

**FRAMEWORK FINANCING AGREEMENT
(UTTARAKHAND URBAN SECTOR DEVELOPMENT INVESTMENT PROGRAM)**

Parties

This Financing Framework Agreement (FFA) dated ____ is between India and the Asian Development Bank (ADB).

MFF Investment Program

India will cause the State Government of Uttarakhand (the State/GoU) to implement the Uttarakhand Urban Sector Development Investment Program of which the Road Map and Investment Program is an integral part. Both the Uttarakhand Urban Sector Development Investment Program and the Roadmap are described in Schedule 1 hereto (the Roadmap and Investment Program).

The total cost of the Uttarakhand Urban Sector Development Investment Program (to be implemented from 2008 to 2016) is estimated at \$500 million equivalent. The total cost of the entire investment requirements for urban infrastructure, over the period of next 10 years is estimated at around \$1.5 billion equivalent.

The Investment Program will improve the urban environment and infrastructure and services and support the ongoing reforms of GoU for sustainable, efficient, and accountable service delivery in around 31 towns of strategic importance in Uttarakhand.

Multi-Tranche Financing Facility

The Multitranche Financing Facility (the Facility) is intended to finance subprojects under the Roadmap and Investment Program, provided that such subprojects comply with the criteria set out in Schedule 4 hereto and that understandings set out in this FFA are complied with.

The subprojects may include rehabilitation and expansion of: (i) water supply, (ii) sewerage and sanitation, (iii) solid waste management, (iv) urban roads and transport, and (v) slum upgrading. The scope of the Investment Program will also include assistance in Investment Program management and capacity development for decentralized urban governance, improved financial management and revenue mobilization, and developing efficient accountable and sustainable service providers in line with GoU reform agenda and guidelines.

This Framework Financing Agreement

This FFA does not constitute a legal obligation on the part of ADB to commit any financing. Financing tranches may be made available by ADB provided matters continue to be in accordance with the general understandings and expectations on which the Facility is based and which are laid out in this FFA.

Likewise this FFA does not constitute a legal obligation on the part of India to request any financing. India has the right not to request any financing under the Facility.

India and ADB may exercise their respective rights to cancel the Facility or any uncommitted portion thereof, and ADB may exercise its right to refuse a financing request, by giving written notice to such effect to the other party. The written notice will provide an explanation for the cancellation or refusal and, in the case of a cancellation, specify the date on which the cancellation takes effect.

Notices under this paragraph would only be made after adequate consultations between ADB and India.

Financing Plan

The financing plan for the Uttarakhand Urban Sector Development Investment Program is summarized below. Details are set out in Schedule 1.

Financing Source	Total (\$million)	Share (%) of Total
India	150	30
Asian Development Bank	350	70
Total	500	100

Financing Terms

ADB will provide loans to finance subprojects under the Roadmap and Investment Program, as and when the subprojects are ready for financing, provided, India is in compliance with the understandings hereunder, and the subprojects are in line with those same understandings. Each loan will constitute a tranche.

Each tranche may be financed under terms different from the financing terms of previous or subsequent tranches. The choice of financing terms will depend on the project, capital market conditions, 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.

Commitment charges are not payable on the Facility. They are payable only on financing actually committed by ADB as a loan. ADB rules on commitment charges, which are in effect when a tranche is provided, will apply with respect to such tranche, as per related loan and project agreements.

Amount

The maximum financing amount available under the Facility is \$350 million (three hundred and fifty million). It will be provided in individual tranches from ADB's Ordinary Capital Resources.¹

Availability Period

The last date on which any disbursement under any tranche may be made will be 25 January 2016. The last Periodic Financing Request (PFR) is expected to be submitted no later than 25 January 2014.

Terms and Conditions

Each loan will be used to finance (i) a range of subprojects that have been appraised and approved for financing by ADB, and (ii) capacity building and program management support, including

¹ Provisions of the Ordinary Operations Loan Regulations applicable to LIBOR-Based Loans Made from ADB's Ordinary Capital Resources, dated 1 July 2001, would apply to each Loan, subject, to modifications, if any, that may be included under any Loan Agreement (said Ordinary Operations Loan Regulations as so modified, if any, being hereinafter called the Loan Regulations).

consultancy services. The subproject eligibility and approval criteria are set out in Schedule 4 of this FFA.

India will provide the proceeds of each tranche to the State to be applied to the financing of expenditures of the Roadmap and Investment Program, in accordance with conditions set forth in this FFA and the legal agreements for each tranche.

Execution

The Executing Agency (EA) for the Roadmap and Investment Program will be the Urban Development Department of GoU. The Executing Agency will implement the Roadmap and Investment Program in accordance with the principles set forth in Schedule 1 to this Agreement, as supplemented with more details in the legal agreements for each tranche.

The Investment Program will be implemented over an 8 year period. Implementation of subprojects is proposed in four tranches. The first loan comprises optimization of water supply systems in three major cities,² construction of a sewerage treatment plant in Dehradun, consulting services for program management, detailed design, and capacity building, and equipment. In line with principles of sequencing tranches, subprojects focus on efficiency improvement of existing networks in rapidly growing larger cities of Uttarakhand. Subprojects for the first loan are at an advanced stage of readiness for implementation.

Periodic Financing Requests

India may request, and ADB may agree, to provide loans under the Facility to finance the Roadmap and Investment Program and its related subprojects upon the submission of a PFR. India will make available to the State, the proceeds of the tranche in accordance with the related PFR, and the legal agreements for the tranche.

The first loan will be for an amount of \$60 million equivalent. Each subsequent tranche will be for an amount of no less than \$ 50million, or its equivalent. ADB will review each PFR, and if found satisfactory, prepare the related legal agreements.

The subprojects for which financing is requested under the PFR will be subject to the selection criteria set out in Schedule 4 hereto, satisfactory due diligence, and preparation of relevant safeguards and fiduciary frameworks and other documents. ADB, India, and GoU will agree on a Facility Administration Manual and a schedule to initiate these activities, as soon as possible, after the date of this Agreement, but prior to the effective date of the legal agreements for the first tranche.

Until notice is otherwise given by India, the Secretary, Additional Secretary, Joint Secretary, Director, or Deputy Secretary in the Department of Economic Affairs of the Ministry of Finance will be authorized representative for purposes of executing PFRs.

General Implementation Framework

The Facility will be implemented in accordance with the general framework set out in Schedule 3 hereto.

² First tranche cities are Dehradun, Haridwar, Nainital.

Procedures

Tranches to be provided under the Facility will be subject to following procedures and undertakings:

- (i) India will have notified ADB of a forthcoming PFR at least 15 days in advance of the submission of the PFR.
- (ii) India will have submitted a PFR in the format agreed with ADB.
- (iii) ADB may decline to authorize the negotiation and execution of any legal agreement for a tranche, provided, any decision so to decline is communicated to India by ADB within 30 days from receipt of the PFR.

PFR information

The PFR will substantially be in the form attached hereto, and will contain the following details:

- (i) Loan amount;
- (ii) Description of subprojects, institutional capacity development, and implementation support to be financed;
- (iii) Appraisal reports for all constituent subprojects including environmental assessment report, resettlement plan, and indigenous peoples development plan, if any, and a due diligence report on safeguards implementation in the previous PFR;
- (iv) Cost estimates and financing plan;
- (v) Implementation arrangements specific to the subprojects;
- (vi) Confirmation of the continuing validity of and adherence to the understanding in this Agreement;
- (vii) Confirmation of compliance with the provisions under previous Loan Agreement(s) and Project Agreement(s), as appropriate; and
- (viii) Other information as may be required under the Facility Administration Manual, or reasonably requested by ADB.

Safeguards

Attached as Schedule 5 are the Safeguards Frameworks that will apply during the implementation of the Facility. ADB safeguard policies currently include (i) Policy on Involuntary Resettlement (1995), (ii) Policy on Indigenous Peoples (1998), and (iii) Environment Policy (2002). ADB Safeguard Policies in effect as of the provision of a financing tranche will be applied with respect to the subprojects financed under such financing tranche.

Procurement

All goods, works, and services to be financed under the Facility will be procured in accordance with ADB's Procurement Guidelines (February 2007, as amended from time to time).

Consulting Services

All consulting services to be financed under the Facility will be procured in accordance with ADB's Guidelines on the Use of Consultants, (February 2007, as amended from time to time).

Advance Contracting and Retroactive Financing

Under each loan of the Facility, advance contracting of civil works and equipment and materials, and recruitment of consulting services may be requested subject to these being eligible in accordance with agreed procedures and guidelines as above.

Except as otherwise agreed with ADB, the expenditures incurred for civil works, equipment and materials and consulting services eligible for advance contracting will also be eligible for retroactive

financing, under the first loan, provided that these are incurred no earlier than 12 months prior to signing of the relevant loan agreement, and do not exceed an amount equivalent to twenty percent (20%) of the loan. Retroactive financing request for subsequent loans will be considered during processing of individual PFRs. India and GoU have been advised that ADB's approval of advance contracting and retroactive financing does not constitute a commitment to finance relevant projects under the Facility.

Disbursements

Disbursements will be made in accordance with ADB's *Loan Disbursement Handbook* (January 2007, as amended from time to time). Each loan under the Facility will have its own imprest account in the Reserve Bank of India. GoU through the EA may establish a second-generation imprest account (SGIA) for each loan, if necessary or required, in a current account with a commercial bank. The initial and all subsequent amounts to be deposited into the Imprest Accounts and the SGIA's will be determined by ADB in consultation with GoU and India. The amount at any given time in the imprest accounts and second-generation imprest accounts shall not exceed 6 months of estimated expenditures or 10% of the related loan amount, whichever is lower. Individual payments under the statement of expenditures procedures (SOE) will be \$100,000.

Monitoring, Evaluation, and Reporting Arrangements

The Investment Program Management Unit (IPMU) will establish an Investment Program Performance Monitoring System (IPPM) acceptable to ADB within 3 months of the effectiveness of the first loan under the Facility and under each succeeding loan. Specific to each loan, the IPPM will first select a set of performance indicators relating to physical infrastructure development and capacity development and management support milestones, including those in the Design and Monitoring Framework (Schedule 2). IPMU will then establish baseline data for each of the selected indicators and will conduct annual surveys to update the baseline values. The IPPM track Program implementation activities, target dates, expected inputs, impacts, outcomes and outputs against each indicator to monitor and evaluate the performance of the Program and the subprojects under each loan. IPMU will also provide ADB with quarterly progress reports informing the ADB on the progress of overall Facility (i.e., subproject/tranche preparation/approval) and the implementation progress of ongoing individual loan/tranche. The reports will also provide summary financial accounts of the Program, including summary financial account for each implementing agency, expenditures to date, and a report on benefit monitoring. Based on the quarterly progress reports, ADB will prepare annual implementation progress reports to be submitted to the Board each December. IPMU will also submit to ADB, within 3 months of physical completion of the each Project, a completion report that will cover the details of project implementation, costs, monitoring and evaluation activities, and other information requested by ADB.

Representations And Warranties

In addition to standard representations and warranties, India through the GoU assures the following actions:

Utilization of Facility Funds: India will make available to GoU the proceeds of the financing provided by ADB. GoU commits to bear the foreign exchange risk for such proceeds of the financing

provided by India. The State will ensure that the Facility funds are utilized effectively and efficiently to implement the Investment Program and achieve its objectives.

Counterpart Funds: The State will ensure that sufficient counterpart funds are made available from its budget for each fiscal year, in a timely manner, for the efficient implementation of the subprojects under the Facility.

Urban Governance, Finance, and Service Delivery Improvement Action Plan and Sustainability: The State will ensure compliance with time-bound actions set out in Urban Governance, Finance, and Service Delivery Improvement Action Plan in Table 2 of Schedule 1 to this FFA. India shall procure that GoU will ensure that sufficient funds will be provided to meet any shortfall between the cost of and revenues for the Operation and Maintenance of the infrastructure assets created under the Investment Program.

Fiduciary Oversight: The State will ensure that each Project accounts will be audited by independent auditors whose qualifications, experience, and terms of reference are acceptable to ADB and audit reports will be submitted to ADB within 9 months of the end of the fiscal year.

Project Selection: The State will ensure that all subprojects under the Investment Program are selected and processed for approval pursuant to the criteria and procedures set out in Schedule 4 of this FFA as agreeable to ADB, India and the State and that the criteria for subproject selection and details of approved contracts/subprojects are posted on the Uttarakhand Urban Sector Development Investment Program Website.

Safeguards: The State will ensure that the projects under the Facility will be carried out in accordance with safeguard policies of ADB; and the Indigenous Peoples Development Framework, Resettlement Framework, and Environmental Assessment and Review Framework and India and the State laws applicable to the Facility.

India

ASIAN DEVELOPMENT BANK

By (Original Signed) _____
Kavida Prasad
Deputy Secretary
Department of Economic Affairs

By (Original Signed) _____
Narhari Rao
Officer-in-Charge
India Resident Mission

SCHEDULE 1 ROADMAP AND INVESTMENT PROGRAM

A. Introduction

1. GoU has recognized the role of urban areas in the State's economic growth, and made a commitment to develop its cities as livable, productive, and sustainable settlements. GoU envisioned an urban sector road map to provide sustainable urban services leading to (i) better quality of life for of 4.05 million people projected to be living in 31 urban centers by 2018 and (ii) an urban environment conducive to economic growth especially the growth of industry and tourism.

B. Current Sector Performance

2. **General:** Uttarakhand is one of the less-developed states, and as a result, is classified as a "special category" state. It is located on the northern boundary of India. Over 90% of the state's terrain is hilly and 62% forest limiting the availability of land for agriculture. The State's population is 8.5 million (2001) of which 25% (or 2.29 million) live in 63 urban areas. Although the State currently trails behind the national urbanization rate of 28%, its urban growth rate during 1991-2001 had been more than one and a half times the growth rate of the State total population. According to estimates, this rate will be sustained, and by 2026, over 37% of the Uttarakhand population will live in urban areas, making Uttarakhand as the 7th most urbanized state in India.

3. While Uttarakhand have growth constraints as a result of its hilly terrain and high forest coverage, these natural assets combined with cultural and religious heritage offer great opportunities for tourism development. The State holds rich cultural and natural landscape, a wealth of religious centers, and the sources of rivers Holy Ganga and Yamuna that are the major attractions for tourists. Tourism is a major contributor to the State economy and a major source of employment. In addition, the State has a bright outlook for industrial growth owing to its locational advantage with relatively good connectivity to other parts of India and an active pursuit of industrial policy. The importance of tourism and the industry in the economy of the State are reflected in the GDP indicators which show that during 1999 to 2004, services (including tourism) accounted for over 40% of the State GDP; and industry and agriculture accounted for up to 26 to 34% respectively. While the contribution of agriculture to the economy has been larger than industry, the annual growth rates of industry have been much higher than the agricultural growth rate.

4. Within the above context, the urban centres of Uttarakhand play an increasingly important role in the State's economic transformation. The evidence shows that cities and towns in the plains to the south and southwest are rapidly becoming the locations of industrial growth. Following the industrial incentive policy, about 300 industrial units are in the process of setting up industries, and two large scale industrial estates have already been set up in the two major cities of the State. Moreover, many towns both in the plains and the hills are the major destinations of tourism or the gateways to other tourism spots and experience significant population increases. A large number of hill towns have religious and leisure tourism endowments. In 28 hill towns, the annual tourist flow registered a growth rate of 17.8% during 2004-05. The tourist population of towns on the pilgrimage routes is several times the town populations during the tourist season. The prospects for the growth of industry and tourism in Uttarakhand is therefore contingent upon the availability of urban infrastructure and services that will support the economic growth and cater for a fast growing population. However the potential role of the urban areas in the State's development is constrained by limited infrastructure and services in urban centres.

5. **Urban Infrastructure and Services:** An assessment of urban infrastructure and services indicate that urban infrastructure and services are grossly inadequate. About 80% of the population has access to water supply with 78% having house connection and the balance drawing water from public standpipes. Service levels are poor with water available in the pipes 2-4 hours per day. Only 20 towns have piped sewer system with coverage levels ranging between 30 to 75%. Of these towns served by piped sewer, only two have treatment facility. Most waste water is co-disposed with storm water and thence into natural water courses and bodies, presenting severe environmental and health risk. It is estimated that less than 50% of the solid waste generated is collected. The solid waste collected is generally disposed to open lands, drains, and

hill slopes in the absence of sanitary landfill sites. The problem of solid waste management is compounded during the tourist season when the quantum of solid waste increases manifold. The urban roads are in poor condition; road networks and parking spaces are insufficient to meet the demands of current and future traffic volume given that traffic volumes that have doubled over the last 10 years and are projected to do so over the next 10 years.

6. Urban Governance, Management, Service Delivery and Finance: The inadequate infrastructure and poor service delivery in urban Uttarakhand largely stems from inadequate urban institutional, financial, and service delivery frameworks. Primary responsibility for providing urban infrastructure and services (except for water supply and sewerage) lies with ULBs. However, ULBs have inadequate organizational capacity, skills, and management tools to effectively deliver their mandate. More importantly, resources obtained through local taxation and user charges and state subsidy are insufficient to fund the tasks of ULBs.

7. Water supply and sewerage (WSS) is the responsibility of the State utilities of Uttaranchal Pey Jal Nigam (UPJN) for capital works and Uttaranchal Jal Sansthan (UJS) for operation and maintenance, under the Department of Drinking Water. Institutional issues contributing to the poor performance in WSS service delivery are (i) overlapping functioning of the two utilities in practice despite their intended distinct mandates, (ii) lack of separation of policy regulation and service provision functions, (iii) lack of separation of organization and finances/accounts of rural and urban water supply, and (iv) non-inclusion of ULBs and UJS in planning of water supply programs - a continued supply driven approach. Moreover, the sustainability of WSS services is constrained by inefficient services and low tariffs, with operating ratios for UJS of about 1.1 over the last 4 years (if power charges included). Average system losses are estimated at 30-50%, but in reality are likely to be much higher. Metering is non-existent for domestic users. There is need for (i) higher degree of accountability, (ii) clear delineation of mandates, (iii) improving organizational strength, and (iv) putting in place an incentive structure to improve the performance.

8. Urban and Municipal Finance: ULBs depend largely on grants and aid from the State to finance their establishment and development expenditures. Currently, ULBs generate an average of 26% of their total revenues. Despite the high levels of State support, in many cases, own source income together with State transfers is not sufficient to meet the salary and establishment costs. The current revenue base is low, and there are no matching sources of funds for some ULB functions, e.g. road maintenance. The property tax, a major source of local revenue, falls short of its full potential due to inadequate assessment, incomplete coverage of the tax net, and low collection efficiencies. In addition, the task of meeting the service needs of a large seasonal population of pilgrims and tourists places an additional financial burden on ULBs. ULBs currently do not have credible accounting, financial reporting, and budgeting systems to efficiently manage their scarce resources, although steps are being taken towards improved financial management.

9. Public-Private Partnerships (PPP) and Private Sector Finance: GoU has achieved some good practices in private sector participation (PSP) through its Built Operate Transfer arrangement for the interstate bus terminal in Dehradun owing to the bright prospect of buoyant and increasing user fees for bus terminal. However, this does not appear to be readily applicable to other urban subsectors. The experience with PSP in the urban sector is limited only to short term service contracts for primary collection of solid waste through combining community and private sector participation. PSP on a larger scale is constrained by (i) inadequate cost recovery, (ii) low level of institutional capacity to regulate and manage participation of the private sector, (iii) additional challenges posed by the terrain, and (iv) the consequent reluctance by the private sector to take the perceived distribution-end risks associated with urban infrastructure. However, getting the private sector to take on responsibility for design, construction, and operation through Design Build Operate or performance-based deferred payment system contracts are still feasible as revenue risks are born by the public body under such arrangements. The best gain from such PPP will be the injection of the managerial efficiencies of the private sector into urban service delivery.

10. GOU's Urban Reform Orientation: Notwithstanding the inadequate urban institutional and financial frameworks, GoU has been taking a number of sector reform initiatives demonstrating its reform-mindedness. Significant among these are the (i) preparation of a Municipal Bill which provides for greater devolution to and empowerment of ULBs in line with 74th Constitutional

Amendment Act (CAA), (ii) constitution of the Second State Finance Commission to strengthen state-ULB relationships, (iii) repeal of Urban Land Ceiling Act and reform of Rent Control Act both of which will enable land and housing markets to work efficiently, (iv) a wide range of e-governance initiatives to enhance good governance practices, urban planning, management capacities, property taxation, and the interface with the public, and (v) issuance of a government order to introduce accrual accounting system. More importantly, in May 2007, under the Jawaharlal Nehru National Urban Renewal Mission (JNNURM), GoU and its three major cities of Dehradun, Haridwar, and Nainital, signed with the GoI a memorandum of agreement demonstrating their commitment to a wide range of state- and local-level urban reforms. These commitments include further empowerment and strengthening ULBs, improving financial management and accounting at ULBs and utilities, increasing revenues through property tax reform and rationalization of user charges, and restructuring utilities and incorporating private sector efficiencies and accountabilities into urban service delivery.

11. **Guiding Principles and Rationale:** GoI has attached growing importance to the urban sector since late 1980s as manifested by various policy initiatives, i.e., setting up of National Urban Commission and formulation of National Urban Policy, the 74th CAA, 10th Five-year Plan and the Approach Paper for 11th Five-year Plan, and launching of JNNURM in 2005. GoI, in its 10th and 11th Plans, have also made a commitment to higher levels of infrastructure investments in relatively less-developed states, including Uttarakhand. The importance of Uttarakhand and its urban sector in the national scene has been further pronounced by inclusion of its three cities of Dehradun, Haridwar and Nainital in 63 cities eligible for funding under JNNURM. GoI recognized that urban infrastructure is the key to taking the State's economy on the planned growth path.

12. Both the 10th Plan and the Approach Paper for 11th Plan also stress the importance of the quality of governance and service delivery systems for sustainable urban development. A fundamental reference in these Plans is the 74th CAA that promotes decentralized governance and devolution of responsibility to and empowerment of ULBs to play a pivotal role in urban management. With the launch of JNNURM, GoI reaffirms its commitment to sustainable urban development to be achieved through reform-linked investments. JNNURM aims at fast track infrastructure investments in 63 selected cities subject to their commitment to a range of urban reforms. The envisaged reforms focus on decentralized governance and municipal finance. JNNURM also advocates balance between asset creation and management, private sector participation in service delivery, and financially sustainable service providers for WSS.

13. At the state-level, GoU's urban policy objectives also reiterate those of the GoI combining high growth strategies with poverty reduction building on areas of strategic advantage and covering a range of support systems, including urban infrastructure and institutional development. While as a new State, the State Plans do not present a history of urban focus, the budget allocations for the last few years reflect an increasing outlay on urban infrastructure with capital expenditures having an increase from 33% in 2003-04 to 44% in 2005-06. More importantly, GoU's initiation of a number of urban reforms and signing of a memorandum of understanding with GoI to implement comprehensive reforms under JNNURM amply establishes the GoU's commitment not only to developing physical assets but also to sustainable service delivery.

14. The Uttarakhand Urban Sector Development Roadmap has been guided by the above urban policy framework. The Roadmap responds to GoI's policy and the GoU's plans for the next 10 years, which envisage urban areas to play a major role in the transformation of State's economy. It aims to provide critical urban infrastructure and services to harness the potential of urban centres to catalyse growth and cater for a rapidly growing urban population. The Roadmap and the Investment Program follow the principle of combining capital investments with capacity building to support GoU's urban reform framework so as to yield sustainable outcomes. It targets those cities that will spearhead industrial and tourism growth while reducing poverty.

15. The Investment Program will use MFF. The rationale for designing the Program as an MFF is derived from the broad agenda that the Roadmap involves. The Roadmap involves provision of urban infrastructure and services in around 31 cities/towns with varying levels of needs and

absorptive capacities. MFF will enable flexibility in investment decisions based on needs and constraints of each city within a roadmap framework instead of an upfront and precise definition of investments required in a conventional assistant modality. It will allow the implementation based on readiness of individual subprojects and cities. MFF will enable long term engagement for building the capacities of urban institutions and reforms stretched over a realistic time frame. Finally, MFF will allow flexibility to match different funding sources available to GoI and GoU.

C. Uttarakhand Urban Sector Roadmap

16. **Vision:** The vision is providing sustainable urban infrastructure and services leading better quality of life for a population of 4.05 million³ and efficient cities with increased urban productivity – which in turn reinforces stronger economy and reduced poverty. The principles of the Roadmap and Investment Program are (i) harnessing the potential of urban centers through provision of critical infrastructure and services in strategically important urban centers to catalyze the growth of a promising state economy and cater the demands of a rapidly growing urban population, (ii) providing urban infrastructure and services whose full potential benefits will be realized when all the sub-sectors are improved in an integrated manner, and (iii) combining investments with capacity building to support the implementation of the GoU's urban reform agenda for urban governance, finance, and service delivery. The Investment Program to be financed by MFF will meet the priority investment and capacity building needs and pave the way to attain the vision.

17. **10-Year Investment Plan:** It is estimated that about \$1.5 billion is needed for the next 10 years to meet infrastructure requirements of about 31 selected cities in Uttarakhand. The 10-year infrastructure investment plan is based on (i) GoI and GoU policy and plans and targets set for infrastructure; (ii) city development plans for three cities and town reports for six representative towns providing in-depth demographic, spatial, infrastructure, and institutional analyses and city investment plans; (iii) city growth strategies, (iv) available infrastructure master plans, (v) consultations with stakeholders, (vi) surveys profiling infrastructure deficiencies and gaps in service performances; and (vii) financing needs for infrastructure over the next 10 years. The funding requirement for the 10-year Investment Plan is envisaged to be met by different sources e.g., State budget, JNNURM, and other special programs such as Urban Infrastructure Development Scheme for Small and Medium Towns and the Integrated Housing and Slum Development Program. A large portion of the funding requirement is expected to be met under JNNURM based on the city development plans of Dehradun, Haridwar, and Nainital. The proposed Investment Program (to be implemented over the next 8 years) is a subset of the 10-year investment plan and covers the highest priority infrastructure and services requirements.

Table 1: Overall Investment Needs in next 10 years (2007-2017)

S. No.	Sub-sector	State 10-year Urban Infrastructure Investment Needs 31 Towns (2007-17)	ADB Investment ³ Program
1	Water Supply	161.6	125.4
2.	Sewerage and Sewage Treatment	170.6	87.6
3	Stormwater Drainage	116.2	0.0
4	Solid Waste Management	161.2	49.2
5	Roads and Transportation	669.9	79.4
6	Urban Renewal	109.4	0.0
7	Slum Upgrading	24.2	12.1
8	Consulting Services	50	10.0
9	Capacity Building and Incremental administration	37.0	8.4
	Total	1500.0	372.2^a

^a The figure represents the Investment Program base cost inclusive of tax and duties at \$45.1. The total Investment Program cost will be \$500.0 million, consisting of the base cost at \$372.2 million, contingencies at \$63.3 million, and financial charges at \$64.5 million.

³ By 2018, it is estimated that 4.05 million people (80% of the State urban population) will be living in 31 Program towns.

18. **Urban Reform Agenda:** In parallel to improving urban infrastructure, GoU under its Roadmap sets a vision for enhancing urban governance, finance, and service delivery in line with its 12th Finance Schedule, 74th CAA provisions and JNNURM reforms. The reform agenda is grouped into three major interrelated areas (see Table 2). The first major area of reforms involves itself in supporting the decentralization policy through gradual empowerment and enhancement of the capacities of ULBs urban management.

19. The second area of reforms is aimed at restructuring the water utilities as efficient, accountable, and financially sustainable WSS service providers within the decentralization framework in accordance with GoI WSS reform guidelines. These involve (i) separation of policy and regulation functions at the State level and forming a small regulatory unit to start with within GoU; (ii) bringing clarity in the current confusing roles of UPJN and UJS with non-overlapping mandate, (iii) separating urban and rural water supply by ring-fencing of urban water with regard to manpower, financing and accounting, (iv) introducing a more participatory and professional governance structure within UPJN and UJS with greater ULB representation and co-opting the experts, and (v) introducing an accountability and incentive mechanism through a performance-based contractual relationship among UJS as service provider, ULBs as ultimate owners, and the State as provider of grant and subsidies with clear targets of improvement on unaccounted for water, billing, collection along with gradual increase in user charges, and targeted reduction of subsidies. In the medium term, as devolution takes its full shape with stronger ULBs, this tripartite contractual relationship would evolve into a contract between ULBs and UJS empowering the ULB to have a full oversight on the WSS by service provider-UJS/Private sector.

