;</p> <p>(ii) Assist Project Manager/ Superintending Engineer (project management) in preparation, or as necessary, amend existing procedures and guidelines for site supervision, quality control and disbursement including guidelines and detailed job descriptions for engineers, supervisors, accountants, etc.;</p> <p>(iii) In coordination with Superintending Engineer-Project Manager, develop annual Project work plans;</p> <p>(iv) In coordination with Superintending Engineer-Project Manager Prepare monthly, quarterly, mid-term and final progress reports; and</p> <p>(v) Assist/coordinate preparation of final measurement and 'as built' drawings.</p> <p><b>Engineering</b></p> <p>(i) On behalf of Project Director and support from field offices, oversee preparation and finalization, feasibility, detailed designs, drawings, specifications, bills of quantities, cost estimates, tender documents and</p>

Position	Job Description
	<p>associated contract documentation for procurement of works and equipment in the Project under ICB, NCB or Shopping; and</p> <p>(ii) Review of bills and approval for review by Project Manager and the accounts unit.</p> <p><b>Procurement Related</b></p> <p>(i) Based on standard bidding documents for the project, prepare guidelines for evaluation of bids of contractors/suppliers including their post-qualification wherever necessary; and</p> <p>(ii) The Engineer with support from circle office, manage the bidding process IFB, evaluation and award.</p> <p><b>Accounting</b></p> <p>(i) Monitor all billing and payments towards works and goods provided</p>
<b>Accountant</b>	<p>(i) Responsible for Maintenance of accounts and records with respect to the project;</p> <p>(ii) He/she will assist the project director for preparing financial forecast for the year and each quarter;</p> <p>(iii) Assist the Nodal Officer/ Project Officers in preparation of budget;</p> <p>(iv) Consolidate the accounts from different units of the project;</p> <p>(v) Assist the Project Manager in getting the account audited;</p> <p>(vi) Prepare the disbursement claims;</p> <p>(vii) Classify the expenditure and will maintain the account manually and using appropriate software;</p> <p>(viii) Ensure timely disbursement of payments and writing of cash books and other records of account;</p> <p>(ix) Prepare the financial statements and bank reconciliation statement;</p> <p>(x) Generate financial information, as required; and</p> <p>(xi) Any other function assigned by the Project Manager.</p>
<b>Safeguards Manager (Social and Gender)</b>	<p>The role is to implement the policies and operational procedures of Resettlement Framework and Indigenous People Plan, and requirements under the Gender Equity and Social Inclusion Plan (GESI). The Safeguards Manager will:</p> <p>(i) update resettlement plans in accordance with VCICDP resettlement framework, ADB's Safeguards Policy Statement (SPS, 2009) based on final detailed designs with supports from PMSC and/or turnkey contractors;</p> <p>(ii) submit the final resettlement plans to PMU to be submitted to ADB for review, final approval, and disclosure prior to award of contract;</p> <p>(iii) implement resettlement activities through resettlement plan implementation support agency (NGO), line departments and revenue officials;</p> <p>(iv) prepare and review individual entitlement plans/micro plans or implementing resettlement plan and submit for approval;</p> <p>(v) identify suitable land for the resettlement/relocation area in coordination with District administration and initiate transfer/acquisition process, after receiving endorsement for the physically displaced persons;</p> <p>(vi) supervise the RP implementation support NGO/agency involved in RP implementation;</p> <p>(vii) assist in disbursement of compensation and resettlement assistances;</p> <p>(viii) hold periodical and meaningful consultations with the affected people on implementation of Loan Agreement and resettlement activities;</p> <p>(ix) prepare monthly resettlement plan implementation, physical, and financial progress reports;</p> <p>(x) lead the GRM implementation and record keeping at the project/district/PIU level;</p>

Position	Job Description
	<p>(xi) update payment of compensation, disbursement of resettlement assistances, affected persons socio-economic data in the database;</p> <p>(xii) verify claims for inclusion as affected persons and submit report to PMU for decision;</p> <p>(xiii) prepare and implement any corrective action plan, when required, consistent with the frameworks requirements;</p> <p>(xiv) assist in preparing gender sensitization workshop modules and IEC materials; and</p> <p>(xv) participate in consultation meetings on gender components.</p> <p>The safeguards manager will enlist the support of the PMU social safeguards and gender officer for any inter-departmental coordination required, especially in cases where APTransco is developing infrastructure on land transferred by APIIC/other government departments.</p>

ADB = Asian Development Bank, APRDC = Andhra Pradesh Road Development Corporation, APTransco = Transmission Corporation of Andhra Pradesh, CAP = corrective action plan, GoAP = Government of Andhra Pradesh, GRM = grievance redress mechanism, ICB = international competitive bidding, IEC = information, education, communication, NCB = national competitive bidding, PIU = project implementing unit, PMU = project management unit, VCIC = Visakhapatnam–Chennai Industrial Corridor, VCICDP = Visakhapatnam–Chennai Industrial Corridor Development Program.

#### 4. Field Level Units

2. Given the isolated locations of the proposed sub projects, the sub projects are under different Superintending Engineers, APTransco will implement the Five no's of 220 KV and 4 no's of 132 kV subprojects through respective circle offices and special projects cell for executing 1 no 400 KV substation. The primary reason being availability of qualified and experienced staff at each location and the fact that AP Transco is comfortable with this option. As on date AP Transco has a separate implementation unit for 400 KV sub projects for the state as a whole.

Position	Job Description
Superintending Engineer	<p>The Project Manager, at the sub project location will be responsible for day to implementation.</p> <p>Relevant general management tasks for the PIU will govern the functions of Senior Engineer.</p> <p><b>Operational</b></p> <p>(i) All approvals required to be taken from Project Manager shall be routed through the Sr. Project Manager;</p> <p>(ii) Assist Project Manager in preparation, or as necessary, amend existing procedures and guidelines for site supervision, quality control and disbursement including guidelines and detailed job descriptions for engineers, supervisors, accountants, etc.;</p> <p>(iii) In coordination with develop annual Project work plans;</p> <p>(iv) Coordinate overall project implementation;</p> <p>(v) Prepare monthly, quarterly, mid-term and final progress reports;</p> <p>(vi) Coordinate preparation of final measurement and 'as built' drawings;</p> <p>(vii) Lead Supervision of work of the PMSC's and periodic check of works;</p> <p>(viii) Oversee quality control during construction of sub-project components and any other technical matters; and</p> <p>(ix) Review of bills and approval for review by Project Director and the accounts unit.</p> <p><b>Accounting</b></p>

Position	Job Description
	(i) Monitor all billing and payments towards works and goods provided
Senior Engineer Cum Compliance Officer (DE Level)	<p>The Engineers whose task are:</p> <p><b>Engineering Supervision</b></p> <ul style="list-style-type: none"> <li>(i) Site supervision;</li> <li>(ii) Quality assurance and on recording the measurements;</li> <li>(iii) Review the Measurements and advise accordingly to the Senior Engineer on works;</li> <li>(iv) Assist the Senior Engineer in all activities related to technical reviews and commissioning of works, including variation orders;</li> <li>(v) Review progress on payments to contractors/ suppliers;</li> <li>(vi) Prepare monthly, quarterly, mid-term and final progress reports; and</li> <li>(vii) Assist/Coordinate preparation of final measurement and 'as built' drawings.</li> </ul> <p><b>Environmental/Social Safeguards</b></p> <ul style="list-style-type: none"> <li>(i) Ensure complete payment and other resettlement assistants provided to the affected people prior to displacements (physical and economical) and starts of civil works in the affected areas;</li> <li>(ii) Coordinate with Safeguard Manager of PMU and ensure all social/environmental requirements if any are met.</li> </ul> <p><b>Quality Control and Check Measurements</b></p> <ul style="list-style-type: none"> <li>(i) Will be responsible for quantity surveys and check measurements.</li> </ul>
Assistant Engineer/ADE	<p>Responsible for Monitoring, checking bills and quality control activities assign by the Senior Engineer.</p> <ul style="list-style-type: none"> <li>(i) Assist Project Manager/ Resident Engineer and Assistant Resident Engineer on all matters at site relating to all civil and electrical works.</li> <li>(ii) Support final resettlement plan implementation and GRM disclosure;</li> <li>(iii) Support the GRM implementation, complaint record keeping and problem solving</li> </ul>
Quantity Surveyor and Draughtsman	<ul style="list-style-type: none"> <li>(i) Measure quantities of work, record measurements and verify BoQ items/ work quantities executed in the contractors monthly statement;</li> <li>(ii) Verify and examine interim payment certificates received from contractors;</li> <li>(iii) Prepare variation statement for Resident Engineer /Project Manager;</li> <li>(iv) Maintain permanent records of all measurement for the work quantities;</li> <li>(v) Assist Project Manager/ Resident Engineer in preparing monthly reports and Financial Statements;</li> <li>(vi) Make online entries in the MIS system of the Employer; and</li> <li>(vii) Responsible for correctness, accuracy of measurement and quantity of works recorded.</li> </ul>
Accounts Assistant	<ul style="list-style-type: none"> <li>(i) Based on interactions with Accountant at the head office, support in preparation of accounts and vouchers for processing;</li> <li>(ii) Responsible for Maintenance of accounts and records with respect to the sub project;</li> <li>(iii) Assist the Superintending Engineer in getting the account audited;</li> <li>(iv) Prepare disbursement claims;</li> <li>(v) Classify expenditure and maintain the account manually using appropriate software;</li> <li>(vi) Ensure timely disbursement of payments and writing of cash-books and other records of account;</li> <li>(vii) Prepare financial statements and bank reconciliation statement;</li> <li>(viii) Generate financial information as required; and</li> <li>(ix) Any other function assigned by the Project Manager.</li> </ul>

GRM = grievance redress mechanism, MIS = management information system, PIU = project implementing unit, PMSC = project management and supervision consultant, PMU = project management unit.

**5. Project Implementation Unit - APIIC**

3. An exclusive unit will be created to manage the project at the head office of APIIC and at the field level the implementation will be carried out by the respective zonal managers and his support staff. The PMSC would perform supervision and support zonal office in matters of design, procurement and reporting.

<b>Position</b>	<b>Job Description</b>
Project Manager	<p>The Head of the PIU</p> <p><b>Overall Management of the project:</b></p> <ul style="list-style-type: none"> <li>(i) Day-to-day administration of the project;</li> <li>(ii) Overall implementation of the project- conceptualization to completion;</li> <li>(iii) Coordination of additional DPRs being prepared under the project by the consultants;</li> <li>(iv) Provide necessary guidance for the engineers in particular and the PIU staff in general on implementation of the Project, oversee project management by engineers;</li> <li>(v) Effectively supervise all the issues of project implementation including the resettlement, land acquisition, coordination with other agencies;</li> <li>(vi) Reporting on project performance (Prepare monthly, quarterly midterm and final progress reports); and</li> <li>(vii) Prepare Project accounts and submit timely statements.</li> </ul> <p><b>Operational</b></p> <ul style="list-style-type: none"> <li>(i) In coordination with PMU develop annual project work plans, staffing schedules and budgets; and</li> <li>(ii) Coordinate with the in establishing, testing and reviewing financial accounting and control systems and ensuring accurate and timely report submissions and funds flow to the project.</li> </ul> <p><b>Procurement Related</b></p> <ul style="list-style-type: none"> <li>(i) Finalize all procurement packages and coordinate the procurement process.</li> </ul> <p><b>Engineering</b></p> <ul style="list-style-type: none"> <li>(i) Oversee detailed designs, drawings, specifications, bills of quantities, cost estimates, tender documents and associated contract documentation for procurement of works and equipment in the Project under ICB, Shopping or NCB.</li> </ul>
Deputy Project Manager	<p>The Senior Engineer will be the executive head of the PIU and would be in charge of the day-to-day activities.</p> <p><b>Operational</b></p> <ul style="list-style-type: none"> <li>(i) All approvals required to be taken from Project Manager shall be routed through the Senior Engineer;</li> <li>(ii) Assist Project Manager in preparation, or as necessary, amend existing procedures and guidelines for site supervision, quality control and disbursement including guidelines and detailed job descriptions for engineers, supervisors, accountants, etc.;</li> <li>(iii) Coordinate with Project Manager and develop annual project work plans;</li> <li>(iv) Coordinate overall project design and implementation schedule;</li> <li>(v) Coordinate with field units on shifting of utilities and in the implementation of resettlement plan;</li> <li>(vi) Prepare monthly, quarterly, mid-term and final progress reports; and</li> <li>(vii) Assist / Coordinate preparation of final measurement and 'as built' drawings.</li> </ul> <p><b>Engineering</b></p> <ul style="list-style-type: none"> <li>(i) Oversee preparation and finalization, feasibility, detailed designs, drawings, specifications, bills of quantities, cost estimates, tender documents and associated contract documentation for procurement of works and equipment in the Project under ICB, Shopping or NCB;</li> </ul>

Position	Job Description
	(ii) Overseeing all quality assurance and implementation activities under all the sub-project; and (iii) Review of bills by Project Manager and approval for payments to be made by Zonal Offices. <b>Accounting</b> (i) Monitor all billing and payments towards works and goods provided.
Procurement Engineer	In consultation with the Project and Zonal Managers, coordinate all procurement activities from preparation to award and monitoring of progress on all issues related to contract. (i) Based on standard bidding documents for the project, prepare guidelines for evaluation of bids of contractors/suppliers including their post-qualification wherever necessary; and (ii) The Engineer will assist the PIU in all activities of bidding (Issue of bidding document, bid evaluation, finalize contract agreement, approvals from PMU/ADB and award.
Senior Engineer Cum Compliance Officer	The Tasks: <b>Design</b> (i) Review of design and bid documents; and (ii) Assist PIU in requisite approvals from authorities including shifting of utilities. <b>Supervision</b> (i) Site supervision; (ii) Quality assurance and measurements; (iii) Reviewing measurements and advising Senior Engineer/Zonal Manager on payments; (iv) Assisting Senior Engineer in all activities related to technical and procurement issues from evaluation to commissioning of works, including variation orders; (v) Reviewing progress on payments to contractors/suppliers; (vi) Preparing monthly, quarterly, mid-term and final progress reports; and (vii) Assisting / Coordinating preparation of final measurement and 'as built' drawings. <b>Environmental/Social Safeguards</b> (i) Coordinate with Safeguard Manager and ensure all social/environmental requirements are met. <b>Quality Control and Check Measurements</b> (i) Will be responsible for quantity surveys and check measurements.
Environmental Engineer (Not exclusive to this project)	<b>Environmental Safeguards</b> (i) include IEEs/EMPs in bidding documents and civil works contracts; (ii) review and approve SEMP prepared by contractors; (iii) oversee day-to-day implementation of SEMP by contractors including compliance with all government rules and regulations; (iv) take necessary action for obtaining rights of way; (v) oversee environmental monitoring by contractors; (vi) take corrective actions when necessary; (vii) submit monthly environmental monitoring reports to PMU; (viii) conduct continuous public outreach and awareness building related to environmental management; (ix) address grievances brought about through the GRM in a timely manner; and (x) organize an induction course for the training of contractors in environmental management to be delivered by PMSC consultants.
Safeguards Manager (Social and Gender)	The role is to implement the policies and operational procedures of Resettlement Framework and Indigenous People Plan, and requirements under the Gender Equity and Social Inclusion Plan (GESI). The Safeguards Manager will: (i) update resettlement plans in accordance with VCICDP resettlement

Position	Job Description
	<p>framework, ADB's Safeguards Policy Statement (SPS, 2009) based on final detailed designs with supports from PMSC and/or turnkey contractors;</p> <p>(ii) submit the final resettlement plans to PMU to be submitted to ADB for review, final approval, and disclosure prior to award of contract;</p> <p>(iii) implement resettlement activities through resettlement plan implementation support agency (NGO), line departments and revenue officials;</p> <p>(iv) prepare and review individual entitlement plans/micro plans or implementing RP and submit for approval;</p> <p>(v) identify suitable land for the resettlement/relocation area in coordination with District administration and initiate transfer/acquisition process, after receiving endorsement for the physically displaced persons;</p> <p>(vi) supervise the resettlement plan implementation support NGO/agency involved in resettlement plan implementation;</p> <p>(vii) assist in disbursement of compensation and resettlement assistances;</p> <p>(viii) hold periodical and meaningful consultations with the affected people on implementation of Loan Agreement and resettlement activities;</p> <p>(ix) prepare monthly resettlement plan implementation, physical, and financial progress reports;</p> <p>(x) lead the GRM implementation and record keeping at the project/district/PIU level;</p> <p>(xi) update payment of compensation, disbursement of resettlement assistances, affected persons socio-economic data in the database;</p> <p>(xii) verify claims for inclusion as affected persons and submit report to PMU for decision;</p> <p>(xiii) prepare and implement any corrective action plans, when required, consistent with the frameworks requirements;</p> <p>(xiv) prepare and implement any corrective action plan, when required, consistent with the frameworks requirements;</p> <p>(xv) liaise with PMU, engineering team, PMSC and line departments for implementation of gender responsive design features;</p> <p>(xvi) assist in preparing gender sensitization workshop modules and IEC materials;</p> <p>(xvii) participate in consultation meetings on gender components;</p> <p>(xviii) prepare quarterly and bi-annual reports on progress of GESI Action Plan in the industries sector</p> <p>(xix) supervise implementation of gender responsive design features; and</p> <p>(xx) prepare and implement corrective measures as required, to make GESI action plan effective.</p>

ADB = Asian Development Bank, DPR = detailed project report, EMP = environmental management plan, GRM = grievance redress mechanism, ICB = international competitive bidding, IEC = information, education, communication, IEE = initial environmental examination, NCB = national competitive bidding, PIU = project implementing unit, PMSC = project management and supervision consultant, PMU = project management unit, SEMP = site-specific environmental management plan.