20. The third area of reforms relates to improving the revenues and financial management that is the prerequisite of decentralization as well as sustainable service delivery. These involve rationalization of user charges to gradually recover the costs of full O&M, including (i) increasing the current water tariffs, (ii) introducing a volumetric water charge, (iii) introducing a sewerage surcharge on the water bill, and (iv) implementing a solid waste management charge once the services become available. The revenue reforms also include improving property tax through increasing tax coverage and basis of value and tax collection efficiencies. These revenue mobilization reforms are supported by financial management improvements through adoption of modern, accrual-based double-entry system of accounting in ULBs; and introduction of system of e-governance using IT applications for financial management, planning, and service delivery.

21. It is envisaged that the above improvements will significantly contribute to creating an enabling environment for private sector participation in urban infrastructure and service provision. In addition, dedicated efforts will be made to develop specific PPP packages under the Investment Program. Both during the project preparatory technical assistance as well as during Loan Fact-finding extensive analyses and dialogue with GOU and private sector representatives were conducted on viable options for PSP in urban infrastructure development in Uttarakhand. In addition to short term service contracts, there are particular opportunities in developing parking facilities, solid waste management, water supply and wastewater management sectors for PSP to enhance service efficiencies and sustainability. GOU has indicated its interest in extending defect liability period in its engineering procurement contracts from the current 1 year to 5 years. This type of arrangements would be scaled up to ensure that private operators take responsibility for the performance of their technology and management. The appropriate PSP packages will be further developed for suitable subprojects at the outset of the Investment Program (see Supplementary Appendix A on PSP in urban infrastructure and service provision).

D. The Proposed Investment Program

22. **Impact and Outcome:** The anticipated impact of the investment program is improved quality of life for the urban residents of Uttarakhand. The expected outcome of the Investment Program will be increased access to better quality urban infrastructure and services by the 3.8 million people projected to be living within 31 Program towns by 2016. It is also expected that the

project will enhance the quality of services and experience enjoyed by more than 8 million tourists and pilgrims annually visiting the Program towns.

23. **Outputs:** To achieve the intended impact and outcomes, the Program comprises two major interrelated areas of interventions: Part A covers urban infrastructure and services improvements including the rehabilitation, improvement and expansion of (i) water supply, (ii) sewerage and sanitation, (iii) solid waste management, (iv) urban transportation and roads, and (v) slum upgrading. Part B covers Investment Program management and implementation support and a comprehensive capacity building to support the attainment of the urban reform agenda and enhance the capacities of the urban service providers including ULBs.

1. Part A: Urban Infrastructure and Service Improvements

24. **Water Supply:** Investments aim at improving both the quantity and quality of water supply to national and State standards through (i) improving information on existing networks, (ii) reducing unaccounted-for-water through leak detection, system rehabilitation and repair and reducing illegal connections; (iii) system rationalization and optimization, e.g., replacement of bunched connections; (iv) provision of bulk and consumer meters and other system appurtenances; and where necessary, (v) augmenting supplies and extending distribution networks. This would enable 83% coverage to be achieved by the end of the Investment Program period of 2016, with a majority of households receiving potable-quality water 24 hours a day. These investments will be accompanied by civic awareness campaign and capacity building to support WSS reforms for sustainable service delivery under Part B.

25. **Wastewater Management:** Investments aim at improving the environmental quality of urban areas and receiving water bodies with consequent impact on the public health. Improvements are targeted, by end of 2016, at providing collection and treatment of sewage by appropriate technology and extending service coverage to an average of 60% with 50-90% in the larger towns and 30-50% in medium-size towns. In smaller towns, generally onsite sanitation improvements will be undertaken. The sewer networks will mostly cover the town core area. In the outskirts, where extending such facility will not be economical due to scattered habitation or geographical constraints, onsite sanitation will be provided. The technology options will follow the particular geographical and climatic features of the town as well as quantum of possible generation of sewage load. Investments will be accompanied by public awareness and capacity building to ensure system sustainability under Part B.

26. **Solid waste Management (SWM):** Investments are aimed at improving public health and the environmental quality of Program towns and adjacent open land and water bodies through increasing solid waste collection coverage from 50% to 72% and supporting sound solid waste disposal methods. Improvements will be directed at (i) segregation of solid waste at household level and management improvements at ward and town levels with an emphasis on waste minimization, (ii) provision of solid waste collection and transportation equipment, and (iii) construction of sanitary landfill sites in accordance with Gol's Municipal Solid Waste Management and Handling Rules, 2000. These will build on a state-wide SWM strategy and action plan and be supported by capacity building of ULBs in SWM under Part B.

27. **Urban Transport and Roads:** Interventions will aim at improving traffic conditions, reduce journey times, and improving safety of all users and particularly the most vulnerable (pedestrians, cyclists and motorcyclists) through a combination of investments. These will generally focus on major roads and include (i) road widening and strengthening to create greater road capacity, thus relieving congestion and easing traffic flows; (ii) car parking restrictions and provision of multi-storey car parks, and bus and truck terminals, where possible, through PSP to improve passenger convenience and increase road space; (iii) provision of pedestrian subways and footpaths to improve pedestrian movement and safety; (iv) traffic management improvements, and (v) street lighting for improved traffic and pedestrian safety and security.

28. **Slum Improvement:** Interventions will include provision of bulk water supply and sewerage mains at the entry of slum areas, improvements to solid waste management, access roads, street lighting, and drainage in poor communities and slums accommodating around 300,000 poor people accounting for about half of the slum population in the state. The selection, approach, and strategic responses to the broader issues of slum population and poor communities will be based on a state slum upgrading strategy to be developed at the outset of the Investment Program under Part B. A demand-led approach to developing community-level infrastructure and services will be followed. Slum upgrading subprojects will be generated through a participatory planning process by communities with the assistance of community-based and non-government organizations (CBOs and NGOs) as applicable. Support will be provided to ULBs and communities for effective joint functioning in developing, implementing and sustaining community based urban upgrading schemes. The component will build on existing CBO and GoU's schemes on poverty reduction.

2. Part B. Capacity Development and Investment Program Management Support

29. **Capacity Development** assistance will support the attainment of GoU's urban reform action plan and related institutional development needs. Support will be provided to the State agencies, ULBs and utilities in three interrelated areas: (i) furthering the already initiated ULB reforms, (ii) sustainable and efficient WSS service delivery, and (iii) urban and municipal finance reforms including private sector participation in urban infrastructure and service provision.

30. Support for ULB reforms will prepare ULBs for their increased responsibilities under the GOU's devolution policy. Feasible action plans will be developed to gradually devolve functions to ULBs and commensurate organizational development. Priority will be given to enhancing the capacities of ULBs in asset management and operation and maintenance of services for which they are currently responsible e.g., solid waste management.

31. The component will support the GoU's roadmap for efficient, financially sustainable, and accountable WSS service delivery. Expert inputs will be provided to conduct institutional surveys and develop and assist implementing detailed proposals and action plans in consultation with stakeholders to (i) separate regulation and service delivery functions, (ii) remove the overlaps in the mandates of UPJN and UJS, (iii) develop measures for involvement of ULBs in planning and provision of WSS and establish clear accountabilities between service provider, ULBs and the State, and (iv) introduce improvements into the governance structure and the organizational and operational systems of UJS, including in asset management and financial management systems and staff skills.

32. This component will also support improvement of local revenues and financial management. Assistance will be given to restructure water tariffs into consumption-based volumetric tariffs and introduce a sewerage surcharge and solid waste management charges and action plans for achieving the cost recovery targets. Assistance will also be directed at improving property tax through increasing tax coverage and basis of value and tax collection efficiencies. Moreover, the component will assist ULBs and water utilities to introduce and implement accrual-based double-entry system of accounting, including preparation of manuals and installation of computerized systems. All these will be combined by training of staff of relevant departments, utilities, and ULBs.

33. Another area of assistance under this component will be promoting PSP in urban infrastructure development as per GoU policy. Support will be provided to (i) create an enabling framework, (ii) transfer knowledge and skills to selected public officials to strengthen their capacity in planning and managing PSP, and (iii) identify suitable components and develop Public Private Partnership Schemes.

34. Moreover this subcomponent will fund several key studies to provide a planned approach to future investments. A slum strategy study will develop slum mapping, different typology of slums, criteria under which upgrading, re-blocking, or redevelopment can take place, approaches

to slum upgrading, and a costed action plan for slum upgrading. The solid waste management study will develop a strategy and action plan for collection, treatment, and disposal of solid waste based on GoI's SWM rules and considering the role of public, private, and community sectors, the State's fragile natural environment and various settings (hills, foot hills, plain areas) that require innovative and distinct approaches to SWM.

35. **Investment Program Management:** This subcomponent supports funding the costs of the Investment Program Management and Implementation, including incremental administration and operations associated with IPMU in UDD and IPIUs in UPJN, PWD, and ULBs, and provision of equipment, logistics, as well as consulting services to assist IPMU and IPIUs.

36. Consultancy support will also include (i) on-the-job training to build the capacity of the executing and the implementing agencies in project management and implementation (technical, environmental and social aspects, planning and monitoring), and (ii) assistance to ULBs and utilities for effective operation and maintenance of the Program assets.

37. This subcomponent will also include a program of community participation and civic awareness activities. An area of focus will be awareness raising on the public's role and responsibility for good environmental practices in solid waste management. Activities will include promoting participation of urban residents including the women and the poor in the Program, e.g., subproject preparation, construction, and monitoring activities. Services of NGOs, training, and equipment will be provided to help carry out these activities.

**Table 2: URBAN GOVERNANCE, FINANCE, AND SERVICE DELIVERY
IMPROVEMENT ACTION PLAN**

Reform Measures	Indicative Target Date
A. Decentralized Urban Governance: Implement 74th Constitutional Amendment and Mandatory Reforms of JNNURM <ul style="list-style-type: none"> Develop and submit a plan (i) containing an assessment of feasibility of devolving further functions in a phased manner depending on size and capacity of urban local bodies (ULBs) in line with 74th CAA and JNNURM reforms and an assessment of capacity and resource requirements of ULBs to discharge additional duties and (ii) a time-framed plan to transfer additional responsibilities and providing necessary capacities and resources to ULBs; Implement the Plan for gradual devolution of further functions to and empowerment of ULBs consistent with principles of 74th CAA and JNNURM; Implement the capacity building program to strengthen urban local bodies with priority on operation and maintenance of urban infrastructure and services and financial management 	Year 1 Year 2 to 7 Year 1-4
B. Gradually Move towards Efficient and Sustainable Water and Sewerage Provision <ul style="list-style-type: none"> Develop, reach consensus, and submit to ADB for its review a detailed reform action plan as per Appendix 6 on WSS utility reforms, and commence implementing it. Separate service delivery and regulation functions at the State level and form a small regulatory unit to start with, within Department of Drinking Water Supply at arms length; With passage of time cause it to evolve into an independent regulatory body. Clarify the current confusing roles of UPJN and UJS with non-overlapping mandate if the present vertically separated arrangement to be maintained; Separate urban and rural water supply by ring fencing of urban water with regard to manpower, financing and accounting. Introduce a more participatory and professional governance structure within UPJN and UJS with greater ULB representation and co-opting the experts. Complete the work for performance-based contractual arrangements within the identified first and second set of towns by year 2-3 respectively. Introducing a medium term performance based contractual relationship for first and second set of towns within year 3-4 respectively among UJS as service provider, ULBs as client and ultimate owners and the state as provider of grant and subsidies with incentive/distinctive structure and clear targets of improvement on UFW, billing, collection, gradual increase in user charges, and targeted reduction of subsidies. 	Year 1 Year 2 Year 7 Year 2 Year 2 Year 2 Year 2-3 Year 3-4

Reform Measures	Indicative Target Date
<ul style="list-style-type: none"> In the medium term as devolution takes its full shape with stronger ULBs, this tripartite contractual relationship would evolve into a contract between ULBs and UJS with ULBs having a full oversight on WSS by the service providers (UJS) or Private sector. 	Year 5-7
C. Urban and Municipal Finance: Introduction and Rationalization of User Charges, Property Tax, and Financial Management Reforms <ul style="list-style-type: none"> Finalize the Financial Action Plan to introduce and rationalize user charges, strengthen property tax and improve financial management and accounting systems 	Year 1
Water Charges <ul style="list-style-type: none"> Introduce a volumetric water charge within 3 years of respective tranche approval for the water supply subprojects; Levy a service connection fee upon connection of new customers to the expanded system; Generate sufficient revenues to meet in a phased manner (based on an agreed financial action plan) 100% of the cost incurred in undertaking O&M (excluding depreciation) of existing and project-created water assets and services within 8 years of respective tranche approval of the water supply subprojects, except in those towns where the topography imposes significant additional costs on water supply; Generate sufficient revenues to meet in a phased manner (based on agreed financial action plan) 100% of the cost incurred in undertaking O&M (excluding depreciation) of existing and project-created water assets and services within 5 years of respective tranche approval of the water supply subprojects in Dehradun and Haridwar. 	Year 3 Upon connection to the system Phased Manner by Year 8 Phased manner by Year 5
Sewerage Charges: <ul style="list-style-type: none"> Implement/introduce a sewerage surcharge on the water bill (i) within 3 years of the respective tranche approval for sewerage subproject in each town where there is already a sewerage system, and (ii) upon completion of sewerage subprojects in those towns where there has been no sewerage systems earlier; Levy a sewerage connection fee upon completion of the sewerage subproject in each town; Generate sufficient revenues to meet in a phased manner (based on an agreed action plan) 100% of the cost incurred in undertaking O&M (excluding depreciation) of existing and project-created sewerage assets and services within 8 years of respective tranche approval for sewerage subprojects except in Dehradun and Haridwar where 100% cost of O&M will be met within 6 years of tranche approval. Solid waste Management Charges: <ul style="list-style-type: none"> Introduce and implement a new SWM charge as a substitute to conservancy tax (differentiating for domestic, commercial, and industrial users) by the completion of the SWM subprojects in each town; Generate revenues to meet 100% of the operation and maintenance cost of solid waste management by Year 5 of respective tranche approval for SWM subprojects; Property Tax Improvements <ul style="list-style-type: none"> Increase the number of taxable properties by 1% annually to gradually bring all untaxed properties under tax coverage. Continue periodical property surveys; Revise Annual rental value (ARV), to increase it by 60% by Year 4-5, and by 20% in 2016/17 until and unless the nondiscretionary method of tax assessment be adopted and implemented; Achieve collection efficiency at about 85% gradually with improved systems and procedures by FY 2012/13 and sustain it thereafter. Other Sources of Revenues <ul style="list-style-type: none"> Within 2 years of Investment Program Commencement, assess the feasibility and make recommendation to create dedicated sources of funds to partially meet the operation and maintenance cost of urban roads. Within 2 years of Investment Program Commencement, assess the feasibility and make recommendation to generate revenues from tourists for ULBs Operational Subsidy. <ul style="list-style-type: none"> State subsidy to annual operation cost of water supply be gradually reduced (based on an agreed financial action plan); Gradually reduce GoU subsidy to UJS for O&M in Dehradun and Haridwar to zero within 5 years of respective tranche approval for water supply and sewerage subprojects. Financial Management Improvements: <ul style="list-style-type: none"> Migration to modern, accrual-based double-entry system of accounting in ULBs and other urban service providers including UPJN and UJS within 4 years of Investment Program commencement; 	Year 3 Upon connection to the system Phased manner by Year 8 Phased manner by Year 6 Upon completion of subprojects Year 5 Year 1 onward Year 4-8 Year 4-5 Year 2 Year 2 Over the Program period Year 5 Year 4

Reform Measures	Indicative Target Date
D. Private Participation in Urban Infrastructure and Services <ul style="list-style-type: none"> Within 1 year of Investment Program commencement, based on the results of PSP study, develop a PSP plan and proposals for components with potential for PSP e.g., solid waste management, composting, parking, and bus terminals, UFW reduction, and water supply, and STPs, and structure PPP packages for various components. 	Year 1-4

ADB = Asian Development Bank, ARV=Annual Rental Value; CAA = Constitutional Amendment Act, JNNURM = Jawaharlal Nehru National Urban Renewal Mission; PSP=Private Sector Participation; ULB = Urban Local Body, UPJN=Uttarakhand Pey Jal Nigam/Water Sewerage Development Utility; UJS= Uttarakhand Pey Jal Shanstan/Water and Sewerage Management Utility.

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SCHEDULE 2

DESIGN AND MONITORING FRAMEWORK FOR THE FACILITY

Design Summary	Performance Indicators /Targets	Data Sources/Reporting Mechanisms	Assumptions and Risks
Impact: Improved quality of life for urban residents in Uttarakhand's 31 selected towns of strategic importance.	By the end of the Program (2016) in the Program towns: <ul style="list-style-type: none"> Percentage of urban population with access to urban infrastructure and services increased Slum population with access to urban infrastructure and services increased by 50% Number of water and sanitation borne diseases decreased by 20% 	State and National economic statistics. Uttarakhand Economic Review. Census data (2011) Regular data and reports from Uttarakhand directorate of economics and statistics. Project completion report	Assumptions: Continuing political commitment to urban infrastructure development and sector reforms. Encouraging private sector investment in the Program towns including in tourism and industry. Risks: Lack of state or local government commitment to urban sector reforms.
Outcome: Increased access to better quality and sustainable urban infrastructure and services by about 3.8 million people expected to be living in the Program towns by the end of program period (2016) and Improved urban governance, management, and finance resulting in sustainable service delivery	By End of Program period (2016): Water Supply 3.2 million people (83% of the population of program towns) will have access to treated water supply at 135 lpcd with reduction in UFW to 20%. Sewerage & Sanitation 2.3 million people (60% of total population of the program towns) will have access with 60 % reduction in the volume of wastewater discharged to storm drains. Solid Waste Management 2.8 million people (72% of the total population of program towns) will have solid waste management services with sanitary disposal. Roads & Traffic Management 1.2 million people (31% of total population of program towns) will have better access to adequate road facilities Slum Upgrading 0.3 million people residing in 115 poverty pockets (9% of total population of Program towns) will be provided with basic services. Urban Governance, Finance and Service Delivery Improvements (i) ULBs have been empowered in line with 74 th CAA and JNNURM, and have adequate skilled staff (ii) ULBs and UJS generate increased revenues to meet O&M costs of urban services and migrated to double entry accounting system (iii) UFW was reduced to 20%, and UJS' operating ratio is below 1.0 by the end of the Program.	Census Data (2011). The Second State Finance Commission report. Municipal Corporation and Development Authority Annual Reports. Investment Program Performance Management System (IPPMS) reports. IPMU's quarterly progress reports. ADB Review Mission reports. Resettlement and environmental external monitoring reports, ADB's project completion report.	Assumptions: Timely Program implementation; Timely actions by State and service providers to implement urban reforms; Cooperation of town residents to share civic responsibility; Effective capacity building of institutions to manage project assets. Risks: Delayed actions to implement reforms; Lower than expected willingness to pay for services; Delays in land acquisition and resettlement plans.
Outputs Part A: Improved Urban Infrastructure and Services (i) Implemented investment program for water supply.	By End of Project period in (2016): Optimization of water supply in Dehradun, Nainital and Haridwar through replacement of pumping units, up gradation of WTPs, provision of water testing labs, leak detection and rectification, replacement of about 555 km of mains, installing 111150 nos. water meters to house connections, Construction of a 5mld capacity water softening plant at Nainital Source	Quarterly progress reports (UDD). IPPMS reports. Commissioning certificates. Disbursement & reimbursement records. Departmental reports. Annual work plans. ADB Review Mission reports. Project Completion Report. Census reports.	Assumptions: Civic awareness program will result in support for replacement of connections and metering; WSS utilities are committed to efficiency improvements linked to longer term performance improvement plans,

Design Summary	Performance Indicators /Targets	DataSources/Reporting Mechanisms	Assumptions and Risks
	augmentation by installing tube wells, expansion of distribution system with overhead tanks in 14 other towns		Risks: Delayed action on WSS utility reforms Delayed action on rationalization of user charges
(ii) Implemented investment program for sewerage system and sanitation	Laying 150 km sewer and Construction of 67 mld capacity sewage treatment plant in Dehradun Laying 61 km of sewer and construction of 22.5 mld capacity sewage treatment plant in Rudrapur Laying sewer and construction of sewage treatment plant of appropriate capacity in 17 other medium and smaller towns.	Quarterly progress reports (UDD). IPPMS reports . Commissioning certificates Disbursement & reimbursement records. Departmental reports. Annual work plans. ADB Review Mission reports. Project Completion Report. Census reports.	Assumptions: Civic awareness program will result in support for connection to sewerage and to pay for sewerage charges; WSS utilities are committed to efficiency improvements linked to longer term performance improvement plans. Risks: Delayed action on WSS utility reforms.
(iii) Implemented investment program in solid waste management (SWM)	Development of SWM Policy Support to ULBs in SWM public awareness in segregation at source. Construction of sanitary landfill site for 29 Program towns. Provision of solid waste collection and transportation equipment for 29 Program towns.	Quarterly reports (UDD). IPPMS reports, Commissioning certificates. Disbursement & reimbursement records. Annual work plans. ADB Review Mission reports. Project Completion Report.	Assumptions: Civic awareness program will be effective in community SWM improvements; Landfill sites be acquired in a timely manner Risks: Delayed action on landfill site acquisition Delayed actions on rationalization of user charges
(iv) Implemented Investment Program for roads and transportation	Widening and strengthening of existing arterial & sub-arterial roads, construction of footpath, guard rail, road furniture and junction improvements for 14 district and sub-district headquarters town.	Quarterly reports (UDD). IPPMS reports, Commissioning certificates. Disbursement & reimbursement records. Departmental reports. Annual work plans. ADB Mission reports. Project Completion Report.	Assumptions: Consistency with updated master plans ensured; Traffic management is effective; Funds are available to maintain roads Risks: Delayed actions to implement urban finance reforms
(v) Implemented Investment Program in slum upgrading	Development of State-wide Slum Development Policy Construction/repair of about 45 km of drain, 32 km of road, 66 nos of community toilets, adequate linkage to the main water supply and sewerage system and street lighting facility in 69 slums in Dehradun, 10 slums in Nainital, 20 slums in Haridwar and 16 slums in Rudrapur.	Quarterly reports (UDD). IPPMS reports, Commissioning certificates. Disbursement & reimbursement records. Annual work plans. ADB Review Mission reports. Project Completion Report.	Assumptions: Civic awareness program is effective; Land tenure security in slums is ensured. Risks: Civic Awareness less than effective
Part B: Capacity Development and Investment Program Management Implemented	By December 2008: Develop and reach consensus on a plan for further devolution to (where feasible) and corresponding capacity building of ULBs; By December 2008: Develop a detailed	Quarterly progress reports (UDD). IPPMS reports (CMU). Disbursement & reimbursement reports.	Assumptions: GoU, utility agencies and ULBs' commitment to capacity building; Timely and adequate response from State

Design Summary	Performance Indicators /Targets	DataSources/Reporting Mechanisms	Assumptions and Risks
assistance to support the attainment of GOU's urban reform agenda for (i) strengthening of ULBs, (ii) restructuring of WSS utilities for efficient and financially sustainable service delivery, (iii) urban and municipal finance, and (iv) preparing PPP packages for selected subprojects	<p>reform action plan as per Appendix 4 to RRP on WSS utility reforms;</p> <p>By December 2008: Develop detailed reform action plan in accordance with the Financial Improvement Action Plan I Table 2 of Schedule 1 to improve user charges, property tax, and to propose other sources of revenues;</p> <p>By Dec 2011: Develop manuals, install systems, and train the staff to operate double entry accrual accounting system based on a phased approach in ULBs and WSS utilities;</p> <p>By December 2008: Develop a PSP plan to create an enabling environment for PSP and to develop PPP packages in selected subprojects;</p> <p>By December 2009: Develop PPP packages for selected subprojects</p> <p>Over the Investment Program Period: The detailed reform action plans for ULBs, water utilities, and revenue mobilization was implemented as per the targets set in Urban reform agenda.</p> <p>By December 2011: GIS and MIS established at Urban Development Department, water utilities, and all sector ULBs on municipal assets, services, and finances.</p> <p>By December 2011 Major capacity building programs completed and new skills being applied in reformed institutions</p>	ADB Review Mission reports.	<p>and service providers to endorse and implement reform action plans;</p> <p>Civic awareness programs bring support of the stakeholders for capacity development and reform program.</p> <p>Risks: Lack of continuity in commitments to Urban Governance, Finance, and Service Delivery Improvement Action Plan</p>
Activities with Milestones			Inputs (\$ Million)
1. Investment Program Preparation 1.1 IPMU in UDD established by Dec 2007 and and full-fledge operational; 1.2 IPIUs in UPJN in Dehradun and in subunits in Dehradun, Haridwar, and Nainital are established and full-fledge operational by Dec 2007; 1.2 Program Consultants are appointed by June 2008 through advance activities*; 1.3 Environmental clearance for 1 st tranche subprojects completed by September 2008; 1.5 Survey, investigation, mapping and design data prepared by December 2007; 1.6 Engineering design and tender documents for the 1 st tranche subprojects prepared by December 2008; 1.7 Withdrawal of lease for Musafir Khana proposed in the land earmarked for construction of STP at Dehradun and fencing the land with signage by Dec 2007; 1.8 Handing over of the municipal land at Dehradun earmarked for construction of STP to UPJN by December 2007.			ADB: \$350 million Government: \$150 million
2. Implementation of First Tranche Subprojects 2.1 Urban Infrastructure and Services 2.1 Initiating civic awareness campaign and community mobilization by Sep 2008; 2.2 Update construction plans and schedule by July 2008; 2.3 Initiate preparation of state slum policy by September 2008; 2.4 Initiate preparation of SWM master plan and awareness campaign by Sep 2008; 2.5 Start procuring water meters by December 2008; 2.6 Award contract and commence construction works by December 2008; 2.7 Complete construction activities by June 2011			
2.2. Capacity Building 2.2.1 Undertake capacity building and training needs assessments and initiate training programs by September 2008; 2.2.2 Prepare detailed reform action plans by December 2008 for ULB strengthening, water utility reforms, and revenue and financial management improvements, and start assisting in their implementation; 2.2.3 Start preparing draft regulations, operating procedures and manuals, and organizational development plans to implement reforms as required by December 2008;			

Design Summary	Performance Indicators /Targets	DataSources/Reporting Mechanisms	Assumptions and Risks
2.2.4 Develop and conduct on-the job training programs to enhance skills IPMU and IPIUs in implementing the Investment Program and the capacity of ULBs and water utilities in operating and maintaining the Project assets with the assistance of the program consultants from December 2007.			

ADB = Asian Development Bank, BPL = Below Poverty Line, EA = Executing Agency, GoI = Government of India, GIS = Geographic Information System, GoU = Government of Uttaranchal, IPPMS = Investment Program Performance Monitoring System, IPMU = Investment Program Management Unit, IPIU= Investment Program Implementation Units, PWD= Public Works Department, PPP=Public Private Partnership, STP= Sewage Treatment Plant, SWM = Solid Waste Management, UPJN= Uttarakhand Pey Jal Nigam (WSS Construction Utility), ULB = Urban Local Body, WSS= Water Supply and Sewerage, WTP= Water Treatment Plant,

* This advanced activity is being undertaken under bridging TA commenced in July 2007

Note - Assumed ADB loan effectiveness by March 2008

SCHEDULE 3 IMPLEMENTATION FRAMEWORK

1. Unless modified and amended in loan or project agreements under the Facility, the Investment Program will be implemented as follows.

Implementation Arrangements

2. The Executing Agency for the Investment Program will be the GoU's Urban Development Department (UDD). An Investment Program Management Unit (IPMU) will be established in the EA to execute, manage, and monitor the implementation of the Investment Program, and provide overall policy direction. IPMU will be registered under the Societies Registration Act as an entity with the Chief Secretary as its president and Secretary Urban Development, vice president. The registration of IPMU as a society will enable the IPMU's (i) efficient functioning under its own mandate and rules without strictly requiring prior permission of GoU in day-to-day business and decision making, (ii) efficient disbursement and prompt payment of funds to contractors and suppliers, and (iii) engagement of qualified staff and outsourcing the services of professionals from open market.

3. IPMU will have a General Body consisting of the Chief Secretary as its Chair and the secretaries of the relevant GoU departments and representatives of ULBs and non-government organizations as its members. The General Body will frame and implement regulations for the conduct of business and management of IPMU which will be satisfactory to ADB. There will also be an Executive Committee under the chair of the Secretary, Urban Development, and consisting, as members, of high-level officials of the State departments of Finance, Drinking Water, and Public Works and relevant ULB. The Executive Committee will meet at least quarterly to provide overall guidance, review Program performance, and decide on all major issues of the Program management. More specifically, the duties of Executive Committee will include (i) providing strategic guidance on and overseeing the implementation of the Program, including urban reform action plan; (ii) approve the subprojects and the PFRs; (iii) ratification of the annual budget estimates; (iv) creation of posts and recruitment of staff; (v) ratification of procurement of services, works, and goods, and approval of disbursements; and (vi) ensuring compliance with safeguards and acquisition of land, and other similar matters.