## 6. Zonal Offices Visakhapatnam and Nellore (Naidupeta)

4. The management will be through the existing system with support from PMSC.

Position	Job Description
<b>Deputy Project Manager (Zonal Manager of APIIC)</b>	<p>The ZM shall be the executive head of the zonal PIU and would be in charge of the day-to-day activities. Relevant general management tasks for the PIU will govern the functions of Senior Engineer.</p> <p><b>Operational</b></p> <p>(i) Preparing work plan and implementation plans;</p> <p>(ii) Finalizing schedule of shifting of utilities;</p>

Position	Job Description
	<ul style="list-style-type: none"> <li>(iii) Coordinating implementation of RP and ensure complete compensation and other resettlement assistance provided to the affected people prior to the physical and economical displacement prior to the starts of civil works;</li> <li>(iv) Overseeing supervision of works;</li> <li>(v) Preparing monthly, quarterly, mid-term and final progress reports; and</li> <li>(vi) Assisting / Coordinating preparation of final measurement and 'as built' drawings;</li> <li>(vii) Overseeing all quality assurance and implementation activities under all the sub-project;</li> <li>(viii) Reviewing of bills and approval for review by Project Manager and the accounts unit; and</li> <li>(ix) Coordinating procurement with Procurement engineer at the head office</li> </ul> <p><b>Accounting</b></p> <ul style="list-style-type: none"> <li>(i) Monitor all billing and payments towards works and goods provided.</li> </ul>
<b>Deputy Executive Engineer</b>	<ul style="list-style-type: none"> <li>(i) Supporting Zonal Manager in project implementation;</li> <li>(ii) Overseeing works, PMC especially on supervision requirements;</li> <li>(iii) Reviewing BoQ items and quantity with drawings and point out the discrepancies/ variations, if any, to Resident Engineer/ Senior Engineer;</li> <li>(iv) Measuring quantities of work, recording measurements and verifying BoQ items / Work quantities executed in the contractors monthly statement;</li> <li>(v) Verifying and examining interim payment certificates received from contractors;</li> <li>(vi) Preparing variation statement for Resident Engineer / Project Manager;</li> <li>(vii) Maintaining a permanent record of all measurement for the work quantities;</li> <li>(viii) Assisting Project Manager / Resident Engineer in preparing the monthly reports and Financial Statements;</li> <li>(ix) Making online entries in the MIS system of the Employer; and</li> <li>(x) Responsible for correctness, accuracy of measurement and quantity of works recorded.</li> </ul>
<b>Assistant Executive Engineer Water and Roads (2)</b>	<p>Responsible for all the Engineering, Monitoring, checking bills and quality control activities assign by the Senior Engineer.</p> <ul style="list-style-type: none"> <li>(i) Assisting Project Manager / Resident Engineer and Assistant Resident Engineer on all matters at site relating to road works;</li> <li>(ii) Responsible for the Horizontal &amp; Vertical profile and quality of road work, level and quality of Bridge work and cross drainage structures;</li> <li>(iii) Responsible for all the Engineering, Monitoring, checking bills and quality control activities assign by the Senior Engineer; and</li> <li>(iv) Assisting Project Manager / Resident Engineer and Assistant Resident Engineer on all matters at site relating to Water/ Waste water works.</li> </ul>
<b>Accountant</b>	<ul style="list-style-type: none"> <li>(i) Responsible for Maintenance of accounts and records with respect to the project;</li> <li>(ii) He/ she will assist the project director for preparing financial forecast for the year and each quarter;</li> <li>(iii) Assist the Nodal Officer/ Project Officers in preparation of budget;</li> <li>(iv) Consolidating the accounts from different units of the project;</li> <li>(v) Assisting the Project Manager in getting the account audited;</li> <li>(vi) Preparing the disbursement claims;</li> <li>(vii) Classifying the expenditure and will maintain the account manually and using appropriate software;</li> <li>(viii) Ensuring timely disbursement of payments and writing of cash books and other records of account;</li> <li>(ix) Preparing the financial statements and bank reconciliation statement;</li> <li>(x) Generating financial information as required; and</li> <li>(xi) Any other function assigned by the Project Manager.</li> </ul>

BoQ = Bill of Quantity, PIU = project implementing unit, PMSC = project management and supervision consultant, PMU = project management unit, SEMP = site-specific environmental management plan.

## 7. Project Implementation Unit – Greater Visakhapatnam Municipal Corporation (GVMC)

Position	Job Description
Project Manager SE Additional Charge	<p>The Superintending Engineer will be the head of the PIU and would be in charge of the day-to-day activities.</p> <ul style="list-style-type: none"> <li>(i) All approvals required to be taken from Commissioner/ Chief Engineer GVMC shall be routed through the Superintending Engineer;</li> <li>(ii) Assisting GVMC in preparation, or as necessary, amend existing procedures and guidelines for site supervision, quality control and disbursement including guidelines and detailed job descriptions for engineers, supervisors, accountants, etc.;</li> <li>(iii) Coordinating with the Chief Engineer GVMC in developing annual Project work plans;</li> <li>(iv) Coordinating overall project design and implementation schedule;</li> <li>(v) Coordinating with Executive Engineer on shifting of utilities and in the implementation of resettlement plan;</li> <li>(vi) Preparing monthly, quarterly, mid-term and final progress reports;</li> <li>(vii) Assisting / Coordinating preparation of final measurement and 'as built' drawings;</li> <li>(viii) Overseeing DPR's in preparation and finalization, feasibility, detailed designs, drawings, specifications, bills of quantities, cost estimates for future projects;</li> <li>(ix) Preparing tender documents and associated contract documentation for procurement of works and equipment in the Project under ICB, Shopping or NCB;</li> <li>(x) Overseeing all quality assurance and implementation activities under all the sub-project; and</li> <li>(xi) Reviewing of bills and approval for payments.</li> </ul> <p><b>Accounting</b></p> <ul style="list-style-type: none"> <li>(i) Monitoring all billing and payments towards works and goods provided</li> </ul>
Executive Engineer and Deputy Project Manager PIU	<p>The Superintending Engineer will be the executive head of the PIU and would be in charge of the day-to-day activities.</p> <p><b>Operational</b></p> <ul style="list-style-type: none"> <li>(i) All approvals required to be taken from GVMC shall be routed by the Executive Engineer to the Superintending Engineer;</li> <li>(ii) Assisting Superintending Engineer in preparation, or as necessary, amend existing procedures and guidelines for site supervision, quality control and disbursement including guidelines and detailed job descriptions for engineers, supervisors, accountants, etc.;</li> <li>(iii) Assisting Superintending Engineer in procurement- IFB, Evaluation, award and contract monitoring;</li> <li>(iv) In coordination with the Superintending Engineer develop annual Project work plans;</li> <li>(v) Coordinating overall project design and implementation schedule;</li> <li>(vi) Coordinating with field units on shifting of utilities and in the implementation of resettlement plan;</li> <li>(vii) Preparing monthly, quarterly, mid-term and final progress reports;</li> <li>(viii) Assisting/coordinating preparation of final measurement and 'as built' drawings;</li> <li>(ix) Overseeing DPR in preparation and finalization, feasibility, detailed designs, drawings, specifications, bills of quantities, cost estimates, tender documents and associated contract documentation for procurement of works and</li> </ul>

Position	Job Description
	<p>equipment in the Project under ICB, Shopping or NCB;</p> <p>(x) Overseeing all quality assurance and implementation activities under all the subproject ; and</p> <p>(xi) Reviewing of bills by Project Manager and approval for payments to be made by Zonal Offices.</p> <p><b>Accounting</b></p> <p>(i) Monitoring all billing and payments towards works and goods provided.</p>
<p><b>Deputy Engineer Cum Compliance Officer</b></p>	<p><b>Engineering Preparation</b></p> <p>(i) Carrying out feasibility and designs work and coordinating with consultants</p> <p><b>Design</b></p> <p>(i) Reviewing of design and bid documents;</p> <p>(ii) Assisting PIU in requisite approvals from authorities; and</p> <p>(iii) Overseeing the process of closure of procurement of goods and works.</p> <p><b>Supervision</b></p> <p>(i) Site supervision;</p> <p>(ii) Quality assurance and on recording the measurements;</p> <p>(iii) Reviewing the measurements and advise accordingly to the Senior Engineer;</p> <p>(iv) Assisting the Senior Engineer in all activities related to technical and procurement issues from evaluation to commissioning of works, including variation orders;</p> <p>(v) Reviewing progress on payments to contractors/suppliers;</p> <p>(vi) Preparing monthly, quarterly, mid-term and final progress reports; and</p> <p>(vii) Assisting/coordinating preparation of final measurement and 'as built' drawings.</p> <p><b>Environmental/Social Safeguards</b></p> <p>(i) Coordinate with Safeguard Manager and ensure all social/environmental requirements are met.</p> <p><b>Quality Control and Check Measurements</b></p> <p>(i) Responsibility for quantity surveys and checking measurements..</p>
<p><b>Deputy Engineer Procurement</b></p>	<p><b>In consultation with Deputy Project Manager manage procurement activities:</b></p> <p>(i) Based on standard bidding documents for the project, preparing guidelines for evaluation of bids of contractors/suppliers including their post-qualification wherever necessary;</p> <p>(ii) Leading all activities of bidding (Issue of bidding document, bid evaluation, finalize contract agreement etc.);</p> <p>(iii) Assisting PIU in the procurement process from evaluation to award; and</p> <p>(iv) Managing contract performance.</p>
<p><b>Assistant Engineer Water (2) One for Raiwada and another for 24x7 and Anakapalle</b></p>	<p>(i) Responsible for all the Engineering, Monitoring, checking bills and quality control activities assign by the Senior Engineer.; and</p> <p>(ii) Assisting Project Manager/ Resident Engineer and Assistant Resident Engineer on all matters at site relating to Water/ Waste water works.</p>
<p><b>Environmental Engineer</b></p>	<p><b>Environmental Safeguards</b></p> <p>(i) include IEEs/EMPs in bidding documents and civil works contracts;</p> <p>(ii) review and approve SEMP's prepared by contractors;</p> <p>(iii) oversee day-to-day implementation of SEMP's by contractors including compliance with all government rules and regulations;</p> <p>(iv) take necessary action for obtaining rights of way;</p> <p>(v) oversee environmental monitoring by contractors;</p> <p>(vi) take corrective actions when necessary;</p> <p>(vii) submit monthly environmental monitoring reports to PMU;</p> <p>(viii) conduct continuous public outreach and awareness building related to</p>

Position	Job Description
	environmental management; (ix) address grievances brought about through the GRM in a timely manner; and (x) organize an induction course for the training of contractors in environmental management to be delivered by PMSC consultants
<b>Quantity Surveyor and Draughtsman</b>	(i) Review BoQ items and quantity with drawings and point out the discrepancies/variations, if any, to Resident Engineer/Senior Engineer ; (ii) Measuring quantities of work, record measurements and verify BoQ items/ work quantities executed in the contractors monthly statement; (iii) Verifying and examine interim payment certificates received from contractors; (iv) Preparing variation statement for Resident Engineer/ Project Manager; (v) Maintaining a permanent record of all measurement for the work quantities; (vi) Assisting Project Manager / Resident Engineer in preparing the monthly reports and Financial Statements; (vii) Making online entries in the MIS system of the Employer; and (viii) Responsible for correctness, accuracy of measurement and quantity of works recorded.
<b>Accountant</b>	(i) Responsible for Maintenance of accounts and records with respect to the project; (ii) Assisting the project director for preparing financial forecast for the year and each quarter; (iii) Assisting the Nodal Officer/ Project Officers in preparation of budget; (iv) Consolidating the accounts from different units of the project; (v) Assisting the Project Manager in getting the account audited; (vi) Preparing the disbursement claims; (vii) Classifying the expenditure and will maintain the account manually and using appropriate software; (viii) Ensuring timely disbursement of payments and writing of cash books and other records of account; (ix) Preparing the financial statements and bank reconciliation statement; (x) Generating financial information as required; and (xi) Any other function assigned by the Project Manager.
<b>Safeguards Manager (Social and Gender)</b>	The role is to implement the policies and operational procedures of Resettlement Framework and Indigenous People Plan, and requirements under the Gender Equity and Social Inclusion Plan (GESI). The Safeguards Manager will: <ul style="list-style-type: none"> <li>(i) update resettlement plans in accordance with VCICDP resettlement framework, ADB's Safeguards Policy Statement (SPS, 2009) based on final detailed designs with supports from PMSC and/or turnkey contractors;</li> <li>(ii) submit the final resettlement plans to PMU to be submitted to ADB for review, final approval, and disclosure prior to award of contract;</li> <li>(iii) implement resettlement activities through resettlement plan implementation support agency (NGO), line departments and revenue officials;</li> <li>(iv) prepare and review individual entitlement plans/micro plans or implementing resettlement plan and submit for approval;</li> <li>(v) identify suitable land for the resettlement/relocation area in coordination with District administration and initiate transfer/acquisition process, after receiving endorsement for the physically displaced persons;</li> <li>(vi) supervise the resettlement plan implementation support NGO/agency involved in resettlement implementation;</li> <li>(vii) assist in disbursement of compensation and resettlement assistances;</li> <li>(viii) hold periodical and meaningful consultations with the affected people on (including women APs whose livelihoods are permanently affected) implementation of Loan Agreement and resettlement activities;</li> <li>(ix) prepare monthly resettlement plan implementation, physical, and financial</li> </ul>

Position	Job Description
	<p>progress reports;</p> <ul style="list-style-type: none"> <li>(x) lead the GRM implementation and record keeping at the project/district/PIU level;</li> <li>(xi) update payment of compensation, disbursement of resettlement assistances, affected persons socio-economic data in the database;</li> <li>(xii) verify claims for inclusion as affected persons and submit report to PMU for decision;</li> <li>(xiii) prepare and implement any CAP, when required, consistent with the frameworks requirements;</li> <li>(xiv) prepare and implement any CAP, when required, consistent with the frameworks requirements;</li> <li>(xv) liaise with PMU, engineering team, PMSC for implementation of GESI action plan;</li> <li>(xvi) assist in preparing gender sensitization workshop modules and IEC materials;</li> <li>(xvii) design and supervise necessary surveys, meetings and consultations with low income groups and poor, women-headed households to determine affordable tariffs for inclusion in project benefits of all households in project coverage area;</li> <li>(xviii) participate in consultation meetings on gender components;</li> <li>(xix) prepare quarterly and bi-annual reports on progress of GESI action plan; and</li> <li>(xx) prepare and implement corrective measures as required, to make GESI action plan effective.</li> </ul>

ADB = Asian Development Bank, CAP = corrective action plan, DPR = detailed project report, EMP = environmental management plan, ICB = international competitive bidding, IEE = initial environmental examination, IFB = invitation for bids, NCB = national competitive bidding, NGO = nongovernment organization, PIU = project implementing unit, PMSC = project management and supervision consultant, PMU = project management unit, SEMP = site-specific environmental management plan, VCIC = Visakhapatnam–Chennai Industrial Corridor, VCICDP = Visakhapatnam–Chennai Industrial Corridor Development Program.

## APPENDIX 9: DISBURSEMENT STATEMENT

### ASIAN DEVELOPMENT BANK WORKSHEET FOR QUARTERLY AND YEARLY CONTRACT AWARDS/ COMMITMENTS AND DISBURSEMENT PROJECTIONS (QP-01/20\_\_)

#### I. INTRODUCTION

- A. This worksheet was developed as a result of the Bank's efforts to make more accurate the assessment of the liquid funds required to be held by the Bank during each year for making disbursements against ADB-financed Loans. This worksheet is provided to enable the Regional and Resident Offices, and the Project Divisions to develop realistic quarterly projections of their contract awards/commitments and disbursements.

#### II. COMPLETING THE WORKSHEET

- B. Each Regional and Resident Mission and each Project Division administering projects is requested to observe the following instructions in completing the worksheet:
1. PROJECT: Official name of the project.
  2. LOAN/GRANT NO.: ADB assigned Loan Number; SEGMENT NO.: ADB assigned Loan Segment Number, if any; FUNDS: OCR, SF, etc.; COUNTRY: Abbreviated ADB acronym of the Borrowing Country.
  3. PROJECTION MADE IN: Month and Year in which projections are prepared.
  4. "LINE" COLUMN: To be numbered in sequence for easy identification purposes.
  5. "CATEGORY" COLUMN: Indicate the Category of Expenditure in accordance with the Allocation of Loan Proceeds as defined in the Loan Documents.  
  
"CONTRACT/COMMITMENT ITEM" COLUMN: Indicate the Contract/Commitment Item that corresponds to each Category. Indicate in detail each contract or bid package (or more detailed breakdowns if found useful) awarded prior to the preparation of this worksheet, or which will be awarded/committed during the projection year, under each Category of Allocation of Loan Proceeds.
  7. "MONTH CONTRACT AWARDED/COMMITTED OR TO BE AWARDED/COMMITTED - CONTRACT VALUE/COMMITMENT" COLUMN: Indicate either the actual (QA) or projected

(QP) month of award of contract/commitment and the actual/estimated value of each contract/commitment eligible for Bank financing listed in the "Contract/Commitment Item" Column. In the upper portion of the blank space write (QA) and the date on which the contract/commitment was awarded/committed. When the Project Division anticipates that a contract/commitment will be awarded/committed in future quarters of the projection year; indicate (QP) and the month in the blank space under the quarter in which the contract/commitment is scheduled to be awarded/committed. In the lower portion (double box), indicate the value of contract/commitment already awarded/committed (QA) or to be awarded/committed (QP) for each contract/commitment listed. Where the exact contract value/commitment is an estimate, you may supply (as an attachment) a list of the particular items included in the contract/commitment with cost estimate for each item., In the case where a contract/commitment has been awarded/ committed in previous years, but full or partial delivery is expected during the projection year, list Executing Agency's and/or ADB assigned Contract Number/Commitment and title in the "Contract/Commitment Item" Column, as well as the contract award/commitment date, the contract/commitment value in the "Contracts Awarded on Previous Year(s)" Column and the contract/commitment value (QP) available for Disbursement. Where the Executing Agency anticipates procurement through International Shopping (IS) procedure, list the procurement in the appropriate "Category" and "Contract/Commitment Items Columns as IS. In such a case, the Executing Agency should furnish a list of all items to be procured through IS with the estimated cost of each item as an attachment. While it may be difficult to determine or project an accurate date of award of contracts/commitments for IS items, it is **essential to work out a realistic time schedule for the award of such contracts (BASED ON CONTRACT SIGNING DATE)/ commitment as well as the estimated schedule and amounts of disbursements relevant to such contracts/commitments.**

8. "DISBURSEMENT AMOUNT RELATED TO THE CONTRACT/ COMMITMENT" COLUMN: Indicate the disbursement amount projected (QP) to take place for each contract/commitment listed in the "Contract/Commitment Item" Column during the applicable quarters of the projection year. The commercial portion of existing contracts/commitments should be referred to define the commercial

payment terms of each contract. Where the Executing Agency is projecting to award contracts or to approve commitments during the projection year, for which payment terms or delivery time are unknown, make assumptions in the projections (QP) of disbursements in each quarter of the projection year. **Interests During Construction (IDC), if any, should also be included in the Disbursement Projections.**

9. "TOTAL" COLUMNS: Summarize the entire yearly projected contract awards value/commitments and disbursement amount under each Contract/Commitment Item. Total all the projections of contract awards/commitments and disbursements for each Contract/Commitment Item for the four quarters of the projection year. Total for the projection year is the summation of Quarterly Actuals (QA) plus Quarterly Projected (QP). Yearly: (YP) = (QA) (QP).
10. "TOTAL OF THIS PAGE\_OF\_PAGES" LINE: It is devised to help in carrying on the totals horizontally and vertically computed from one page to the following page; the totals will be reported in the "Totals from Previous Page \_\_\_ of \_\_\_Pages" line of the subsequent page.

#### III. NOTES

- C. The Regional and Resident Missions and the Sector Divisions may distribute this form, which is printed and distributed in September of each year, to Executing Agencies and request them to provide the information in yearly and quarterly breakdowns of projections **IN TIME TO MAKE IT POSSIBLE TO REACH COPP/COSO AT THE ADB HEADQUARTERS; NOT LATER THAN THE 10TH OF JANUARY OF THE PROJECTION YEAR.**
- D. When this form QP-01120 is used to project Commitments (in lieu of Contract Awards) for credit lines of DFI Loans and of Non-DFI Loan Credit Segments, please use the "Contract Awards Commitments" columns and cross the box on the top right hand corner in the front of this form.



# Worksheet for Quarterly & Yearly Contract Awards/Commitments & Disbursement Projections (\$ Million)

Asian Development Bank

(Important: Before completing this form, please read carefully the instructions printed at the back of this form. Refer to PAI Nos. 5.02. Issued in December 2001.)