4. IPMU will comprise a full time Investment Program Director with a team of administrative, financial, technical, and social/environmental staff drawn from various relevant departments and utilities will be exclusively responsible for executing, managing and supervising the Program implementation. IPMU will engage the UPJN as implementing agency for water supply and sewerage component and PWD for roads and traffic management component, and will set up in each of the agency Investment Program Implementation units (IPIUs) accountable and reporting to IPMU. ULBs will be given a major role in implementing the solid waste management and slum upgrading components under the close supervision and support of IPMU through a special cell within it. They will also be closely associated with planning, design and implementation of the road and traffic management projects. Within no later than one month of the effective date of the first loan, each of IPMU and PIU in UPJN at Dehradun and the subunits in Dehradun, Nainital, and Haridwar will have all the staff listed for each of them in Attachment to this Schedule 3.

5. IPMU, under the overall guidance of the Executive Committee, will (i) monitor the Program and have overall responsibility for its implementation; (ii) assist IPIUs in identifying and preparing sub-projects and appraise them in consultation with towns; (iii) compile MFF tranches and PFRs; (iv) appoint consultants; (v) ensure land acquisition and other safeguards; (vi) approve surveys, investigations, engineering designs and bid documents prepared by Project Implementing Units; (vii) review procurement of works and goods undertaken by IPIUs; (viii) assist ULBs in implementing solid waste management, slum improvement, and minor road components; (ix) oversee contract administration; (x) guide in awareness campaigns and participation programs; (xi) organize and operate the program performance monitoring system; (xii) prepare disbursement requests and forward them ADB through India; (xiii) prepare and submit timely reports to ADB; (xiv) review and facilitate the progress of the urban reform action plan and compliance with loan

covenants; and (xiv) design and organize capacity building programs. IPMU will be assisted by Program Management Consultants (PMC) in managing and guiding the overall implementation of the Investment Program.

6. IPIUs will be headed by a senior engineer in the capacity of Superintending Engineer and provided with qualified technical, procurement, social and financial staff. All engineering design, procurement, construction supervision, and quality control of the works shall be carried out by IPIUs which will be assisted by Project Management and detailed design and supervision construction consultants (DSC). IPIUs will carry out their tasks through a dedicated cell created in each of their district units and have regular consultation with the town stakeholders.

7. Town-level committees chaired by the Mayor or chairperson will be formed in each town with representation of ward members, the district magistrate, collector, municipal commissioner, special area development authority, local representatives of UPJN, UJS, PWD, as well as civil society and business representatives. The town committees will review and concur the subprojects selected and formulated in their town, provide feedback on project implementation, ensure cooperation of concerned agencies at town level, and provide a forum for effective involvement and participation of town stakeholders in Program implementation and civic awareness activities. Town committees through their chairperson will also be represented in the General Body of the IPMU, where their concerns about overall policy and Program issues will be addressed.

Approval Procedure for Tranches

8. For subprojects that will be included in the first PFR, the subproject preparation and appraisal stands completed. For subprojects other than those to be included in the first PFR, and intended for financing under the Facility, the approval procedures will be as follows.

- (i) IPMU will appraise subproject proposals proposed by implementing agencies in full consultation with town-level committees in the agreed format indicating compliance of each subproject with the selection criteria.
- (ii) IPMU will prepare subproject appraisal reports, including the scope, cost, financing and implementation arrangements, an initial environmental examination or environmental impact assessment, a resettlement plan, an indigenous development plan if applicable, and economic, financial, and institutional analyses. IPMU will then have those subprojects approved by the Executive Committee and submit them to ADB for prior review and endorsement before submission of a PFR.
- (iii) Following the endorsement of subprojects by ADB, IPMU through Executive Committee will submit them in the form of PFR for endorsement to the Ministry of Finance (MOF/DEA) prior to submitting it to ADB.

Review

9. Based on a review of quarterly progress reports, ADB and GoU will meet as required to discuss the progress of the Facility and each loan. In addition to regular reviews, including a midterm review for each loan, a detailed midterm review of the Facility will be undertaken within a certain period of the effective date as agreed under the first loan agreement by ADB and India and GoU. The midterm review will include a detailed evaluation of the scope and implementation arrangements of the Facility, safeguards issues, progress with achievement of set targets, contract management progress, and any other outstanding issues, and develop remedial measures to achieve the overall objectives of the Program in a timely manner.

Staff Requirement of the IPMU and IPIU for the Entire Investment Program

Key Staff of IPMU

S. No.	Position	Number	Cumulative Input (person-month)
1	Program Director	1	96
2	Deputy Program Director	1	96
3	Urban Planner	1	96
4	Water Supply Engineer	1	72
5	Wastewater Engineer	1	72
6	Roads and Traffic Engineer	1	48
7	Solid Waste Management Expert	1	60
8	Environment Engineer	1	15
9	Procurement Officer	1	96
10	Urban Governance & Institution Officer	1	24
11	Social and Community Development Officer months	1	72
12	Municipal Finance/Accounts/Revenue Officer months	1	96
13	IEC Officer	1	60
14	BME Officer	1	60
15	MIS officer	1	60
16	Training Coordinator	1	60

Key Staff of IPIU

S. No.	Position	Numbers	Cumulative Input (person-month)
PIU-UPJN			
1	Project Manager (Water Supply & Sewerage)	1	72
2	Water Supply Engineer	2	132
3	Wastewater Engineer	2	132
4	Procurement Officer	1	72
5	Social and Community Development Officer	1	72
6	Municipal Finance/Accounts/Revenue Officer	2	144
7	MIS officer/IT	2	144
8	Divisional Engineer (Site)	12	474
9	Assistant Engineer (Site)	12	474
	Total		1716
PIU-PWD			
1	Project Manager (Roads)	1	48
2	Roads and Traffic Engineer	2	96
3	Procurement Officer/Civil Engineer (Roads)	1	48
4	Social and Community Development Officer	1	48
5	Municipal Finance/Accounts/Revenue Officer	2	96
6	MIS officer/IT	2	96
7	Divisional Engineer (Site)	11	396
8	Assistant Engineer (Site)	11	396
	Total		1224
PIU-ULB			
1	Municipal Engineer	31	64
2	Junior Engineer	31	64
	Total		128

Staff Requirement of the IPMU and IPIU for the First Tranche/Project 1

Key Staff of IPMU

S. No.	Position	Numbers	Cumulative Input (person-month)
1	Investment Program and Project Director	1	54
2	Deputy Program and Project Director	1	54
3	Urban Planner	1	54
4	Water Supply Engineer	1	54
5	Waste Water Management Engineer	1	54
6	Municipal Engineer	1	36
7	Environmental Engineer	1	15
8	Procurement Officer	1	54
9	Urban Institutional Development Officer	1	24
10	Social and Community Development Officer	1	36
11	Municipal Finance/Accounts/Revenue Officer	1	54
12	IEC Officer	1	36
13	BME Officer	1	24
14	MIS officer	1	36
15	Training Coordinator	1	36

Key Staff of IPIU

S. No.	Position	Numbers	Cumulative Input (person-month)
	Program Manager	1	54
	Water Supply Engineer	1	54
	Wastewater Management Engineer	1	54
	Procurement Officer	1	54
	Social and Community Development Officer	1	36
	Finance/Accounts/Revenue Officer	2	108
	MIS officer	2	108
	Divisional Engineer	3	162
	Assistant Engineer	3	162

SCHEDULE 4

SELECTION CRITERIA AND APPROVAL PROCESS FOR SUBPROJECTS

A. Selection of Towns

1. The general principle for selection of program towns is based on an overall assessment of their importance in the state and their potential to maintain the facilities created under the Investment Program. There are a total of 63 towns out of which 31 towns have been identified for development in one or more infrastructure facilities based on criteria including (i) town population, (ii) population growth, (iii) enterprise growth, (iv) administrative significance -district/sub-district head quarters, (v) educational significance, (vi) pilgrimage terminal, (vii) on the pilgrimage route, and (viii) financial soundness. A 10-point scoring matrix was prepared and towns scored at least 5 were made qualified. Of the 31 towns identified at this stage, 1 is a municipal corporation, 21 are municipal boards, 6 are town panchayats and 2 are town committees and 1 is village (Yamunotri) with religious value attracting large numbers of pilgrims. The future adjustments (if any) to the selection of program towns will follow similar methodology.

B. General Subproject Selection Criteria

2. In accordance with the objectives and targets of the Roadmap and Investment Program, the subprojects eligible for financing under the Facility will include (i) water supply, (ii) sewerage and sanitation, (iii) solid waste management, (iv) urban road and transportation, and (v) slum upgrading. These will be complemented by investments in storm water drainage and urban renewal in the three major towns of Dehradun, Nainital and Haridwar under JNNURM program along with additional investments in water supply and sewerage, if any. In selecting and appraising the subprojects in each town, following general criteria will be adhered to by IPMU.

- (i) Subprojects for which funding was sanctioned under JNNURM or any other program with grant funding is not eligible for funding under the Investment Program.
- (ii) The subprojects are identified through the town and infrastructure master plans and any changes thereafter are consistent with it. The subproject is technically sound and preliminary design will have been prepared.
- (iii) The subprojects selected will be based on (a) consumer demand analysis indicating that people are willing to pay the connection charges and monthly tariffs to access the improved service, (b) project rationale identification, (c) project alternative identification and least cost analysis, (d) cost and benefit analysis indicating the economic internal rate of return equal or exceeding the economic opportunity cost of capital (EOCC) for the State of Uttarakhand, and (e) assessment of project sustainability, and (vi) sensitivity and risk analysis, and (f) tariff analysis including equity consideration in tariff structure, willingness to pay and affordability, in case of a revenue-generating subproject.
- (iv) Subprojects must demonstrate financial and institutional sustainability.
- (v) The EA will demonstrate financial soundness of the investment into subproject by preparing a financial management assessment and analysis, in accordance with Chapter 3, 4 and 5 of *Handbook for Borrowers on the Financial Management and Analysis of Projects* (2006). Financial management assessment will be conducted for both each implementing body of the works and each owner of the asset created by each subproject. Financial analysis will be conducted for each subproject and owner of the asset who will be responsible for operation and maintenance (O&M).
- (vi) The respective ULBs/utility agencies shall agree to take over O&M of infrastructure assets and facilities created under the Investment Program along with existing facilities and make sufficient provision for O&M in their budget.
- (vii) All necessary India and GoU approvals are in place.
- (viii) GoU will facilitate providing required land free of any encumbrances to the implementing agencies for implementation of the subprojects.
- (ix) Civil works of subprojects be synchronized for least disruption in works and required quality.
- (x) The subprojects are designed seismic resistant in accordance with relevant Indian codes.
- (xi) All measures will be taken to identify subprojects that avoid / and or minimize land acquisition and resettlement impacts.

- (xii) All subprojects should have resettlement plan(s) in accordance with ADB's Resettlement Framework of the Investment Program.
- (xiii) All subprojects should meet environmental subproject selection guidelines (Attachment 1 of Schedule 5 to this FFA) and will have initial environmental examination (IEE) including environmental monitoring plan (EMP) in accordance with environmental assessment and review framework (EARF) as per ADB guidelines and shall have sufficient budget allocation to meet the cost.
- (xiv) All subprojects should have indigenous peoples development plans in accordance with the Indigenous Peoples Development Framework of the Program, wherever applicable.

C. Subsector Specific Criteria

1. Water Supply

- (i) Large scale ground water abstraction for augmenting water supply in Dehradun will be undertaken only if there is adequate availability of ground water in the command area with no adverse depletion record of the water table in past 5 years to be established through a hydro-geological investigation followed by opinion of Central Groundwater Board before going for undertaking the subcomponent. For other towns as the ground water abstraction is in the lower range, a general study of ground water table shall be carried out taking experiences of the local inhabitants and report prepared and approved by GoU prior to undertaking the subcomponent.
- (ii) Separate accounting is established by the service provider for urban water supply and sewerage prior to commencement of civil works.
- (iii) The EIRR of the water supply subprojects should be at least 12 %.

2. Sewerage

- (i) Sewerage subprojects shall be limited to the town core area only where there is a minimum per capita water supply rate⁴ is established to support toilet flushing and where design provides sufficient flow in the network to achieve a self cleansing velocity.⁵
- (ii) Installation of sewer network shall commence only when construction of sewage treatment plant or on-site sanitation requiring sewer network is assured.
- (iii) Wherever sewerage will be uneconomical, on-site sanitation with septic tank or low cost sanitation with adequate odor control and COD/BOD/TSS removal efficiency shall be developed.
- (iv) The EIRR of the subprojects should be at least 12 %.

3. Solid waste management

- (i) A solid waste management strategy including private sector participation should be developed before undertaking implementation of the subproject except community-level solid waste management improvements through civic awareness program in the first tranche.
- (ii) The subproject shall be limited to municipal waste; proposal for hazardous or biomedical waste will not be eligible for financing under this Investment Program.
- (iii) The solid waste handling and disposal shall be in accordance with the MSW Rules 2000 of GoI and special directions of Supreme Court.
- (iv) No landfill related equipment will be procured till landfill sites are ready for disposal.
- (v) Possibility of common landfill sites and/or compost plant for cluster of towns shall be explored with economic analyses in transportation and adequacy of land to sustain for at least 30 years.
- (vi) If a composting plant is proposed, adequate market/demand study should be carried out showing the marketability of the compost. Possibility of private-public partnership arrangements for O&M of compost plant should be explored.
- (vii) Adequate environmental and social safeguards are to be ensured in acquisition of land for landfill site and its construction.

⁴ As per CPHEEO, minimum per capita supply rate should be 135 litre/day to support efficient sewerage system.

⁵ CPHEEO recommended the minimum self cleansing velocity as 0.69 m/sec

- (viii) Prior to undertaking the subproject, sufficient awareness building among the beneficiaries is to be ensured in segregation of waste at source and effective collection.

4. Urban Roads & Traffic Management

- (i) Road construction subprojects shall be undertaken after implementation of the related water supply and sewerage subprojects.
- (ii) Road subprojects will primarily focus on major entry roads to the town, or roads that connect to major highways, arterial roads, bus terminals, railway stations and bypasses.
- (iii) A traffic management plan will be prepared for the urban areas before undertaking construction activities of the subproject.
- (iv) Subprojects shall be undertaken within the right of way and without any land acquisition.
- (v) All environmental (including IEEs and EMPs if necessary) and social safeguards are followed prior to undertaking the subproject.
- (vi) Subprojects should follow the guidelines and provisions of the National Urban transport policy.
- (vii) All road construction shall essentially include side drains including those leading to the natural drainage course.
- (viii) Design of the subproject shall be preceded by traffic survey and other investigation.
- (ix) Parking facilities shall be built, operated, and maintained through private sector participation.

5. Slum Upgrading

- (i) Proposals related to provisions of urban services in notified slum areas will be accompanied with a proof that (a) slum residents have land tenure security and (b) they are not vulnerable to natural hazards like landslide, flooding, etc.
- (ii) Proposals will follow a demand-driven and community based approach and build on the recommendations of the slum policy to be developed in the first tranche.

D. Sequencing of Tranches

3. The sequencing of tranches has been based on a number of principles, including (i) readiness of subprojects in terms of institutional capacities and safeguard compliance, e.g., land acquisition and resettlement and environmental aspects, (ii) relative investment priorities under the Investment Program which ranks the subprojects for augmenting the efficiency of existing utility systems and capacity building of service providers higher than the system expansions, and (iii) the size, growth rates, and economic potential of towns which all together indicate the relative level of priority for investments.

SCHEDULE 5

SAFEGUARD REQUIREMENTS AND SOCIAL DEVELOPMENT POLICIES

1. India will cause the State to ensure that all the requirements prescribed in this Schedule which have been prepared with respect to the Facility and of which ADB has been provided full copies, are complied with during the processing and implementation of the subprojects under the facility.
2. Prior to the preparation of each PFR, the applicability and relevance of each Safeguard framework for environmental assessment, involuntary resettlement, and indigenous people will be reviewed and updated to ensure relevance and consistency with applicable country legal frameworks and ADB's safeguards policies, as amended from time to time.
3. In all cases for each new PFR preparation, India will ensure that the State will review on-going subprojects to check on the status of compliance with the safeguards plans and frameworks, and submit review reports to ADB, together with other required safeguard documents relevant to the subproject included in the tranche being processed. In any case if major non-compliance is discovered in the course of the review of on-going subprojects, a corrective action plan will be prepared and submitted to ADB for approval.
4. In addition, all Safeguards policies in effect as of the date the financing of subprojects is prepared or provided under the Facility will apply to such subprojects.
5. Safeguards assurances for subprojects under individual Projects under the Facility include the following as will be incorporated into related loan and project agreements:
 - (a) The State through the EA will ensure that
 - (i) Under the Facility, the projects are carried out and all subproject facilities designed, constructed, operated, maintained, and monitored in compliance with the environmental laws and regulations of India, the State, ADB's Environment Policy (2002), and Environmental Assessment and Review Framework (EARF) (Attachment 1); subprojects encroaching sanctuaries, national parks, core zones of biosphere reserves, and reserve forests or its buffer zone shall not be included in projects; however, subprojects close to environmentally sensitive areas may be allowed subject to the EA obtaining all statutory clearances;
 - (ii) An Initial Environmental Examination (IEE) or Environmental Impact Assessment (EIA) as required, including an Environmental Management Plan (EMP) with budget identifying the costs of its implementation, with adequate consultation for each subprojects, in accordance with the EARF will be submitted to ADB for review and approval before award of related contract. In case of any EIA or IEE for subprojects classified as A or B sensitive, this will be subject to the 120 day public disclosure requirement under ADB's Environment Policy (2002);
 - (iii) All mitigation measures identified in the IEE, Summary IEE (SIEE), EIA, or Summary EIA (SEIA) and the related EMP, as applicable, for each subproject, will be incorporated in subproject design, and carried out during construction, and operations and maintenance (O&M), and will be disclosed to stakeholders;
 - (iv) If there are any changes in specific locations or alignments of any subproject facilities after completion of the process of IEE (or EIA) or due to detailed design or implementation that has an impact on the environmental assessment carried out thus far, then additional environmental assessment will be carried out in accordance with ADB's Environmental Policy (2002) and the EARF, and prior approval of ADB obtained before further physical implementation of subprojects;
 - (v) All environmental clearances required by applicable laws, and regulations at national, State, or local levels will be obtained in a timely manner, prior to commencement of civil works for the relevant subproject; and
 - (vi) Semi-annual progress reports on the implementation of the EMPs, measures under the IEE/EIA, and the environmental monitoring shall be carried out as part of project implementation for review and disclosure in accordance with ADB's Public Communications Policy (2005).

(b) The State through the EA will

- (i) Undertake projects in accordance with national and State laws and regulations, ADB's Policy on Involuntary Resettlement (1995) and the Resettlement Framework (RF) (Attachment 2);
- (ii) Ensure that to the extent possible, subprojects will not require land acquisition or involuntary resettlement; however, if any acquisition and/or involuntary resettlement are required for any subprojects; the State through the EA will ensure the following:
 - (a) A Resettlement Plan (RP) for the subproject, acceptable to ADB is prepared, in accordance with applicable laws and regulations and the RF, and submitted to ADB for review and approval before award of related civil works contract proper consultation during preparation of the RP with affected persons (APs), as also disclosure of the RP to APs including information on land acquisition and compensation process undertaken and disclosure in accordance with ADB's Public Communications Policy (2005);
 - (b) All land, rights of way and other land-related rights required for the subproject are acquired or made available;
 - (c) All APs are compensated in accordance with the agreed RP before commencement of civil works of the related subproject including any section-wise handover thereof, strictly in accordance with the stipulation in the related civil works contract. If during detailed design and implementation, and modification and/additional land acquisition or involuntary resettlement impacts are identified, the RP will be prepared (or modified if existing) in accordance with applicable laws and regulations and the RF and prior approval of ADB obtained before further implementation of RP;
- (iii) Ensure that efficient grievance redressal mechanisms are in place in accordance with the related RP to assist affected persons resolve queries/complaints if any in a timely manner;
- (iv) Ensure that all compensation at replacement value for acquired assets made to affected persons well in advance for them to make alternative arrangements, before commencement of civil works.

(c) The State through the EA will ensure that

- (i) If any impact is identified during planning, design, or implementation of any subproject on indigenous peoples (IP), that an Indigenous Peoples Development Plan (IPDP) or integration of specific actions in favor of the IPs in the RP is prepared in accordance with ADB's Policy on Indigenous People (1998) and the Indigenous Peoples Development Framework (IPDF) (Attachment 3) and that the same is further (i) approved by ADB before award of related civil works contract, and (ii) implementation before commencement of related civil works contract. Any updates to the IPDP due to detailed design or during implementation shall follow requirements similar to RPs.

(d) The State through the EA will ensure that

- (i) The civil works contracts under the Investment Program will follow all applicable labor laws of the Government and the State and that these further include provisions to the effect that contractors; (a) carry out HIV/AIDS awareness programs for labor, and disseminate information at worksites on risks of sexually transmitted diseases and HIV/AIDS as part of health and safety measures for those employed during construction; and (b) follow and implement all statutory provisions on labor (including not employing or using children as labor, equal pay for equal work), health, safety, welfare, sanitation, and working conditions. Such contracts shall also include clauses for termination by the State/EA in case of any breach of the stated provisions by the contractors.

ENVIRONMENTAL ASSESSMENT AND REVIEW FRAMEWORK

I. INTRODUCTION

A. Background

1. The Investment Program will support the Government of India (GOI) and the Government of Uttarakhand (GOU) in their policy of balanced regional socio-economic development and poverty reduction through improvements in urban governance, management, and infrastructure and service provision in 31 selected towns in Uttarakhand. The Investment Program will support: (i) water supply; (ii) sewerage and sewage treatment; (iii) municipal solid waste management; (iv) urban roads and traffic management; (v) slum upgrading and poverty reduction; and (vi) planning and design, institutional and policy development, capacity building, and awareness raising.

2. Although the basic aim of the Investment Program is to improve the quality of environment and living conditions, the development of infrastructure facilities may cause certain negative environmental impacts. These impacts may arise in the Investment Program life cycle either during implementation and/or during operation phase and in limited cases, may also arise after the end of operation period. The IEEs conducted for sample sub-projects in Dehradun, Haridwar, Nainital, and Rudrapur indicate that there are no major environmental impacts or have impacts which can be mitigated by suitable proven mitigation measures.

3. Owing to its diverse physiological and climatological characteristics, the State of Uttarakhand has a number of eco-sensitive areas notably dense forests, wildlife sanctuaries, national parks, and biosphere reserves. No impacts in these areas anticipated, for most of the urban areas are located outside these sensitive areas.

4. With the above background, this Environmental Assessment and Review Framework (EARF) aim at safeguarding the environment through a set of procedures defining environmental assessment requirements of various sub-projects/sub-project components implemented under UUSDIP. In addition to the Government of India and Government of Uttarakhand's mandatory environmental regulations, this EARF takes cognizance of the Asian Development Bank's Environmental Guidelines, 2003. This program specific EARF essentially takes note of the issues identified through sample sub-project IEEs.

II. OVERVIEW OF TYPE OF SUB-PROJECTS

5. The UUSDIP comprises: (i) Component A - designed to address urban infrastructure needs of Investment Program towns; (ii) Component B designed to address capacity building of executing and implementing agencies of UUSDIP and training requirement for staff; and assist program implementation.

6. **Component A. Urban Infrastructure and Service Improvements.** Under this component the program will support improvements in basic urban infrastructure and services both to address existing deficiencies and to support future growth of urban population and economic development. The urban basic services included here are water supply, sewerage, solid waste management and urban roads and transportation. The range of sub-projects proposed are:

A. Water Supply

- (i) Leak detection and water and energy audit to optimize the present system;
- (ii) GIS-based pipeline network mapping of the water supply system for

- creation of a reliable database;
- (iii) Replacement of old/damaged distribution networks, distribution mains, and raw water and clear water mains;
- (iv) Replacement of pipelines under carriageways;
- (v) Rehabilitation of distribution network to take increased densities;
- (vi) Replacement of old and damaged infrastructure such as pumping plants;
- (vii) Repairs and cleaning of old tube wells and infiltration wells;
- (viii) Rehabilitation of existing water treatment plants;
- (ix) Construction of clear water reservoirs (over head tanks and ground-level service reservoirs), break pressure tanks;
- (x) Source development (construction of tube wells and infiltration wells) including pumping stations;
- (xi) Development of new water treatment plants;
- (xii) Laying of new rising mains and water distribution network;
- (xiii) Refurbishment of office buildings and staff quarters;
- (xiv) Installation of SCADA system for efficient operation of tubewells;
- (xv) Procurement of silent mobile diesel generators (alternative power supply);
- (xvi) Installation of bulk water meters; and
- (xvii) Establishing water quality testing laboratory.

B. Sewerage System

- (i) Development of new Sewage Treatment Plants;
- (ii) Rehabilitation of existing sewer network and trunk sewers;
- (iii) Development of sewage pumping stations;
- (iv) Laying of new trunk sewers; and
- (v) GIS-based network mapping of existing sewerage system.

C. Solid Waste Management

- (i) Development of Master Plan including awareness building program;
- (ii) Development of composting facilities and sanitary land fills;
- (iii) Procurement of equipment; and
- (iv) Development of waste transfer stations.

D. Urban Roads, Transport, Traffic Management:

- (i) Widening and strengthening of existing arterial and sub arterial roads;
- (ii) Construction foot path and guard rails;
- (iii) Junction improvements; and
- (iv) Provision of street furniture.

E. Slum Improvement

7. One of the goals of UUSDIP is the reduction of poverty, and it aims at integrating poor settlements into the urban development process. Under this program, Technical Assistance will be given to the GoU to develop State Slum Policy to deal with the problems of slums and the urban poor. Meanwhile, to improve living conditions within slum and poor settlements, urban basic services will be extended through networking with city-wide urban services. Within this context, this component will provide investment for:

- (i) Provision of basic infrastructure facilities such as water supply, sanitation and roads, and
- (ii) Preparation of state slum policy and development program.

8. **Component B. Institutional Development, Capacity Building, and Training and Investment Program Management.** While UUSDIP will involve provision of urban infrastructure and services in the Program towns, long-term sustainability of the assets

created, and effective planning and management of urban basic services in general, requires that key urban management issues be addressed by the Program. This Component will include the following:

- (i) Capacity building for Component A;
- (ii) Capacity building for Component B;
- (iii) Municipal Management, Budgeting, and Strategic Planning;
- (iv) Municipal Finance and Revenue;
- (v) Simplified Property Tax System; and
- (vi) Improved Governance and Enhanced Institutions.

III. COUNTRY'S ENVIRONMENTAL ASSESSMENT AND REVIEW PROCEDURES

A. Applicable Legislations

9. The implementation of sub-projects proposed under UUSDIP will be governed by the Environmental Acts, Rules, Policies, and Regulations of the GoI and GoU. These regulations impose restrictions on the activities to minimize/mitigate likely impacts on the environment. Following are the environmental regulations applicable to UUSDIP.

- (i) The Water (Prevention and Control of Pollution) Act, 1974, amended 1988;
- (ii) The Water (Prevention and Control of Pollution) Rules, 1975;
- (iii) The Air (Prevention and Control of Pollution) Act 1981, amended 1987;
- (iv) The Air (Prevention and Control of Pollution) Rules, 1982;
- (v) The Environment (Protection) Act, 1986, amended 1991 and including the following Rules/Notification issued under this Act;
- (vi) The Environment (Protection) Rules, 1986, including amendments;
- (vii) The Municipal Solid Wastes (Management and Handling) Rules, 2000;
- (viii) The Hazardous Wastes (Management and Handling) Rules, 1989;
- (ix) The Bio-Medical Waste (Management and Handling) Rules, 1998;
- (x) Noise Pollution (Regulation and Control) Rules, 2000;
- (xi) Wild Life (Protection) Amendment Act, 2002;
- (xii) Eco Sensitive Zone Notification: Restricting Location of Industries, Mining and Other Activities in Doon Valley in Uttarakhand;
- (xiii) Environmental Impact Assessment Notification, 2006;
- (xiv) Environmental Standards of Central Pollution Control Board (CPCB);
- (xv) The Indian Wildlife (Protection) Act, 1972, amended 1993;
- (xvi) The Wildlife (Protection) Rules, 1995;
- (xvii) The Indian Forest Act, 1927;
- (xviii) Forest (Conservation) Act, 1980, amended 1988;
- (xix) Forest (Conservation) Rules, 1981 amended 1992 and 2003; and
- (xx) Guidelines for Diversion of Forest Lands for Non-Forest Purpose under the Forest (Conservation) Act, 1980.

10. Owing to the nature and scale of sub-projects and associated likely minimal impacts, most of sub-projects do not fall under the ambit of the above regulations. Limited facilities notably sewage treatment plants, solid waste composting and landfill facilities and sub-projects located in forested areas will be covered by the regulations.

B. Environmental Assessment Requirements

11. The new EIA Notification of 2006 of GoI, which replaces the EIA Notification of 1994, requires environmental clearance for certain defined activities/projects. This Notification classifies the projects/activities that require environmental clearance (EC) into 'A' and 'B' categories depending on the impact potential and/or scale of project. For both category projects, prior environmental clearance is mandatory before any construction

work, or preparation of land except for securing the land, is started on such project or activity. Clearance provisions are as follows:

- (i) Category 'A' projects require prior environmental clearance from the MoEF, Government of India¹;
- (ii) Category 'B' projects require prior environmental clearance from the State State Environment Impact Assessment Authority (SEIAA)²; and
- (iii) This Notification provides that, any project or activity specified in Category 'B' will be treated as Category A, if located in whole or in part within 10 km from the boundary of protected areas, notified areas and inter-state and international boundaries³.

12. None of the sub-projects, except common solid waste management facilities, proposed under UUSDIP attract this Notification. These common SWM facilities fall under category 'B' (few may be classified as 'A' depending on the location as defined above). Although at this stage of program no common landfills are proposed, considering the topography and land non-availability, common facilities are likely to be formulated and developed during implementation.

C. Forest Clearances

13. Forest legislation in India dates back to enactment of the Indian Forest Act, 1927. This Act empowers the State Government to declare "any forest land or waste-land, which is the property of Government or over which the Government has proprietary rights or to the whole or any part of the forest-produce of which the Government is entitled", a reserved forest or protected forest. The State Government may assign to any village-community the rights of Government over a reserved forest - those are called village-forests. Act also allows Government control over forest and lands not being the property of Government.

14. Acts like clearing or break up of any land for cultivation or for any other purpose, damage to vegetation/trees and quarrying or removing any forest produce from reserved forest is prohibited. All these are also applicable to village-forests. For protected forests, with the provision of the Act, the State Government makes rules to regulate activities like: cutting of trees and removal of forest produce; clearing or breaking up of land for cultivation or any other purpose; and for protection and management of any portion of protected forest.

15. Forest (Conservation) Act, 1980 (amended in 1988) enacted by Government of India, restricts the dereservation of forests for use of non-forest purposes. According to the Act, State Government requires prior approval of Gol for the use of forest land for non-forest purposes (means the breaking up or clearing of any forest land) or for assigning least to any private person or agency not controlled by government. The Forest (Conservation) Rules, 2003 issued under this Act, provide specific procedures to be followed for conversion of forest land for non-forest purposes.

¹ For Category A projects, based on the preliminary details provided by the project proponent as per Notification, the Expert Appraisal Committee (EAC) of MoEF, determine comprehensive TOR for EIA studies. This TOR will be finalized within 60 days. On the recommendation of the EAC based on EIA studies, MoEF provides the EC.

² The B category projects will be further divided by State Level EAC into B1 – that require EIA studies and B2 – no EIA studies. The State Level EAC will determine TOR for EIA studies for B1 projects within 60 days. On the recommendation of the State level EAC based on EIA studies, SEIAA provides the EC.

³ (i) Protected Areas notified under the Wild Life (Protection) Act, 1972, (ii) Critically Polluted areas as notified by the Central Pollution Control Board from time to time, (iii) Notified Eco-sensitive areas, (iv) inter-State boundaries and international boundaries.

16. Limited sub-projects notably solid waste composting and landfills may require acquisition of forest land⁴. Linear subprojects like water supply rising mains/trunks mains may traverse forest lands. The forest land conversion will follow the "Guidelines for Diversion of Forest Lands for Non-Forest Purpose" under Forest (Conservation) Act, 1980. Compensatory afforestation is one of the most important conditions stipulated for diversion of forest land. The proposals for conversion will be forwarded by the State Government to the MoEF, Gol:

- (i) Forest land involving up to 5 ha will be cleared by the Regional Office of the MoEF.
- (ii) Forest land involving more than 5 ha and up to 20 ha sent will be cleared by the Regional Office after referring the case to MoEF.
- (iii) Conversion of forest land (i) having density above 0.4 irrespective of the area involved, and, (ii) of more than 20 ha in the plains and 10 ha in the hilly region, irrespective of density, will be cleared by MoEF.
- (iv) Compensatory afforestation is compulsory for conversion:
- (v) Afforestation will be done over an equivalent area of non-forest land.
- (vi) As far as possible, the non-forest land for compensatory afforestation should be identified contiguous to or in the proximity of Reserved Forest or Protected Forest. If non-forest lands are not available in the same district other non-forest land may be identified elsewhere in the state.
- (vii) Where non-forest lands are not available, compensatory afforestation may be carried out over degraded forest twice in extent to the area being diverted.

17. Conversion of forest lands that are part of National Parks/Sanctuaries and Tiger Reserve areas (notified under Indian Wildlife (Protection) Act, 1972) is not permitted. In exceptional case, the State Government requires consent of the Indian Board of Wildlife for obtaining approval of the State Legislature for denotification of the area as a sanctuary.

18. Cutting of trees in non-forest land, irrespective of land ownership, also requires permission from the State Forest Department. Afforestation to the extent of two trees per each tree felled is mandatory.

D. Other Environmental Regulations

19. Under the Water (Prevention and Control of Pollution) Act, 1974 and/or the Air (Prevention and Control of Pollution) Act, 1981, the following sub-projects require Consent for Establishment (CFE) and Consent for Operation (CFO) from the Uttarakhand Environmental Protection and Pollution Control Board (UEPPCB). The CFE/CFO is issued upon project review and site visits. The Board issues the CFE before start of construction and the CFO after completion of construction and satisfying CFE conditions, if any. During the operation period, the effluent and air emissions must conform to the stipulated standards (CPCB Environmental Standards). The CFO is renewed every year based on the operation performance of the facility. The following sub-projects require UEPPCB consent for establishment and operation.

- (i) New or augmentation of water treatment plants (under the Water Act);
- (ii) New or augmentation of sewage treatment plants (under the Water Act);
- (iii) Solid waste composting and landfills (under the Water Act and the Air Act);
- (iv) Diesel generators (under the Air Act); and
- (v) Hot Mix Plants, Wet Mix Plants, Stone Crushers etc, if installed for construction (under the Air Act).

⁴ The term 'Forest land' refers to land owned by the Forest Department; it may or may not include reserved forest, protected forest or any area recorded as forest in the government records.

20. Municipal Solid Waste (Management and Handling) Rules, 2000 of GOI. These Rules issued under the Environment (Protection) Act, 1986 with the objective of regulating the management and handling of the municipal solid wastes applicable to all MSW subprojects. The important provisions are:

- (i) Solid waste generated in a municipal area shall be managed, including segregation, collection, transportation, and disposal in accordance with the Rules.
- (ii) The State Pollution Control Board will authorize waste processing and landfills.
- (iii) Solid waste processing and landfills shall meet design and operation specifications/standards specified under the Rules. These include site and facility design specifications, output compost characteristics, pollution control and monitoring programs, including closure of landfill site and post-care.

21. A summary of the environmental compliance requirements is presented in below.

Table 1: Environmental Compliance Requirements of UUSDP Sub-projects

S. No	Component	Applicable Legislation	Compliance	Action Required
1	All components that require forest land acquisition	Forest (Conservation) Act, 1980 & Wildlife Act, 1972	Approval of the Ministry of Environment and Forests, GoI	Identification of non-forest land and afforestation program need to be formulated
2	Water treatment plant (WTP), and sewage treatment plant (STP)	Water (prevention and control of pollution) Act, 1974	Consent for Establishment (CFE) and Consent for Operation (CFO) from UEPPCB	Based on project review and site inspection the UEPPCB provides CFE before construction. The disposal standards to be met during the operation will be stipulated. Subsequent to completion of construction, CFO is issued confirming compliance of CFE conditions, if any.
			Renewal of CFO during operation	Based on the performance of the STP and its compliance with the disposal standards CFO will be renewed every year.
3	All composting and landfill facilities	The Municipal Solid Wastes (Management and Handling) Rules, 2000	Authorization of proposed site by UEPPCB	Based on land use in and surrounding surface and groundwater conditions authorization is issued
		Water (prevention and control of pollution) Act and Air (prevention and control of pollution) Act	CFE and CFO from UEPPCB	Same as indicated for STPs.
4	Common waste management facilities including composting, landfills, and transfer stations	The Environment (Protection) Act, 1986 EIA Notification, 2006 Category B	Requires environmental clearance from the State Environment Impact Assessment Authority (SEIAA).	Based on preliminary information and site visits, if required, project will be categorized as B1 or B2. B1 projects require EIA study for approval.
5	Common waste management facilities within 10 km boundary of protected areas such as National Parks, Sanctuaries, notified areas and biosphere reserves	EIA Notification, 2006 Category A	Requires environmental clearance from the MOEF	Conduct EIA study. B1 and A projects require public consultation as part of EIA.
6	Mobile diesel generators	Air (prevention and control of pollution) Act, 1981	CFE and CFO from UEPPCB	CFO renewed every year based on performance.

IV. ENVIRONMENTAL ASSESSMENT PROCEDURES FOR UUSDIP SUB-PROJECTS

A. Implementation Arrangement

22. The Urban Development Department (UDD) is the Executing Agency (EA) of the UUSDIP. The EA will set up a state-level Investment Program Management Unit (PMU) to execute the program and to monitor, guide, and supervise the implementation of the Program, and it will also provide overall policy direction. The PMU will be staffed with senior-level professionals drawn from various government and semi-government agencies.

23. The Implementing Agencies (IAs) of the Program will be Uttarakhand Peysa Jal Nigam (UPJN) for water supply and sewerage subprojects; and Public Works Department (PWD) for roads and traffic management subprojects. A special cell within the PMU will be the IA for solid waste management and slum improvement sub-projects. Urban Local Bodies (ULBs) will assist the special cell. The IAs will set-up the district-level Investment Program Implementation Units (PIUs) to manage implementation of sub-projects in their districts. PIUs will be staffed by professionals drawn from UPJN, PWD, and ULBs.

24. The PMU will be assisted by: Programme Management Consultants (PMC) who will manage the program, assure technical quality of design and construction, and advise on policy reforms. The PIUs will be assisted by the Design and Supervision Consultants (DSC), who will design the infrastructure, manage tendering of contracts, and supervise the construction process. The PMU will appoint Construction Contractors (CC) to build elements of the infrastructure. The CCs will be managed by the PIU, and construction will be supervised by the DSC.

25. The PMU will function under a General Body (GB) and an Executive Committee (EC). The EC is vested with full powers to take decisions on all matters related to the Program. Town Level Committees (TLCs) will be set up in each of the Program Towns with members from the civil society and non-governmental organizations (NGOs) etc. Chaired by Mayors or Chairpersons, the TLCs will ensure public participation in the Program. With the district and ULB administration as its advisory members, the TLC will also oversee the implementation at the town level.

26. An Environment and Social Management Cell (EMSC) will be set up within the PMU to address environmental and social issues of UUSDIP, and will be staffed by an Environmental Specialist and a Social Development Specialist.

27. The EMSC will be assisted by the PMC (staffed with an International Environment Specialist and an Environmental Monitoring Specialists). The DSC through their environment specialists will conduct environmental assessments including the preparation of IEEs or EIAs and other assessments required for clearances. The DSC will also be responsible for: incorporation of mitigation measures in design and construction; and, baseline and construction-stage environmental quality monitoring.

28. The PMC will review and approve IEEs or EIAs, oversee disclosure and consultations, and will monitor the implementation of environmental monitoring plan and environmental management plan where required. The CC will implement mitigation measures in construction.

29. Implementation of mitigation and monitoring measures during the operation and maintenance (O&M) of infrastructure will be the responsibility of the respective IAs, which are also the O&M agencies. In case of SWM and Slum Improvement subprojects the respective ULBs will be O&M agencies. The government regulatory agencies like

Uttarakhand Environmental Protection and Pollution Control Board (UEPPCB) will also monitor the environmental performance according to the government regulations.

B. Sub-project Component Selection Guidelines

30. The avoidance of negative impacts (by sensitive site selection, amending features of the design, etc) is a key facet of environmental assessment, as it both protects the environment and can save considerable time, effort and cost downstream in a project, by avoiding the need for difficult and costly environmental mitigation and compensation measures. The analysis of the potential impacts of the types of sub-project likely to be considered within UUSDIP through sample IEEs enables the formulation of certain guidelines for selecting and developing subprojects. These selection guidelines should ensure that negative impacts of the subprojects are minimal. These are presented in Table 2 below.

Table 2: Sub-project Selection Guidelines

Component	Guidelines
Selection guidelines applicable to all sub-projects	<ul style="list-style-type: none"> (i) Sub-project will comply with environmental requirements of ADB based on ADB's Environment Policy (2002) and Environmental Assessment Guidelines (2003). (ii) Sub-project will comply with environmental regulations (Acts, Rules, and Policies) and environmental standards of the Government of India and the Government of Uttarakhand. (iii) The expansion of basic infrastructure services to uncovered/new areas will be in compliance with the approved Master Plans and Land Use Plans, particularly in environmentally sensitive towns. (iv) Sub-projects categorized as environment category A based on ADB's policies and guidelines (item i), will be considered for financing under UUSDP—subject to the Tranche being categorized as environment category A. (v) Sub-projects will not be undertaken in sanctuaries, national parks, core zones of biosphere reserves, reserve forests, or other sensitive areas (floodplains, wetlands, etc.). (vi) Rehabilitation of existing facilities will be restricted to the original footprint for facilities in protected forests, municipal forests, and private forests subject to the approval of the forest department. If unavoidable, work will be limited to linear sub-projects (water supply mains and trunk sewers) or sub-projects pre-approved by the forest department and will be undertaken only in degraded forests. Any work on forested areas will be subject to an environmental management plan approved by ADB. (vii) Sub-projects will not affect any historical or cultural heritage sites or areas. (viii) Sub-project selection will reflect inputs from public consultation and disclosure. (ix) Sub-projects avoid or minimize land acquisition and resettlement impacts in accordance with the resettlement framework for the investment program and will not require land acquisition from individuals that forms a significant portion of their total productive landholding (>10%). (x) Sub-project will avoid adverse impacts on the vulnerable, particularly indigenous people.
Water Supply	<ul style="list-style-type: none"> (i) In case of sub-projects using groundwater as source for water supply, a groundwater study will be conducted to ascertain source sustainability. (ii) Sub-projects will ensure reliable and potable quality of water of adequate quantity. (iii) In places where only chlorination without treatment is proposed for groundwater supply sub-projects, it will be ensured that proper measures to check contamination are in place. (iv) Sub-projects will not cause water sharing conflicts. (v) Sub-projects will not cause social issues. (vi) Sub-projects will have adequate buffers to minimize noise impact of water pumping stations. (vii) Sub-projects will not involve handling of Asbestos Cement (AC) pipes. Existing AC pipes, if any, will be left as it is. (viii) Sub-projects will ensure that improvements in the water supply system are combined with improvements in sewerage to deal with the increased discharge of domestic wastewater.
Sewerage and Sewage Treatment	<ul style="list-style-type: none"> (i) Sewage treatment plant (STP) sub-projects will not be located close to populated areas, water sources and within flood plains; and will be located where there are suitable means of disposal of treated water. Sub-projects will be implemented only with consent of State Pollution Control Board (UEPPCB).

Component	Guidelines
	<ul style="list-style-type: none"> (ii) Sub-project treatment technology will be a proven one and design considers the specifics of the site and will ensure treatment as per the disposal standards. Air/odor dispersion modeling will be conducted during detailed design to reflect appropriate technology, design, and required mitigation measures. (iii) Sub-projects will ensure measures for safe disposal of STP sludge without causing environmental hazards. (iv) Sub-project pumping stations will not be sited in areas of incompatible land use (e.g. schools, hospitals, etc.) and will have adequate buffer to minimize noise. (v) Sub-projects will not interfere with other utilities and block access to buildings, cause nuisance to neighboring areas due to noise, smell, and influx of insects, rodents, etc. (vi) Sludge disposal will not result in any environmental or public health impacts. (vii) Sub-projects will ensure no social conflicts. (viii) Sub-projects will ensure health and safety of workers due to exposure to waste, and toxic gases etc.
Municipal Solid Waste Management	<ul style="list-style-type: none"> (i) Sub-project sites will be selected based on provisions⁵ of Schedule III (Specifications of Landfills) of Municipal Solid Waste (Management and Handling) Rules, 2000 (Government of India). (ii) Sub-project sites will be authorized by UEPPCB. (iii) Sub-projects will not be located in densely populated areas and areas with high developmental activities. Site selection will be compatible to applicable land use plans of the area. (iv) Sub-projects will avoid locating landfill within 500 meters of any habitation. This will in no case be less than 250 meters or limits set by the UEPPCB, which ever is higher and this buffer zone will be declared as a "no development zone". (v) Sub-projects will be implemented only with the consent authorization of UEPPCB. (vi) Sub-projects will not result in degradation of aesthetics and property value loss. (vii) Sub-projects will not cause nuisance to neighboring areas due to foul odor and influx of insects, rodents, etc. (viii) Sub-projects will not have impacts on groundwater or surface water due to runoff or leachate from waste facilities. (ix) Sub-projects will not be constructed in areas where the groundwater table is less than 2 meters below ground level. (x) Biodegradable wastes will not be disposed in landfill sub-projects, minimizing methane generation. As far as possible, mixed waste disposal will also be minimized through the implementation of segregation based on MSMW Rules, 2000. (xi) Sub-projects will ensure adequate buffer zones around waste disposal site based on MSWM Rules, 2000. (xii) Sub-projects will be sited to ensure no social conflicts. (xiii) Sub-projects will ensure efficient landfill management to avoid health and environmental hazards through the provision of adequate technical, institutional, and financial resources. (xiv) Sub-projects will ensure health and safety of workers due to exposure to waste, and toxic gases etc.
Urban Roads and Traffic Management	<ul style="list-style-type: none"> (i) Sub-projects will not disfigure the existing landscape due to improper embankments, cuts and fills, and quarries. (ii) Sub-projects will not result in alteration of surface water hydrology of streams/water ways that may result in increased sediment load due to erosion from construction sites. (iii) Sub-projects will not result in deterioration of surface water quality due to silt runoff (iv) Sub-projects will not result in increased air pollution due to rock crushing, cutting and filling activities, and chemicals from asphalt processing. (v) Sub-projects will avoid tree cutting. Mature roadside trees will be maintained

⁵ Important specifications of landfill site selection are: (i) landfill site shall be large enough to last for 20-25 years, (ii) landfill site shall be away from habitation clusters, forest areas, water bodies monuments, National Parks, Wetlands and places of important cultural, historical or religious interest, (iii) A buffer zone of no-development shall be maintained around landfill site and shall be incorporated in the Town Planning Department's land-use plans. (iv) landfill site shall be away from airport including airbase. Necessary approval of airport or airbase authorities prior to the setting up of the landfill site shall be obtained in cases where the site is to be located within 20 km of an airport or airbase.

Component	Guidelines
	<p>and if any trees have to be removed, plant two new trees for every one that is lost.</p> <p>(vi) Sub-projects will not lead to social concerns related to inconvenience in living conditions that may trigger cases of upper respiratory problems and stress.</p> <p>(vii) Sub-projects will ensure better driving conditions where construction interferes with pre-existing roads.</p> <p>(viii) Proper measures will be placed to eliminate transmission of communicable diseases from workers to the local population</p> <p>(ix) Sub-projects will ensure no accident associated risks with increased vehicular traffic.</p>
Slum Upgrading	<p>(i) Sub-projects will minimize through mitigation measures possible deterioration of surrounding environmental conditions due to rapid population growth, commercial activities, and increased waste generation resulting from improved infrastructure facilities.</p> <p>(ii) Sub-projects will not lead to alteration of surface water hydrology of streams/water ways that may result into increased sediment load due to erosion from construction sites.</p> <p>(iii) Sub-projects will ensure no or minimal involuntary resettlement.</p> <p>(iv) Sub-projects will not cause social conflicts between construction workers from other areas and slum dwellers</p> <p>(v) Sub-projects will avoid high noise levels</p> <p>(vi) Sub-projects will avoid disturbance to houses due to noise and vibrations from the construction activities.</p> <p>(vii) Sub-projects will avoid risk of construction related accidents.</p>

C. Environmental Assessment Procedures for Sub-projects

31. Subprojects proposed under UUSDIP must comply with GoI legislation and ADB policy as summarized above. In practice UDD and PMU will liaise with the UEPPCB, SEIAA, MoEF and the ADB Regional Department (RD) to determine the specific requirements for environmental assessment of each subproject. If the environmental criteria shown in Table 2 are followed in the selection and development of subprojects, then most should have relatively minor environmental impacts. The principal steps in each process are described below.

1. ADB Environment Policy

a. Environmental Classification

32. According to ADB Environment Policy the environmental classification of subprojects is determined by the Environment and Social Safeguards Division (ESSD) of ADB (Rapid Environmental Assessment Checklist are in Appendix 1). The possible outcomes are:

- (i) **Category A.** Sub-project components that are projected to have potentially significant adverse environmental impacts. An environmental impact assessment (EIA) is required;
- (ii) **Category B.** Sub-project components that are projected to have some adverse environmental impacts, but they are expected to be less significant than those associated with category A projects. An IEE is required to determine whether an EIA is warranted. If an EIA is not needed, the IEE is regarded as the final environmental assessment report; and
- (iii) **Category C.** Sub-project components that are unlikely to have adverse environmental impacts. No EIA or IEE is required, although environmental implications are still reviewed.

33. The classification of a project is reviewed on completion of the studies and may be revised if appropriate by ADB's Chief Compliance Officer.

b. Preparation of Initial Environmental Examinations (IEEs)

34. An IEE is conducted if the sub-project is likely to have minimal impacts, which can be easily predicted and evaluated, and for which mitigation measures prescribed easily. IEE study is also used to confirm whether the subproject requires an Environmental Impact Assessment (EIA) to evaluate and/or mitigate negative environmental impacts. IEEs generally rely on secondary sources of data and information, and in general no specific field surveys are conducted to establish the baseline environmental profile. Each Category B sub-project under UUSDIP requires an IEE. The content and format of the IEE is in Appendix 2.

c. Preparation of Environmental Impact Assessments (EIAs)

35. Given the sub-project selection guidelines prescribed (Table 2 above) it is most unlikely that subprojects prepared for funding under UUSDIP is classified as Category A, requiring an EIA. An EIA fulfils the same purpose as an IEE, but requires an in-depth analysis because of the potential significance of environmental impacts from the project. An EIA requires: comprehensive analysis of the potential impacts; works to be carried out to formulate practical mitigation measures; in-depth economic evaluation of impact to screen and evaluate the best alternative; and an in-depth analysis to prepare an environmental management plan. The content and format of the EIA is in Appendix 3.

d. Environmental Management Plans (EMPs)

36. ADB requires that an EMP must be developed as part of the EIAs, and IEEs of Category B Sensitive projects. EMPs describe the environmental management measures that will be carried out to mitigate negative impacts or enhance the environment during implementation of a project, and the environmental monitoring to be conducted to ensure that mitigation is provided and is effective in reducing impacts, or to determine the long-term impacts of a project. EMPs for Category A and B sensitive subprojects should outline specific mitigation measures, environmental monitoring requirements, and related institutional arrangements, including budget requirements. The preparation and content of EMP is given in ADB Environmental Assessment Guidelines, 2003.

e. Public Consultation and Information Disclosure

37. According to ADB's Environment Policy public consultation is mandatory as part of environmental assessment (EA) of Category A and Category B projects, and best practice approaches should be followed. This involves consultation with stakeholders at an early stage of EA preparation, and throughout project implementation. A variety of approaches can be adopted, which are described in detail in the ADB EA Guidelines. As a minimum, stakeholders should be consulted regarding the scope of the environmental study before work has commenced in earnest, and should then be informed about the likely impacts of the subproject and proposed mitigation once the draft IEE or EIA report is under preparation. The report should record the views of stakeholders and indicate how these have been taken into account in project development. There are a variety of approaches for such contacts including public meetings, focus group discussions, workshops, public information campaigns, etc, and several methods should be used in order to reach all sectors of society, as well as institutional stakeholders, NGOs etc.

38. Information is disclosed through public consultation and more formally by making documents and other materials available in a form and at a location in which they can be easily accessed by stakeholders. This normally involves making draft reports available at public locations in the town and providing a mechanism for the receipt of comments, and making documents available more widely by lodging them on the ADB and the EA's website. Normally summaries of the IEE or EIA (SIEE, SEIA) are provided, and the full

documents are made available on request. For Category A or B sensitive projects the SEIA or SIEE must be made available to the public at least 120 days before ADB's Board of Directors considers the loan.

f. Review of Environmental Assessment:

39. ADB will review draft final reports of:

- (i) Category A subprojects;
- (ii) Subprojects with a capital cost of more than \$ 5 million in the towns of plain districts⁶ and more than \$ 3 million in the towns of hill districts;
- (iii) Subprojects involving areas of over 10 ha in towns of plain districts and over 2.5 ha in towns of hill districts;
- (iv) Notwithstanding above thresholds, in each tranche ADB will review at least one subproject to represent each sector implemented under respective tranche.

40. The final IEE or EIA documents and summaries (SIEE, SEIA) are submitted to ADB by the PMU for consideration by the Bank's Board of Directors. Completed reports are made available worldwide by ADB through the depository library system and the ADB website.

2. GoI/GoU Environmental Clearance Procedures

41. The requirements of national environmental laws that apply to UUSDIP subprojects are summarized in Table 2. This indicates that in terms of compliance, subprojects may be of three types: (i) Subprojects that attract the EIA Notification; (ii) Subprojects that require clearance/no objection certificates or consent from competent Government agencies; and (iii) subprojects that require no environmental authorization. The procedures for subprojects (i) and (ii) are as follows:

a. Environmental Classification

42. Under the GoI EIA Notification, 2006 the environmental classification of projects is determined by MoEF, and there are two possible outcomes:

- (i) **Category A.** A subproject is classified as Category A if it is likely to have significant negative impacts and is thus one of the types of project listed in this category in the EIA Notification. Such projects require EIA, plus Environmental Clearance (EC) from MoEF;
- (ii) **Category B.** A subproject is classified as Category B if it is likely to have fewer negative impacts and is listed in this category in the EIA Notification. These projects require EC from the State Environment Impact Assessment Authority (SEIAA), who classify the project as B1 (requiring EIA) or B2 (no EIA), depending on the level of potential impacts. Projects classified as B2 require no further study.

b. Preparation of Environmental Impact Assessments (EIAs)

43. An EIA is mandatory for Category A and B1 projects. Projects in Category A are those with major negative impacts (such as power plants, chemical manufacturing, etc), so it is very unlikely that any subprojects developed under UUSDIP would fall into this group. However, certain subprojects (eg common landfills and sewage treatment plants)

⁶ Haridwar and Udham Singh Nagar Districts are located in plains while the remaining nine districts are located in hilly areas.

are included in Category B, and these may be classified by SEIAA as B1. These would then require EIA, which should follow the content and format shown in the EIA Notification; this includes Social Impact Assessment Studies and Rehabilitation and Resettlement Action Plans.

c. Environmental Monitoring and Environmental Management Plans (EMP):

44. The EIA Notification requires that the EIA includes a comprehensive programme for monitoring the effectiveness of mitigation measures. This should specify measurement methodologies, frequency, locations, data analysis, reporting schedules, emergency procedures, detailed budget and procurement schedules. An Environmental Management Plan is also required, identifying mitigation measures and specifying administrative arrangements to ensure that mitigation measures are implemented and their effectiveness is monitored after approval of the EIA. A budget for the EMP should also be provided.

d. Public Consultation and Information Disclosure:

45. Public consultation and disclosure is required for A and B1 projects and consists of (i) a public hearing at or near the proposed site, and (ii) responses in writing from stakeholders. The public hearing is conducted by the appropriate Pollution Control Board, in this case UEPPCB. Disclosure is also handled by UEPPCB, who lodge the Summary EIA report on their website and invite responses from stakeholders. The Draft EIA report is available on request until the public hearing.

e. Review of Environmental Assessment Reports by Government Agencies:

46. After completion of the public consultation the proponent addresses all material concerns expressed during consultation and disclosure, by appropriate changes in the draft EIA and EMP, which are then submitted for approval. The report is reviewed by an Expert Appraisal Committee (EAC), constituted by MoEF for Category A projects and SEIAA for B1 projects. The EAC provides its recommendation to the appropriate authority, which then decides on the basis of the recommendation whether to issue or deny the Environmental Clearance (EC). An issued EC will normally include certain conditions, with which the proponent must comply.

f. Post Environmental Clearance Monitoring:

47. Under the EIA Notification it is mandatory for the project proponent to submit half-yearly compliance reports in respect of the stipulated EC conditions.

g. Other Mandatory Environmental Requirements

48. Subprojects that include Sewage Treatment Plants(STP), Water Treatment Plants (WTP), landfill and composting facilities, or hot/wet mix plants and stone crushers (if required for construction) may attract the Water (Prevention and Control of Pollution) Act 1974, and/or the Air (Prevention and Control of Pollution) Act 1981. If this is the case consent will be required from RPCB for construction/establishment (Consent for Establishment, CFE) as well as for operation (CFO). Landfills and compost plants additionally require site authorisation from RPCB under the Municipal Solid Waste (Management and Handling) Rules 2000.