PROJECT: \_\_\_\_\_ LOAN/GRANT NO. \_\_\_\_\_ SEGMENT NO. \_\_\_\_\_ FUNDS (OCR, SF, ADF-IX, ATF<sup>2/</sup>) \_\_\_\_\_ COUNTRY (Acronym) \_\_\_\_\_ PROJECTIONS MADE IN: \_\_\_\_\_ (Month, Year)

Ref. Line No.	Category <sup>1/</sup>	CONTRACT/COMMITMENT ITEM <sup>1/</sup>	Contracts Awarded on Previous Year(s)		QUARTER 1			QUARTER 2			QUARTER 3			QUARTER 4			TOTAL PROJECTED FOR THE YEAR 20____ (YP)=(QA) + (QP)		
			Jan, Feb, Mar 20____		Apr, May, Jun 20____			Jul, Aug, Sep 20____			Oct, Nov, Dec 20____			Contract Value/ Commitment (9)=(1+3+5+7)	Disbursement Amount Related to the Contract/ Commitment (10)=(2+4+6+8)				
			Month, Year Contract Awarded	QP	Month Awarded/ Committed or To be Awarded/ Committed	QP	Disbursement Amount Related to the Contract/ Commitment (2)	QP	Month Awarded/ Committed or To be Awarded/ Committed	QP	Disbursement Amount Related to the Contract/ Commitment (4)	QP	Month Awarded/ Committed or To be Awarded/ Committed			QP	Disbursement Amount Related to the Contract/ Commitment (6)	QP	Month Awarded/ Committed or To be Awarded/ Committed
				Contract Value (Bank Financed)	QA	Contract Value/ Commitment (1)	QA	Contract Value/ Commitment (3)	QA	Contract Value/ Commitment (5)	QA	Contract Value/ Commitment (7)	QA	Contract Value/ Commitment (7)	QA	Contract Value/ Commitment (7)	QA	Contract Value/ Commitment (7)	QA
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<b>GRAND TOTAL (LAST PAGE)</b>																			

<sup>1/</sup> In accordance with the allocation of loan proceeds as defined in the loan documents, or any other detailed breakdown if found useful.  
<sup>2/</sup> ATF = Asian Tsunami Fund; Projections should be for the ADB-ATF financed component only.  
 QA = Quarterly Actual (already awarded/committed/dispursed, when projections are prepared).  
 QP = Quarterly Projected (to be awarded/committed/dispursed, when projections are prepared).

NOTES AND REMARKS:  
 \_\_\_\_\_  
 \_\_\_\_\_  
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Page \_\_\_ of \_\_\_ pages  
 QP-01-20\_\_\_\_



## APPENDIX 10: TERMS OF REFERENCE FOR PROJECT MANAGEMENT AND SUPERVISION CONSULTANT (PMSC)

### 1. Background of VCICDP

1. The proposed Visakhapatnam-Chennai Industrial Corridor Development Program (VCICDP) will complement ongoing efforts of the Government of Andhra Pradesh (GoAP) to enhance manufacturing sector growth and create high quality jobs in the state of Andhra Pradesh.<sup>1</sup> The VCICDP comprises: (i) a policy-based loan to support policy reforms, and institutional development in the state's industrial sector; and (ii) a multitranche financing facility (MFF) for priority infrastructure projects within the Visakhapatnam-Chennai Industrial Corridor (VCIC).

2. **India's economic growth.** While India has undergone a rapid structural transformation and achieved strong economic growth in the past two decades, sustained economic growth requires that India continues to create economic opportunities for new entrants into the labor force, estimated at around 12 million a year. With limited prospects for job creation in agriculture due to low productivity and underemployment, one of the most pressing policy challenges is to create significantly more productive and well-paying jobs in the manufacturing and services sectors. India's service sector has seen significant growth and increased wages in the last two decades; however, India's manufacturing sector, which has a much larger potential, is lagging behind and has contributed only 15% of the gross domestic product (GDP) and 12% of the employment in the same period. By comparison, manufacturing sectors in the People's Republic of China, Malaysia and Viet Nam contribute 25% or more to their GDPs. India's National Manufacturing Policy, 2011 calls for increasing manufacturing sector's contribution to at least 25% of GDP and enhancing rate of job creation in the manufacturing sector to create 100 million additional jobs by 2022.<sup>2</sup>

3. **Challenges to sustaining growth in Andhra Pradesh.** Andhra Pradesh is the 8<sup>th</sup> largest state in India by area, covering 160,205 square kilometers and with a population of 49.4 million. The state has a rich resource base and has achieved an average annual growth of 7.1% from FY2004-2005 to FY2014-2015 but is only contributing about 4% to the national industrial output.<sup>3</sup> The contribution of the state's manufacturing sector to its GDP is 12%, lagging behind nationwide figures. The GoAP has a vision to promote industrialization but faces significant challenges. The enabling environment for private sector development remains weak. Industry diversification is low and manufacturing sector employment is concentrated in small, labor-intensive and informal enterprises with low skills, productivity and earnings. The private sector faces significant policy, regulatory and governance constraints to establish and sustain its operations.<sup>4</sup> Key infrastructure such as water and power in industrial clusters remains grossly inadequate and unreliable; and connectivity and urban services are poor.

4. **Planning for growth.** To lay the foundation for a long-term investment program, ADB supported the preparation of a conceptual development plan (CDP) for VCIC, which included an infrastructure strategy to propel economic growth and identification of nodes for industrial

<sup>1</sup> ADB. 2010. *Support for South Asia Regional Economic Cooperation*. Manila (TA 7491-REG); and ADB. 2012. *Enhancing Economic Analysis and South-South Learning*. Manila (TA 8254-REG). The project was prepared through resources from TA 7491-REG and TA 8254-REG.

<sup>2</sup> Government of India. 2011. *National Manufacturing Policy, 2011*. Delhi.

<sup>3</sup> Government of Andhra Pradesh. 2013. *Annual Survey of Industries, 2012-2013*. Hyderabad.

<sup>4</sup> The World Bank. 2015. *Assessment of State Implementation of Business Reforms, September 2015*. Delhi. While Andhra Pradesh ranks second among all states in ease of doing business, India's rank is 142 among 189 nations.

development, high-potential industrial sectors and a set of priority projects. ADB is continuing its support to the GoAP for strategic planning through the development of a master plan and a regional perspective plan (RPP), which includes a long-term, phased investment plan.

5. **Targeted investment for transformational growth.** The VCIC approach to industrial development is to build on the existing concentration of economic activity and target investments and policies to increase the density and flow of economic activities. The strategy includes investments in (i) a multimodal transport network for efficiently moving goods and people, (ii) world-class infrastructure for economic nodes and cities, and (iii) logistics infrastructure to support high-volume trade. Investments will be underpinned by a policy framework that attracts and facilitates private sector operations. The program supports the GoAP to implement its vision, which capitalizes on the state's strategic location on the east coast of India, and aims to establish strong linkages between production centers and cities, gateways and global production networks. It also contributes to the Government of India's "Make in India" initiative, which seeks to attract foreign direct investment.

6. **Regional Cooperation.** The VCIC covers more than 800 kilometers of the state's coastline and is part of the East Coast Economic Corridor, India's first coastal economic corridor. It is poised to play a critical role in driving India's new "Act East Policy," a proactive initiative to further integrate the Indian economy with the dynamic global production networks of Asia. As a coastal corridor, the VCIC can provide multiple access points to international gateways. Greater connectivity and economic integration between South Asia and Southeast Asia is likely to contribute to significant benefits for both sub regions and fosters regional cooperation.<sup>5</sup>

7. **Alignment with ADB's partnership strategy.** The proposed program is in line with ADB's country partnership strategy for India, which supports the government's vision of faster, more inclusive, and sustainable growth with an emphasis on developing robust infrastructure to increase productivity, competitiveness, and access to services.<sup>6</sup> The VCICDP is included in India's country operations business plan, 2016–2018.<sup>7</sup>

8. **Implementation arrangement:** The State of Andhra Pradesh acting through its Department of Industries and Commerce (DOIC) will be the executing agency. The Directorate of Industries within the Department of Industries will be responsible for the daily coordination and execution of both the Program as well as the MFF. A program management unit (PMU), established in the DOIC, will be responsible for planning, implementation, monitoring and supervision, and coordination of all activities under the Program and the MFF. Project implementation units (PIUs) will be established in Andhra Pradesh Industrial Infrastructure Corporation Limited (APIIC), Andhra Pradesh Road Development Corporation (APRDC), Andhra Pradesh Power Transmission Corporation of Andhra Pradesh (APTransco), and Greater Visakhapatnam Municipal Corporation (GVMC), and will be responsible for implementing the MFF. A Project Steering Committee will be established to advise the PMU on policy, monitor the implementation of the Program and the MFF, and coordinate with PIUs on cross-cutting issues. The PMU will recruit consulting firms—project management and supervision consultant (PMSC) and other consultants—using the quality- and cost-based selection method with a quality-cost ratio of 80:20 in accordance with ADB's Guidelines on the Use of Consultants (2013, as

<sup>5</sup> Asian Development Bank Institute. 2015. *Connecting South Asia and Southeast Asia, 2015*. Tokyo; available at <http://www.adbi.org/book/2015/04/06/6364.connecting.south.southeast.asia/>

<sup>6</sup> ADB. 2013. *Country Partnership Strategy: India, 2013–2017*. Manila.

<sup>7</sup> ADB. 2015. *Country Operations Business Plan: India, 2016–2018*. Manila.

amended from time to time). Procurement of civil works and goods will be carried out in accordance with ADB's Procurement Guidelines (2015, as amended from time to time). A tentative implementation structure is shown in the Attachment -1.

9. **Impact, Outcome and Outputs.** The impact of the VCICDP will be an increased contribution of the manufacturing sector to the state's GDP, trade, and employment. The outcome will be enhanced growth and competitiveness of the VCIC. The VCICDP will have three outputs. The PBL will support output 1, and the MFF and the grant will support outputs 2 and 3.

10. **Output 1: Corridor management strengthened and ease of doing business improved.** This will include (i) capacity development of institutions engaged in corridor management; (ii) support to enhance the ease of doing business, including the establishment of an e-portal and a single-desk system, with incentives for women entrepreneurs; (iii) industrial and sector policies to stimulate industrial development, with special incentives for women; and (iv) improvement in investor promotion, trade facilitation, and logistics.

11. **Output 2: Visakhapatnam–Chennai Industrial Corridor infrastructure strengthened and more resilient.** This will include the development of (i) internal roads, water supply, drainage, logistics, and industrial effluent treatment in selected industrial clusters; (ii) roads for connectivity between industrial nodes, ports, and urban areas, and road safety measures; (iii) power transmission and distribution system in the industrial corridor; and (iv) smart cities planning with climate change resilience and continuous water supply in Visakhapatnam.<sup>8</sup>

12. **Output 3: Institutional capacities, human resources, and program management strengthened.** This will include (i) the establishment of a project development facility; (ii) skills enhancement of workers and entrepreneurs, especially women; (iii) support for project management; and (iv) support for investor promotion.

## 2. Definition of PMSC

13. The PMSC is a professional consulting firm with knowledge and experience in the specialized area of assisting organizations to improve their practice of project implementation, program and/or portfolio management. The areas these firms focus on also include the supporting environment and necessary leadership that enables projects and programs to accelerate the implementation of an organizations' strategy and the achievement of business results.

- (i) The term project management represents all the disciplines of project, program and portfolio management as well as the supporting environment.
- (ii) The term construction supervision represents the following.
  - (a) Facilitating implementing agency in review of engineering designs, bidding documents, due diligence on safeguards (social, gender and environment), financial and economic analysis [defined as detailed project reports (DPR)];
  - (b) Facilitating implementing agency in assisting procurement of civil works, goods, and equipment for implementation and supervision of contractors during implementation, based on ADB procurement guidelines; and

<sup>8</sup> Visakhapatnam and Kakinada, which are in the VCIC, are in the government list of the first 100 smart cities.

- (c) Providing construction supervision and monitoring services during implementation stage.

### **3. Objectives of PMSC**

14. The PMSC will support the DOIC in project management and monitoring VCICDP implementation, and also advise PIU as suggested by DOIC. The major objectives of engaging PMSC are:

- (i) Project management services;
- (ii) Policy reforms and capacity building for implementation of reforms;
- (iii) Stakeholders consultation strategy and facilitating implementation;
- (iv) Facilitating implementing agency in review of engineering designs, bidding documents, due diligence on safeguards (social, gender and environment), financial and economic analysis (DPRs);
- (v) Facilitating implementing agency in procurement of civil works, goods, and equipment for implementation and supervision of contractors during implementation, based on ADB procurement guidelines; and
- (vi) Providing construction supervision and monitoring services during implementation stage.

### **4. Scope of Services, Tasks (Components) and Expected Deliverables**

#### **I. Project management services**

##### **a. Overall Corridor Development Project Management Consulting**

- (i) Shall establish a full fledge project office in the premise provided by PMU, DOIC. The PMSC shall be responsible for providing all necessary manpower, lodging and boarding for its staff members, office space, furniture and equipment, computers and peripherals, communication equipment, electricity, water, licensed software, worker, third party and other insurances, vehicles, stationery, and licenses for intellectual property, and for performing the services throughout the period of the Contract and to the satisfaction of the DOIC. Software shall include an electronic document management program that will be shared with the DOIC project office.
- (ii) Shall establish a schedule of coordination and progress meetings, to be approved by the DOIC, to ensure that all stakeholders are kept informed of the status and activities of the Project. Shall submit monthly progress reports in an agreed format and shall fully support the executing and implementing agencies in reporting to the GoAP and the ADB.
- (iii) Shall prepare a safety manual to be followed by its staff and on each construction site to ensure the safety of construction workers, engineers, and other stakeholders.
- (iv) Shall prepare an Inception Report within two months of commencement which will include a report on activities during the mobilization period together with an updated work program and staff schedule. The inception report shall include an agreed schedule of working papers that will be prepared during the course of the PMSC and designed to ensure that all key Project issues are raised, discussed

and agreed at an early date. These may include for example policy reforms options, skill development program, overall project implementation schedule with a GANTT chart, proposed forms of contract, contract packaging and the public outreach program.

**b. Data Collection and Review**

15. The PMSC shall undertake a comprehensive review of existing documents and establish an information database. Documentation to be studied shall include but not be limited to the following:

- (i) CDP and regional perspective plan (RPP) prepared by GoAP with ADB's assistance;
- (ii) Aide-memoires of ADB Mission;
- (iii) Ongoing contracts between the GoAP and its contractors in the corridor;
- (iv) Ongoing and completed studies in the corridor;
- (v) The relevant documents as suggested by DOIC; and
- (vi) All relevant Indian standards; benchmarking with international standards.

**c. Review of Detailed Project Reports**

16. The PIUs have already started preparing DPRs for all the subprojects in Tranches 1 and 2. The PMSC shall review DPRs for those subprojects due for tender, as per Government of India standards, for the all subproject components. In addition to summarizing the technical aspects of each element, the DPRs will include the preparation of a rate analysis, bill of quantities (BOQ), and engineer's cost estimate for works and operations, the employer's requirements including specification for works, drawings and supplementary information and the proposals for the most appropriate contract packaging.

17. The PMSC will support DOIC in implementing the VCICDP gender equality and social inclusion action plan. The PMSC shall review environment and safeguards arrangements ensuring compliance with the VCICDP's environmental assessment and review framework, resettlement framework, and indigenous people's development framework. All projects under the corridor development program are likely to be classified as effective gender mainstreaming.

**d. Review Bid Document Preparation, Procedures and assist in tender Evaluation**

18. All procurement will follow ADB's Procurement Guidelines (2015, as amended from time to time) and bidding documents for the works and operation contracts shall be based on ADB's standard bidding documents. If the recommended form of contract differs from ADB standard bidding documents, then PMSC shall propose an alternative form of contract for the implementing agencies, subject to ADB's consideration and approval.

19. The type of procurement is expected to be different for each of the key works subprojects and it is the responsibility of the PMSC to recommend the most appropriate methodology. Procurement may be by either single stage or two stage bidding as considered appropriate once the content of each contract package is determined. It is probable that two stage bidding will be required where there is a substantial design element within the implementation contracts. All bid documents prepared by the PIUs shall have comprehensive

BOQ such that all bidders can compete on an equal basis for the PIU's proposed solutions. However, in order to allow for the latest technological developments, the bidders may be allowed to submit alternative bids based on their own proposed designs to meet the specified performance requirements.

20. PMSC shall support the implementing agencies throughout the bidding process for all works and operation contracts. This includes bidding documents review and prequalification through to the completion of contract negotiations and award. PMSC work shall also include but not be limited to the preparation of bidder prequalification documents, attendance at the pre-bid meetings and site visits, technical and financial bid evaluation for single stage and/or two stage bid procedures and the preparation of bid evaluation reports for approval by the implementing agency Bid Evaluation Committee. For two stage bids, the PMSC shall be responsible for seeking any clarifications of the first stage technical bids and preparation of relevant memorandums for inclusion in the invitation for the second stage bid.

21. Bidding documents would incorporate the preliminary design, detailed BOQ and specification for the works. The final detailed design shall be completed only after award of contract and no compliant design is required to be submitted with the bid. However, alternative designs from the bidders will be accepted so that the implementing agency may benefit from innovative ideas proposed by specialist contractors with extensive boutique experience.

22. PMSC shall ensure that bidding documents contain all necessary safeguard documentation including the environmental management plans and the resettlement plans for the respective contract packages.

#### **e. Policy reforms**

23. The PMSC shall provide support to take up policy, institutional, and governance reforms to promote accelerated industrial development in the corridor.

24. Indicative policy matrix proposed under two tranches has been prepared by GoAP and some of these are being developed with ADB's financial assistance (see Appendix 4 of the RRP). This will include (i) implementation of recommendations from the ongoing business process re-engineering study to enhance ease of doing business; (ii) operationalization of a e-portal for processing applications for starting and operating a business; (iii) operationalization of single-desk policy; (iv) adoption of effective policies, guidelines, and guidance notes for stimulating accelerated industrial development; (v) implementation of measures for trade facilitation and logistics; (vi) amendment in labor laws to improve ease of doing business and other actions as may be required in compliance with Government of India's proposals in ease of doing business.

#### **f. Skills development**

25. The PMSC shall provide support to DOIC and the implementing agencies in meeting and delivering skill development<sup>9</sup> mandate part of the corridor development program. The state

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<sup>9</sup> The state government has established the Andhra Pradesh State Skill Development Corporation (APSSDC) to prepare a skill development road-map for the state. An advisory council to the APSSDC has been created involving the leaders of Indian industries as advisors. This would tap the potential of private training providers and forge partnerships with sector skills councils and industry associations to ensure relevance and quality of training. The proposed infrastructure investments in the VCIC would create huge demand for skilled labor across multiple

government has established the Andhra Pradesh State Skill Development Corporation (APSSDC) to prepare a skill development road-map for the state. The proposed infrastructure investments in the VCICDP would create huge demand for skilled labor across multiple sectors. The PMSC shall coordinate with APSSDC to review and suggest suitable skill development program (including for women entrepreneurs/applicants for licenses) to cater the needs for the industries in the corridor and, to monitor these programs for the desired outcome and results.

#### **g. Stakeholders Consultation Strategy**

26. PMSC shall provide support in design and implementing stakeholders consultation strategy to assist DOIC in meaningful and widespread consultations and public awareness during project implementation. PMSC shall also monitor the stakeholder's consultation activities conducted at the subproject areas through appropriate arrangements for each subprojects. PMSC shall work in close coordination with nongovernment organizations (NGOs) or firms recruited under the project (engagement of NGO or firm financed from the provisional sum provided under the PMSC budget).