49. After obtaining EC (if required by the EIA Notification), the project proponent submits to UEPPCB the necessary application forms, plus maps and other documents describing the site and the project and process. CFE/CFO is issued upon review of documents, supplemented by site visits. The Board issues CFE before the start of

construction and CFO on completion of construction, provided CFE conditions, if any, are satisfied. During the operation period the effluent, air emissions, noise levels, etc must conform to applicable environmental standards as required by the appropriate legislation. The CFO is considered for renewal every year based on the operational performance of the facility.

50. The main responsibility of implementing the subprojects in compliance with the above guidelines and policies lies with the Executing Agency (EA) through its PMU. The roles and responsibilities of various institutions involved in UUSDIP are summarized in below table.

Table 3: Institutional Roles and Responsibilities

PIU	PMU	ADB
Pre-construction stage		
PIU (through its DSC) will conduct Rapid Environmental Assessment (REA) for each sub-components using the checklists (Appendix 1)	PMU will review and approve the categorization. If the sub-project is Category C, the PMU will provide generic mitigation measures, if any, to be implemented	ADB will review and confirm the categorization
<p>PIU (through its DSC) to fulfill GoU/Gol environmental requirements</p> <ul style="list-style-type: none"> Environmental Clearance (EC) for common compost and landfill sites (EIA to be conducted for A and B1 category according to the TOR determined by MoEF/State-level EAC) CFE for STPs, compost plants and land fills, diesel generators and authorization for compost and landfill sites from UEPPCB Forest clearances 	<ul style="list-style-type: none"> PMU will advise and support implementing agencies in obtaining necessary GoU/Gol approvals Advise PIU in obtaining in forest clearance 	
<p>DSC will conduct EIA for Category A and IEE for Category B sub-projects. No environmental review is required for Category C sub-projects.</p> <p>For the subprojects that require EC, the ToR determined by concerned agency shall be included in the IEE/EIA study so as to fulfill the Gol and ADB requirements with single document.</p> <p>DSC (through PIU) to conduct public consultation and disclosure during IEE/EIA process and comments shall reflect in the IEE/EIA report.</p>	<p>PMU through PMC will monitor the disclosure and public consultation.</p> <p>PMU (through PMC) will review the EIA/IEE Reports and will to ADB for review and approval.</p>	<p>The ADB will review and approve IEE/EIA reports of: (i) all Category A and Category B-sensitive subprojects; (ii) subprojects with a capital cost of more than \$ 5 million in the towns of plain districts and more than \$ 3 million in the towns of hill districts, (iii) subprojects involving areas of over 10 ha in towns of plain districts and over 2.5 ha in towns of hill districts. Notwithstanding these thresholds, in each tranche ADB will review at least one subproject to represent each sector implemented under respective tranche. In addition, the updated and finalized IEE/EIA reports of all tranche 1 subprojects will be reviewed and approved by ADB during detailed design stage.</p>
DSC will incorporate mitigation measures in sub-project design. Appropriate mitigation measures will form part of Contract documents to be implemented by CC.	PMU will ensure that all mitigation measures as specified are integrated into design and contract documents as required	
Construction Stage		
PIU (through DSC) will prepare monthly progress reports	PMU and PMC will monitor the implementation of	ADB to review the reports and provide necessary

PIU	PMU	ADB
<p>including a section on implementation of the mitigation measures and submit to PMU for review</p> <p>DSC will conduct environmental quality monitoring (like ambient air and noise, and water quality)</p>	<p>mitigation measures by Contractor.</p> <p>PMU will review the progress reports to ensure that mitigation measures are properly implemented.</p> <p>PMU to consolidate the monthly reports and submit quarterly reports to ADB for review.</p>	<p>advice to the PMU.</p>
<p>Operation Stage</p> <p>UPJN/UJS for water supply and sewerage, PWD for roads and traffic management, and ULBs for solid waste management, and slum improvement sub-projects will implement operation mitigation and monitoring measures, as specified in the environmental management plan.</p> <p>Third party monitoring will be conducted by concerned line agencies such as the UEPPCB.</p>	<p>PMU will support UPJN/UJS/PWD/ULB in its capacity building for better operation and maintenance.</p>	<p>—</p>

ADB = Asian Development Bank, CC = construction consultant, CFE = consent for establishment, DSC = design and supervision consultants, EC = environmental clearance, EIA = Environmental Initial Assessment, GoI = Government of India, GoU = Government of Uttarakhand, IEE = Initial Environmental Examination, MoEF = Ministry of Environment and Forest, PIU = Investment Program Implementation Units, PMC = Programme Management Consultants, PMU = Investment Program Management Unit, PWD = Public Works Department, REA = Rapid Environmental Assessment, STP = sewage treatment plant, ToR = terms of reference, UEPPCB = Uttarakhand Environmental Pollution Prevention and Control Board, ULB = urban local bodies, UPJN = Uttarakhand Peysa Jal Nigam.

V. CONFIRMATION THAT UUSDIP'S EARF CONFIRM TO ADB'S ENVIRONMENTAL GUIDELINES AND SOCIAL SAFEGUARD POLICIES

51. ADB social safeguards are contained in a number of policies, of which those of most importance in relation to UUSDIP are the policies on Environment (2002), Involuntary Resettlement (1995), Indigenous Peoples (1998) and Gender and Development (1998). Guidance on the practical implementation of these and other social safeguards is provided in several documents including the Handbook on Resettlement a Guide to Good Practice (1998), Guidelines for Social Analysis of Development Projects (1991), Handbook for Incorporation of Social Development in Projects (1994), and others.

52. The PPTA through which UUSDIP was prepared included detailed studies on Involuntary Resettlement, Gender and Indigenous Peoples, and a Resettlement Framework was prepared describing how these issues would be addressed in development and implementation of subprojects in the future. This is a companion volume to the Environmental Assessment and Review Framework (EARF) described in this document, as together the two documents should ensure that subprojects and the UUSDIP as a whole comply with ADB policies.

53. The Resettlement Framework includes a section confirming how the procedures comply with the Bank's social safeguard policies, and Table 4 below shows how the EARF complies with the environmental safeguard policies. This is based on a table provided in the Environmental Assessment (EA) Guidelines (2003), which summarizes the environmental assessment requirements for project loans (because under MMF the first tranche is considered as a project). The Table lists the individual EA requirements and indicates where in the EARF the procedure to be followed is described.

Table 4: Confirmation that the EARF confirms to ADB Environmental Safeguard Policies

Project Category	Basic EIA Requirements	Approach described in EARF Paragraph No:
A: Potential for significant adverse environmental impacts	Preparation of EIA and EIA report	36
	Public consultation (at least twice)	38,39
	Preparation of EMP and budget	37
	SEIA circulated to ADB Board	39
	SEIA disclosed to the public	39
	EIA available to public on request	39
B: Some adverse environmental impacts but less significant than Category A	Preparation of IEE and IEE report	35
	Public consultation	38, 39
	If project is environmentally sensitive:	
	SIEE circulated to ADB Board	39
	SIEE disclosed to the public	39
	Preparation of EMP and budget	37
	IEE available to public on request	39
	If not circulated SIEE is attached to RFP as a core appendix	-
C: Unlikely to have adverse impacts	No IEE or EIA	33
	Environmental implications summarized in RRP	-

ADB = Asian Development Bank, EARF = Environmental Assessment and Review Framework, EIA = Environmental Initial Assessment, EMP = Environmental Management Plan, IEE = Initial Environmental Examination, RRP = Report and Recommendation to the President, SEIA = Summary Environmental Initial Assessment, SIEE = Summary Initial Environmental Examination.

VI. STAFFING REQUIREMENTS AND BUDGET

54. Environment and Social Management Cell (EMSC) of PMU through the PMC will implement this EARF. The PIU (through its DSC) will be responsible for conducting the IEE studies for Category B sub-projects and EIA studies for Category A sub-projects based on ADB's Environmental Policy and EAG.. DSC will also be responsible for:

incorporation of mitigation measures in design and construction; and, baseline and construction-stage environmental quality monitoring. The PMC will review and approve IEEs or EIAs, and will monitor the implementation of environmental monitoring plan and environmental management plan where required. The CC will implement mitigation measures in construction. Implementation of mitigation and monitoring measures during the operation and maintenance (O&M) will be the responsibility of the respective IAs. Government regulatory agencies such as UEPPCB will also monitor the environmental performance according to government regulations.

55. Costs required for operating the Environmental Assessment and Review Framework should cover the following activities:

- (i) Conducting IEE or EIA studies, preparing and submitting reports and public consultation and disclosure;
- (ii) Application for Consent to Establish and Operate where required (currently STP, WTP and landfills); and
- (iii) Implementation of Environmental Monitoring Plans (EMP).

56. For budgeting purposes it is assumed that all subprojects will be classified as Category B by ADB (requiring IEE) and B1 by SEIAA (requiring EIA). In practice the PMU/PIU should aim to produce a single document that serves both purposes to avoid duplication of effort, and this should be achievable given the comprehensive nature of ADB's IEE requirements.

57. Generally an IEE relies on the collection of existing data in order to describe environmental conditions in the project area, and it is not expected that new surveys would be conducted. The work thus involves the collection and analysis of data on the existing environment and the proposed project, assessment and mitigation of impacts, preparation of the EMP and budget, public consultation, and preparation of the IEE report and summary.

58. IEEs conducted for the first tranche of sub-projects during the PPTA suggest that implementation of a typical EMP will require an experienced Environmental Monitoring Specialist (EMS) to spend a total of around three months 24 months construction period, conducting routine observations and surveys. There is also generally one longer-term survey per subproject (of STP effluent, quality of municipal water, etc).

Table 5: Staffing and Cost of EARF Implementation

Item	Quantity	Unit Cost	Total Cost	Sub-total
		Rs	Rs	Rs
1. PMU				
Environmental Management Specialist (Domestic)	15 man months	20,000	300,000	300,000
2. PMC				
Environmental Expert (International)	8 man months	450,000	3,600,000	
Environmental Monitoring Specialists (Domestic)	96 man months	225,000	21,600,000	25,200,000
3. DSC				
Environmental Specialists (Domestic)	90 man months	225,000	20,250,000	20,250,000
4. Consent by UEPPCB⁷				

⁷ Fees payable to UEPPCB vary with the capital cost and type of facility. Sum indicated is an average based

Item	Quantity	Unit Cost	Total Cost	Sub-total
Consent to Establish	Sum	2,000,000	2,000,000	
Consent to Operate (10 years)	Sum	15,000,000	15,000,000	17,000,000
5. Other Expenses				
IEE Disclosure and Public Consultations	Sum	1,550,000	1,550,000	
Monitoring Surveys during EMP Implementation	Sum	3,100,000	3,100,000	4,650,000
Longer-term survey (10 years) ⁸ - Sample Analysis (water quality, sewage etc)	Daily/weekly/monthly sampling	-	-	-
TOTAL				67,400,000

DSC = Design and Supervision Consultants, IEE = Initial Environmental Examination, PMC = Programme Management Consultants, PMU = Investment Program Management Unit, UEPPCB = Uttarakhand Environmental Protection and Pollution Control Board.

on sample IEEs.
⁸ Testing laboratories (for water, sewage) are part of the sub-project design and therefore no additional costs are included.

Appendix 1: Rapid Environmental Assessment (REA) Checklist

Water Supply

Instructions:

- ☐ This checklist is to be prepared to support the environmental classification of a project.
- ☐ This checklist is to be completed by PMU (or its consultants) of UUSDP
- ☐ This checklist focuses on environmental issues and concerns. To ensure that social dimensions are adequately considered, refer also to ADB checklists and handbooks on (i) involuntary resettlement, (ii) indigenous peoples planning, (iii) poverty reduction, (iv) participation, and (v) gender and development.
- ☐ Answer the questions assuming the "without mitigation" case. The purpose is to identify potential impacts. Use the "remarks" section to discuss any anticipated mitigation measures.

Country/Project Title

Sector Division:

SCREENING QUESTIONS	Yes	No	REMARKS
A. Project Siting			
Is the project area...	<input type="checkbox"/>	<input type="checkbox"/>	
▪ Densely populated?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ Heavy with development activities?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ Adjacent to or within any environmentally sensitive areas?			
• Cultural heritage site	<input type="checkbox"/>	<input type="checkbox"/>	
• Protected Area	<input type="checkbox"/>	<input type="checkbox"/>	
• Wetland	<input type="checkbox"/>	<input type="checkbox"/>	
• Mangrove	<input type="checkbox"/>	<input type="checkbox"/>	
• Estuarine	<input type="checkbox"/>	<input type="checkbox"/>	
• Buffer zone of protected area	<input type="checkbox"/>	<input type="checkbox"/>	
• Special area for protecting biodiversity	<input type="checkbox"/>	<input type="checkbox"/>	
• Bay	<input type="checkbox"/>	<input type="checkbox"/>	
B. Potential Environmental Impacts			
Will the Project cause...			
▪ pollution of raw water supply from upstream wastewater discharge from communities, industries, agriculture, and soil erosion runoff?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ impairment of historical/cultural monuments/areas and loss/damage to these sites?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ hazard of land subsidence caused by excessive ground water pumping?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ social conflicts arising from displacement of communities ?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ conflicts in abstraction of raw water for water supply with other beneficial water uses for surface and ground waters?	<input type="checkbox"/>	<input type="checkbox"/>	

Water Supply, page 2

SCREENING QUESTIONS	Yes	No	REMARKS
▪ unsatisfactory raw water supply (e.g. excessive pathogens or mineral constituents)?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ delivery of unsafe water to distribution system?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ inadequate protection of intake works or wells, leading to pollution of water supply?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ over pumping of ground water, leading to salinization and ground subsidence?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ excessive algal growth in storage reservoir?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ increase in production of sewage beyond capabilities of community facilities?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ inadequate disposal of sludge from water treatment plants?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ inadequate buffer zone around pumping and treatment plants to alleviate noise and other possible nuisances and protect facilities?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ impairments associated with transmission lines and access roads?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ health hazards arising from inadequate design of facilities for receiving, storing, and handling of chlorine and other hazardous chemicals.	<input type="checkbox"/>	<input type="checkbox"/>	
▪ health and safety hazards to workers from the management of chlorine used for disinfection and other contaminants?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ dislocation or involuntary resettlement of people	<input type="checkbox"/>	<input type="checkbox"/>	
▪ social conflicts between construction workers from other areas and community workers?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ noise and dust from construction activities?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ increased road traffic due to interference of construction activities?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ continuing soil erosion/silt runoff from construction operations?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ delivery of unsafe water due to poor O&M treatment processes (especially mud accumulations in filters) and inadequate chlorination due to lack of adequate monitoring of chlorine residuals in distribution systems?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ delivery of water to distribution system, which is corrosive due to inadequate attention to feeding of corrective chemicals?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ accidental leakage of chlorine gas?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ excessive abstraction of water affecting downstream water users?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ competing uses of water?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ increased sewage flow due to increased water supply	<input type="checkbox"/>	<input type="checkbox"/>	
▪ increased volume of sullage (wastewater from cooking and washing) and sludge from wastewater treatment plant	<input type="checkbox"/>	<input type="checkbox"/>	

RAPID ENVIRONMENTAL ASSESSMENT (REA) CHECKLIST

Sewage Treatment

Instructions:

- ☐ This checklist is to be prepared to support the environmental classification of a project.
- ☐ This checklist is to be completed by PMU (or its consultants) of UUSDP
- ☐ This checklist focuses on environmental issues and concerns. To ensure that social dimensions are adequately considered, refer also to ADB checklists and handbooks on (i) involuntary resettlement, (ii) indigenous peoples planning, (iii) poverty reduction, (iv) participation, and (v) gender and development.
- ☐ Answer the questions assuming the "without mitigation" case. The purpose is to identify potential impacts. Use the "remarks" section to discuss any anticipated mitigation measures.

Country/Project Title

Sector Division:

SCREENING QUESTIONS	Yes	No	REMARKS
B. Project Siting			
Is the project area...			
▪ Densely populated?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ Heavy with development activities?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ Adjacent to or within any environmentally sensitive areas?	<input type="checkbox"/>	<input type="checkbox"/>	
• Cultural heritage site	<input type="checkbox"/>	<input type="checkbox"/>	
• Protected Area	<input type="checkbox"/>	<input type="checkbox"/>	
• Wetland	<input type="checkbox"/>	<input type="checkbox"/>	
• Mangrove	<input type="checkbox"/>	<input type="checkbox"/>	
• Estuarine	<input type="checkbox"/>	<input type="checkbox"/>	
• Buffer zone of protected area	<input type="checkbox"/>	<input type="checkbox"/>	
• Special area for protecting biodiversity	<input type="checkbox"/>	<input type="checkbox"/>	
• Bay	<input type="checkbox"/>	<input type="checkbox"/>	
A. Potential Environmental Impacts			
Will the Project cause...			
▪ impairment of historical/cultural monuments/areas and loss/damage to these sites?	<input type="checkbox"/>	<input type="checkbox"/>	

SCREENING QUESTIONS	Yes	No	REMARKS
▪ interference with other utilities and blocking of access to buildings; nuisance to neighboring areas due to noise, smell, and influx of insects, rodents, etc.?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ dislocation or involuntary resettlement of people	<input type="checkbox"/>	<input type="checkbox"/>	
▪ impairment of downstream water quality due to inadequate sewage treatment or release of untreated sewage?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ overflows and flooding of neighboring properties with raw sewage?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ environmental pollution due to inadequate sludge disposal or industrial waste discharges illegally disposed in sewers?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ noise and vibration due to blasting and other civil works?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ discharge of hazardous materials into sewers, resulting in damage to sewer system and danger to workers?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ inadequate buffer zone around pumping and treatment plants to alleviate noise and other possible nuisances, and protect facilities?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ social conflicts between construction workers from other areas and community workers?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ road blocking and temporary flooding due to land excavation during the rainy season?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ noise and dust from construction activities?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ traffic disturbances due to construction material transport and wastes?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ temporary silt runoff due to construction?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ hazards to public health due to overflow flooding, and groundwater pollution due to failure of sewerage system?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ deterioration of water quality due to inadequate sludge disposal or direct discharge of untreated sewage water?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ contamination of surface and ground waters due to sludge disposal on land?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ health and safety hazards to workers from toxic gases and hazardous materials which maybe contained in sewage flow and exposure to pathogens in sewage and sludge?	<input type="checkbox"/>	<input type="checkbox"/>	

RAPID ENVIRONMENTAL ASSESSMENT (REA) CHECKLIST

Solid Waste Management

Instructions:

- ☐ This checklist is to be prepared to support the environmental classification of a project.
- ☐ This checklist is to be completed by PMU (or its consultants) of UUSDP.
- ☐ This checklist focuses on environmental issues and concerns. To ensure that social dimensions are adequately considered, refer also to ADB checklists and handbooks on (i) involuntary resettlement, (ii) indigenous peoples planning, (iii) poverty reduction, (iv) participation, and (v) gender and development.
- ☐ Answer the questions assuming the "without mitigation" case. The purpose is to identify potential impacts. Use the "remarks" section to discuss any anticipated mitigation measures.

Country/Project Title:

Sector Division:

SCREENING QUESTIONS	Yes	No	REMARKS
A. Project Siting			
Is the project area...			
▪ Densely populated?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ Heavy with development activities?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ Adjacent to or within any environmentally sensitive areas?			
• Cultural heritage site	<input type="checkbox"/>	<input type="checkbox"/>	
• Protected Area	<input type="checkbox"/>	<input type="checkbox"/>	
• Wetland	<input type="checkbox"/>	<input type="checkbox"/>	
• Mangrove	<input type="checkbox"/>	<input type="checkbox"/>	
• Estuarine	<input type="checkbox"/>	<input type="checkbox"/>	
• Buffer zone of protected area	<input type="checkbox"/>	<input type="checkbox"/>	
• Special area for protecting biodiversity	<input type="checkbox"/>	<input type="checkbox"/>	
• Bay	<input type="checkbox"/>	<input type="checkbox"/>	
B. Potential Environmental Impacts			
Will the Project cause...			
▪ impacts associated with transport of wastes to the disposal site or treatment facility	<input type="checkbox"/>	<input type="checkbox"/>	
▪ impairment of historical/cultural monuments/areas and loss/damage to these sites?	<input type="checkbox"/>	<input type="checkbox"/>	

SCREENING QUESTIONS	Yes	No	REMARKS
▪ degradation of aesthetic and property value loss?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ nuisance to neighboring areas due to foul odor and influx of insects, rodents, etc.?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ dislocation or involuntary resettlement of people	<input type="checkbox"/>	<input type="checkbox"/>	
▪ public health hazards from odor, smoke from fire, and diseases transmitted by flies, insects, birds and rats?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ deterioration of water quality as a result of contamination of receiving waters by leachate from land disposal system?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ contamination of ground and/or surface water by leachate from land disposal system?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ land use conflicts?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ pollution of surface and ground water from leachate coming from sanitary landfill sites or methane gas produced from decomposition of solid wastes in the absence of air, which could enter the aquifer or escape through soil fissures at places far from the landfill site?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ inadequate buffer zone around landfill site to alleviate nuisances?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ social conflicts between construction workers from other areas and community workers?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ road blocking and/or increased traffic during construction of facilities?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ noise and dust from construction activities?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ temporary silt runoff due to construction?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ hazards to public health due to inadequate management of landfill site caused by inadequate institutional and financial capabilities for the management of the landfill operation?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ emission of potentially toxic volatile organics from land disposal site?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ surface and ground water pollution from leachate and methane gas migration?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ loss of deep-rooted vegetation (e.g. trees) from landfill gas?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ explosion of toxic response from accumulated landfill gas in buildings?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ contamination of air quality from incineration?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ public health hazards from odor, smoke from fire, and diseases transmitted by flies, rodents, insects and birds, etc.?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ health and safety hazards to workers from toxic gases and hazardous materials in the site?	<input type="checkbox"/>	<input type="checkbox"/>	

Rapid Environmental Assessment (REA) Checklist

Roads and Highways

Instructions:

- ☐ This checklist is to be prepared to support the environmental classification of a project.
- ☐ This checklist is to be completed by PMU (or its consultants) of UUSDP.
- ☐ This checklist focuses on environmental issues and concerns. To ensure that social dimensions are adequately considered, refer also to ADB checklists and handbooks on (i) involuntary resettlement, (ii) indigenous peoples planning, (iii) poverty reduction, (iv) participation, and (v) gender and development.
- ☐ Answer the questions assuming the "without mitigation" case. The purpose is to identify potential impacts. Use the "remarks" section to discuss any anticipated mitigation measures.

Country/Project Title

Sector Division:

SCREENING QUESTIONS	Yes	No	REMARKS
A. Project Siting			
Is the Project area adjacent to or within any of the following environmentally sensitive areas?			
▪ Cultural heritage site	<input type="checkbox"/>	<input type="checkbox"/>	
▪ Protected Area	<input type="checkbox"/>	<input type="checkbox"/>	
▪ Wetland	<input type="checkbox"/>	<input type="checkbox"/>	
▪ Mangrove	<input type="checkbox"/>	<input type="checkbox"/>	
▪ Estuarine	<input type="checkbox"/>	<input type="checkbox"/>	
▪ Buffer zone of protected area	<input type="checkbox"/>	<input type="checkbox"/>	
▪ Special area for protecting biodiversity	<input type="checkbox"/>	<input type="checkbox"/>	
B. Potential Environmental Impacts			
Will the Project cause...			
▪ encroachment on historical/cultural areas; disfiguration of landscape by road embankments, cuts, fills, and quarries?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ encroachment on precious ecology (e.g. sensitive or protected areas)?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ alteration of surface water hydrology of waterways crossed by roads, resulting in increased sediment in streams affected by increased soil erosion at construction site?	<input type="checkbox"/>	<input type="checkbox"/>	

SCREENING QUESTIONS	Yes	No	REMARKS
▪ deterioration of surface water quality due to silt runoff and sanitary wastes from worker-based camps and chemicals used in construction?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ increased local air pollution due to rock crushing, cutting and filling works, and chemicals from asphalt processing?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ noise and vibration due to blasting and other civil works? ▪ dislocation or involuntary resettlement of people	<input type="checkbox"/>	<input type="checkbox"/>	
▪ other social concerns relating to inconveniences in living conditions in the project areas that may trigger cases of upper respiratory problems and stress?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ hazardous driving conditions where construction interferes with pre-existing roads?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ poor sanitation and solid waste disposal in construction camps and work sites, and possible transmission of communicable diseases from workers to local populations?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ creation of temporary breeding habitats for mosquito vectors of disease?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ dislocation and compulsory resettlement of people living in right-of-way?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ accident risks associated with increased vehicular traffic, leading to accidental spills of toxic materials and loss of life?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ increased noise and air pollution resulting from traffic volume?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ increased risk of water pollution from oil, grease and fuel spills, and other materials from vehicles using the road?	<input type="checkbox"/>	<input type="checkbox"/>	

RAPID ENVIRONMENTAL ASSESSMENT (REA) CHECKLIST

Urban Development

Instructions:

- ☐ This checklist is to be prepared to support the environmental classification of a project.
- ☐ This checklist is to be completed by PMU (or its consultants) of UUSDP
- ☐ This checklist focuses on environmental issues and concerns. To ensure that social dimensions are adequately considered, refer also to ADB checklists and handbooks on (i) involuntary resettlement, (ii) indigenous peoples planning, (iii) poverty reduction, (iv) participation, and (v) gender and development.
- ☐ Answer the questions assuming the "without mitigation" case. The purpose is to identify potential impacts. Use the "remarks" section to discuss any anticipated mitigation measures.

Country/Project Title:
Sector Division:

SCREENING QUESTIONS	Yes	No	REMARKS
A. Project Siting			
Is the project area...			
▪ Densely populated?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ Heavy with development activities?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ Adjacent to or within any environmentally sensitive areas?			
• Cultural heritage site	<input type="checkbox"/>	<input type="checkbox"/>	
• Protected Area	<input type="checkbox"/>	<input type="checkbox"/>	
• Wetland	<input type="checkbox"/>	<input type="checkbox"/>	
• Mangrove	<input type="checkbox"/>	<input type="checkbox"/>	
• Estuarine	<input type="checkbox"/>	<input type="checkbox"/>	
• Buffer zone of protected area	<input type="checkbox"/>	<input type="checkbox"/>	
• Special area for protecting biodiversity	<input type="checkbox"/>	<input type="checkbox"/>	
• Bay	<input type="checkbox"/>	<input type="checkbox"/>	
B. Potential Environmental Impacts			
Will the Project cause...			
▪ impacts on the sustainability of associated sanitation and solid waste disposal systems and their interactions with other urban services.	<input type="checkbox"/>	<input type="checkbox"/>	

SCREENING QUESTIONS	Yes	No	REMARKS
▪ deterioration of surrounding environmental conditions due to rapid urban population growth, commercial and industrial activity, and increased waste generation to the point that both manmade and natural systems are overloaded and the capacities to manage these systems are overwhelmed?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ degradation of land and ecosystems (e.g. loss of wetlands and wild lands, coastal zones, watersheds and forests)?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ dislocation or involuntary resettlement of people	<input type="checkbox"/>	<input type="checkbox"/>	
▪ degradation of cultural property, and loss of cultural heritage and tourism revenues?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ occupation of low-lying lands, floodplains and steep hillsides by squatters and low-income groups, and their exposure to increased health hazards and risks due to pollutive industries?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ water resource problems (e.g. depletion/degradation of available water supply, deterioration for surface and ground water quality, and pollution of receiving waters?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ air pollution due to urban emissions?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ social conflicts between construction workers from other areas and local workers?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ road blocking and temporary flooding due to land excavation during rainy season?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ noise and dust from construction activities?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ traffic disturbances due to construction material transport and wastes?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ temporary silt runoff due to construction?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ hazards to public health due to ambient, household and occupational pollution, thermal inversion, and smog formation?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ water depletion and/or degradation?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ overpaying of ground water, leading to land subsidence, lowered ground water table, and salinization?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ contamination of surface and ground waters due to improper waste disposal?	<input type="checkbox"/>	<input type="checkbox"/>	
▪ pollution of receiving waters resulting in amenity losses, fisheries and marine resource depletion, and health problems?	<input type="checkbox"/>	<input type="checkbox"/>	

Appendix 2: Content and Format of Environmental Impact Assessment (EIA)

I. Introduction

1. EIA is an important tool for incorporating environmental concerns at the project level. EIA should be carried out as early as the project planning stage as part of feasibility thus it can assure that the project will be environmentally feasible. The general objectives of the EIA study are to provide;

- (i) baseline information about the environmental, social, and economic conditions in the project area;
- (ii) information on potential impacts of the project and the characteristic of the impacts, magnitude, distribution, who will be the affected group, and their duration;
- (iii) information on potential mitigation measures to minimize the impact including mitigation costs;
- (iv) to assess the best alternative project at most benefits and least costs in terms of financial, social, and environment. In addition to alternative location of the project, project design or project management may also be considered; and
- (v) basic information for formulating environmental management plan.