27. The following are the tasks envisaged under stakeholders' consultation strategy program.

- (i) Communication Awareness and Participation
  - (a) Identify and conduct the stakeholders and stakeholder mapping;
  - (b) Conduct community outreach and awareness building on VCICDP interventions;
  - (c) Design and implementation of information, education and communication (IEC); and
  - (d) Conduct pre-construction, construction and post construction of project awareness program.
- (ii) Gender Equality and Social Inclusion Action Plan
  - (a) Assist the PMU in implementing all actions identified in the gender equality and social inclusion (GESI) action plan for the project;
  - (b) In coordination with the stakeholders, assist the project management unit (PMU) in planning and monitoring the project activities ensuring gender sensitivity and social inclusion in them;
  - (c) Assist the PMU in ensuring participation of women and disadvantaged group members of the relevant committees of any user groups if formed in important stakeholder meetings and decisions during the project implementation; and
  - (d) In consultation with and guidance from the stakeholders and the PMU, orient and sensitize the community and the relevant institutions including

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sectors. Partnerships with SSCs will ensure that the training is aligned to relevant national occupation standards and qualification packs underlying the National Skills Qualification Framework.

The state government has created a separate department of skills development, entrepreneurship and innovation. APSSDC has started working with private sector for developing institutions for skills development. One Centre of excellence with five more supporting centers has been planned in the state in collaboration with private sector. It has also been planned to establish 42 skills development centers at the polytechnic level. Jawahar Knowledge Centers will cater to the needs of the students passing out of colleges with bachelor's degrees on sciences, humanities and commerce. There are 600 mandals in the state and APSSDC is planning to establish one skills development center in each manual for the existing workers and entrepreneurs to upgrade their skills.

other stakeholders on gender and social inclusion with respect to the project design.

#### **h. Financial and Accounting Management**

28. The PMSC shall assist and support the executing or implementing agency in all financial and accounting matters relating to the VCICDP. Shall include but not limited to the following:

- (i) Establishing an appropriate financial accounting and control system for each PIU and for the entire project PMU in DOIC;
- (ii) Administering the loan in accordance with ADB's *Disbursement Guidelines*;
- (iii) Establishing all necessary records and the procedures for maintaining or updating such records for each subproject and for the entire Program;
- (iv) Ensuring accurate and timely submissions of all required reports to the DOIC and ADB;
- (v) Establishing systems for smooth and timely funds flow from ADB or government to contractors; and
- (vi) Developing and implementing procedures for timely payments to the contractors and monitoring for compliance.

#### **i. Environmental Safeguards and Resettlement & Rehabilitation**

29. The PMSC shall pay full attention to all social and environmental safeguards, in accordance with ADB, GoAP and Indian Government policies, and shall:

- (i) Update the resettlement framework as required;
- (ii) Update the resettlement plan after the detailed design and obtain ADB's prior approval for public disclosure prior to contract award or the start of civil work activities (for DBO contract);
- (iii) Prepare the resettlement plans for subproject components and update as necessary;
- (iv) Conduct meaningful consultation and disclose the final initial environmental examinations (IEEs) and resettlement plans with affected peoples to receive their endorsements;
- (v) Ensure submission of final resettlement plans, IEEs and environmental management plan (EMPs) to PMU for submission to ADB for review and disclosure;
- (vi) Ensure the disclosure of the final safeguards documents at project website and project affected communities with forms and language as appropriate with the condition of the project affected communities;
- (vii) Update the VCICDP's environmental assessment and review framework (EARF) as required;
- (viii) Update the IEE and EMP, as necessary;
- (ix) Prepare the IEEs and EMPs for subproject components and update as necessary;
- (x) Establish a system to monitor social and environmental safeguards of the Project; prepare indicators for monitoring important parameters of safeguards;
- (xi) Monitor and supervise as necessary the final resettlement plan implementation by the implementing agencies or by the appointed resettlement NGOs;

- (xii) Ensure all requisite approvals and no objection certificates are in place to allow implementation, and that these are renewed in a timely manner where required;
- (xiii) Ensure that provisions and conditions of all necessary permits, consents, NOCs, etc., are incorporated in the IEEs/resettlement plans;
- (xiv) Take proactive action to anticipate the potential environmental impacts and resettlement requirements of the Project to avoid delays in implementation;
- (xv) Ensure that the resettlement activities will be carried out in accordance with the resettlement plan agreed between the government and ADB and that any civil works will be commenced only after affected households have been compensated at full replacement cost and/or complete delivery of other resettlement provisions as detailed in the final resettlement plans;
- (xvi) Translate and disseminate the final entitlements into local language to the affected people, with Andhra Pradesh-wise entitlement letters;
- (xvii) Assist PIUs in the establishment of grievance redress committee (GRC) for IEE or resettlement plan implementation;
- (xviii) Support the PIUs and PMU in the grievance redress mechanism (GRM) implementation to address any grievances submitted in a timely manner and establish record keeping system for complaint and redressal status of the project;
- (xix) Assist the PIU in the resettlement plan implementation (compensation payment and other required assistance as per final resettlement plan);
- (xx) Assist PIU to prepare resettlement plan implementation report to PMU safeguards officer;
- (xxi) Assist PIU in the project GRM mechanism and complaint solution;
- (xxii) Assist PIU for GRM record keeping for first tier complaint and redressed actions;
- (xxiii) Ensure that the relevant environmental mitigation measures specified in the updated EMP will be incorporated into bidding documents and approved by the ADB prior to the issuance of the invitation for bidding;
- (xxiv) Closely monitor and supervise to ensure that all mitigation measures and monitoring requirements set out in the resettlement plan and EMP are implemented and complied with throughout the project implementation, and when required, prepare or recommend necessary corrective actions to be taken and monitor its implementation;
- (xxv) Support the PMU in the recruitment and selection process of external monitoring agency for subproject with category A for involuntary resettlement;
- (xxvi) Prepare and submit the semi-annual monitoring reports for social and environmental safeguards to the implementing agency for onward submission to government and ADB;
- (xxvii) Provide on-the-job training programs to implementing agency staff involved in Project implementation for strengthening their capacity in managing and monitoring social and environmental safeguards;
- (xxviii) Assist the PIUs' safeguards officer to sensitize the turnkey contractors on ADB SPS, EARF, resettlement plan and GRM during detailed design and civil works implementation; and
- (xxix) Prepare the social and environmental monitoring formats/templates to be used by the implementing agency's safeguards officer on resettlement plans or EMPs implementation progress to be submitted to the PMSC for compilation.

**j. Project Performance Management System (PPMS) and Subprojects Monitoring System**

30. PMSC shall prepare a PPMS in accordance with ADB Guidelines. It will implement the PPMS through;

- (i) A benchmark survey and subsequent monitoring and evaluation surveys;
- (ii) Continuously monitoring progress of the VCICDP as per the PPMS, prepare regular progress reports, and based on the progress reports take appropriate corrective action;
- (iii) Develop a computerized management information system (MIS) for monitoring the progress of subprojects based on work plans for all stages (design and construction);
- (iv) Undertake visits to construction sites once in two months, provide concrete suggestions for improvement of quality; and
- (v) Besides PPMS, shall support PMU in monitoring the outcomes, impact, and outputs of the project as well as other actions defined as part of the design and monitoring framework (DMF).

#### **k. Disbursement of Tranche/ Loan Proceeds and Government Funds**

- (i) PMSC shall ensure sound financial management of the program. Disbursement of funds (tranche/loan and government counterpart funds) will be managed by the DOIC with support from the PMSC. ADB will provide adequate oversight to ensure that good operating procedures are followed;
- (ii) PMSC shall establish the project financial management system and shall prepare financial management guidelines and operating instructions, financial and accounts manuals, disbursement claims and other related financial documentation. Selected GoAP staff will be trained in the financial management of ADB projects as part of the day to day activities of the PMSC; and
- (iii) PMSC shall undertake financial viability and economic analysis for the subsequent tranches of the MFF in support of DOIC.

#### **I. Training and Capacity Building**

- (i) The PMSC shall provide training and capacity building to the DOIC staff (one staff per specialization at a time, nominated by DOIC) in the respective areas. The PMSC shall ensure that training and capacity building to the implementing agencies staff as per contract;
- (ii) Training material and deliverables shall be bench market against the best in the world; and
- (iii) Train the trainer (TTT) approach may be followed by preparing local staff to undertake continuous training under the supervision of PMSC learning facilitators.

#### **II. Construction Supervision Services**

##### **a. Construction Engineering Management**

31. PMSC shall undertake, on behalf of the implementing agencies, the supervision and management of all corridor development program construction and operation contracts under this Project during the period of the consultancy. This work include but not limited to the following:

- (i) Check contractors' designs and drawings for the conventional and turnkey contracts;
- (ii) Furnish detailed drawings, with revisions as necessary, to the contractors for the conventional and turnkey contracts;
- (iii) Supervise and monitor construction of all project components, prepare measurements for works completed and in progress and verify bills for payment to the contractors/suppliers;
- (iv) Check the line, level and layout of construction to ensure conformity with the contracts, propose any changes in the plans required as a result of findings during construction such as unforeseen obstructions;
- (v) Assess and ensure the adequacy of contractors' inputs in terms of materials, equipment, construction machinery, workers, and construction approach and methodologies;
- (vi) Carry out third party inspections as necessary and provide certification on the quality of the materials/plant/supplies based on such inspections;
- (vii) Monitor and enforce, as detailed in the Contractor's Safety Manual, the measures established to ensure safety of the workers, other project personnel, the general public and works;
- (viii) Evaluate and process contractors' requests for interim payment; and
- (ix) After physical completion of the contracts, prepare planned maintenance procedures, check installation and commissioning, monitor preparation of the "as-built" drawings and the O&M manuals which shall include at least reference to all relevant design and other reports, specifications etc. in order to provide a complete bibliography on the structures and plant such that the operation and maintenance staff can understand the basis of their functions, details of any problems encountered during construction which may have a bearing on the future safe operation and decommissioning of the facilities and full operating instructions for all systems, drawings, diagrams, charts, and notices to facilitate understanding of safe operation and maintenance.

#### **b. Contract Administration**

32. PMSC shall assist the implementing agencies with the administration of the contracts. This will include but not be limited to:

- (i) Work as the Engineer or Employer's Representative within the context of the Conditions of Contract;
- (ii) Prepare construction and operation, monthly progress reports in agreed formats for each subproject in suitable project monitoring software, including physical and financial progress, reports on variations, time-extensions, problems and issues;
- (iii) Regularly monitor physical and financial progress against the milestones as per the contracts so as to ensure completion on time;
- (iv) Monitor and enforce, as detailed out in the Contractors' QA & QC manuals, the quality of inputs, processes, and outputs during all activities of construction to ensure the highest quality of works conforming to the specifications and drawings;
- (v) Examine contractors' claims for time extensions, variations, additional compensation etc. and recommending appropriate decisions;

- (vi) Assist the implementing agency in the resolution of various other contractual issues and overall contract management;
- (vii) Monitor the performance of the contractors during the defects notification/liability period;
- (viii) Supervise the contractors during the operation and maintenance phase, monitor performance and measure against the SLBs; and
- (ix) Ensure that the operation and maintenance supervision duties are fully summarized and documented in preparation for handover to the implementing agency for this task.

## 5. Team Composition & Qualification Requirements for the Key Experts

- (i) A minimum of (i) 60 person-months of key international experts; and (ii) 1,182 person months of key national experts are required for project management service and construction supervision services. The positions qualifications and person-months for the key experts are presented in Tables 1 and 2.

**Table 1: Summary of Key Experts – Project management services**

Sl. No.	Position	Qualification	Indicative Job description and tasks	Person-months
<b>International Expert</b>				
1.	Project Planning and Management Expert – Team Leader	Graduate Engineer with a post graduate qualification in planning/management and with around 20 years of post-graduation experience in managing and coordinating large externally aided multi sector/ regional development projects; experience of working in India, and have extensive experience with software such as Primavera, MS Project, or similar applications, including preferably 8 years international experience.	<ul style="list-style-type: none"> <li>• Carry out the management and administration of the Project and ensure the overall quality of all outputs relating to the review, planning, design and tender document preparation stages;</li> <li>• Liaise with, and report to, the DOIC and other stakeholders;</li> <li>• Coordinate with Policy specialist in reforming design, implementation and monitoring as outlined in DOIC policy matrix including process reengineering and relaxed tasks of implementing solutions aimed at ease of doing business and in infrastructure management;</li> <li>• Oversee and handle all the main tasks of the PMSC firm namely, establishment of a Project Management System, Project Performance Monitoring</li> </ul>	60

Sl. No.	Position	Qualification	Indicative Job description and tasks	Person-months
			<p>System (PPMS), and guidance on issues related to procurement and quality control;</p> <ul style="list-style-type: none"> <li>• Prepare the implementation plan for the overall investment program and for each individual construction package;</li> <li>• Review contractors' proposed construction management plans, and comment/approve as appropriate;</li> <li>• Identify and address critical areas/issues that could delay/hinder the construction progress;</li> <li>• Prepare the monthly progress reports;</li> <li>• Coordinate and supervise other consulting firms; and</li> <li>• Support the DOIC in preparing periodic financing requests for subsequent tranches.</li> </ul>	
Sub-total				60
<b>National Experts</b>				
2.	Water Supply Engineer (For DPR review and assisting in related design issues)	Civil Engineer with a post graduate qualification in Civil, Environmental or Public Health Engineering with preferably 10 years of overall feasibility study, design and bid document preparation experience, out of which 3 years should be in similar water utilities rehabilitation works.	<ul style="list-style-type: none"> <li>• Review and update as necessary the DPR and reports;</li> <li>• Review transmission system detailed design;</li> <li>• Review detailed design of the distribution zone works;</li> <li>• Review NRW and SCADA design in the distribution network</li> <li>• Assist in the preparation of the distribution zone tender documents; and</li> <li>• Assist with evaluation of the distribution zone tenders</li> <li>• Provide implementation review of 24x7.</li> <li>• Compilation and Review of sector specific PPMS</li> </ul>	24
3.	Transportation specialist (For	Graduate civil engineer and preferably with post graduate	<ul style="list-style-type: none"> <li>• Review and update as necessary the DPR and</li> </ul>	18

Sl. No.	Position	Qualification	Indicative Job description and tasks	Person-months
	DPR review and assisting in related design issues)	qualification in highway or bridge engineering and having professional license (chartered/certified) to practice the profession. The specialist with preferably having 15 year experience and 10 years as transport specialist in feasibility study and design of highway projects, including preferably 8 years international experience.	<ul style="list-style-type: none"> <li>reports;</li> <li>• Review transportation system detailed design;</li> <li>• Review detailed design of the connectivity roads and highways ;</li> <li>• Assist in the preparation of the highways tender documents; and</li> <li>• Assist with evaluation of the highway tenders.</li> <li>• Compilation and Review of sector specific PPMS</li> </ul>	
4.	Road Safety Specialist	Graduate civil engineer, preferably post graduate degree, with 20 years of related experience in road safety audit and policy development and implementation, including preferably 8 years international experience.	<ul style="list-style-type: none"> <li>• The scope of duties of the consultant shall include, but not be limited to review the preliminary and/or detailed design, identify deficiencies if any and ensure the road safety audit is incorporated as part of the detailed design review.</li> <li>• The consultant will submit road safety audit reports which shall set out all findings and recommendations for making good any defects or omissions identified and shall include details of the findings of the road safety audit.</li> <li>• Review designs of proposed safety interventions by APRDC/ DRBT.</li> <li>• Compilation and Review of sector specific PPMS</li> </ul>	24
5.	Electrical and Energy Specialist (For DPR review and assisting in related design issues)	Graduate in Electrical Engineering with preferably 15 years of post-graduate experience, of which 10 years should be in design and rehabilitation experience in major power utilities projects.	<ul style="list-style-type: none"> <li>• Review and update as necessary the DPR;</li> <li>• Review the energy efficiency audit reports used in the DPR ;</li> <li>• Review the preliminary and/or detailed design of all electrical and control elements;</li> <li>• Review the electrical and control sections of the DPRs;</li> <li>• Assist in the preparation</li> </ul>	18

Sl. No.	Position	Qualification	Indicative Job description and tasks	Person-months
			<p>of the tender documents for packages pending under tranche 1 and subsequent tranches;</p> <ul style="list-style-type: none"> <li>• Assist with evaluation of the tenders; and</li> <li>• Review of contractor designs;</li> <li>• Compilation and review of sector specific PPMS</li> </ul>	
6.	Social development and Gender Specialist	Post graduate qualification in social science/ Planning/ Engineering or related subject with around 10 years of experience in social development, resettlement design and or implementation and preparation and implementation of Gender Equality and Social Inclusion Action Plans for ADB or World Bank funded projects.	<ul style="list-style-type: none"> <li>• Review and Update the Gender Equality and Social Inclusion Action Plan as necessary;</li> <li>• Review GESI monitoring indicators and Undertake monitoring and implementation of the Plan;</li> <li>• Ensure that all subproject activities are in compliance with the Plan; and</li> <li>• Review periodic financing requests for subsequent tranches.</li> </ul>	36
7.	Resettlement and Rehabilitation Specialist – Roads sector	Post graduate in social science with preferably of 15 years of experience in the field of resettlement and rehabilitation, especially in the roads sector. Preferable experience in having worked in at least three ADB/WB projects, of which at least one should be in roads sector with demonstrated expertise in preparation, implementation and monitoring of resettlement plans and resettlement frameworks. The expert should be conversant with the region and the local language.	<ul style="list-style-type: none"> <li>• Work closely with the design team to review and finalize subproject locations to avoid/minimize involuntary resettlement impacts;</li> <li>• Update the investment program's RF as required;</li> <li>• Update the RP for Project 1;</li> <li>• Prepare RPs for Project 2 components and update as necessary;</li> <li>• Undertake monitoring and implementation of the RPs;</li> <li>• Prepare semi-annual monitoring reports; and</li> <li>• Support the APRDC in preparing periodic financing requests for subsequent tranches.</li> </ul>	24
8.	Resettlement and Rehabilitation	Post graduate in social science with preferably of 15 years of experience in the field of resettlement and	<ul style="list-style-type: none"> <li>• Work closely with the design team to review and finalize subproject</li> </ul>	24

Sl. No.	Position	Qualification	Indicative Job description and tasks	Person-months
	Specialist – Urban, Power and Industries	rehabilitation, especially in the urban and power sectors. Preferable experience in having worked in at least three ADB/WB projects, of which at least one should be in urban or power sector with demonstrated expertise in preparation, implementation and monitoring of resettlement plans and resettlement frameworks as per ADB/WB procedures. The expert should be conversant with the region and the local language.	<p>locations to avoid/minimize involuntary resettlement impacts;</p> <ul style="list-style-type: none"> <li>• Update the investment program's RF as required;</li> <li>• Update the RP for Project 1;</li> <li>• Prepare RPs for Project 2 components and update as necessary;</li> <li>• Undertake monitoring and implementation of the RPs;</li> <li>• Prepare semi-annual monitoring reports; and</li> <li>• Support the APIIC, APTransco and Municipal administration in preparing periodic financing requests for subsequent tranches.</li> </ul>	
9.	Environment and safe guard specialist – Urban and Industries	Graduate in a relevant science subject with preferably 15 years of experience out of which 5 years should be in the environmental assessment of urban water supply or similar infrastructure projects	<ul style="list-style-type: none"> <li>• Update the investment program's EARF as required;</li> <li>• Update the IEE and EMP for Project 1;</li> <li>• Prepare the IEEs and EMPs for Project 2 components;</li> <li>• Supervise of the EMP implementation;</li> <li>• Prepare a monitoring report of final EMP and communicate with the stakeholders including ADB on the progress of the projects as well as compliance in environmental protection;</li> <li>• Prepare semi-annual safeguards compliance reports; and</li> <li>• Support the IAs in preparing periodic financing requests for subsequent tranches.</li> </ul>	24
10.	Environment and safe guard specialist – Roads and	Graduate in a relevant science subject with preferably 15 years of experience out of which 5 years should be in the environmental assessment of road infrastructure	<ul style="list-style-type: none"> <li>• Update the investment program's EARF as required;</li> <li>• Update the IEE and EMP for Project 1;</li> </ul>	24