2. EIA requires an in-depth analysis because of the potential significance of environmental impacts from the project. EIAs demand: (i) comprehensive analysis of the potential impacts; (ii) works to be carried out to formulate practical mitigation measures; (iii) in-depth economic valuation of impact to screen and evaluate the best alternative; and (vi) in-depth analysis to prepare an adequate environmental management plan.

II. The Process in Preparing EIA

3. Scoping should be conducted to develop the terms of reference (TOR) for an EIA. The scoping procedure should at least produce the following outputs:

- (i) identify the likely environmental impacts or other environmental concerns and consideration that need to be further investigated in EIA study,
- (ii) identify environmental components that need detailed further study,
- (iii) determine the general approach and methodology required to carry out the EIA study,
- (iv) identify in general all affected interest to be consulted in carrying out EIA study, and
- (v) identify the need to fit the outputs of EIA into the project context especially on environmental management plan.

4. The next step is undertaking EIA study, and the following are key important activities:

1. Describing Environmental Condition of the Project Area

5. Collection of baseline information on biophysical, social and economic aspects of the project area is the most important reference for conducting EIA study. The description of environmental settings includes the characteristic of area in which the activity of proposed project would occur and it should cover area affected by all impacts including potential compensation area, and potential area affected by its alternatives. Normally, information is obtained from secondary sources when there is a facility of maintaining database, or other existing documentation, and through field sampling. Collection of baseline data should be designed to satisfy information requirements and should focused

on relevant aspects that are likely to be affected by the proposed project. Therefore, the level of detail in this description of study area should be sufficient to convey to readers the general nature of environmental and social resources condition of the affected areas.

2. Assessing Potential Impacts

6. The "technical heart" of the EIA process involves the prediction of changes over time in various environmental aspects as a result of a proposed project. The prediction of the nature, extent, and magnitude of environmental changes likely to result from a proposed project is aided by various tools and techniques, the choice of which depends upon the impacts of concern, data availability or lack thereof, and the appropriate specificity of quantitative models. However, the choice of the appropriate method for conducting an EIA can only be guided by certain criteria, but no single method will meet all the necessary criteria. In addition, the prediction has to be based on established scientific knowledge that is still very limited in ecosystems in most DMCs. For this reason, the prediction of ecological changes and their impacts often does not generate concrete conclusions on the magnitude of the impacts.

3. Formulating Mitigation Measures

7. Once the impacts have been analyzed, their significance will be determined, i.e., whether they are acceptable, require mitigation, or are unacceptable. Subsequently, measures will be devised to mitigate anticipated environmental changes and consequential impacts during project implementation and operation, or further reduce the residual environmental changes inherent in the selected project design. They normally include technical, social, and institutional measures to be implemented as integral elements of the project. Examples are sound operating rules of a reservoir to ensure minimum impacts on downstream water users, and installation of an electrostatic precipitator to remove fly ash in a coal-fired power plant project, and adequate drainage system in an irrigation project.

4. Preparing the Environmental Management Plan

8. The major output of environmental assessment for proposed project is an EIA report, which includes environmental management plan. In view of the increasing importance in improving the quality of project implementation and to ensure compliance with required mitigation and monitoring measures identified, EIA report will include, as part of EMP, concerned government or related agency undertaking the activities included in environmental management and monitoring plan which will be reflected in the relevant loan covenants.

9. Environmental management involves the implementation of environmental protection and mitigation measures and monitoring of significant environmental impacts. Environmental protection measures are taken to (i) mitigate environmental impacts, (ii) provide in-kind compensation for lost environmental resources, or (iii) enhance environmental resources. These measures are usually set out in an EMP, which covers all phases of the project from preconstruction through decommissioning, and outlines mitigation and other measures that will be undertaken to ensure compliance with environmental regulations and reduce or eliminate adverse impacts (see Table 1). The EMP will also cover a proposal for recommending the proposed project to use goods and products that are environmentally friendly as well as proposal for environmental loan covenants.

Table 1: Contents of an EMP

Contents of an EMP	
1. Summary of Potential Impacts	
2. Description of Planned Mitigation Measures	
3. Description of Planned Environmental Monitoring Process	4. Description of Planned Public Consultation
5. Description of the Responsibilities and Authorities for Implementation of Mitigation Measures and Monitoring Requirements	
6. Description of Responsibilities for Reporting and Review	
7. Work Plan including staffing chart, proposed schedules of participation by various members of the project team, and activities and inputs of various government agencies	
8. Environmental Responsible Procurement Plan	
9. Detailed Cost Estimates	
10. Mechanisms for feedback and adjustment	

10. Environmental monitoring involves (i) planning a survey and sampling program for systematic collection of data/information relevant to environmental assessment and project environmental management; (ii) conduct of the survey and sampling program; (iii) analysis of samples and data/information collected, and interpretation of data and information; and (iv) preparation of reports to support environmental management. Environmental monitoring is normally carried out before and during planning to establish baseline data needed for environmental assessment and evaluating environmental impacts during project implementation. It continues through project operation to detect changes in the key environmental quality parameters, which can be attributed to the project. The results of the monitoring program are used to evaluate the following: (i) extent and severity of the environmental impacts against the predicted impacts; (ii) performance of the environmental protection measures or compliance with pertinent rules and regulations; (iii) trends in impacts; and (iv) overall effectiveness of the project EMP.

11. Environmental monitoring should have clear objectives, and the survey and sampling program custom-designed to focus on data/information actually required to meet the objectives. In addition, the design of the monitoring program has to take into account its practicability considering the technical, financial, and management capability of the institutions that will carry out the program and period of monitoring that will be needed to achieve the objectives (see Table 2). The monitoring program should include action or emergency plans so that appropriate action can be taken in the event of adverse monitoring results or trends. It should also be constantly reviewed to make sure that it is effective, and determine when it can be stopped.

Table 2: Features of an Effective Environmental Monitoring Plan

<input type="checkbox"/> Realistic sampling program (temporal and spatial)
<input type="checkbox"/> Sampling methods relevant to source
<input type="checkbox"/> Collection of quality data
<input type="checkbox"/> Comparable new data with other relevant data used in environmental assessment
<input type="checkbox"/> Cost-effective data collection
<input type="checkbox"/> Quality control in measurement and analysis
<input type="checkbox"/> Innovations (e.g., in tracing contaminants and automated stations)
<input type="checkbox"/> Appropriate databases
<input type="checkbox"/> Multidisciplinary data interpretation to provide useful information
<input type="checkbox"/> Reporting for internal management and external checks
<input type="checkbox"/> Allowance for, and response to, input from third parties
<input type="checkbox"/> Presentation in the public arena (external assessment)

12. Both the environmental management and monitoring plans need to include who will implement them, when, and where. The capacity of the executing agency, local government, and community organization should be reviewed to identify feasible approach for implementing the plans. The project lifecycle should be taken into account in setting the timing of implementation. For example, the EMP should identify environmental mitigation measures that should be implemented in the engineering design for the contract documents, and materials to be avoided in procurement, among others. On the other hand, the location for monitoring should be selected based on where the impacts would occur, and the areas to be affected. To ensure that the environmental management and monitoring plans will be implemented, it is necessary to identify the key management issues to be included as a requirement either as a loan covenant or conditions for implementing the project.

III. Documenting EIA Studies

13. EIA reports and their summaries (SEIA) should be presented in certain way to meet the requirements of ADB and the DMC. However, wherever possible, ADB requests that the Borrower follow ADB-prescribed format for EIA. This is to ensure that environmental assessment results are presented in a clear and concise fashion to contribute most effectively to decision-making. However, if several other financial institutions fund the proposed Project in the form of co-financing modality, it is necessary for ADB to come up with an agreement with those institutions on EIA reporting requirement. In this context, it is necessary to ensure that the content of the EIA reports cover all issues required by ADB. Although the presentation of the EIA report may not follow ADB's standard, it is necessary to ensure that the SEIA should be formulated and presented in accordance to ADB's guideline.

1. Environmental Impact Assessment Report

14. The standard EIA report format address such issues as exploration of various alternatives, evidence of public consultation and social acceptability, economic analysis of impacts, and direct and indirect impacts. The suggested outline of the EIA report is in Table 3, and the main sections are annotated in the following sections.

Table 3: Outline of an EIA Report

A. Introduction
B. Description of the Project
C. Description of the Environment
D. Alternatives
E. Anticipated Environmental Impacts and Mitigation Measures
F. Economic Assessment
G. Environmental Management Plan
H. Public Involvement and Disclosure
I. Conclusions

a. Introduction

15. This section usually includes the following:

- (i) purpose of the report, including (a) identification of the project and its proponent, (b) brief description of the nature, size, and location of the project and its importance to the country, and (c) any other pertinent background information;

- (ii) stage of project preparation (i.e., pre-feasibility study, feasibility study, detailed engineering design preparation);
- (i) extent of the EIA study, including the scope of the study, magnitude of effort, and persons/expertise or agency performing the study and corresponding person months; and
- (ii) brief outline of the contents of the report, including any special techniques or methods used for identifying issues, assessing impacts, and designing environmental protection measures.

b. Description of the Project

16. The project should be described in terms of its basic activities, location, layout, and schedule (in terms of the project cycle). This section of the EIA report should provide sufficient details on the following:

- (i) Type of project
- (ii) Need for project
- (iii) Location (use maps showing general location, specific location, project boundary and project site layout)
- (iv) Size or magnitude of operation including any associated activities required by or for the project
- (v) Proposed schedule for approval and implementation
- (vi) Description of the project including drawings showing project layout, components of project, etc. This information should be of the same type and extent as is included in feasibility reports for proposed projects, in order to give a clear picture of the project and its operations.

c. Description of the Environment

17. This section contains a description of the study area to provide a clear picture of the existing environmental resources and values within which the impacts must be considered. Detailed methodology to gather information, including data sources, should also be briefly described. As much as possible, the baseline information should be presented in maps, figures, and tables. The baseline environmental information area should include:

- (i) **Physical Resources:** e.g.
 - ☐ atmosphere (e.g. air quality and climate)
 - ☐ topography and soils,
 - ☐ surface water
 - ☐ groundwater
 - ☐ geology / seismology.
- (ii) **Ecological Resources:** (e.g.)
 - ☐ fisheries
 - ☐ aquatic biology
 - ☐ wildlife
 - ☐ forests
 - ☐ rare or endangered species
 - ☐ protected areas
 - ☐ coastal resources

(iii) Economic Development: (e.g.)

- ☐ industries
- ☐ infrastructure facilities (e.g. water supply, sewerage, flood control)
- ☐ transportation (roads, harbors, airports, and navigation)
- ☐ land use (e.g. dedicated area uses)
- ☐ power sources and transmission
- ☐ agricultural development, mineral development, and tourism facilities

(iv) Social and Cultural Resources: (e.g.)

- ☐ population and communities (e.g. numbers, locations, composition, employment)
- ☐ health facilities
- ☐ education facilities
- ☐ socio-economic conditions (e.g. community structure, family structure, social well being)
- ☐ physical or cultural heritage
- ☐ current use of lands and resources for traditional purposes by Indigenous Peoples
- ☐ structures or sites that are of historical, archaeological, paleontological, or architectural significance.

d. Alternatives

18. The consideration of alternatives is one of the more proactive sides of environmental assessment - enhancing the project design through examining options instead of only focusing on the more defensive task of reducing adverse impacts of a single design. This calls for the systematic comparison of feasible alternatives for the proposed project site, technology, and operational alternatives. Alternatives should be compared in terms of their potential environmental impacts, capital and recurrent costs, suitability under local conditions, and institutional, training and monitoring requirements. For each alternative, the environmental costs and benefits should be quantified to the extent possible, economic values should be attached where feasible, and the basis for the selected alternative should be stated.

19. Examining alternative means of carrying out a project involves answering the following three questions: (i) what are the alternatives? , (ii) what are the environmental impacts associated with each alternative? , and (iii) what is the rationale for selecting the preferred alternative? For example, a road connecting two points can follow a number of different routes. In this case, the EIA report must describe the process taken to select the most appropriate route based on a set of pre-determined criteria. The consideration of alternatives and the selection criteria used to identify the preferred alternatives must include environmental factors. The information going into the decision and the decision-making process must be documented in the EIA report. For example, if "alternative means" refers to site selection for a large hydroelectric dam, the location of each alternative would have to be described, the environmental impacts of each alternative defined and the criteria and analysis of site selection presented.

20. Since the selection of alternatives can involve detailed technical analysis that includes more than just environmental factors, it may be preferable to present the details of this analysis as an appendix and include only the results and summary of this selection process in the body of the report. For example, a table listing the alternatives on one axis, and the criteria, such as reliability, cost, performance, inherent environmental effects and necessary mitigation measures, on the other axis may provide an effective summary.

21. **Alternatives to the project.** In some instances it will be necessary to consider "alternatives to" the project. This situation should not arise if the project is consistent with DMC's development strategy, ADB's Country and Strategy Program, and has been developed based on a sector strategy and roadmap. The EIA report should describe how the project fits into this larger strategic planning context. This context helps justify the project and demonstrates the requirements that may constrain the alternatives that are feasible or permitted.

22. However, in the case of potentially controversial projects, there may public concern that the project does not represent the best way to achieve stated development objectives. In addition, segments of the public may react negatively if they perceive that the EIA report has not considered alternatives to the project, or the preferred alternative is proceeding based on flawed assumptions. Therefore, if controversy is expected surrounding the fundamental reasons for the project, the EIA report should include a discussion of alternatives to the project.

23. One alternative that should receive special attention is the "no go" alternative. In some cases, this may be the only alternative to the project that can be realistically considered.

e. **Anticipated Environmental Impacts and Mitigation Measures**

24. **Review Characteristics of Each Environmental Impact.** This section will evaluate the project's expected impacts (in as quantified terms as possible) on each resource or value, and applicable sectoral environmental guidelines wherever any significant impact is expected (including environmental risk assessment, where appropriate). Environmental impacts to be investigated will include those due to (i) project location; (ii) caused by possible accidents; (iii) related to design; and (iv) during construction, regular operations, and final decommissioning or rehabilitation of a completed project. Where adverse effects are indicated, discuss measures for minimizing and/or offsetting these, and opportunities for enhancing natural environmental values will be explored. Both direct and indirect effects will be considered, and the region of influence indicated. This analysis is the key presentation in the report and if not sufficiently completed it may be necessary to delay the project until the analysis can be completed. It is necessary to present a reasonably complete picture of both the human use and quality of life gains to result from the project due to the utilization, alteration, and impairment of the natural resources affected by the project, so that fair evaluation of the net worth of the project could be made.

25. **Mitigating Adverse Effects.** For each significant adverse environmental impact, the report will carefully explain how the project plan/design minimizes the adverse effects and in addition how the project plan/design, to the extent feasible, includes provision for offsetting or compensating of adverse effects and for positive enhancement of benefits or environmental quality. Where substantial cost of mitigation measures is involved, alternative measures and costs will be explored.

26. **Irreversible and Irretrievable Impacts.** The EIA report will identify the extent to which the proposed project would irreversibly curtail the potential uses of the environment. For example, highways that cut through stream corridors, wetlands, or a natural estuary can result in irretrievable damage to those sensitive ecosystems. Other impacts that may be irreversible include alteration of historic sites, and expenditure of construction materials and fuels. Also, projects through estuaries, marshes, etc., may permanently impair the area's natural ecology; or elimination of recreation areas and parklands can precipitate drastic changes in the project area's social and economic character.

27. **Temporary Effects During Project Construction.** In the event the construction phase of the project involves special environmental impacts (to be terminated on completion of construction), these will be separately discussed including proposed remedial measures.

f. Economic Assessment

28. This section may be drawn from the economic analysis conducted as part of the project feasibility study. It should include the following elements which should be integrated into the overall economic analysis of the project: (i) costs and benefits of environmental impacts; (ii) costs, benefits, and cost-effectiveness of mitigation measures; and (iii) discussion of impacts that have not been expressed in monetary values, in quantitative terms where possible (e.g. weight of volume estimates of pollutants).

g. Environmental Management Plan

29. The EMP describes how the mitigation and other measures to enhance the benefits of environmental protection will be implemented. It explains how the measures will be managed, who will implement them, and when and where they will be implemented. The following elements should be described in the EMP (see Table 1 for contents of EMP): (i) implementation of mitigation measures during project design; (ii) implementation of mitigation measures by contractors, and how impacts prevention will be incorporated in the materials procurement; (iii) social development program (e.g., resettlement plan, community training); (iv) contingency response plan for natural or other disasters, and project contingencies; and (v) environmental management and monitoring costs including mitigation costs.

30. The environmental monitoring plan describes the monitoring activities to ensure that adverse environmental impacts will be minimized, and the EMP implemented. The environmental monitoring plan will cover selected parameters to indicate the level of environmental impacts. It also describes how, when, and where the monitoring activities will be undertaken; who will carry them out; and who should receive the monitoring report. More importantly, it includes a proposal to carry out environmental compliance monitoring activities.

31. The present capacity of the executing agency to implement EMP should be described and implementation costs clearly identified.

h. Public Consultation and Information Disclosure

32. This section will (i) describe the process undertaken to involve the public in project design and recommended measures for continuing public participation; (ii) summarize major comments received from beneficiaries, local officials, community leaders, NGOs, and others, and describe how these comments were addressed; (iii) list milestones in public involvement (e.g., dates, attendance, topics of public meetings), and recipients of the report and other project-related documents; (iv) describe compliance with relevant regulatory requirements for public participation; (v) if possible summarize public acceptance or opinion on the proposed project; and (vi) describe other related materials or activities (e.g., press releases, notifications) as part of the effort to gain public participation. This section will provide of summary of information disclosed to date and procedures for future disclosure.

i. Conclusions

33. The EIA report will present the conclusions of the study including: (i) gains which justify project implementation; (ii) explanation of how adverse effects could be minimized

or offset, and compensated to make these impacts acceptable; (iii) explanation of use of any irreplaceable resources; and (iv) provisions for follow-up surveillance and monitoring. Simple visual presentations of the type and magnitude of the impacts may aid the decision-maker.

2. Summary Environmental Impact Assessment Report

34. The summary EIA (SEIA) report is the executive summary of the EIA report. It describes the critical facts and significant findings of the EIA report, and their resolutions in sufficient detail. The reader should be able to understand the issues' importance and scope, and the appropriateness of the approach taken to resolve them. The SEIA report should be presented clearly and concisely as a stand-alone document (see Table 4) for submission to the Board and disclosure to the public.

Table 4: Outline of SEIA Report

A. Introduction (1/2 page)
This section will include the purpose of the report, extent of the EIA study and brief description of any special techniques or methods used.
B. Description of the Project (1/2 page)
This section will include the type of and need for project, location, size or magnitude of operation and proposed schedule for implementation.
C. Description of the Environment (2-3 pages)
This section will include the physical and ecological resources, human and economic development and quality of life values in the area affected by the project. Where available, environmental standards will be used as the baseline for comparative purposes.
D. Alternatives (1-2 pages)
For each alternative, a summary of the probable adverse impacts and its relation to the project, and other alternatives will be discussed determine whether the project minimizes the environmental impact over all other alternatives and is within acceptable environmental impact limits. In most cases, environmental impacts "with" and "without" project alternatives should be examined.
E. Anticipated Environmental Impacts and Mitigation Measures (4-6 pages)
Environmental impacts, both direct and indirect, on different environmental resources or values due to project location, as related to design, during construction and regular operation will be discussed and mitigation, offsetting or enhancement measures will be recommended.
F. Economic Assessment (1-2 pages)
This section will include: (a) costs and benefits of environmental impacts; (b) costs, benefits and cost effectiveness of mitigation measures; and (c) for environmental impacts that have not been expressed in monetary values, a discussion of such impacts, if possible, in quantitative terms (e.g. weight or volume estimates of pollutants). This information should be integrated into the overall economic analysis of the project.
G. Environmental Management Plan (1-2 pages)
The EMP will describe the impacts to be mitigated, and activities to implement the mitigation measures, including how, when, and where they will be implemented. The environmental monitoring plan will describe the impacts to be monitored, and when and where monitoring activities will be carried out, and who will carry them out.
H. Public Consultation and Disclosure (1-3 pages)
This section will describe the process undertaken to involve the public in project design and recommended measures for continuing public participation; summarize major comments received from beneficiaries, local officials, community leaders, NGOs, and others, and describe how these comments were addressed; list milestones in public involvement such as dates, attendance, and topics of public meetings; list recipients of this document and other project related documents; describe compliance with relevant regulatory requirements for public participation; and summarize other related materials or activities, such as press releases and notifications. This section will provide of summary of information disclosed to date and procedures for future disclosure.

I. Conclusions (1 page)

This section will describe the gains which justify implementation of the project; explain how significant adverse environmental impacts will be mitigated or offset and compensated for; explain/justify use of any irreplaceable resources and; describe follow-up surveillance and monitoring

Appendix 3: Content and Format - Initial Environmental Examination (IEE)

I. Introduction

1. IEE is an important tool for incorporating environmental concerns at the project level. IEE should be carried out as early as the project planning stage as part of feasibility thus it can assure that the project will be environmentally feasible. The general objectives of IEE study should at least cover the following:

- (i) to provide information about the general environmental settings of the project area as baseline data;
- (ii) to provide information on potential impacts of the project and the characteristic of the impacts, magnitude, distribution, who will be the affected group, and their duration;
- (iii) to provide information on potential mitigation measures to minimize the impact including mitigation costs;
- (iv) to assess the best alternative project at most benefits and least costs in terms of financial, social, and environment. It is not always necessary to change location of the project, but it can be changed in project design or project management; and
- (v) to provide basic information for formulating management and monitoring plan

2. The IEE is conducted if the project is likely to have minor or limited impacts, which can easily be predicted and evaluated, and for which mitigation measures are prescribed easily. However, the IEE is also used to confirm whether this is, indeed, requires an EIA (see Annex 5) as a follow up.

II. The Process in Preparing IEE

3. An early step is to determine the scope of the IEE study. This activity is known as "scoping" as a procedure designed to establish the terms of reference (TOR) for the IEE. The scoping procedure should at least produce the following outputs:

- (i) identify the likely environmental impacts or other environmental concerns and consideration that need to be further investigated in IEE study
- (ii) identify environmental component which need detailed or further study
- (iii) determine the general approach and methodology required to carry out the IEE study
- (iv) identify in general all affected interest to be consulted in carrying out IEE study
- (v) identify the need to fit the outputs of IEE into the project context especially on environmental management and monitoring plan

4. The next step is undertaking IEE study, and the following are key important activities:

1. Describing Environmental Condition of the Project Area

5. Collection of baseline information on biophysical, social and economic aspects of the project area is the most important reference for conducting IEE study. The description of environmental settings includes the characteristic of area in which the activity of proposed project would occur and it should cover area affected by all impacts including potential compensation area, and potential area affected by its alternatives. Normally, information is obtained from secondary sources when there is a facility of maintaining database, or other existing documentation, and through field sampling. Collection of baseline data should be designed to satisfy information requirements and should focused

on relevant aspects that are likely to be affected by the proposed project. Therefore, the level of detail in this description of study area should be sufficient to convey to readers nature of environmental and social resources condition of the affected areas.

2. Assessing Potential Impact

6. The "technical heart" of the environmental assessment process involves the prediction of changes over time in various environmental aspects as a result of a proposed project. The prediction of the nature, extent, and magnitude of environmental changes likely to result from a proposed project is aided by various tools and techniques, the choice of which depends upon the impacts of concern, data availability or lack thereof, and the appropriate specificity of quantitative models. However, the choice of the appropriate method for conducting an environmental assessment can only be guided by certain criteria, but no single method will meet all the necessary criteria. In addition, the prediction has to be based on established scientific knowledge that is still very limited in ecosystems in most DMCs. For this reason, the prediction of ecological changes and their impacts often does not generate concrete conclusions on the magnitude of the impacts.

3. Formulating Mitigation Measures

7. Once the impacts have been analyzed, their significance will be determined, i.e., whether they are acceptable, require mitigation, or are unacceptable. Subsequently, measures will be devised to mitigate anticipated environmental changes and consequential impacts during project implementation and operation, or further reduce the residual environmental changes inherent in the selected project design. They normally include technical, social, and institutional measures to be implemented as integral elements of the project. Examples are sound operating rules of a reservoir to ensure minimum impacts on downstream water users, and installation of an electrostatic precipitator to remove fly ash in a coal-fired power plant project, and adequate drainage system in an irrigation project.

4. Preparing the Institutional Requirements and Environmental Monitoring Plan

8. Environmental management involves the implementation of environmental protection and mitigation measures and monitoring for significant environmental impacts. Environmental protection measures are taken to: (i) mitigate environmental impacts, (ii) provide in-kind compensation for lost environmental resources, or (iii) enhance environmental resources. These measures are usually set out in a plan, which covers all phases of the project from preconstruction through decommissioning, and outlines mitigation and other measures that will be undertaken to ensure compliance with environmental regulations and reduce or eliminate adverse impacts. The basic implementation arrangements should be presented – taking account of the local conditions. Responsibilities for mitigation and monitoring shall be defined along with arrangements for information flow, and for coordination between agencies responsible for mitigation. A plan should specify who/which agency is responsible for undertaking the mitigating and monitoring measures, e.g., for enforcement of remedial actions, monitoring, training, and financing. A third party may be contracted in case the local authorities' capacity is limited. Institutional strengthening activities may be proposed, including establishment of appropriate organization arrangements; appointment of key staff and consultants; and arrangements for counterpart funding.

9. Environmental monitoring involves: (i) planning a survey and sampling program for systematic collection of data/information relevant to environmental assessment and project environmental management; (ii) conduct of the survey and sampling program; (iii) analysis of samples and data/information collected, and interpretation of data and information; and (iv) preparation of reports to support environmental management.

Environmental monitoring is normally carried out before and during planning to establish baseline data needed for Environmental assessment and evaluating environmental impacts during project implementation. It continues through project operation to detect changes in the key environmental quality parameters, which can be attributed to the project. The results of the monitoring program are used to evaluate the following: (i) extent and severity of the environmental impacts against the predicted impacts; (ii) performance of the environmental protection measures or compliance with pertinent rules and regulations; (iii) trends in impacts; and (iv) overall effectiveness of the project environmental protection measures.

10. Environmental monitoring should have clear objectives, and the survey and sampling program custom-designed to focus on data/information actually required to meet the objectives. In addition, the design of the monitoring program has to take into account its practicability considering the technical, financial, and management capability of the institutions that will carry out the program and period of monitoring that will be needed to achieve the objectives (see Table 1). The monitoring program should include action or emergency plans so that appropriate action can be taken in the event of adverse monitoring results or trends. It should also be constantly reviewed to make sure that it is effective, and determine when it can be stopped.