Sl. No.	Position	Qualification	Indicative Job description and tasks	Person-months
	Power	projects	<ul style="list-style-type: none"> <li>• Prepare the IEEs and EMPs for Project 2 components;</li> <li>• Supervise of the EMP implementation;</li> <li>• Prepare a monitoring report of final EMP and communicate with the stakeholders including ADB on the progress of the projects as well as compliance in environmental protection;</li> <li>• Prepare semi-annual safeguards compliance reports; and</li> <li>• Support the IAs in preparing periodic financing requests for subsequent tranches.</li> </ul>	
11.	Labor Market specialist	A specialist with preferably a Degree in Engineering / Master's degree in Economics, Management, Law or other relevant discipline, and around 10 years' experience in the area of labor market issues, experience of working in India, and in states similar to Andhra Pradesh will be an advantage.	<ul style="list-style-type: none"> <li>• Support review of labour laws and policies;</li> <li>• In consultation with Legal expert, Draft recommendations for amendments to policies and regulations;</li> <li>• Carry out studies/ assessment of industry specific labour issues in the state and recommend measures to improve labour relations and safety.</li> </ul>	30
12.	Skill Development Specialist	A specialist with preferably a Degree in Engineering / Master's degree in Social Sciences/ Management, or other relevant discipline, and around 10 years' experience in the area of skill development, experience of working in India, and in states similar to Andhra Pradesh will be an advantage.	<ul style="list-style-type: none"> <li>• Assist the APSSDC in planning the roll-out and implementation of skill development component of the Project as per the annual action plans developed</li> <li>• Strengthen the existing data collection and processing system to establish a skills-database and labour market information system for GoAP.</li> <li>• Assist APSSDC with data analytics of existing skill and labour market scenario in AP and India</li> <li>• Ensure that the system</li> </ul>	30

Sl. No.	Position	Qualification	Indicative Job description and tasks	Person-months
			being developed for GoAP is aligned to national initiatives being supported by National Skill Development Council and Ministry of Labour and Employment	
13.	Policy reforms expert	An expert with a Master's degree in Economics or Management/ Public Administration/ Governance, with around 15 years of experience in policy reforms of Government/ Public sector utilities in India and working experience large externally aided projects.	<ul style="list-style-type: none"> <li>Review the policy reform action proposed by GoAP for improvement and implementable strategy</li> <li>Provide support to take up policy, institutional, and governance reforms to promote accelerated industrial development in the corridor</li> <li>Prepare performance linked indicators, monitor and report to DOIC</li> <li>Oversee the policy reforms implementation and review feedback for improvisation</li> <li>Support DOIC in review and preparation of reports to ADB</li> </ul>	30
14.	Marketing and promotion expert	A marketing expert with a degree in engineering and considerable experience in development marketing/ Post graduate qualification in management and with around 15 year's marketing/sales and event management in corridor development projects/ manufacturing hubs/ industrial areas or relevant experience.	<ul style="list-style-type: none"> <li>Assist PMU in planning and implementation of marketing strategy for corridor development</li> <li>Assist PMU in sales, event management towards promotion of corridor development</li> <li>Work and coordinate with other stakeholders to understand the demand and assist PMU in attracting investor</li> <li>Any other assistance as and when required by the PMU related to marketing and promotion of corridor programme.</li> </ul>	30
15.	Public Communications Specialist	Post graduate qualification in Sociology/Mass Communication/ Management with around 10 years of overall experience in the design and implementation of public participation and awareness programs.	<ul style="list-style-type: none"> <li>prepare and implement an outreach program to improve customer/ public understanding of key Project and water sector issues;</li> <li>Ensure that customers and the public are kept</li> </ul>	36

Sl. No.	Position	Qualification	Indicative Job description and tasks	Person-months
			<p>informed throughout the Project;</p> <ul style="list-style-type: none"> <li>• Prepare terms of reference for engaging NGO firm and monitor the work plan</li> <li>• Establish a computer based system for recording and monitoring customer experiences and complaints, in association with the GIS specialists; and</li> <li>• Liaise with the DOIC to ensure full issue coverage and consistency of approach.</li> </ul>	
16.	Legal expert	Graduate in Law with preferably 15 years of overall experience out of which 10 years should be in large infrastructure projects with specific experience in dealing disputes and related laws.	<ul style="list-style-type: none"> <li>• Support PMU in review, recommendations and amendments to regulations that would enable enhanced manufacturing facilities in the state. This would include but not limited to labour, processes, governance and other relevant areas to enable ease of doing business.</li> <li>• Support GoAP in establishment of State Industrial Corridor Development Authority</li> </ul>	24
17.	Financial management expert (2 Nos.)	Post graduate qualification in Financial Management or cost/ Chartered Accountant with around 10 years overall experience and 5 years of experience in multilateral funded infrastructure projects	<ul style="list-style-type: none"> <li>• Establish the project financial management system;</li> <li>• Prepare financial management guidelines and operating instructions, prepare financial and accounts manuals, disbursement claims and other related financial documentation;</li> <li>• Conduct on-the-job training of DOIC staff;</li> <li>• Undertake financial viability analysis for the subsequent tranches; and</li> <li>• Undertake financial and economic analysis of sub-project components</li> </ul>	60 (2x30)

Sl. No.	Position	Qualification	Indicative Job description and tasks	Person-months
			proposed for implementation.	
18.	Procurement/ Contract Management Specialist (Bid management and evaluation)	Graduate Civil Engineer having preferably 15 years of overall experience in procurement and contract management, with preferably 5 years on large multi-sector projects and externally aided projects.	<ul style="list-style-type: none"> <li>• Prepare a Working Paper on contract options;</li> <li>• Update the standard bidding documents;</li> <li>• Prepare bid documents for each work package in accordance with ADB Procurement Guidelines;</li> <li>• Assist IAs in all aspects of contractor procurement; and</li> <li>• Support the construction managers/engineers/Resident Engineer on key contract management issues.</li> </ul>	24
19.	Health and Safety Managers	Graduate Civil or Mechanical Engineer with preferably 15 years of overall experience out of which 5 years should be in the large Industrial infrastructure projects Monitoring and enforcing, as detailed in the Contractor's Safety Manual, the measures established to ensure safety of the workers, other project personnel, the general public and works;	<ul style="list-style-type: none"> <li>• Prepare and maintain the DSC's Safety Manual;</li> <li>• Review contractor's H&amp;S Plans; and</li> <li>• Monitor site safety procedures and report as necessary.</li> </ul>	72 (2x36)
<b>Sub-total</b>				<b>552</b>
<b>Support to District Administration</b>				
20.	Institutional Development Expert (for one model district)	Graduate in engineering and Post graduate in Management with preferably 10 years' experience in managing and coordinating large infrastructure projects, out of which 5 years should be in assisting District level administration.	<p>At the district, coordinate activities of district level managers in:</p> <ul style="list-style-type: none"> <li>• Industrial Land assembly and related issues;</li> <li>• Industrial area project development related issues and documentation;</li> <li>• Support collector in management of industry sector assessments and review, and</li> <li>• Coordinate Industrial area and VCICDP project implementation issues;</li> </ul>	30
<b>Sub-total</b>				<b>30</b>

<b>Need based input under Provisional sum<sup>10</sup></b>				
21.	Industrial processes and manufacturing sector development specialists	Sector specific experts: Graduate in engineering and Post graduate in Management with preferably 10 years' experience in managing and coordinating process reengineering and management.	Indicative areas of support include but not limited to: Industrial licensing and renewals <ul style="list-style-type: none"> <li>Industrial process review and certification</li> <li>Labour and safety policies</li> <li>Manufacturing sector reviews</li> </ul> Understanding, review and simplification of factories act.	24
		<b>Sub-total</b>		<b>24</b>

**Table 2: Summary of key experts – Construction supervision**

<b>No.</b>	<b>Position</b>	<b>Qualification</b>		<b>Person-months</b>
<b>National Experts</b>				
Industries Sector				
1	Construction Manager – Deputy Team leader	Graduate Engineer with a post graduate qualification in construction planning/management and with preferably 20 years of post-graduation experience in managing and coordinating large externally aided projects in industries sector; extensive experience with software such as Primavera, MS Project	<ul style="list-style-type: none"> <li>Liaise with the IAs/PMU on a regular basis;</li> <li>Lead the construction supervision teams to ensure that all inspections and record keeping is in compliance with sound engineering practice and quality control procedures;</li> <li>Establish contract tracking systems, including implementation schedules and milestones;</li> <li>Review contractors' quality plans, HSE plans and EMPs;</li> <li>Review the construction drawings, procedures and methodology proposed by the contractors;</li> <li>Oversee construction supervision and contract management;</li> <li>Ensure that co-ordination and public awareness is maintained at all times;</li> <li>Oversee dispute prevention and resolution, claims assessment and evaluation;</li> </ul>	48

<sup>10</sup> With prior approval from PMU, the PMSC shall follow Individual Consultant Selection (ICS) method following ADB guidelines for engaging consultants.

No.	Position	Qualification		Person-months
			and <ul style="list-style-type: none"> <li>• Oversee the operation and maintenance phases of the contracts.</li> </ul>	
2	Resident Engineer – (2 Nos.)	Graduate Civil Engineer with preferably 10 years of overall experience in construction supervision, out of which 5 years should be in the construction of large scale urban water supply pipelines, WTP and other water and sewerage facilities.	<ul style="list-style-type: none"> <li>• Supervising and monitoring construction of all project components, preparing measurements for works completed and in progress and verifying bills for payment to the contractors/suppliers;</li> <li>• Checking the line, level and layout of construction to ensure conformity with the contracts, proposing any changes in the plans required as a result of findings during construction such as unforeseen obstructions;</li> <li>• Assessing and ensuring the adequacy of contractors' inputs in terms of materials, equipment, construction machinery, workers, and construction approach and methodologies;</li> <li>• Carrying out third party inspections as necessary and providing certification on the quality of the materials/plant/supplies based on such inspections;</li> </ul>	96 (2x48)
<b>Road Sector</b>				
1	Construction Manager – Deputy Team leader	Graduate Engineer with a post graduate qualification in construction planning/management and with preferably 20 years of post-graduation experience in managing and coordinating large externally aided projects in road sector; extensive experience with software such as Primavera, MS Project	<ul style="list-style-type: none"> <li>• Liaise with the IAs/PMU on a regular basis;</li> <li>• Lead the construction supervision teams to ensure that all inspections and record keeping is in compliance with sound engineering practice and quality control procedures;</li> <li>• Establish contract tracking systems, including implementation schedules and milestones;</li> <li>• Review contractors' quality plans, HSE plans and EMPs;</li> <li>• Review the construction</li> </ul>	48

No.	Position	Qualification		Person-months
			<p>drawings, procedures and methodology proposed by the contractors;</p> <ul style="list-style-type: none"> <li>• Oversee construction supervision and contract management;</li> <li>• Ensure that co-ordination and public awareness is maintained at all times;</li> <li>• Oversee dispute prevention and resolution, claims assessment and evaluation; and</li> <li>• Oversee the operation and maintenance phases of the contracts.</li> </ul>	
2	Resident Engineer – Transportation (2 Nos.)	Graduate Civil Engineer with preferably 15 years of overall experience in construction supervision, out of which 5 years should be in the construction of highway and flyover structures.	<ul style="list-style-type: none"> <li>• Supervising and monitoring construction of all project components, preparing measurements for works completed and in progress and verifying bills for payment to the contractors/suppliers;</li> <li>• Checking the line, level and layout of construction to ensure conformity with the contracts, proposing any changes in the plans required as a result of findings during construction such as unforeseen obstructions;</li> <li>• Assessing and ensuring the adequacy of contractors' inputs in terms of materials, equipment, construction machinery, workers, and construction approach and methodologies;</li> <li>• Carrying out third party inspections as necessary and providing certification on the quality of the materials/plant/supplies based on such inspections;</li> </ul>	96 (2x48)
Urban sector				
1	Construction Manager – Deputy Team leader	Graduate Engineer with a post graduate qualification in construction planning/management and with preferably 20 years of post-graduation experience in	<ul style="list-style-type: none"> <li>• Liaise with the IAs/PMU on a regular basis;</li> <li>• Lead the construction supervision teams to ensure that all inspections and</li> </ul>	48

No.	Position	Qualification		Person-months
		managing and coordinating large externally aided projects in urban sector; extensive experience with software such as Primavera, MS Project	<p>record keeping is in compliance with sound engineering practice and quality control procedures;</p> <ul style="list-style-type: none"> <li>• Establish contract tracking systems, including implementation schedules and milestones;</li> <li>• Review contractors' quality plans, HSE plans and EMPs;</li> <li>• Review the construction drawings, procedures and methodology proposed by the contractors;</li> <li>• Oversee construction supervision and contract management;</li> <li>• Ensure that co-ordination and public awareness is maintained at all times;</li> <li>• Oversee dispute prevention and resolution, claims assessment and evaluation; and</li> <li>• Oversee the operation and maintenance phases of the contracts.</li> </ul>	
2	Resident Engineer – (2 Nos.)	Graduate Civil Engineer with preferably 15 years of overall experience in construction supervision, out of which 5 years should be in the construction of large scale urban water supply pipelines, WTP and other water and sewerage facilities.	<ul style="list-style-type: none"> <li>• Supervising and monitoring construction of all project components, preparing measurements for works completed and in progress and verifying bills for payment to the contractors/suppliers;</li> <li>• Checking the line, level and layout of construction to ensure conformity with the contracts, proposing any changes in the plans required as a result of findings during construction such as unforeseen obstructions;</li> <li>• Assessing and ensuring the adequacy of contractors' inputs in terms of materials, equipment, construction machinery, workers, and construction approach and methodologies;</li> <li>• Carrying out third party</li> </ul>	96 (2x48)

No.	Position	Qualification		Person-months
			inspections as necessary and providing certification on the quality of the materials/plant/supplies based on such inspections;	
Power Sector				
1	Construction Manager – Deputy Team leader	Graduate Engineer with a post graduate qualification in construction planning/management and with preferably 20 years of post-graduation experience in managing and coordinating large externally aided projects in power sector; extensive experience with software such as Primavera, MS Project	<ul style="list-style-type: none"> <li>• Liaise with the IAs/PMU on a regular basis;</li> <li>• Lead the construction supervision teams to ensure that all inspections and record keeping is in compliance with sound engineering practice and quality control procedures;</li> <li>• Establish contract tracking systems, including implementation schedules and milestones;</li> <li>• Review contractors' quality plans, HSE plans and EMPs;</li> <li>• Review the construction drawings, procedures and methodology proposed by the contractors;</li> <li>• Oversee construction supervision and contract management;</li> <li>• Ensure that co-ordination and public awareness is maintained at all times;</li> <li>• Oversee dispute prevention and resolution, claims assessment and evaluation; and</li> <li>• Oversee the operation and maintenance phases of the contracts.</li> </ul>	48
1	Resident Engineer – (2 Nos.)	Graduate Civil Engineer (2) and Electrical Engineer (1) with preferably 15 years of overall experience in construction supervision, out of which 5 years should be in construction of transmission lines and substations large	<ul style="list-style-type: none"> <li>• Supervising and monitoring construction of all project components, preparing measurements for works completed and in progress and verifying bills for payment to the contractors/suppliers;</li> <li>• Checking the line, level and layout of construction to ensure conformity with the contracts, proposing any changes in the plans</li> </ul>	96 (2x48)

No.	Position	Qualification	Person-months
			<p>required as a result of findings during construction such as unforeseen obstructions;</p> <ul style="list-style-type: none"> <li>Assessing and ensuring the adequacy of contractors' inputs in terms of materials, equipment, construction machinery, workers, and construction approach and methodologies;</li> <li>Carrying out third party inspections as necessary and providing certification on the quality of the materials/plant/supplies based on such inspections;</li> </ul>
<b>Sub-total</b>			<b>576</b>

**Table 3: Summary of Non-Key Experts**

Sl. No.	Position	Qualification	Person-months
<b>Non-key Experts</b>			
1	Engineers/Construction supervisors	Diploma /Graduate Engineers with preferably 10 years of overall experience in construction supervision, out of which 5 years should be in multi sector projects.	288 (6 x48)
2	Community Mobilization Expert (for community awareness and participation awareness under Stake holder's consultation strategy)	Graduates in sociology, Gender Studies, or related field with at least 7 years of experience (i) in community mobilization practices, participatory teaching-learning methods, especially for adults on health, hygiene, sanitation, water conservation management and community development work; (ii) gender mainstreaming and equality;	30
3	Community organizer (for community awareness and participation awareness under Stake holder's consultation strategy)	Intermediate level education with 3-5 years' experience in organizing community level meetings, social mobilization, gender issues, implementation of programs for the poor. 50% of the community workers will be women.	30
4	Community workers	Intermediate level education and prior experience in conducting surveys as enumerators and community workers, 50% of the enumerators/community workers will be women.	30
5	Data Entry support for surveys ((for community awareness and participation awareness under Stake holder's consultation strategy)	Intermediate level education IT experts with 3-5 years' experience in data entry.	30

**Table 4: Support Staff Requirements**

Sl.No	Position	Minimum man-month
1	Accountant	72
2	Office manager	72
3	CAD operator	48
4	Office assistant – 2 Nos.	72

## 6. Reporting Requirements and Time Schedule for Deliverables

33. The contents of each report will be discussed and agreed with the DOIC in advance. The time schedule for the key deliverables is given in Table 5. The PMSC will submit six hard copies and one electronic copy of each report. Final reports will also be submitted on a CD ROM.

**Table 5: Schedule of Deliverables**

No.	Deliverable	Submission (month)
1	Monthly Progress Reports	Monthly
2	QA & QC Manual for VCICDP program	End of first 3 months
3	Safety Manual for VCICDP	1 <sup>st</sup> month
4	Inception Report	2 <sup>nd</sup> month
5	Data Review Report	3 <sup>rd</sup> month
6	Safeguards and PPMS Reports	Quarterly
7	Semiannual safeguard monitoring report (environment and social)	Semiannually
8	Program Completion Report	End of Contract Period

Notes: (i) Monthly Progress Report within 5 days of commencement of each calendar month.  
(ii) Quarterly Progress Report: as agreed with DOIC- Report format and quality of analysis is important.

## 7. All reports, bid documents etc. will be submitted to:

The Commissioner of Industries (PMU)  
Directorate of Industries, Chirag Ali Lane, Abids  
Hyderabad – 110052  
E Mail:director.industry@ap.gov.in  
Tel:+91-40- Fax: +91-40-23441611

## 8. Client's Input and Counterpart Personnel

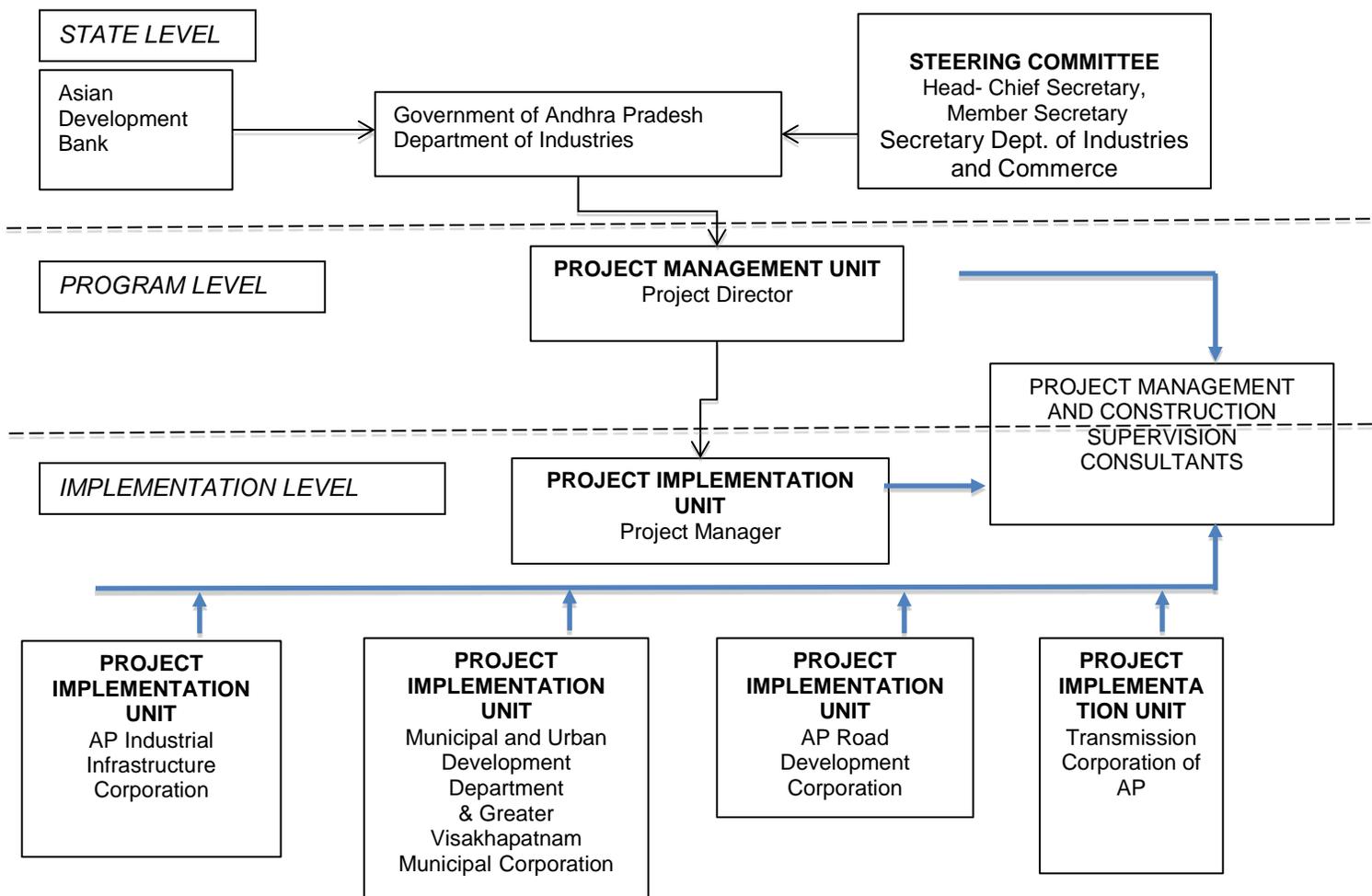
- (i) PMU shall provide assistance to the PMSC for liaison with other departments and Project stakeholders. However, full responsibility for arranging meetings lies with the PMSC; and
- (ii) PMU shall provide counterpart personnel for training and capacity building. Details will be shared during RFP stage.

## 9. Inputs, project data and reports to facilitate preparation of the Proposals:

34. DOIC shall make the following reports available to consultants to facilitate the preparation of proposals:

- (i) CDP and RPP prepared by GoAP with ADB's assistance;
- (ii) All Aide-memoires of ADB Mission; and
- (iii) Ongoing contracts between the GoAP and its contractors in the corridor.

### Attachment 1: VCICDP Implementation Arrangements



## APPENDIX 11: TERMS OF REFERENCE FOR ROAD SAFETY AWARENESS CONSULTANT

### A. Background

1. Andhra Pradesh has a serious and deteriorating road safety problem that has become a significant public health issue. According to data compiled by the Andhra Pradesh Road Safety Authority (APRSA), in 2006 on average there were 117 accidents per day, with 34 people dead and 164 people injured, while in 2007 the corresponding figures were 131 accidents, with 36 persons dead and 179 injured. The combination of rapidly growing motorization levels and higher speeds, as a result of better quality of highways, has led to a growing incidence of accidents, and unless strict measures are taken by the relevant agencies the situation is likely to deteriorate further. The lack of coordination between the multiple agencies involved in road safety is a major constraint for developing and enforcing road safety regulations.

2. **Road Safety Component:** This component will help Government of Andhra Pradesh (GoAP) provide safer road corridors by initiating measures to reduce road accidents on major corridors by assisting the concerned GoAP agencies to: (i) undertake 'demonstration projects' on selected core road network (CRN) corridors; (ii) carry out an extended black-spot improvement program, awareness program, integrated check post; and (iii) improving the state's road safety capacities.

### B. Impact, Outcome and Outputs

3. The long-term impact of this assignment will be sustainable and cost-effective improvement of road safety in GoAP.

4. It is anticipated that the intended outcome will be achieved through advisory support, on-the-job training, and knowledge transfer to the counterpart agencies by a team of experts with international and national qualifications, and through specific, time-bound, and measurable outputs, including (i) road safety diagnosis, (ii) road safety awareness programs on selected high-risk corridors, (iii) strengthening of the road safety management capacity, (iv) development of road safety policies and business procedures to incorporate road safety into the lifecycle of roads, and (v) designing integrated check post.

### C. Scope of Services

5. The scope of services will include, but not necessarily be limited to, the following tasks:<sup>1</sup>

#### 1. Strengthen road safety management capacity of APRDC and the state.

6. The Consultant will:

- (i) Review the status of the road safety management capacity in the state, and existing recommendations and views on the strengthening of the road safety management capacity, and propose amendments to the recommendations as needed. Following the acceptance by the APRDC, the Consultant will provide advisory support in the implementation of the recommendations,

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<sup>1</sup> The proposed methodologies are tentative only, the Consultant is expected to propose its own methodologies and solutions which will demonstrate the achievement of the required outcome and outputs, indicate challenges in implementation and the ways they will be addressed.

- (ii) The Consultant will concentrate on advisory support and assisting Transport Department with the operationalization of road safety policies, procedures, techniques and tools developed under task (3) below;
- (iii) Suggest ways of strengthening coordination between the stakeholders in the state; and
- (iv) Identify sources of finance that can be used for road safety activities, which can be used by different department involved such as Home, Health, Transport and Education.

## 2. Review road safety program on two pilot corridors.

7. APRDC together with the Health, Education and Transport Department will implement multisectoral safety program on two pilot corridors. The Consultant will conduct a before-after review of the program effectiveness and assess relative contribution of the program components to the extent possible, including both quantitative techniques (such collision causation) and appropriate qualitative techniques (such as analysis of the major risk factors). The findings will be taken into account when developing a pilot safe corridor/blackspot program under APRDC.

## 3. Assist with incorporating safety into lifecycle of state roads.

8. The Consultant will define specific road safety tasks to be done at each stage of the road lifecycle including planning, feasibility, design, construction, pre-opening, post construction, and operation/maintenance of existing roads; will guide APRDC on the implementation, including through on-the job training for APRDC staff; and conduct dedicated road safety training for APRDC and Transport Department staff. The Consultant will develop road safety policies; specific business processes to implement the policy; road safety tools,; and amendments to RFPs and bidding documents in use by APRDC to ensure that identified road safety tasks are fully incorporated. This might include:

- (i) **At the design stage:** the Consultant might propose/specify: (i) mandatory input of a road safety engineer on the design team; (ii) road safety audit (RSA) done by APRDC and/or independent third party; (iii) step-by-step RSA process with roles, responsibilities and reporting requirements, including RSA report templates; (iv) model TORs on the RSA and on the input of the road safety engineer in the design team; and (iv) policy on RSA of DPRs defining which category roads should undergo RSA and in which mode (mandatory or desired).
- (ii) **At the construction stage:** For RSAs of the work zones the Consultant will develop step-by-step RSA process with roles, responsibilities and reporting requirements, including RSA report templates etc. The Consultant will also prepare a model road safety part of the TOR for the construction supervision consultant, which might include the input of the road safety expert to: (i) conduct RSA of design (if not done previously); (ii) review and approve temporary traffic control schemes and inspect work zones to ensure road safety during construction; (iii) inspect and ensure road safety measures are implemented as designed; (iv) conduct analysis of road accidents occurred on project roads during project implementation and propose countermeasures to mitigate road safety risks; and (v) conduct pre-opening or post-construction road safety audits immediately after opening to traffic.  
**For existing roads:** the Consultant will: (i) develop a policy on selection of roads for RSA (which may be based on the quantitative road network

screening/blackspot identification techniques; (ii) step-by-step RSA process with roles, responsibilities and reporting requirements, including RSA report templates etc.; (iii) model TORs on the RSA of existing roads; (iv) step-by-step process on the network screening/blackspot identification; which may include several options as applicable, such as qualitative (RSA of the network, iRAP technique) and quantitative (accident data analysis); (v) propose engineering countermeasures which can be implemented on the existing road network on a mass scale.<sup>2</sup>

- (iii) **For monitoring and evaluation:** The Consultant will develop monitoring and evaluation techniques to identify the effectiveness of road safety work in the state both in general and for specific countermeasures and on specific road entities, including before-after quantitative techniques, collision causation analysis techniques including overrepresentation analyses, etc.

#### 4. Implement the road safety component under VCIC Investment Program.

9. The Consultant will assist with the implementation of the road safety component under VCIC which will include several elements, as provided below.

10. **Pilot safe corridor/blackspot program.** In consultation with APRDC, identify a list of blackspots on the core road network and will select two corridors (with the total length not exceeding 200 km) with high number of blackspots for the improvement under the VCIC. The consultant will conduct road safety audits of the corridors and each blackspot, supplemented by all necessary accident data analyses to the extent possible. The services will include field visits to the corridors and blackspot locations conducted together with the concerned PIUs staff; development of countermeasures at the pre-feasibility level including sketches, costing of countermeasures, list of road safety equipment, and providing informed estimates of expected reduction in accident frequencies and/or severities. This will be a basis for a review by concerned APRDC staff who will further develop the recommendations and engage DPR consultants to prepare designs. The Consultant will start the assignment with this task. The countermeasures will include both engineering and non-engineering countermeasures.

11. Engineering countermeasures may range from low cost (which can also be integrated into the routine maintenance practice) to medium costs (such as bus stop bays, separated pedestrian sidewalks and bikeways, shoulder and centerline rumble strips, lighting, access management measures, right turn bays, roadside hardware, road widening, dedicated truck parking lots, intersection channelization, elevated police patrol bays etc), or high costs (such as frontage roads, dedicated rickshaw/motorcycle ways, cantilever pedestrian sidewalks or motorcycle/rickshaw ways on bridges, bridge widening, pedestrian overpasses, curve flattening, access control measures, grade separation, etc). As a general principle, the improvement in road safety should not be achieved at the expense of traffic operations, and ideally should also result in the improvement in traffic operations.

12. Non-engineering countermeasures may include, but not be limited to the measures to improve enforcement (especially related to speed limit violations), increase road safety awareness along the corridors, safe way to school programs, and emergency response. The Consultant will prepare the outlines of the related programs and estimate the costing and related benefits.

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<sup>2</sup> For example, centerline rumble strips have shown to be low cost and highly effective for the reduction of run-off-the-road crashes

**13. Data collection system to operationalize Road Accident Analysis System (RAAS).**

The consultant will review existing accident data collection system in the state, identify gaps, and propose improvements and pilot data collection schemes.<sup>3</sup> The Consultant will then identify the needs for equipment and software required to operationalize RAAS (e.g., GIS hand held devices for data collection which can be procured under VCIC, etc) and provide advisory support in the use of the equipment.

**14. Integrated Check Post.** The consultant will prepare the design for the integrated check post to be financed in Tranche 2 of VCIC, in consultation with APRDC. The Consultant will then prepare a complete set of bidding document to procure integrated check post services and assist APRDC in the bidding process. The Consultant will monitor and advice the development and operation of the integrated check post.

**15. Assist with RSAs.** The consultant will participate in selected RSAs conducted by the road safety experts on the team of the supervision consultant for VCIC, contribute to the joint RSA analyses and reports, and provide on-the-job RSA training as needed.

**5. Develop State Road Design Manual.**

**16.** The Consultant will develop State Road Design Manual which will be based on best international manuals/guidelines tailored to local conditions and will be promoting safe, cost-efficient and sustainable road design approaches, principles and practices.

**D. Implementation Arrangements, Staffing and Schedule**

**17.** This assignment will be carried out by a firm of international consultants in association with national consultants over the period of 8 months. Staffing input of the firm will be 10 person-months of international consultants and 12 person-months of national consultants with the indicative breakdown of person-months and assignment of tasks shown in Table 1. Qualification requirements are in Section G. The Consultant will work in close coordination with iRAP which will conduct the road safety assessment of around 1000 km on the national highways, provide tentative infrastructure safer road investment plans, digital imaging of iRAP inspections, and conduct training on the use of iRAP methodology, including methodology for the cost-benefit analysis of the road safety measures accounting for social cost of road trauma.

**Table 1. Indicative Breakdown of Consultant's Input**

<b>International Staff</b>			
<b>No.</b>	<b>Position</b>	<b>Tasks</b>	<b>Input</b>
1	Road Safety Expert (Team Leader)	1-5	24.0
2	Road Safety Engineer	4,5	12.0
<b>National Staff</b>			
3	Highway Design Engineer (Deputy Team Leader)	1-5	24.0
4	Road Safety Expert/Analyst	1-5 (support)	24.0

<sup>3</sup> This may include exploring innovative schemes for accident data collection, such as collecting of road-related accident data by APRDC or by private companies to which this task could be outsourced, in coordination with the police, so that all data essential for the engineering road safety work in the state (including exact locations of each accident) could be captured.

International Staff			
No.	Position	Tasks	Input
<b>Support Staff</b>			
5	Social mobilizers (5 persons)	4	24.0
6	Data collectors (5 persons)	1-5 (support)	24.0
7	Accountant (1 person)		24.0

18. The firm will be engaged by ADB in accordance with ADB’s *Guidelines on the Use of Consultants* and other arrangements satisfactory to ADB on the engagement of national consultants. The consulting firm will be engaged using ADB’s quality and cost-based selection procedures (QCBS) with a quality-cost ratio of 80:20. Simplified Technical Proposals (STPs) will be requested.

19. International team members will be required to provide at least 90% of their input working in India (office or field), while the rest of the input (such as finalizing the reports) can be done in their home offices. National team members will be required to provide all their input working in India (office or field).

**E. Deliverables**

20. **Main Reports.** The Consultant will prepare an inception report, monthly progress reports, a draft final report and a final report. All reports will be in English. One hard copy and one electronic copy of each report will be submitted to APRDC, Transport Department and to ADB.

- (i) **Inception Report.** To be submitted four weeks after commencing the services. The report will be based on work and staffing schedules agreed upon during contract negotiations, will contain refined study design (approach, methodology and work plan), contain outline table of contents of the final report, highlight problems encountered and anticipated, and will recommend solutions.
- (ii) **Progress Reports.** Brief reports will be submitted monthly, based on the inception report implementation and staffing schedules, and identify matters that require the attention of the government and/or ADB.
- (iii) **Draft Final Report.** This report, to be submitted during 20<sup>th</sup> month, will present all outputs, including all results contained in the additional reports outlined below. The report will summarize the support extended to the implementation of the recommendations provided in the course of the assignment, specific results achieved, lessons learned, and further actions and support required. Matrix outlining issues identified, recommendations provided, implementation status and further actions will be provided as one of the report appendices. The report will contain a concise executive summary.
- (iv) **Final Report.** This report will be submitted at the end of 22<sup>th</sup> month, and will incorporate comments on the draft final report from the government and ADB.

21. **Additional Reports.** The Consultant will prepare additional reports, as follows.<sup>4</sup> Some reports can be combined as appropriate:

Report	Timeline
Road Safety Diagnosis and Recommendations Report	2 <sup>nd</sup> month
Strengthening Road Safety Management Capacity	4 <sup>th</sup> month
Road Safety Policies and Business Procedures	5 <sup>th</sup> month
Road Safety Programs on Selected High Risk Corridors	6 <sup>th</sup> month
Integrated Check Post Report and Bidding Document	8 <sup>th</sup> month

22. **Workshops and dedicated training.** The Consultant will deliver following workshops and training:

Workshop <sup>5</sup>	Timeline
Dedicated Road Safety Training	2 <sup>nd</sup> month
Road Safety Diagnosis and Recommendations	4 <sup>th</sup> month
Road Safety Policies And Business Procedures	6 <sup>th</sup> month
Road Safety Programs On Selected High Risk Corridors	8 <sup>th</sup> month

## F. Government Input

23. APRDC will provide counterpart staff and part-time support staff for the Consultant, provide all relevant information and data, and ensure proper level of review of the recommendations provided by consultant. APRDC will ensure active participation of the concerned staff in the field visits, workshops, dedicated training, and all on-the-job training activities. APRDC will provide an office for the Consultant in their premises to ensure effective cooperation between the Consultant and APRDC staff.

24. For the safe corridor program APRDC will: (i) provide all information available for the selection of candidate corridors for the road safety analysis; (ii) provide road design documentation, accident and traffic data and other relevant information regarding each corridor as available; (iii) ensure participation of concerned staff in the field visits together with the consultant; (iv) conduct baseline, traffic and other surveys as needed to supplement data already available; (v) review the countermeasures, decide on acceptance and modifications/alternatives as needed; and (vi) engage design consultants to prepare design (roads and traffic management schemes) to implement safe corridor programs developed by the Consultant.

<sup>4</sup> Timeline is indicative only. The Consultant will propose alternative timelines based on their proposed approach and methodology.

<sup>5</sup> The Consultant will make efforts to identify and invite to participate in the workshops the custodians of best road safety practices and tools which may be subsequently implemented in the country, (be it jurisdictions, providers, NGOs, UN etc)

## **G. Qualifications Requirements**

25. The qualification requirements are “preferred” qualifications, and not pass/fail. However, qualification requirements specifically mentioned with language such as “minimum” or “at least” are pass/fail, and failing them will be considered as “non-complying” for those specific requirements.

26. The qualifications described are to supplement the information already provided in the TOR that directly or indirectly defines the level and range of expertise, qualifications and experience to be possessed by the experts, and is, therefore, not an exhaustive list of requirements.

### **1. International Experts**

#### **a. Team Leader/Road Safety Expert**

27. Should be a senior level Civil/Traffic Management/Road Safety Engineer with a minimum of bachelor’s degree, and preferably with a master’s degree in Traffic/Road Safety Engineering and/or extensive road safety training. Should have at least 15 years experience in various aspects of road safety management and engineering. This should include experiences in projects on strengthening road safety management capacity of executing/implementing agencies; preparing data-driven road safety action plans for agencies/jurisdictions, and road safety programs (both engineering and non-engineering); developing road safety tools, policies, and guidelines; leading RSA teams and conducting RSAs at various stages in project implementation; identification and treatment of blackspots/high risk corridors; road safety monitoring and evaluation, including accident data analyses. Must have all-round knowledge of all other aspects of road safety, accident data management, road safety legislature, funding for road safety, the use of ITS, road safety education and awareness programs, safe way to school programs, enforcement, highway rescue and involvement of NGOs. Must have knowledge of gender issues related to road safety and capacity to address them through the road safety component of the project. He/she must have a successful experience in project management at senior levels. Must have a combination of experiences in both developed and developing countries.