Table 1: Features of an Effective Environmental Monitoring Plan

<input type="checkbox"/>	Realistic sampling program (temporal and spatial)
<input type="checkbox"/>	Sampling methods relevant to source
<input type="checkbox"/>	Collection of quality data
<input type="checkbox"/>	Comparable new data with other relevant data used in environmental assessment
<input type="checkbox"/>	Cost-effective data collection
<input type="checkbox"/>	Quality control in measurement and analysis
<input type="checkbox"/>	Innovations (e.g., in tracing contaminants and automated stations)
<input type="checkbox"/>	Appropriate databases
<input type="checkbox"/>	Multidisciplinary data interpretation to provide useful information
<input type="checkbox"/>	Reporting for internal management and external checks
<input type="checkbox"/>	Allowance for, and response to, input from third parties
<input type="checkbox"/>	Presentation in the public arena (external assessment)

11. Both the environmental management and monitoring plans need to include who will implement them, when, and where. The capacity of the executing agency, local government, and community organization should be reviewed to identify feasible approach for implementing the plans. The project lifecycle should be taken into account in setting the timing of implementation. For example, plans should environmental mitigation measures should be implemented in the engineering design for the contract documents, and materials to be avoided in procurement, among others. On the other hand, the location for monitoring should be selected based on where the impacts would occur, and the areas to be affected. To ensure that the environmental management and monitoring plans will be implemented, it is necessary to identify the key management issues to be included as a requirement either as a loan covenant or conditions for implementing the project.

III. Documenting IEE Studies

12. IEE reports and their summaries (SIEE) should be presented in certain way to meet the requirements of ADB and the DMC. However, wherever possible, ADB requests that the Borrower follow ADB-prescribed format for IEE. This is to ensure that environmental assessment results are presented in a clear and concise fashion to contribute most effectively to decision-making. However, if several other financial

institutions fund the proposed Project in the form of co-financing modality, it is necessary for ADB to come up with an agreement with those institutions on IEE reporting requirement. In this context, it is necessary to ensure that the content of the IEE reports cover all issues required by ADB. Although the presentation of the IEE report may not follow ADB's standard, it is necessary to ensure that the SIEE should be formulated and presented in accordance to ADB's guideline.

1. Initial Environmental Examination

13. The content and format of the IEE report is in Table 2. If the approved IEE concludes that the project will not have any significant adverse environmental impacts, then the environmental assessment is deemed complete. If there are unresolved issues, the recommendation should be either that further studies be undertaken to resolve the issues, or that a full EIA is required.

Table 2: Outline of an IEE Report

A. Introduction
B. Description of the Project
C. Description of the Environment
D. Screening of Potential Environmental Impacts and Mitigation Measures
E. Institutional Requirements and Environmental Monitoring Plan
F. Public Consultation and Information Disclosure
G. Findings and Recommendation
H. Conclusions

a. Introduction

14. This section usually includes the following:

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

b. Description of the Project

15. Furnish sufficient details to give a brief but clear picture of the following (include only applicable items):

- (i) type of project;
- (ii) category of Project;
- (iii) need for project;
- (iii) location (use maps showing general location, specific location, and project site);
- (iv) size or magnitude of operation;
- (v) proposed schedule for implementation; and
- (vi) descriptions of the project, including drawings showing project layout, and project components. This information should be of the same type and extent

as is included in feasibility reports for proposed projects to give a clear picture of the project and its operations.

c. Description of the Environment

16. Furnish sufficient information to give a brief but clear picture of the existing environmental resources in the area affected by the project, including the following (to the extent applicable):

(i) **Physical Resources:** (e.g.)

- atmosphere (e.g. air quality and climate)
- topography and soils,
- surface water
- groundwater
- geology/seismology.

(ii) **Ecological Resources:** (e.g.)

- fisheries
- aquatic biology
- wildlife
- forests
- rare or endangered species
- protected areas
- coastal resources

(iii) **Economic Development:** (e.g.)

- industries
- infrastructure facilities (e.g. water supply, sewerage, flood control)
- transportation (roads, harbors, airports, and navigation)
- land use (e.g. dedicated area uses)
- power sources and transmission
- agricultural development, mineral development, and tourism facilities

(iv) **Social and Cultural Resources:** (e.g.)

- population and communities (e.g. numbers, locations, composition, employment)
- health facilities
- education facilities
- socio-economic conditions (e.g. community structure, family structure, social well being)
- physical or cultural heritage
- current use of lands and resources for traditional purposes by Indigenous Peoples
- structures or sites that are of historical, archaeological, paleontological, or architectural significance.

d. Screening of Potential Environmental Impacts and Mitigation Measures

17. Using the checklist of environmental parameters for different sector projects, this section will screen out "no significant impacts" from those with significant adverse impact by reviewing each relevant parameter according to the following factors or operational

stages. Mitigation measures, where appropriate, will also be recommended environmental problems due to project location, and related to project design, construction, and operations. Potential environmental enhancement measures and additional considerations will also be covered.

e. Institutional Requirements and Environmental Monitoring Plan

18. This section should state the impacts to be mitigated, and activities to implement the mitigation measures, including how, when, and where they will be implemented. Institutional arrangements for implementation should be described. The environmental monitoring plan will describe the impacts to be monitored, and when and where monitoring activities will be carried out, and who will carry them out. The environmental management and monitoring costs should also be described.

f. Public Consultation and Information Disclosure

19. This section will describe the process undertaken to involve the public in project design and recommended measures for continuing public participation; summarize major comments received from beneficiaries, local officials, community leaders, NGOs, and others, and describe how these comments were addressed; list milestones in public involvement such as dates, attendance, and topics of public meetings; list recipients of this document and other project related documents; describe compliance with relevant regulatory requirements for public participation; and summarize other related materials or activities, such as press releases and notifications. This section will provide of summary of information disclosed to date and procedures for future disclosure.

g. Findings and Recommendations

20. This section will include an evaluation of the screening process and recommendation will be provided whether significant environmental impacts exist needing further detailed study or EIA. If there is no need for further study, the IEE itself, which at times may need to be supplemented by a special study in view of limited but significant impacts, becomes the completed environmental assessment for the project and no follow-up EIA will be needed. If an EIA is needed, then this section will include a brief terms of reference (TOR) for the needed follow-up EIA, including approximate descriptions of work tasks, professional skills required, time required, and estimated costs. The Bank's Environment Guidelines provides a guide for preparing the TOR for different projects.

h. Conclusions

21. This section will discuss the result of the IEE and justification, if any, of the need for additional study or EIA. If an IEE, or an IEE supplemented by a special study, is sufficient for the project, then the IEE with the recommended institutional and monitoring program becomes the completed EIA.

2. Summary Initial Environmental Examination Report

22. The summary IEE (SIEE) report is the executive summary of the IEE report. It describes the significant findings of the IEE report, and recommendations to manage them. The SIEE report should be presented clearly and concisely as a stand-alone document (see Table 3) for submission to the Board and disclosure to the public.

Table 3: Outline of an SIEE Report

A. Introduction (1/2 page)

This section will include the purpose of the report, extent of the IEE study and brief description of any special techniques or methods used.

B. Description of the Project (1/2 page)

This section will include the type of and need for the project; and project location, size or magnitude, operation, and proposed schedule for implementation.

C. Description of the Environment (2 pages)

This section will include the physical and ecological resources, human and economic development, and quality of life values.

D. Forecasting Environmental Impacts and Mitigation Measures (2-4 pages)

This section will identify "no significant impacts" from those with significant adverse impacts and will discuss the appropriate mitigation measures, where necessary.

E. Institutional Requirements and Environmental Monitoring Plan (1 page)

This section will describe the impacts to be mitigated, and activities to implement the mitigation measures, including how, when, and where they will be implemented. The environmental monitoring plan will describe the impacts to be monitored, and when and where monitoring activities will be carried out, and who will carry them out.

F. Public Consultation and Disclosure

This section will describe the process undertaken to involve the public in project design and recommended measures for continuing public participation; summarize major comments received from beneficiaries, local officials, community leaders, NGOs, and others, and describe how these comments were addressed; list milestones in public involvement such as dates, attendance, and topics of public meetings; list recipients of this document and other project related documents; describe compliance with relevant regulatory requirements for public participation; and summarize other related materials or activities, such as press releases and notifications. This section will provide a summary of information disclosed to date and procedures for future disclosure.

G. Findings and Recommendations (1-2 pages)

This section will include an evaluation of the screening process, and recommendation will be provided whether significant environmental impacts exist needing further detailed study or EIA. If there is no need for further study, the IEE itself, which at times may need to be supplemented by a special study in view of some small significant impacts, becomes the completed EIA for the project and no follow-up EIA will be needed.

If further additional study is needed, then this section will include a brief terms of reference (TOR) for the needed follow-up EIA, including approximate descriptions of work tasks, professional skills required, time required, and estimated costs. The Bank's Environment Guidelines provides a guide for preparing the TOR for different projects.

H. Conclusions (1/2 page)

This section will discuss the result of the IEE and justification if any of the need for additional study or EIA. If an IEE or an IEE supplemented by a special study is sufficient for the project, then the IEE with the recommended institutional requirements and monitoring program become the completed EIA.

RESETTLEMENT FRAMEWORK

A. Overview

1. The Investment Program will support the Government of India (GOI) and the Government of Uttarakhand (GOU) in their policy of balanced regional socio-economic development and poverty reduction through improvements in urban governance, management, and infrastructure and service provision in 31 selected towns in Uttarakhand.¹ The Investment Program will support: (i) water supply; (ii) sewerage and sewage treatment; (iii) municipal solid waste management; (iv) urban roads and traffic management; (v) slum upgrading and poverty reduction; and (vi) planning and design, institutional and policy development, capacity building, and awareness raising.

1. Scope of Land Acquisition

2. The Investment Program will minimize resettlement impacts by prioritizing rehabilitation and optimization work within existing facilities' premises. New construction is proposed on vacant Government land where feasible. There are no significant² resettlement issues anticipated for Tranche 1 sub-projects. Tranche 1 sub-projects will not involve permanent land acquisition. Tranche 1 consists of water supply optimization and sewerage system rehabilitation. For water supply optimization, the replacement of old and damaged pumps will be within existing pumping stations; repair and upgrading of water treatment plants, and creation of water testing laboratories and system control rooms will be within existing water treatment plant compounds; and replacement of clear water reservoirs will be within existing reservoir compounds. The water supply optimization sub-projects will also involve installation of Supervisory Control and Data Acquisition (SCADA) systems for tubewells, leak detection and water audit, Geographic Information System (GIS)-based pipeline network mapping, installation of bulk water meters in pipelines, and procurement of mobile diesel generators, which will not have any land acquisition and resettlement impacts. A sewage treatment plant will be constructed in vacant government land for one sub-project.

3. Resettlement planning undertaken during program preparation shows that for Tranche 1, the main resettlement impacts will be due to rehabilitation and laying of pipe networks. These impacts are temporary. To estimate the temporary impacts, 1-kilometer (km) transect walks for each sub-project were conducted in Dehradun, Haridwar, and Nainital (a total of 4 km). Based on the transect walks and confirmation from Program preparation engineers, there are no expected impacts on permanent structures, trees, and common properties. Impacts are confined to temporary structures placed on rights of way (ROWs). Estimated resettlement impacts based on extrapolations from the transect walks are in Table 1. As these structures are all on ROWs, all affected persons (AP) are non-titled. However, transect walks showed that none of the APs are female heads of households, from scheduled tribes, physically handicapped, or have household incomes below the poverty line. Almost all APs are vendors with temporary kiosks in the ROW. APs will be assisted in moving to the other side of the road

¹ These towns are: Almora, Bageshwar, Bajpur, Barkot, Champawat, Dehradun, Gangotri, Gopeshwar, Haldwani, Haridwar, Jaspur, Joshimath, Kashipur, Kichcha, Kotdwar, Manglore, Mussoorie, Nainital, New Tehri, Pauri, Pithoragarh, Ramnagar, Roorkee, Rudraprayag, Rudrapur, Srinagar, Kedarnath, Badrinath, Sitarganj, Uttarkashi, and Yamunotri.

² Resettlement is significant when 200 or more people experience major "impacts" defined as involving AP being physically displaced from housing and/or having 10% or more of their productive, income generating assets lost.

and returning their structures after construction is completed. Where moving is not required, access will be ensured by the contractor through measures prescribed in bidding documents. The construction period will be minimized and is estimated to be less than 5 days and 20 days per section of work for water supply and sewerage pipelines, respectively.

Table 1: Summary of Temporary Resettlement Impacts for Tranche 1 Sub-projects

Impact	Dehradun Water Supply	Nainital Water Supply	Haridwar Water Supply	Dehradun Sewerage
Permanent Land Acquisition (ha)	0	0	0	0
Temporary Land Acquisition (ha)	0	0	0	0
Temporarily Affected Persons (APs)*	3,086	882	2,355	1,123
Titled APs (Temporarily Affected)	0	0	0	0
Non-titled APs (Temporarily Affected)	3,086	882	2,355	1,123
Female Household Head (AP)	0	0	0	0
IP Household Head (AP)	0	0	0	0
BPL AP	0	0	0	0
Affected Trees/Crops	0	0	0	0
Temporarily Affected Common Structures	0	0	0	0

4. Short resettlement plans (RPs) prepared for Tranche 1 sub-projects provide further details.³ Resettlement impacts are to be further minimized through careful sub-project siting and alignment during detailed design and sub-project implementation. The short RPs for Tranche 1 sub-projects will be used as models for the preparation and implementation of future sub-project RPs consistent with this draft Resettlement Framework (RF).

2. Resettlement Framework

5. The draft RF has been prepared for Program towns. It outlines the objectives, policy principles and procedures for any land acquisition, compensation, and other assistance measures for any APs. It reflects the GOI's laws on land acquisition, and policies on resettlement and rehabilitation; and ADB's Policy on Involuntary Resettlement, 1995. The RF will be reviewed and is subject to revision when each Tranche is prepared. Standards cannot be lowered.

B. Policy and Legal Framework

6. The policy framework and entitlements for the Program are based on national laws: The Land Acquisition Act, 1894 (LAA, amended in 1984) and the National Rehabilitation and Resettlement Policy, 2007 (NRRP); and ADB's Policy on Involuntary Resettlement, 1995. The salient features of Government and ADB policies are summarized below.

1. Government Policy

a. National Rehabilitation and Resettlement Policy, 2007

7. The NRRP stipulates the minimum facilities to be ensured for persons displaced due to the acquisition of land for public purposes. The objectives of the Policy are:

- (i) to minimize displacement and to identify non-displacing or least displacing alternatives;

³ The sample sub-projects are in (i) Dehradun, (ii) Haridwar, and (iii) Nainital.

- (ii) to plan resettlement and rehabilitation of project affected families (PAFs) or project affected households (PAHs), including tribal and vulnerable households;
- (iii) to provide improved standard of living to PAFs or PAHs; and
- (iv) to facilitate a harmonious relationship between the requiring body and PAFs.

8. Though NRRP is applicable for projects where over 400 PAFs in the plains or 200 PAFs in hilly or tribal areas are displaced, the basic principles can be applied to resettling and rehabilitating PAFs regardless of the number affected. NRRP's provisions are intended to mitigate adverse impacts on PAFs. While key principles of NRRP are similar, and for some items go beyond ADB's Policy on Involuntary Resettlement (1995), NRRP excludes linear projects (which acquire only narrow strips of land). Linear impacts and temporary linear impacts (which is the likely impact of the Program) are not covered by NRRP. Further, there is no law on resettlement in the country. The law relating to the acquisition of privately owned immovable property is the Land Acquisition Act of 1894 (LAA, amended 1984) discussed in the following section.

b. Land Acquisition Act, 1894 amended 1984

9. The LAA provides a framework for facilitating land acquisition in India. LAA enables the State Government to acquire private land for public purposes. LAA ensures that no person is deprived of land except under LAA and entitles APs to a hearing before acquisition. The main elements of LAA are:

- (i) Land identified for the purpose of a project is placed under Section 4 of the LAA. This constitutes notification. Objections must be made within 50 days to the District Collector (DC, the highest administrative officer of the concerned District).
- (ii) The land is then placed under Section 6 of the LAA. This is a declaration that the Government intends to acquire the land. The DC is directed to take steps for the acquisition, and the land is placed under Section 9. Interested parties are then invited to state their interest in the land and the price. Under Section 11, the DC will make an award within 1 year of the date of publication of the declarations. Otherwise, the acquisition proceedings shall lapse.
- (iii) In case of disagreement on the price awarded, within 6 weeks of the award, the parties (under Section 18) can request the DC to refer the matter to the Courts to make a final ruling on the amount of compensation.
- (iv) Once the land has been placed under Section 4, no further sale or transfer is allowed.
- (v) Compensation for land and improvements (such as houses, wells, trees, etc.) is paid in cash by the project authorities to the State Government, which in turn compensates landowners.
- (vi) The price to be paid for the acquisition of agricultural land is based on sale prices recorded in the District Registrar's office averaged over the 3 years preceding notification under Section 4. The compensation is paid after the area is acquired, with actual payment by the State taking about 2 or 3 years. An additional 30% is added to the award as well as an escalation of 12% per year from the date of notification to the final placement under Section 9. For delayed payments, after placement under Section 9, an additional 9% per annum is paid for the first year and 15% for subsequent years.

2. ADB's Policy on Involuntary Resettlement, 1995

10. The three important elements of ADB's involuntary resettlement policy are (i) compensation to replace lost assets, livelihood, and income; (ii) assistance for relocation, including provision of relocation sites with appropriate facilities and services; and (iii) assistance for rehabilitation to achieve at least the same level of well-being with the project as without it.

11. For any ADB operation requiring involuntary resettlement, resettlement planning is an integral part of project design, to be dealt with from the earliest stages of the project cycle, taking into account the following basic principles:

- (i) Involuntary resettlement will be avoided whenever feasible.
- (ii) Where population displacement is unavoidable, it should be minimized.
- (iii) All lost assets acquired or affected will be compensated. Compensation is based on the principle of replacement cost.
- (iv) Each involuntary resettlement is conceived and executed as part of a development project or program. APs need to be provided with sufficient resources to re-establish their livelihoods and homes with time-bound action in coordination with civil works.
- (v) APs are to be fully informed and closely consulted.
- (vi) APs are to be assisted to integrate economically and socially into host communities so that adverse impacts on the host communities are minimized and social harmony is promoted.
- (vii) The absence of a formal title to land is not a bar to ADB policy entitlements.
- (viii) APs are to be identified and recorded as early as possible to establish their eligibility, through a census which serves as a cut-off date, and prevents subsequent influx of encroachers.
- (ix) Particular attention will be paid to vulnerable groups including those without legal title to land or other assets; households headed by women; the elderly or disabled; and indigenous groups. Assistance must be provided to help them improve their socio-economic status.
- (x) The full resettlement costs will be included in the presentation of project costs and benefits.

C. Comparison of Borrower's Policy with the RF

12. The NRRP represents a significant milestone in the development of a systematic approach to address resettlement issues in India (see para 7). LAA, 1894 however gives directives for acquisition of land in public interest and provides benefits only to titleholders.

D. Resettlement Framework Principles and Entitlements

13. Based on the Government's laws on land acquisition laws, and policies on resettlement and rehabilitation; and ADB's Policy on Involuntary Resettlement, 1995, core involuntary resettlement principles for the Program to be followed for each sub-project, including sample sub-projects are: (i) land acquisition, and other involuntary resettlement impacts will be avoided or minimized exploring all viable alternative sub-project designs; (ii) where unavoidable, time-bound resettlement plans (RPs) will be prepared and APs will be assisted in improving or at least regaining their pre-program standard of living; (iii) full information and close consultations with APs including consultation with APs on compensation, disclosure of resettlement information to APs, and participation of APs in planning and implementing sub-projects will be ensured; (iv) vulnerable groups will be provided special assistance;⁴ (v) payment of

⁴ Including poor households, households headed by women, the elderly, the physically handicapped, and scheduled tribes considered vulnerable based on the Indigenous Peoples Development Framework (IPDF).

compensation to APs including non-titled persons (e.g., informal dwellers/squatters, and encroachers) for acquired assets at replacement rates; (vi) payment of compensation and resettlement assistance prior to the contractor taking physical acquisition of the land and prior to the commencement of any construction activities; (vii) provision of income restoration and rehabilitation; and (viii) establishment of appropriate grievance redress mechanisms.

14. The Program's sub-projects will broadly have three types of potential impacts that will require mitigation measures. The types of impacts are (i) loss of assets, including land and structures; (ii) loss of income or livelihood; and, (iii) collective impacts on groups, such as loss of common property resources and loss of access or limited access to such resources. Every effort will be made during the preparation of detailed design to minimize acquisition of land and other assets and to reduce any involuntary resettlement impacts. Unforeseen impacts, including relocation⁵, will also be compensated and addressed in accordance with the principles of this RF.

15. A detailed description of each compensation measure and assistance is provided in the entitlement matrix (Table 2). APs will be entitled to a combination of compensation measures and resettlement assistance, depending on the nature of ownership rights of lost assets and scope of the impact, including social and economic vulnerability of the APs.

⁵ Should relocation be required, consultations will be carried out with APs in terms of the choice of their relocation options. APs requiring relocation of residential or commercial structures will be assisted by the IPMU in identifying sites that minimizes social disruption and have access to similar services and facilities. Tenant APs will be assisted by the IPMU in finding suitable rental accommodations.

Table 2: Entitlement Matrix

	Type of Loss	Application	Definition of Entitled Person	Compensation Policy	Implementation Issues	Responsible Agency
1	Loss of private land	Agricultural land, homestead land or vacant plot	Legal titleholders	<ul style="list-style-type: none"> • Compensation at replacement value or land-for-land where feasible.⁶ If land-for-land is offered, titles will be in the name of original landowners. Joint titles in the name of husband and wife will be offered in the case of married APs. • Fees, taxes, and other charges related to replacement land (applicable to all parcels of replacement land, which totals the equivalent area of land acquired, if parcels of non-contiguous land are bought due to the unavailability of one contiguous parcel). • Shifting assistance⁷ for households. • Notice to harvest standing seasonal crops and compensation in item 6. Additional compensation for vulnerable households⁸ (item 7). 	<ul style="list-style-type: none"> • Fees, taxes, and other charges will be limited to those for land purchased within a year of compensation payment and for land of equivalent size. • Vulnerable households will be identified during the census. 	The Valuation Committee will determine replacement value. IPMU will ensure provision of notice. NGO will verify the extent of impacts through a 100% survey of APs, determine assistance, and identify vulnerable households.
1-a	Loss of private land	Agricultural land, homestead land or vacant plot	Tenants and leaseholders (whether having written tenancy/lease documents or not)	<ul style="list-style-type: none"> • Compensation for rental deposit or unexpired lease. • Shifting assistance for households. • Notice to harvest standing seasonal crops and compensation in item 6. Additional compensation for vulnerable households. 	<ul style="list-style-type: none"> • Land owners will reimburse tenants and leaseholders land rental deposit or unexpired lease • Vulnerable households will be identified during the census. 	NGO will confirm land rental and ensure tenants and leaseholders receive reimbursement for land rental deposit or unexpired lease, and report to IPMU. IPMU will ensure provision of notice.

⁶ Including option for compensation for non-viable residual portions.

⁷ To be provided to APs relocating to a new AP-determined site. This will be equivalent to one day hire charges for a truck, including shifting within a radius of 50km (estimated as Rs 2,500).

⁸ Vulnerable households may include female-headed household, physically handicapped-headed household, scheduled tribe-headed households, and Below Poverty Line households.

Type of Loss	Application	Definition of Entitled Person	Compensation Policy	Implementation Issues	Responsible Agency
1-b Loss of private land	Agricultural land	Sharecroppers	<ul style="list-style-type: none"> Notice to harvest standing seasonal crops and compensation in item 6. Additional compensation for vulnerable households. 	<ul style="list-style-type: none"> Harvesting prior to acquisition will be accommodated to the extent possible. Work schedule will avoid harvest season. Vulnerable households will be identified during the census. 	IPMU will ensure provision of notice. NGO will identify vulnerable households.
1-c Loss of private land	Agricultural land, homestead land or vacant plot	Encroachers and Squatters ⁹	<ul style="list-style-type: none"> 60 days advance notice to shift from encroached land. Notice to harvest standing seasonal crops and compensation in item 6. Additional compensation for vulnerable households. 	<ul style="list-style-type: none"> Vulnerable households will be identified during the census. 	IPMU will ensure provision of notice. NGO will identify vulnerable households.
2 Loss of Government land	Vacant plot, Agricultural land, homestead land	Leaseholders	<ul style="list-style-type: none"> Reimbursement of unexpired lease. Shifting assistance for households. Notice to harvest standing seasonal crops and compensation in item 6. Additional compensation for vulnerable households. 	<ul style="list-style-type: none"> Vulnerable households will be identified during the census. 	IPMU will ensure provision of notice. NGO will identify vulnerable households.
2-a Loss of Government land	Vacant plot, Agricultural land, homestead land, RoW of road	Encroachers	<ul style="list-style-type: none"> 60 days advance notice to shift from encroached land. Notice to harvest standing seasonal crops and compensation in item 6. Additional compensation for vulnerable households. 	<ul style="list-style-type: none"> Vulnerable households will be identified during the census. 	IPMU will ensure provision of notice. NGO will identify vulnerable households.
2-b Loss of Government land	Vacant plot, Agricultural land, homestead land, RoW of road	Squatters	<ul style="list-style-type: none"> 60 days advance notice to shift from occupied land. Notice to harvest standing seasonal crops and compensation in item 6. Additional compensation for vulnerable households. 	<ul style="list-style-type: none"> Vulnerable households will be identified during the census. 	IPMU will ensure provision of notice. NGO will identify vulnerable households.
3 Loss of residential structure	Residential structure and other assets ¹⁰	Legal titleholders	<ul style="list-style-type: none"> Replacement value of the structure and other assets (or part of the structure and other assets, if remainder is viable). Fees, taxes, and other charges 	<ul style="list-style-type: none"> Vulnerable households will be identified during the census. 	Valuation committee will verify replacement value. NGO will verify the extent of impacts through a 100% survey of AHs determine

⁹ Encroachers are those who build a structure which is in whole or is part of an adjacent property to which he/she has no title. Squatters are those who have no recognizable rights on the land that they are occupying.

¹⁰ Other assets include, but is not limited to walls, fences, sheds, wells, etc. Detailed entitlements will be finalized after detailed measurement survey when all impacts are known and all impacts will be mitigated with appropriate compensation based on ADB's Policy on Involuntary Resettlement, 1995.

Type of Loss	Application	Definition of Entitled Person	Compensation Policy	Implementation Issues	Responsible Agency
			<ul style="list-style-type: none"> related to replacement structure. Shifting assistance for households. Right to salvage materials from structure and other assets with no deductions from replacement value. Additional compensation for vulnerable households. 		assistance, verify and identify vulnerable households.
3-a	Residential structure and other assets	Tenants and leaseholders	<ul style="list-style-type: none"> Replacement value of the structure and other assets (or part of the structure and other assets, if remainder is viable) constructed by the AP. Compensation for rental deposit or unexpired lease. Shifting assistance for households. Right to salvage materials from structure and other assets with no deductions from replacement value. Additional compensation for vulnerable households. 	<ul style="list-style-type: none"> Land/structure owners will reimburse tenants and leaseholders rental deposit or unexpired lease. Vulnerable households will be identified during the census. 	Valuation committee will verify replacement value. NGO will verify the extent of impacts through a 100% survey of AHs determine assistance, verify and identify vulnerable households.
3-b	Residential structure and other assets	Encroachers and squatters	<ul style="list-style-type: none"> Replacement value of the structure and other assets (or part of the structure and other assets, if remainder is viable) constructed by the AP. 60 days advance notice to shift from occupied land Shifting assistance for households. Right to salvage materials from structure and other assets with no deductions from replacement value. Additional compensation for vulnerable households. 	<ul style="list-style-type: none"> Vulnerable households will be identified during the census. 	NGO will verify the extent of impacts through a 100% survey of AHs determine assistance, verify and identify vulnerable households.
4	Commercial structure and other assets ¹¹	Legal titleholders	<ul style="list-style-type: none"> Replacement value of the structure and other assets (or part of the structure and other assets, if remainder is viable). Fees, taxes, and other charges related to replacement structure. Shifting assistance for households. 	<ul style="list-style-type: none"> Vulnerable households will be identified during the census. 	Valuation committee will determine replacement value. NGO will verify the extent of impacts through a 100% survey of AHs determine assistance, verify and identify vulnerable households.

¹¹ Detailed entitlements will be finalized after detailed measurement survey when all impacts are known and all impacts will be mitigated with appropriate compensation based on ADB's Policy on *Involuntary Resettlement*, 1995.