#### **b. Road Safety Engineer**

29. Should be a Civil/Traffic Management/Mechanical/ Road Safety Engineer with a minimum of bachelor’s degree, and preferably with a master’s degree in Traffic/Road Safety Engineering and/or extensive road safety and road safety audit training. Should have at least 10 years experience in various aspects of road safety engineering, including identification and treatment of blackspots/high-risk corridors, design and implementation of integrated check post, development and implementation of engineering road safety programs (including infrastructure-intensive physical road safety engineering measures) for high-risk road sections/corridors, road safety monitoring and evaluation, and conducting road safety audits at various stages in project implementation. Must have knowledge of safety effect of engineering countermeasures, proper placement and use of signs, pavement markings, check post, overloading, and roadside hardware. Must be familiar with accident data analysis techniques including collision diagrams, overrepresentations, trends, forecasts, before-after studies, spatial data analyses (identification of blackspots and high-risk locations or corridors). Must have a combination of experiences in both developed and developing countries.

**2. National Team****a. Highway Design Engineer Cum Deputy Team Leader**

30. Should be a senior level Highway Engineer with a minimum of Bachelors Degree in Civil Engineering, having experience of at least 15 years, out of which he/she should have conducted consulting services in road design for at least 10 years, including preparation of preliminary and detailed road designs and designs of traffic management schemes. Proficiency and extensive experience in the application of road design software (e.g., AUTOCAD,,etc) is essential. He/she must have a successful experience in project management at senior levels. Experience in the delivery of TAs financed by one or more external financiers (ADB, JBIC, World Bank or other bilateral/multilateral funding agencies) will be an advantage.

**b. Road Safety Expert / Analyst**

31. Should be a Civil Engineer preferably completed dedicated road safety training, with at least 7 years experience in various aspects of road safety with emphasis on developing road safety engineering countermeasures, and the accident data analysis. Experience in application of statistical methods in data analysis and conducting road safety audits will be an advantage.

## **APPENDIX 12: TERMS OF REFERENCE FOR EXTERNAL MONITORING CONSULTANT FOR RESETTLEMENT**

### **A. Project Description**

1. Government of Andhra Pradesh (GoAP) has taken up the implementation of the Visakhapatnam to Chennai Industrial Corridor Development Program (VCICDP) and has proposed to avail Asian Development Bank (ADB) financing for the same. The project involves infrastructure development and policy and institutional reforms to stimulate economic growth and employment generation. The subprojects covering transport, water supply, energy and infrastructure in industrial estate/SEZ, have been proposed in identified project towns and industrial clusters.

2. The project is being executed by the Department of Industries and Commerce (DOIC) who will be the Project Management Unit (PMU) and being implemented by separate Project Implementation Units (PIUs) formed for each sector. The subprojects include 5-road subprojects under PIU-APRDC, 3-water supply subprojects under PIU-GVMC, 2-industrial estate/SEZ infrastructure subprojects under PIU-APIIC and 10-substation and related transmission lines under PIU-Transco.

3. Resettlement Plan (RP) have been prepared for 10-subprojects involving Land Acquisition (LA) and Involuntary Resettlement (IR) impacts and for the remaining subprojects that have no LA & IR, due diligence reports have been prepared. All the RPs have been prepared based on census and baseline socio-economic surveys conducted in the field. The RP describes: (i) the project components that cause involuntary resettlement; (ii) socio economic characteristics of the affected people; (iii) entitlements and method of valuation of assets; (iv) institutional and implementation arrangements required to mitigate adverse impacts; and (v) budget and time line for RP implementation.

4. The PMU has appointed agencies/NGO's to support the PIU in RP implementation. The subproject includes a provision for monitoring and evaluation of the implementation of the subproject resettlement plans by an external monitor/agency. Therefore, the PMU requires the services of a reputed individual/consultancy firm for monitoring and evaluation of RP implementation.

### **B. Scope of work – Generic**

5. The scope of work include:

- (i) To review and verify the progress in resettlement implementation as outlined in the RP;
- (ii) To monitor the effectiveness and efficiency of PIU, and NGO in RP implementation;
- (iii) To assess whether resettlement objectives, particularly livelihoods and living standards of the Affected Persons have been restored or enhanced;
- (iv) To assess resettlement efficiency, effectiveness, impact and sustainability, drawing both on policies and practices and to suggest any corrective measures, if necessary; and
- (v) To review the project impacts on vulnerable groups, indigenous people and groups and assess the effectiveness of the mitigative actions taken.

### **C. Scope of work- Specific**

6. The major tasks expected from the external monitor are:
- (i) To develop specific monitoring indicators for undertaking monitoring for RP implementation;
  - (ii) Review results of internal monitoring and verify claims through random checking by adopting suitable sampling method at the field level to assess whether land acquisition/resettlement objectives have been generally met;
  - (iii) Involve the affected people and community groups in assessing the impact of land acquisition for monitoring and evaluation purposes;
  - (iv) Evaluate and assess the adequacy of compensation and resettlement assistances given to the affected persons, the resettlement sites developed and relocation process and the livelihood opportunities and incomes as well as the quality of life of affected persons; and
  - (v) To evaluate and assess the adequacy and effectiveness of the consultative process with affected persons, particularly those vulnerable, including the adequacy and effectiveness of grievance procedures and legal redress available to the displaced persons, and dissemination of information about these.

### **D. Time Frame and Reporting**

7. The independent monitoring agency/expert will be responsible for overall monitoring of the RP implementation and will submit quarterly review directly to PMU for onward transmission to ADB with PMU's comments.

### **E. Qualifications**

8. The monitoring agency/expert will have significant experience in resettlement policy analysis and RP implementation. Further, work experience and familiarity with all aspects of resettlement operations would be desirable. The Team Leader / Expert should have the following qualification: (i) postgraduate degree in social science; (ii) 15 years experience in resettlement; (iii) experience in ADB/WB funded resettlement projects; and (iv) resettlement monitoring experience in ADB/WB funded projects. Interested agencies/consultants should submit proposal for the work with a brief statement of the approach, methodology, and relevant information concerning previous experience on monitoring of resettlement implementation and preparation of reports.

9. The profile of agency/expert along with full CV of monitors to be engaged must be submitted along with the proposal.

### **F. Budget and Logistics**

10. Copies of the proposal - both technical and financial - should be submitted and the budget should include all cost and any other logistics details necessary for resettlement monitoring.

**APPENDIX 13: GENDER ACTION PLAN: GENDER EQUALITY AND SOCIAL INCLUSION (GESI) ACTION PLAN**

SI	Activity	Target / Indicator	Responsibility	Time
<b>Output 1: Corridor management strengthened and ease of doing business improved</b>				
1.	Increase the number of women applicants using newly operationalized e-portal and single-desk system for issuing business-related licenses	<ul style="list-style-type: none"> <li>At least 20% applicants are women (2015 baseline: 8%)</li> <li>Handholding support provided to potential women applicants on the process of applying for licenses through the e-portal and for operationalize their businesses.</li> </ul>	PMU, PMSC	1-2 years
2.	Notify and launch new industrial and sector policies with fiscal incentives and special packages for women entrepreneurs	<ul style="list-style-type: none"> <li>New industrial and sector policies with special incentives for women notified and implemented (2015 baseline: Not applicable).</li> </ul>	PMU, PMSC	1-2 years
3.	Conduct following activities: (a) community orientation seminars on project-related issues such as setting up and operating a business, new initiatives of ease of doing business including special incentives for women; (b) public meetings and women-only FGDs with women leaders, RWAs, women's SHGs and other community-based groups on issues such as: women's rights including those of education and employment and access to property rights, personal/female hygiene, social safety, etc.	<ul style="list-style-type: none"> <li>Community orientation seminars (at least 80) on key components of the project and its pro-poor, gender- and socially-inclusive design features [four/year in each of the four industrial nodes];</li> <li>Public meetings and women-only FGDs (at least 60) conducted on starting and operating businesses in project areas [Target: 50% women participation in each meeting] [three/year in each industrial node];</li> <li>Gender-focused strategies developed and activities conducted in schools/colleges; reports of activities prepared and follow-up activities done [Target: 50% girl students participation/meeting] [50 schools or colleges/year in project influence area];</li> <li>Public service advertisements (90) on women's rights, employment in industries, access to incentives to start and operate businesses produced and played in radio, newspapers, and television programs [at least three/year in four nodes]; and</li> <li>IEC campaigns (leaflets, posters, banners, rallies, competitions, etc.) in project influence area to publicize the pro-poor, gender- and socially-inclusive design features of the project [in each industrial node].</li> </ul>	PMU, PMSC	1-2 years
<b>Output 2: VCIC infrastructure strengthened and more resilient</b>				
4.	Undertake gender-responsive project design <sup>1</sup>	<ul style="list-style-type: none"> <li>Detailed design of roads and industrial infrastructure includes gender-sensitive features and budget; and</li> <li>Gender-sensitive features of roads and industrial infrastructure implemented.</li> </ul>	APRDC, APIIC, PMU, PMSC	1-5 years
5.	Ensure increased women's	<ul style="list-style-type: none"> <li>Average daily employment of women in factories in Andhra Pradesh</li> </ul>	APIIC, PMU,	By

<sup>1</sup> Gender-responsive design features for roads and industrial subprojects will include walking paths/service lanes, separate toilets for women, telephone helplines, adequate lighting, safety measures such as signage and demarcated road crossings, well-lit and safe public spaces and industrial clusters. Operation and maintenance arrangements for such facilities created will be clearly defined to ensure their sustainability.

SI	Activity	Target / Indicator	Responsibility	Time
	participation in industrial labor force <sup>2</sup>	increased to 18% (2015 baseline: 13.4%); and <ul style="list-style-type: none"> <li>Women account for more than 35% of the new recruits (2015 baseline: 30%).</li> </ul>	PMSC	2025
6.	Engage women workers in construction and rehabilitation work, ensuring implementation of core labor standards such as equal pay for work of equal value, and protection of women from discrimination and other forms of harassment	<ul style="list-style-type: none"> <li>Women's access to unskilled labor opportunities [Target: 33%];</li> <li>Payroll showing worker's name, sex, and paid wages available with the contractors for inspection;</li> <li>All engaged contractors and workers oriented on gender-related aspects with focus on appropriate legislations and regulations; and</li> <li>Skill enhancement programs conducted for 25,000 workers, entrepreneurs and students (at least 20% women), of which 5,000 will be benefited in years 1-3.</li> </ul>	GVMC, APIIC, APRDC, APTransco, PMU, PMSC	1-5 years
7.	Improved water supply in Greater Visakhapatnam Municipal Corporation <sup>3</sup>	<ul style="list-style-type: none"> <li>More than 95% households in north-west zone receive 24x7 water supply (2015 baseline: 0%).</li> </ul>	GVMC, PMU, PMSC	1-2 years
<b>Output 3: Institutional capacities, human resources, and program management strengthened</b>				
8.	Employ women staff in project units/offices, conduct gender awareness workshops for all project staffs	<ul style="list-style-type: none"> <li>Adequate representation of women at managerial, technical and administrative levels of PMU, PIUs, consultants and nongovernment organizations involved in VCICDP [Target: 15%];</li> <li>Capacities of at least 500 project staff of all project entities [PMU, PIUs, PMSC and nongovernment organizations] enhanced on gender-responsive project management and implementation relevant to corridor development projects and other specific subproject components, through training sessions (100% women staff participate)</li> </ul>	GVMC, APIIC, APRDC, APTransco, PMU, PMSC	1-5 years
9.	Incorporate gender indicators in project management information system.	<ul style="list-style-type: none"> <li>PPMS and MIS developed with gender-relevant indicators and sex-disaggregated data for reviews and quarterly progress reports which include GESI progress report, CPP and project impact evaluation; and</li> <li>Establish baseline and maintain an entrepreneurs' database disaggregated by sex, ethnicity, poverty and vulnerability levels.</li> </ul>		
10.	Utilize strategies that create a women-friendly work environment and increase the proportion of	<ul style="list-style-type: none"> <li>20% of training opportunities by GoAP given to women, in partnership with the relevant government departments;</li> <li>All (100%) factories to have gender policy in place;</li> </ul>		

<sup>2</sup> A critical hurdle to women's participation in the labor force is the lack of safe transportation facilities. Presently, women's participation is restricted as majority of women workers either walk to the workplace, or need somebody to drop and pick them up; most women living beyond 10 km radius are unable to participate in the workforce. VCICDP will support the government to provide improved roads, improved bus transport facilities (public/private buses) to the industrial clusters.

<sup>3</sup> Safe water is known to have significant benefits to all, including women and poor households, in terms of time savings in water collection and care-giving, and savings in health costs, besides opportunity cost savings related to pumping, storage and purification. In case of the 24x7 water supply project for GVMC, affordable tariffs will be fixed in consultation with the poor, women-headed households and low income households to ensure their inclusion in project benefits.

SI	Activity	Target / Indicator	Responsibility	Time
	women in PMU/PIU and contractor offices	<ul style="list-style-type: none"> <li>• Separate and safe toilets and changing facilities for women built in PMU, PIUs, Industrial units, and contractors offices, work sites, and camps; and</li> <li>• Government of India and GoAP policies on zero tolerance for sexual harassment and other forms of gender-based discrimination in the workplace implemented.</li> </ul>		

APIIC = Andhra Pradesh Industrial Infrastructure Corporation, APRDC = Andhra Pradesh Road Development Corporation, APTransco = Transmission Corporation of Andhra Pradesh, CPP = consultation and participation plan, FGD = focus-group discussions, GESI = gender equality and social inclusion, GoAP = Government of Andhra Pradesh, GVMC = Greater Visakhapatnam Municipal Corporation, IEC = information, education, communication, MIS = management information system, PIU = project implementation unit, PMSC = project management and supervision consultants, PMU = project management unit, PPMS = project performance management system, RWA = resident welfare associations, SHG = self-help group, VCIC = Visakhapatnam–Chennai Industrial Corridor Development Program.

## APPENDIX 14: CONSULTATION AND PARTICIPATION PLAN

### A. Introduction

1. The proposed Visakhapatnam–Chennai Industrial Corridor Development Program (VCICDP) will complement ongoing efforts of the Government of Andhra Pradesh (GoAP) to enhance manufacturing sector growth and create high quality jobs in the state of Andhra Pradesh. The VCICDP comprises: (i) a policy-based loan (PBL) to support policy reforms, and institutional development in the state’s industrial sector; and (ii) a multitranche financing facility (MFF) for priority infrastructure investments within the Visakhapatnam–Chennai Industrial Corridor (VCIC).

2. The VCIC approach to industrial development is to build on the existing concentration of economic activity, and target investments and policies to enhance agglomeration benefits, including the density and flow of economic activities. The strategy includes investments in (i) a multimodal transport network for efficiently moving goods and people, (ii) world-class infrastructure for economic nodes and cities, and (iii) logistics infrastructure to support high-volume trade. Investments will be underpinned by a policy framework that attracts and facilitates private sector operations. The program supports GoAP to implement its vision, capitalizing on the state’s strategic location on the east coast of India, and aims to establish strong linkages between production centers and cities, gateways and global production networks. It also contributes to the Government of India’s “Make in India” initiative, which seeks to attract foreign direct investment.

3. The purpose of this consultation and participation plan (CPP) is to disseminate information, and enhance the level of informed decision-making on policy, management and in the implementation of subprojects. Involvement of all stakeholders, such as groups or individuals who either benefit or are affected by a policy or a project, or, groups or individuals, who can affect the policy or the project, is envisaged. Consultations are meant to open up the line of communication between various stakeholders and the project implementing authorities, thereby aiding the process of conflict resolution in the early stages of the project cycle, rather than escalation of conflict and attendant implementation delays and cost overruns. Participation of stakeholders in the decision-making is expected to help prioritize projects and identify cost-effective measures to mitigate adverse impacts. Participation is also meant to develop ownership of assets created under the project. Stakeholder participation is anticipated to continue through the project cycle, even beyond the implementation period.

4. During the project preparation phase, stakeholder consultations for sample subprojects were conducted in coordination with the respective implementing agencies. Participants included affected households, beneficiaries of subprojects, elected representatives and other stakeholders. State level workshops and meetings with industrial associations were conducted to discuss policy issues. The feedback received from the meetings and workshops resulted in modifications to the policy matrices and in defining the CPP. In addition, consultations were held during the socio-economic surveys of households in sample subproject areas and census surveys of affected persons.

### B. Activities

5. Key activities envisaged in the CPP are summarized in the following section, and elaborated in Table 1:

**6. Activity 1: Understanding the community through baseline survey and consultations.** Key stakeholders for the VCICDP include: (i) around 40,000 households living in the northwest zone of Greater Visakhapatnam Municipal Corporation (GVMC) who are going to be benefitted from improved water supply, (ii) communities residing along the roads selected for improvement, and (iii) communities around the Visakhapatnam and Yerpedu-Srikalahasti industrial nodes. This activity shall target collection of information on socioeconomic status, vulnerability, geographical areas with concentration of marginalized and poor, available social capital, and organizations working among communities. This information will be collected by the project management and supervision consultant (PMSC) through a baseline survey, and data will be gender-disaggregated.

**7. Activity 2: Stakeholder identification and mapping.** An indicative list of the key stakeholders is as follows:

- (i) Government agencies and their employees;
- (ii) Industries and manufacturers and their associations;
- (iii) Beneficiary groups, particularly the poor and vulnerable in GVMC and along major road corridors;
- (iv) Community leaders, public representatives;
- (v) Community-based organizations, nongovernment organizations, social and cultural groups, ward level citizen forums;
- (vi) Committees and sub-committees of the municipal bodies;
- (vii) Print and electronic media;
- (viii) Schools/student groups;
- (ix) Women's groups;
- (x) Contractors and their workers;
- (xi) Vendor associations and labor union federations;
- (xii) Self-help groups, if any; and
- (xiii) Special groups formed for socially-excluded segments of the population.

**8. Activity 3: Key messages to stakeholders.** These will be on major policy initiatives and decisions, and the size and scope of subprojects and their design. An indicative list of key messages of the program to be discussed, and decisions made at each stage of the project/program/policy cycle are:

- (i) Project rationale; benefits of the proposed works; initiatives to promote gender equality by the project; employment opportunities under the project; level of inconvenience during project implementation and construction and proposed mitigation measures;
- (ii) Policy reforms and potential impact on manufacturing including e-portal and single-desk system and the focus on attracting more applications on the e-portal from women;
- (iii) Ease of doing business and the measures being taken by the GoAP for enhancing the steps for starting and operating a business;
- (iv) New industrial and sector policies and special incentives for women;
- (v) Details of initiatives taken by the GoAP for skills enhancement including various training opportunities to students, workers, and entrepreneurs, especially women;
- (vi) Industrial area infrastructure augmentation and implications on sustainable service delivery;
- (vii) Importance of enhanced connectivity on improved access to job markets and movement of goods and services between manufacturing facilities and markets;

- (viii) Road safety policy, action plan and importance of reducing road crash accidents and the measures being taken in this regard;
- (ix) Importance of 24x7 water supply; need for nonrevenue water reduction and regular water loss assessments; service delivery standards and benchmarking;
- (x) Importance of environmental health and hygiene, clean water and sanitation for good health; importance of promptly taking water and sewerage connections; need to control and report illegal/unauthorized connections; and
- (xi) ADB's and the government's safeguards measures; grievance redress mechanism.

9. **Activity 4: Design and implementation of information, education and communication (IEC) program.** This includes the following activities: identifying potential IEC channels and activities, developing audio visual and print media materials, customized campaign to suit different target groups, developing methods and mechanisms for dissemination, evaluation of impact, and mechanism for course-correction and improvement, based on feedback and evaluation. This has been defined for each stage of the project cycle as outlined in Table 1. The activity also includes policy reform related communication. The content will be prepared by the project management unit (PMU) or PMSC for each stage of consultation.

10. **Activity 5: Outreach to contractors and workers.** As contractors and workers are the primary points of contact for the residents, efforts will be made to educate them on the project regarding its structure, components, benefits, risks and mitigation measures. They shall be educated on the importance of avoiding public nuisance, minimizing public inconvenience, and avoiding disruption to public activities/mobility. Awareness creation shall also focus on health and hygiene, HIV/AIDS, communicable diseases, labor rights and gender issues. Contractors and their personnel will also be educated on the best practices in construction, including safety during construction activities, and quality of works. Consultations with contractors will be carried out during the subproject implementation phase.

11. **Activity 6: Outreach to students and workers in the manufacturing sector, especially women.** This has been the experience of past many projects that students are excellent carriers and users of messages of social and national relevance. Accordingly, special efforts will be made to plan and implement outreach programs for schools and students. As the project relates to industrial corridors, college students and technical or professional students will also be targeted. Equally important is the target group of workers engaged in the manufacturing sector for both IEC messages and also for trainings. They will also be linked with various ongoing and planned skills enhancement programs.

12. **Activity 7: Implementation and feedback.** VCICDP, through PMSC, shall be responsible for the activities listed in this note and the action plan that follows. There will be periodic reviews and proper documentation of consultation activities. Activity-wise periodic action-taken reports shall be prepared and communicated. The project website shall provide easy access to stakeholders listing the proposed plan, progress of implementation, and outcomes. These activities are summarized in the table below.

**Table 1: Consultation and Participation Plan**

<b>Activity/ Project Cycle</b>	<b>Target stakeholders</b>	<b>Type of Participation</b>	<b>Objectives</b>	<b>Time Frame</b>	<b>Outcome/ Indicators</b>	<b>Sources of Verification</b>	<b>Responsibility</b>	<b>Cost</b>
Orientation Workshop (1 whole day)	Project officials	Presentations, discussions, definition of responsibilities	Project overview, policies, procedures safeguards frameworks, plans, disclosure and reporting requirements, gender action plan monitoring and reporting requirements  Roles, responsibilities, accountabilities and reporting requirements of various government units	Year 1 (1 workshop)	Information dissemination	Workshop Reports	ADB project team, PMU and PIUs	\$2,000
Planning Stage	<ul style="list-style-type: none"> <li>▪ Elected representatives or leaders of local authorities</li> <li>▪ Board members of area development agencies</li> <li>▪ Beneficiaries</li> <li>▪ Civil society organizations in case of municipal projects; road users; industrial area or trade associations; others, as identified</li> </ul>	<ul style="list-style-type: none"> <li>▪ Council level meetings and presentations for urban projects and Board level for area or regional infrastructure projects</li> <li>▪ Key informant interviews and focus group discussions</li> <li>▪ Information leaflets about subproject and benefits</li> <li>▪ Social media sites</li> </ul>	<ul style="list-style-type: none"> <li>▪ Overview of the proposed project and interventions</li> <li>▪ Definition of issues and constraints in access to services and resources</li> <li>▪ List of needs and initial prioritization</li> </ul>	Year 1 (PIU level meetings)	<ul style="list-style-type: none"> <li>▪ Number of consultation sessions carried out for various stakeholder groups</li> <li>▪ Number of comments or suggestions received and converted into actions or projects</li> <li>▪ Base line indicators in relation to select DMF targets</li> <li>▪ No. of persons consulted</li> <li>▪ Percentage of women consulted (at least 15% participation)</li> </ul>	Summary of consultations with each group.  Baseline indicators in relation to select DMF targets	PIUs (assisted by PMU and PMSC)	\$1,200 x 4 = \$4,800

Activity/ Project Cycle	Target stakeholders	Type of Participation	Objectives	Time Frame	Outcome/ Indicators	Sources of Verification	Responsibility	Cost
					by women - target)			
	<ul style="list-style-type: none"> <li>▪ Manufacturing or trade, and related associations</li> </ul>	<ul style="list-style-type: none"> <li>▪ Workshops presentations</li> </ul>	<ul style="list-style-type: none"> <li>▪ Overview of policies, business process reform or management plans contemplated</li> <li>▪ Schedule of design and implementation</li> </ul>	Year 1	<ul style="list-style-type: none"> <li>▪ Consultations held and feedback</li> </ul>	No. of recommendations incorporated	PMU (assisted by PMSC)	\$2,000
Subproject identification stage	<ul style="list-style-type: none"> <li>▪ Beneficiary Communities or user groups</li> <li>▪ Elected representatives or leaders of local authorities</li> <li>▪ Board of Industrial or Area Development Agency</li> <li>▪ industrial area, manufacturers, and trade association</li> </ul>	<ul style="list-style-type: none"> <li>▪ Focus group discussions</li> <li>▪ Structured meetings</li> <li>▪ Social media</li> </ul>	<ul style="list-style-type: none"> <li>▪ Overview of service requirements</li> <li>▪ Subproject selection criteria                             <ul style="list-style-type: none"> <li>▪ Reason for prioritizing the subproject</li> <li>▪ improvements or benefits envisaged</li> <li>▪ User contribution requirements</li> <li>▪ Implementation schedules and arrangements</li> </ul> </li> <li>▪ Willingness to pay assessments</li> </ul>	Year 1 ( <i>PIU level meetings</i> )	<ul style="list-style-type: none"> <li>▪ Number of consultation sessions carried out for various stakeholder groups</li> <li>▪ No. of persons consulted</li> <li>▪ Percentage of women consulted</li> <li>▪ Needs, priorities, suggestions incorporated</li> </ul>	Note on Views received and incorporated into the selection of sub-projects	PIU (assisted by PMU, and PMSC)	\$1,000 x 4 = \$4,000
Subproject design stage	<ul style="list-style-type: none"> <li>▪ Beneficiary communities user groups</li> <li>▪ Elected representatives or leaders of local authorities</li> <li>▪ Board of Industrial or Area Development Agency</li> <li>▪ Industrial Area,</li> </ul>	<ul style="list-style-type: none"> <li>▪ Focus group discussions</li> <li>▪ Structured meetings and presentation</li> <li>▪ Social Media</li> </ul>	<ul style="list-style-type: none"> <li>▪ Summary of reports (DPR/IEE/RP/IPP)</li> <li>▪ Design criteria                             <ul style="list-style-type: none"> <li>▪ alternatives considered</li> <li>▪ project components involving land acquisition mitigation measures</li> <li>▪ environmental impacts and</li> </ul> </li> </ul>	Year 1 ( <i>PIU level structured meetings</i> )	<ul style="list-style-type: none"> <li>▪ Number of consultation sessions carried out for various stakeholder groups</li> <li>▪ Agreement on O&amp;M arrangements</li> <li>▪ No. of persons consulted</li> <li>▪ Percentage of</li> </ul>	<ul style="list-style-type: none"> <li>▪ Views of participants</li> <li>▪ No of objections or suggestions received and action taken</li> <li>▪ Baseline indicators in relation to select DMF targets</li> <li>▪ Draft</li> </ul>	PIU assisted by PMU and PMSC)	\$1,000 x 4 = \$4,000

Activity/ Project Cycle	Target stakeholders	Type of Participation	Objectives	Time Frame	Outcome/ Indicators	Sources of Verification	Responsibility	Cost
	manufacturers, and trade association		mitigation measures <ul style="list-style-type: none"> <li>▪ cost of the project likely charges, if any</li> <li>▪ Overview of grievance redressal mechanisms</li> <li>▪ Review of temporary impacts and mitigation measures</li> <li>▪ Specific arrangements for O&amp;M</li> </ul>		women consulted <ul style="list-style-type: none"> <li>▪ Concerns, issues, suggestions incorporated</li> </ul>	agreement documents		
	<ul style="list-style-type: none"> <li>▪ Affected persons</li> </ul>	<ul style="list-style-type: none"> <li>▪ Information sharing</li> <li>▪ Consultation</li> </ul>	<ul style="list-style-type: none"> <li>▪ Project overview: link between improved infrastructure and economic opportunities; possible livelihood/business opportunities and special protection measures for vulnerable</li> <li>▪ Solicit views of affected persons including women on compensation; job opportunities</li> <li>▪ Mitigate potential conflict or resistance</li> <li>▪ Share information on grievance redress mechanism, assistance available</li> <li>▪ Gather suggestions</li> <li>▪ Agree on mitigation measures</li> </ul>	Year 1	<ul style="list-style-type: none"> <li>▪ No. of affected persons consulted</li> <li>▪ Percentage of women affected persons consulted</li> <li>▪ Issues and concerns recorded and addressed</li> </ul>	<ul style="list-style-type: none"> <li>▪ Signed minutes of meetings</li> </ul>	PIU (with the assistance of PMSC)	Budgeted under resettlement costs
	<ul style="list-style-type: none"> <li>▪ Beneficiaries (GVMC)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Information sharing</li> <li>▪ Consultation</li> </ul>	<ul style="list-style-type: none"> <li>▪ Anticipated benefits</li> <li>▪ Temporary inconveniences</li> <li>▪ Connection procedure and tariffs</li> </ul>	Year 1	<ul style="list-style-type: none"> <li>▪ No. of beneficiaries consulted</li> <li>▪ Percentage of women</li> </ul>	<ul style="list-style-type: none"> <li>▪ Signed minutes of meetings and photographs</li> </ul>	PIU (GVMC), with the assistance of PMSC	LS \$1200 for wards in project coverage area x 2

Activity/ Project Cycle	Target stakeholders	Type of Participation	Objectives	Time Frame	Outcome/ Indicators	Sources of Verification	Responsibility	Cost
			<ul style="list-style-type: none"> <li>▪ Grievance redress</li> </ul>		among beneficiaries consulted	of consultations		times x 2 years = \$4800
	Low income or slum communities in GVMC and other project areas	<ul style="list-style-type: none"> <li>▪ Information sharing</li> <li>▪ Consultation</li> </ul>	<ul style="list-style-type: none"> <li>▪ Project overview, proposals to include low income communities in project benefits</li> <li>▪ Consultations to understand affordable tariff levels</li> <li>▪ Opportunities for participation in project</li> <li>▪ Health and hygiene awareness</li> <li>▪ Subsidies or other benefits proposed for inclusion of poorest households in project</li> <li>▪ Understanding priorities and concerns of poor</li> </ul>	Year 1	<ul style="list-style-type: none"> <li>▪ No. of meetings held per annum</li> <li>▪ No. of low income group persons consulted</li> <li>▪ No. of women from low income groups consulted</li> <li>▪ Concerns of low income groups recorded and addressed</li> </ul>	▪ Minutes of meetings	PIUs (with the assistance of PMSC)	Budgeted under PIU and PMSC costs
Policy Design Stage	<ul style="list-style-type: none"> <li>▪ Manufacturing or trade and related associations, and service providers</li> </ul>	<ul style="list-style-type: none"> <li>▪ Workshops presentations</li> <li>▪ National, international, and social media</li> </ul>	<ul style="list-style-type: none"> <li>▪ Structure of the policy</li> <li>▪ Incentives/support/ facilities to be accorded</li> <li>▪ Process simplification and impacts</li> </ul>	Year 1	<ul style="list-style-type: none"> <li>▪ Number of events</li> <li>▪ Draft policy notifications</li> </ul>	<ul style="list-style-type: none"> <li>▪ Views of stakeholders; agency's response and number of suggestions or observations incorporated</li> </ul>	PMU (with the assistance of PMSC)	\$ 3,000
Subproject implementation stage	Beneficiaries, Media	<ul style="list-style-type: none"> <li>▪ Site visits</li> <li>▪ Focus group discussions structured meetings and presentation</li> <li>▪ Social media</li> </ul>	<ul style="list-style-type: none"> <li>▪ Progress of implementation</li> <li>▪ Temporary impacts or discomfort to public</li> <li>▪ Advance communication about civil work schedule</li> <li>▪ Quality and adequacy</li> </ul>	Year 2-3	<ul style="list-style-type: none"> <li>▪ Number of consultation sessions carried out for various stakeholder groups</li> <li>▪ No. of persons</li> </ul>	<ul style="list-style-type: none"> <li>▪ Views of participants or grievances received and action taken</li> <li>▪ Report on grievance</li> </ul>	PIU or contractor PMSC local authority and community or user groups	\$1,000 x 2 years = \$2,000

Activity/ Project Cycle	Target stakeholders	Type of Participation	Objectives	Time Frame	Outcome/ Indicators	Sources of Verification	Responsibility	Cost
			of environmental and social mitigation measures ▪ Performance in relation to DMF targets		consulted ▪ Percentage of women consulted ▪ Concerns, issues, suggestions incorporated Formulation of necessary committees and selection of key staff	redressal and actions on temporary impacts ▪ Minutes of consultation ▪ Agreements on O&M arrangements		
	Affected persons	▪ Information sharing ▪ Consultation	▪ Address pending involuntary resettlement issues, if any	Year 2-3	▪ No. of consultations held ▪ No. of persons consulted ▪ Percentage of women consulted ▪ Issues and concerns recorded and addressed	▪ Signed minutes of meetings	PIU	Budgeted under resettlement costs
	Contractors or Workers	Presentation, discussions	▪ Outreach to contractors and laborers to educate them on the project regarding its structure, components, benefits, risks and mitigation measures and aspects such as HIV, gender issues and communicable diseases	Orientation or refresher for contractors and laborers once a year for 3 years (1 meeting per PIU per annum for contractors of all packages handled by the PIU)	Increased awareness level reflected in post workshop reports	▪ Workshop reports	PMU, PIU and PMSC	\$400 x 4 meetings x 3 years = \$4,800

Activity/ Project Cycle	Target stakeholders	Type of Participation	Objectives	Time Frame	Outcome/ Indicators	Sources of Verification	Responsibility	Cost
Policy Notification	<ul style="list-style-type: none"> <li>▪ Manufacturing or trade and related associations, and service providers</li> </ul>	<ul style="list-style-type: none"> <li>▪ Workshops presentations-national and international agencies</li> <li>▪ Website</li> <li>▪ Social Media</li> </ul>	<ul style="list-style-type: none"> <li>▪ Notification of policy or process changes;</li> <li>▪ Clearance or licensing mechanisms</li> </ul>	Year 2	<ul style="list-style-type: none"> <li>▪ Final notifications and</li> <li>▪ Increase in manufacturing facilities</li> </ul>	<ul style="list-style-type: none"> <li>▪ Final Notification</li> <li>▪ Agency's annual reports on expansion of manufacturing base</li> </ul>	PMU	\$4,000
Post Project Implementation	<ul style="list-style-type: none"> <li>▪ All beneficiaries or users and decision makers</li> </ul>	<ul style="list-style-type: none"> <li>▪ Website</li> <li>▪ Social media</li> </ul>	Performance or status	Year 4	<ul style="list-style-type: none"> <li>▪ No of project or activities transferred for O&amp;M by private sector or user fee-based operations</li> <li>▪ Performance in terms of efficiency of O&amp;M</li> </ul>	<ul style="list-style-type: none"> <li>▪ Beneficiaries perception of project benefits</li> <li>▪ Feedback reports</li> <li>▪ Community satisfaction</li> </ul>	PIU in consultation with beneficiaries	Budgeted under PIU administrative costs
Monitoring and Evaluation	<ul style="list-style-type: none"> <li>▪ All beneficiaries or users, affected persons and decision makers</li> </ul>	<ul style="list-style-type: none"> <li>▪ Website</li> <li>▪ Social media</li> </ul>	<ul style="list-style-type: none"> <li>▪ Participation in evaluation: feedback to the implementing agency or local authority on benefits</li> <li>▪ Monitoring service delivery</li> <li>▪ Impacts on women and vulnerable amongst the beneficiaries or user groups</li> <li>▪ Progress on reforms or management improvement plan</li> <li>▪ Comparison with DMF targets</li> </ul>	Year 2-4 (semi-annual participatory review meetings during and post-implementation)	<ul style="list-style-type: none"> <li>▪ Numbers of persons including local leaders who participated in review meetings</li> </ul>	<ul style="list-style-type: none"> <li>Note/ report</li> <li>▪ Facility specific performance</li> <li>▪ Progress on reforms</li> <li>▪ Impacts on women and vulnerable groups</li> </ul>	PIU in consultation with beneficiaries	Budgeted under PIU administrative costs
<b>Total Cost of Consultation and Participation</b>								<b>\$35,400</b>

ADB = Asian Development Bank, DMF= design and monitoring framework, DPR = detailed project report, GVMC = Greater Visakhapatnam Municipal Corporation, IEE = initial environmental examination, IPP = Indigenous Peoples Plan, O&M = operation and maintenance, PMSC = project management and supervision consultants, PMU = project management unit, RP = resettlement plan, PIU = project implementation units.

**APPENDIX 15: GESI ACTION PLAN MONITORING FORMAT**

**Date Prepared**

**Project Title:**  
**Country:**  
**Project No.**  
**Loan No.**  
**Type of Project** (Loan/ TA/JFPR):  
**Approval and Timeline/Duration of the Project:**  
**Gender Category:**  
**Mission Leader:**  
**Name of Gender Specialist/ Gender Focal Point:**  
**Quarter Covered by Update:**

**Project Impact:**

**Project Outcome:**

Activities, Indicators, Baseline, Targets, Time Frame and Responsibility	Progress to Date		Issues and Challenges (Please include reasons why an activity was not fully implemented, or if targets fall short, or reasons for delay, etc.)
	Progress for the Quarter (This should include information on progress for the current quarter-- qualitative and quantitative updates (sex-disaggregated data))	Cumulative Progress (This should include information on progress (qualitative and quantitative updates including sex-disaggregated data) from the start of the implementation of the GAP to the previous quarter's progress report.)	
<b>Output 1.</b>			
1.  <b>Targets/Indicators:</b>  <b>Baseline:</b>	•	•	

<b>Responsibility:</b>  <b>Time Frame:</b>			
2.  <b>Targets/Indicators</b>  <b>Baseline:</b>  <b>Responsibility:</b>  <b>Time Frame:</b>	•	•	
<b>Output 2.</b>			
1.  <b>Targets/Indicators</b>  <b>Baseline:</b>  <b>Responsibility:</b>  <b>Time Frame:</b> Year 1-5	•	•	
2.  <b>Targets/Indicators</b>  <b>Baseline:</b>  <b>Responsibility:</b>  <b>Time Frame:</b>	•	•	

<b>Outputs 3.</b>			
1.  <b>Targets/Indicators</b>  <b>Baseline:</b>  <b>Responsibility:</b>  <b>Time Frame:</b>	•	•	
2.  <b>Targets/Indicators</b>  <b>Baseline:</b>  <b>Responsibility:</b>  <b>Time Frame:</b>	•	•	

**Comments/ Remarks:**

**Accomplished by:** \_\_\_\_\_

**Date Accomplished:** \_\_\_\_\_