Type of Loss	Application	Definition of Entitled Person	Compensation Policy	Implementation Issues	Responsible Agency
4-a	Commercial structure and other assets	Tenants and leaseholders	<ul style="list-style-type: none"> • Right to salvage materials from structure and other assets with no deductions from replacement value. • Additional compensation for vulnerable households. • Replacement value of the structure and other assets (or part of the structure and other assets, if remainder is viable) constructed by the AP. • Compensation for rental deposit or unexpired lease. • Shifting assistance for households. • Right to salvage materials from structure and other assets with no deductions from replacement value. • Additional compensation for vulnerable households. 	<ul style="list-style-type: none"> • Land/structure owners will reimburse tenants and leaseholders land rental deposit or unexpired lease. • Vulnerable households will be identified during the census. 	Valuation committee will determine replacement value. NGO will verify the extent of impacts through a 100% survey of AHs determine assistance, verify and identify vulnerable households.
4-b	Commercial structure and other assets	Encroachers and squatters	<ul style="list-style-type: none"> • Replacement value of the structure and other assets (or part of the structure and other assets, if remainder is viable) constructed by the AP. 60 days advance notice to shift from occupied land • Shifting assistance for households. • Right to salvage materials from structure and other assets with no deductions from replacement value. • Additional compensation for vulnerable households. 	<ul style="list-style-type: none"> • Vulnerable households will be identified during the census. 	NGO will verify the extent of impacts through a 100% survey of AHs determine assistance, verify and identify vulnerable households.
5	Livelihood	Legal titleholder/tenant/leaseholder /non-titled/employee of commercial structure, farmer/agricultural worker	<ul style="list-style-type: none"> • Transitional allowance.¹² • Income restoration and training.¹³ • Additional compensation for vulnerable households. • Consideration for project employment. 	<ul style="list-style-type: none"> • Vulnerable households will be identified during the census. 	NGO will verify the extent of impacts through a 100% survey of AHs determine assistance, verify and identify vulnerable households.

¹² To be provided for APs whose livelihood is affected by the Project. The transitional allowance will cover the period of transition and comply with established minimum wage standards in the respective towns/cities in the case of wage-earning APs and incomes earned in the case of non-wage earning APs.

¹³ Refer to Section H item 2.

	Type of Loss	Application	Definition of Entitled Person	Compensation Policy	Implementation Issues	Responsible Agency
6	Loss of trees and crops	Standing trees and crops	Legal titleholder/tenant/leaseholder/sharecropper/non-titled AP	<ul style="list-style-type: none"> • Notice to harvest standing seasonal crops and compensation for crops (or share of crop for sharecroppers) based on an annual crop cycle at market value. • If notice cannot be provided, compensation for standing crop (or share of crop for sharecroppers) at market value • Compensation for trees based on timber value at market price, and compensation for perennial crops and fruit trees at annual net product market value multiplied by remaining productive years; to be determined in consultation with the Forest Department for timber trees and the Horticulture Department for other trees/crops. 	<ul style="list-style-type: none"> • Harvesting prior to acquisition will be accommodated to the extent possible. • Work schedules will avoid harvest season. • Market value of trees/crops has to be determined. 	IPMU will ensure provision of notice. Valuation Committee will undertake valuation of standing crops, perennial crops and trees, and finalize compensation rates in consultation with APs.
7	Impacts on vulnerable APs	All impacts	Vulnerable APs	<ul style="list-style-type: none"> • Land. Further to item 1, in case of total loss of land, and a total dependency on agriculture, land-for-land compensation. Titles will be in the name of original occupants. Joint titles in the name of husband and wife will be offered in the case of married APs. • Government land. Further to Item 2, provision for skills training for displaced APs. • Residential structure. Further to Item 3, in case of total loss of structure, additional shifting allowance. • Commercial structure. Further to item 4, in case of total loss of business, support to reestablish business for vulnerable households. • Livelihood. Vulnerable households will be given priority in project construction employment and provided with income restoration support. 	<ul style="list-style-type: none"> • Vulnerable households will be identified during the census. 	NGO will verify the extent of impacts through a 100% surveys of AHs determine assistance, verify and identify vulnerable households.

Type of Loss	Application	Definition of Entitled Person	Compensation Policy	Implementation Issues	Responsible Agency
8 Temporary loss of land	Land temporarily required for sub-project construction	Legal titleholders, non-titled APs	<ul style="list-style-type: none"> Provision of rent for period of occupation for legal titleholders. Compensation for assets lost at replacement value, and trees and crop loss in accordance with item 6. Restoration of land to previous or better quality. 	<ul style="list-style-type: none"> Assessment of impacts if any on structures, assets, crops and trees due to temporary occupation. Site restoration. 	Valuation Committee will determine rental value and duration of construction survey and consultation with APs. A pre-sub-project photograph to be made by the NGO. IPMU will ensure compensation is paid prior to site being taken-over by contractor. Contractor will be responsible for site restoration.
9 Temporary disruption of livelihood		Legal titleholders, non-titled APs	<ul style="list-style-type: none"> 30 days advance notice regarding construction activities, including duration and type of disruption. Contractor's actions to ensure there is no income/access loss consistent with the IEE.¹⁴ Assistance to mobile vendors/hawkers to temporarily shift for continued economic activity.¹⁵ For construction activities involving unavoidable livelihood disruption, compensation for lost income or a transitional allowance for the period of disruption whichever is greater. 	<ul style="list-style-type: none"> Identification of alternative temporary sites to continue economic activity. 	Valuation Committee will determine income lost. Contractors will perform actions to minimize income/access loss.
10 Loss and temporary impacts on common resources	Common resources	Communities	<ul style="list-style-type: none"> Replacement or restoration of the affected community facilities – including public water stand posts, public utility posts, temples, shrines, etc. 	-	IPMU and Contractor.
11 Any other loss not identified	-	-	<ul style="list-style-type: none"> Unanticipated involuntary impacts will be documented and mitigated based on ADB's <i>Policy on Involuntary Resettlement</i>, 1995. 	-	NGO will ascertain the nature and extent of such loss. IPMU will finalize the entitlements in line with ADB's <i>Policy on Involuntary Resettlement</i> , 1995.

¹⁴ This includes: leaving spaces for access between mounds of soil, providing walkways and metal sheets to maintain access across trenches for people and vehicles where required, increased workforces to finish work in areas with impacts on access, timing of works to reduce disruption during business hours, phased construction schedule and working one segment at a time and one side of the road at a time.

¹⁵ For example assistance to shift to the other side of the road where there is no construction.

E. Resettlement Plan Preparation

1. Surveys

16. Social impact assessment (SIA) surveys will be undertaken in each sub-project. The Investment Program Implementation Units (IPIUs) through its Design and Supervision Consultants (DSC) who will include a Resettlement Specialist (RS) will undertake surveys for each identified sub-project, based on preliminary technical design. The IPIUs will be guided by the Investment Program Management Unit (IPMU) which will have a Social Development Specialist (SDS) in its Environment and Social Management and Social Cell (ESMC) and a Resettlement Specialist as part of its Project Management Consultants (PMC). The SIA will determine the magnitude of displacement and prospective losses, identify vulnerable groups for targeting, ascertain costs of resettlement, and prepare a resettlement plan for implementation. The SIA surveys will comprise:

- (i) **Census.** The purpose of the census is to register and document the status of potentially affected persons¹⁶ within the sub-project impact area. The census will cover 100% of APs. The census will provide a demographic overview of the population, and will cover people's assets and main sources of livelihood.
- (ii) **Baseline Socio-economic Sample Survey.** The purpose of the baseline socioeconomic sample survey is to establish monitoring and evaluation parameters. It will be used as a benchmark for monitoring the socio-economic status of APs. The survey will cover 10% of APs and 20% of significantly affected persons.¹⁷ The survey will also collect gender-disaggregated data to address gender issues in resettlement. The survey will carry out the following: (i) preparation of accurate maps of the sub-project area; and (ii) analysis of social structures and income resources of the population.

2. Resettlement Plan

17. The RP will be prepared based on the results of the census and from information drawn from the baseline socio-economic sample survey; the database on APs should be completed before RP preparation. RP preparation will be governed by the involuntary resettlement impacts identified during the census, and shall be based on the following criteria:

- (i) If involuntary resettlement impacts are found to be significant, a full RP will be prepared for the sub-project in consultation with APs. Resettlement is significant when 200 or more people experience major "impacts" defined as involving AP being physically displaced from housing and/or having 10% or more of their productive, income generating assets lost.
- (ii) If involuntary resettlement impacts are not significant, a short RP will be prepared for the sub-project in consultation with APs.

18. All RPs will be reviewed and approved by ADB prior to the award of any contracts related to the sub-project.

¹⁶ The potentially affected persons will include both the titleholders and the non-titleholders within the sub-project construction zone. The identification of non-titleholders will be based on legal documents, such as the ration card, voter's list etc. In the absence of any supporting legal documents, information from the community will be considered.

¹⁷ Resettlement is significant when 200 or more people experience major "impacts" defined as involving AP being physically displaced from housing and/or having 10% or more of their productive, income generating assets lost.

19. The RP will be prepared by the DSC RS (IPIU). The RP will be prepared in consultation with APs, local representatives, and NGOs. Resettlement issues will be coordinated by the ESMC SDS, who will ensure that all sub-projects comply with involuntary resettlement safeguards. The PMC RS will assist the SDS.

20. The draft RP will be shared with APs and host communities, and revised to reflect their views. This will be done through the local NGO engaged to implement the RP. The RP will be prepared in local language or translated and disclosed to APs and the public through posters and/or resettlement information handouts. The completed RP based on detailed design and the detailed measurement survey will include the census of APs, and their entitlements to restore losses, institutional mechanisms and schedules, budgets, assessment of feasible income restoration mechanisms, grievance redress mechanisms, and participatory results monitoring mechanisms. The RP should be broadly structured in the following manner:

- (i) Scope of Land Acquisition and Resettlement
- (ii) Socio-economic Information
- (iii) Objectives, Policy Framework, and Entitlements
- (iv) Gender Impact and Mitigative Measures
- (v) Information Dissemination, Consultation, Participatory Approaches, and Disclosure Requirements
- (vi) Grievance Redress Mechanisms
- (vii) Relocation of Housing and Settlements
- (viii) Compensation, Relocation, and Income and Livelihood Restoration
- (ix) Institutional Framework
- (x) Resettlement Budget and Financing
- (xi) Implementation Schedule
- (xii) Monitoring and Evaluation Procedures

3. Gender Impacts and Mitigation Measures

21. Any negative impacts of a sub-project on female-headed households will be taken up on a case-to-case basis and assistance to these households will be treated on a priority basis. The RP will formulate measures to ensure that socio-economic conditions, needs, and priorities of women are identified and the process of land acquisition and resettlement does not disadvantage women. The RP will ensure that gender impacts are adequately addressed and mitigated. Women's focus groups discussions will be conducted to address specific women's issues. During disbursement of compensation and provision of assistance, priority will be given to female-headed households. Joint ownership in the name of husband and wife will be provided in cases of non-female-headed households.

F. Consultation and Disclosure

1. Consultation

22. A range of formal and informal consultative methods will be carried out for future sub-projects including, but not limited to: focus group discussions (FGDs), public meetings, community discussions, and in-depth and key informant interviews; in addition to the censuses and socio-economic surveys. Consultations will be held with special emphasis on vulnerable groups. Encouraging public participation in consultations informs the public of the Program and serves as a venue for the public to express their opinion on priorities which the Program should address.

23. The key stakeholders to be consulted during sub-project preparation, RP implementation, and program implementation includes:

- (i) all APs, including vulnerable households;
- (ii) program beneficiaries;
- (iii) host populations in resettlement sites (if any);
- (iv) elected representatives, community leaders, and representatives of community-based organizations;
- (v) local NGOs;
- (vi) local government and relevant government agency representatives; and
- (vii) Program staff, IPMU, IPIU, and consultants.

24. Consultations with APs during RP preparation will ensure that views of APs on compensation and resettlement assistance measures are fully incorporated while consultations conducted during RP implementation will identify help required by APs during rehabilitation.

25. Continuing involvement of those affected by sub-projects is necessary in the resettlement process. The IPIU will ensure that APs and other stakeholders are informed and consulted about the sub-project, its impact, their entitlements and options, and allowed to participate actively in the development of the sub-project. This will be done particularly in the case of vulnerable APs, who will be encouraged to choose options that entail the lowest risk. This exercise will be conducted throughout the sub-project—during preparation, implementation, and monitoring of sub-project results and impacts.

26. The implementing NGOs will ensure that views of APs, particularly those who are vulnerable, related to the resettlement process are looked into and addressed. The NGOs will ensure that APs consulted are informed of the outcome of the decision-making process, and will confirm how their views were incorporated. Since resettlement is a continuous process and baseline data/information will be collected, the implementing NGO will regularly update the baseline information.

2. Disclosure

27. Information was and continues to be disseminated to APs for Tranche 1 sub-projects. The RF and sub-project RPs will be made available in relevant government agencies in each towns, and IPIU and IPMU offices. The RF and sample sub-project RPs will be disclosed in ADB's website and the IPMU websites. Finalized RPs will also be disclosed in ADB's website, IPMU websites, and IPIU or town websites; and information dissemination and consultation will continue throughout program implementation.

28. For future sub-projects, information will be disseminated to APs at various stages. In the initial stage, the IPMU will be responsible for issuing public notices to acquire land required for sub-projects disclosing the cut-off dates and providing Program information. The notice and cut-off dates will be published in local newspapers, twice with a one week interval. The DSC RS will conduct consultations and disseminate information to all APs. RPs will be translated into the local language and made available at offices of the: (i) Urban Local Bodies (ULBs); (ii) relevant local government line agencies; and (iii) IPMU and IPIUs. RPs will also be kept in public libraries, accessible to citizens as a means to disclose the document and at the same time create wider public awareness.

29. The RF and RPs will be disclosed in the following websites: IPMU, IPIU, State Government, local government, and ADB. The IPMU will issue notification of implementation start dates for each sub-project. The notice will be issued by the IPMU in local newspapers 1 month ahead of implementation. This will create awareness of project implementation. The IPMU and IPIUs will provide information on IR policies and features of the RP. Basic information such as sub-project location, impact estimates, entitlements, and implementation schedule will be presented in the form of a brochure that will be circulated among APs. Posters containing basic RP information will also be posted in different localities to increase awareness. Copies of RP summaries will be kept in the IPMU and IPIU offices and will be distributed to any AP consulting on resettlement issues. The RF will be made available in local language during public meetings. This will enable stakeholders to provide inputs on the resettlement process, prior to award of civil work contracts.

30. An intensive information dissemination campaign for APs will be conducted by the IPIU with assistance from the implementing NGO at the outset of RP implementation. All the comments made by the APs will be documented in the sub-project records and summarized in sub-project monitoring reports. A summary of consultation and disclosure activities to be followed for each sub-project is in Table 3.

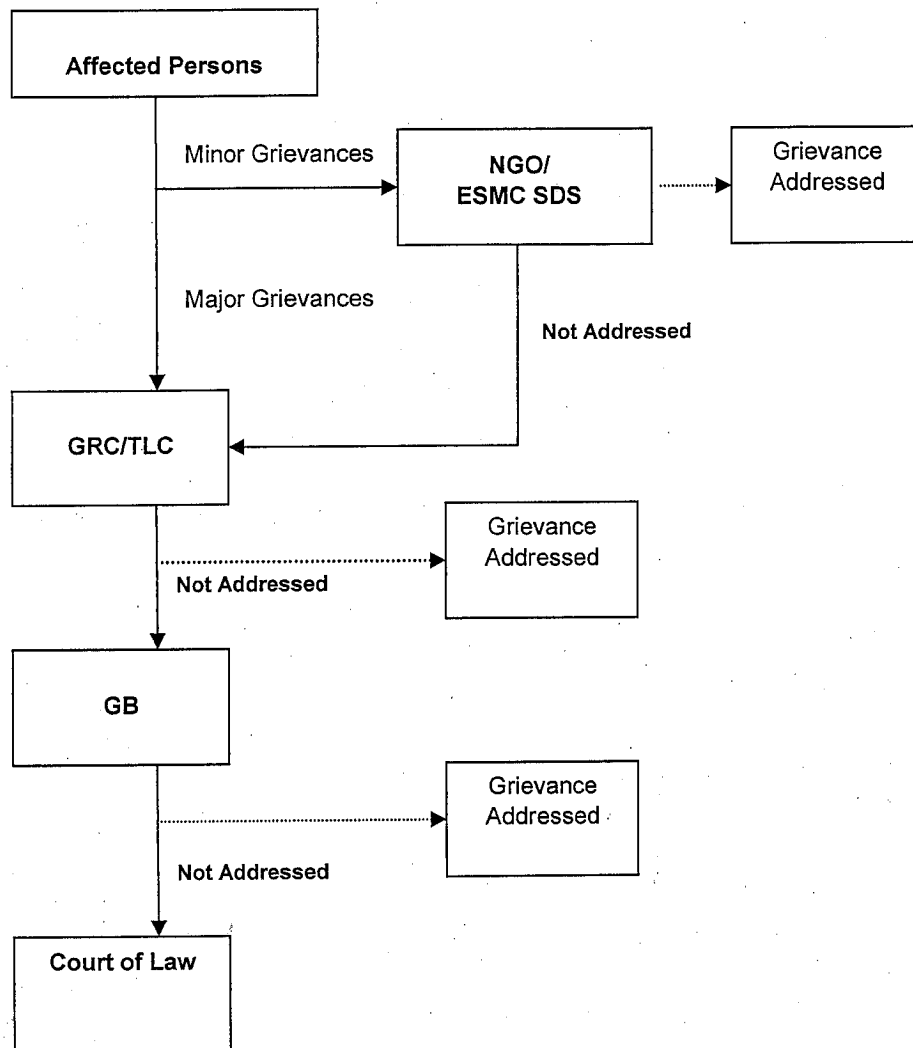
Table 3: Consultation and Disclosure Activities

Program Phase	Activities	Details	Responsible Agency
Investment Program Bridging Phase	Mapping of the program areas	Area to be mapped, clearly showing survey numbers of titleholders of land/property proposed for acquisition.	IPMU ESMC in coordination with DC's offices and other local bodies.
	Stakeholder identification	Cross section of stakeholders to be identified in order to facilitate their participation in the Program.	IPMU and IPIUs in consultation with stakeholders.
	Program/sub-project information dissemination; Disclosure of proposed land acquisition	Leaflets containing information on the Program and sub-project to be prepared. Public notice issued in local newspapers (and disclosed on IPMU/IPIU websites) including survey numbers and names of titleholders for land to be acquired concurrent with consultation with titleholders.	ESMC SDS and DSC RS. Notice will be issued from the DC's office. ESMC SDS and DSC RS to disclose on the web.
	Stakeholder consultations	Further consultations with affected titleholders and households. Consultations with non-titled APs and other stakeholders during sub-project scoping.	DSC RS and NGO.
RP Preparation Phase	SIA surveys	Surveys to be conducted. Summary RF to be disclosed in local language through printed materials to APs particularly those who are vulnerable and other stakeholders.	IPIU through DSC RS to conduct surveys. DSC RS to disclose RF to stakeholders (including making it available in IPMU/IPIU offices and government agency offices), ESMC SDS to disclose on the web.
	Formulating compensation and resettlement assistance measures	Conducting stakeholder consultations particularly APs in and reflecting issues raised in revised RP.	DSC RS and NGO.

Program Phase	Activities	Details	Responsible Agency
	Disclosure of final entitlements and rehabilitation packages	Provision of RPs to all stakeholders particularly APs. Conducting consultations and distributing local language versions of the summary RP.	ESMC SDS and DSC RS to disclose on the web. RS of DSC and NGO to conduct consultations.
RP Implementation Stage	Disclosure of RP	Review and approval of RP by EA. Review and approval of RP by ADB. Web disclosure of the RP.	EA to provide ADB with RP for review and approval. ESMC SDS to disclose on the web.
	Consultation with APs during RP implementation	Consultations with APs.	NGO with monitoring from IPIU/IPMU and external agency.

G. Complaints and Grievance

31. Each RP will detail specific grievance redress mechanisms. Grievances of APs will first be brought to the attention of the implementing NGO or ESMC SDS. Grievances not redressed by the NGO will be brought to the Town Level Committees (TLC) set up to monitor project implementation in each town. The TLC, acting as a grievance redress committee (GRC) is chaired by the Mayors or Chairpersons with representatives ward members, the district magistrate, collector, commissioner, special area development authority, UPJN, UJS, PWD, business, and civil society. As a GRC, the TLC will meet every month (if grievances are brought to the Committee), determine the merit of each grievance, and resolve grievances within a month of receiving the complaint—failing which the grievance will be addressed by the General Body. The General Body consists of the Chief Secretary as its chairman and the secretaries of the relevant GOU departments and representatives of ULBs and NGOs as its members. Further grievances will be referred by APs to the appropriate courts of law. Records will be kept of all grievances received including: contact details of complainant, date the complaint was received, nature of grievance, agreed corrective actions and the date these were effected, and final outcome. The grievance redress process is shown in Figure 1.

Figure 1: Grievance Redress Process

32. All costs involved in resolving the complaints will be borne by the IPMU. The GRCs will continue to function throughout the project duration.

H. Compensation, Income Restoration, and Assistance

1. Compensation

33. Land acquisition and resettlement impacts will be compensated in accordance with the entitlement matrix (Table 1). Loss of assets will be at replacement cost. A Valuation Committee (VC) will be constituted comprising Land Acquisition Officers, Accounts Officers of the Collectorate, IPIU representative, APs, and nongovernment organizations (NGO) to determine replacement values.

34. The replacement value for land will be determined by the VC in consultation with APs and the TLCs. The VC will finalize the replacement value by undertaking a land market survey

with the objective of ascertaining prevailing market values¹⁸ of land. Vulnerable households will be provided additional assistance in the form of land-for-land replacement options. The VC will facilitate the valuation of immovable properties,¹⁹ including structures and assets, as follows:

- (i) **Residential and Commercial Structures.** The replacement value of structures and other immovable properties will be finalized by the VC through verification that the Basic Schedule of Rates (BSR) published for the State is up to date. If the BSR is not up to date, the VC will undertake a market survey to determine replacement value.
- (ii) **Trees and Crops.** Compensation for trees will also be based on the current market value of timber for timber trees, the annual net product market value multiplied by remaining productive years for perennial crops and fruit trees, and the market value of standing crops. These values will be finalized by the VC in consultation with the Department of Forest, Horticulture, and/or Agriculture.
- (iii) **Other Assets.** Compensation for assets such as (wells, irrigation units, etc.) will be based on replacement value. The VC will estimate this through detailed market surveys.

35. Compensation and assistance to APs must be made prior to possession of land/assets and prior to the award of civil works contracts.²⁰

2. Income Restoration

36. Income restoration schemes will be designed in consultation with APs. The strategy for income restoration will be prepared prior to land acquisition. Based on the information collected from the census and the socio-economic surveys, income restoration strategies will be framed and activities planned. The DSC RS will consider the resource base of APs and their socio-economic characteristics and preferences to develop appropriate income restoration schemes.

37. The objective of income restoration is to ensure that each AP will have at least the same or improved income after the sub-project. The implementing NGO will identify the number of eligible APs based on the census of APs and will conduct a training needs assessment in consultations with the APs. The implementing NGO will examine local employment opportunities and produce a list of possible income restoration options. Suitable trainers or local resources will be identified by the local NGO in consultation with local training institutes.

38. The Program will provide short-term income restoration activities intended to restore AP incomes in the period immediately before and after relocation focusing on relocation, and providing short-term allowances such as (i) transitional allowance and (ii) shifting assistance. Medium-term income restoration activities such as provision of longer-term training will also be

¹⁸ The prevailing market values are influenced by various factors such as location of land, connectivity, and classification/land use, type of soil, crops grown, available irrigation and other facilities, and other plus and minus points such as frontage to road, proximity to developed areas, regularity of shape, unevenness of land, etc.

¹⁹ Vulnerable households will be provided additional assistance in the form of preference for employment in sub-project construction activities, and skills training.

²⁰ The APs will hand over land and properties acquired free from all encumbrances such as mortgage, debt, etc. after compensation. However, in case there are loans on acquired land and properties such amounts will be deducted from the total compensation. The acquired land and properties shall vest in the Competent Authority paying compensation for such lands/properties. If the Competent Authority fails to pay decided compensation to APs within a year after the date of notification, additional amount by way of interest (12 %) will apply on final compensation payable to each AP, unless and except in cases where the AP has approached the judiciary for grievance redress.

provided. Longer-term training will be developed based on the degree of disruption to livelihood activities. These will be derived from detailed socio-economic survey information, conducted as a part of the RP. The time frame will be decided based on training to be provided, and will also be outlined in the RP. The RP budget will reflect the cost of providing training. The ESMC will also facilitate AP access to Government schemes that could help them to restore income and livelihood.

39. Key steps to be undertaken in livelihood skills training by the implementing NGO for vulnerable households are:

- (i) Identification of affected, vulnerable households through the census and socio-economic survey of APs;
- (ii) Identification of potential trainees and training needs assessment for vulnerable households, which would require a detailed survey and assessment of the literacy, educational level, and/or skill sets of one member of the household nominated for skill training. The needs assessment will also document income from various sources, assets, resources, and coping strategies currently used by the household. The strategy will improve/maximize returns from present occupation of the principal earning member or introduce a new/supplementary occupation aimed at achieving the right mix of activities in order to enable the household to improve/maintain its living standards. Baseline details will be documented for post-training impact assessment.
- (iii) Identification of requirements for credit support and assistance in accessing employment.
- (iv) Identification of local trainers, resource persons or training institutes by the NGO. A maximum time frame of 3 months is planned for training.
- (v) Internal monitoring of training and submission of progress reports.
- (vi) Post-training impact assessment will be conducted by an external agency engaged for external monitoring, 1 year after project implementation. Indicators would be developed during detailed design stage.

3. Assistance for Temporary Impacts

40. Temporary loss of land and common resources is expected to be minimal. Should there be temporary losses, APs will be provided with:

- (i) Rent for the period of occupation for legal titleholders.
- (ii) Compensation for assets lost at replacement value, including trees and crop loss in accordance with the entitlement matrix.
- (iii) Restoration of land to previous or better quality.
- (iv) Restoration or replacement of common resources.

41. Sub-projects requiring work on right-of-ways such as rehabilitation or construction of water supply and sewage networks are not expected to require land acquisition nor affect permanent structures. However, there are possible minimal impacts on access and livelihood. APs will be provided with:

- (i) 30 days advance notice regarding construction activities, including duration and type of disruption.
- (ii) Contractor's actions to ensure there is no income/access loss consistent with the initial environmental examination. This includes: leaving spaces for access

between mounds of soil, providing walkways and metal sheets to maintain access across trenches for people and vehicles where required, increased workforces to finish work in areas with impacts on access, timing of works to reduce disruption during business hours, phased construction schedule and working one segment at a time and one side of the road at a time.

- (iii) Assistance to mobile vendors/hawkers to temporarily shift for continued economic activity. For example assistance to shift to the other side of the road where there is no construction.
- (iv) For construction activities involving unavoidable livelihood disruption, compensation for lost income or a transitional allowance for the period of disruption whichever is greater.

I. Budgeting and Fund Flow Mechanism

42. Detailed budget estimates for involuntary resettlement will be prepared for each RP, by the IPMU. It will be included in the overall sub-project estimate. The budget will include (i) detailed costs of land acquisition, relocation, and livelihood and income restoration and improvement, (ii) source of funding, (iii) arrangements for approval, and (iv) the flow of funds and contingency arrangements. Overall land acquisition and resettlement costs for the Program are estimated at Rs. 136 million.²¹ These estimates are indicative and will be reviewed as each tranche RP is prepared. Table 4 summarizes the total cost estimates. Costs are shown for compensation and assistance for expected assets lost, and administrative and implementation costs. The cost estimates also provides allocation for contingencies. A 15% contingency is included for unanticipated impacts such as temporary loss of land. Funds for land acquisition (including land acquisition for non-titled APs) if any, compensation for all assets lost, related resettlement assistance, and relocation and transfer will be provided by the EA. Administrative and implementation costs, including engagement of the implementing NGO, cost of census and survey of APs and inventory of assets, cost of information and consultations, training and monitoring (including evaluation by independent agency), and rental of office space and required physical facilities and materials will be funded under the Investment Program. Land acquisition and resettlement costs will be considered as an integral component of sub-project costs.

Table 4: Summary of Land Acquisition and Resettlement Costs

Item	Cost
A. Compensation, Assistance , and Income Restoration	
Costs computed for an estimated 37 sub-projects projected to require payment of compensation assistance to APs	373,000
B. Administrative Costs	
IPMU Social Development Specialist in the Environmental and Social Cell (96 person months)	49,000
PMC Resettlement Specialist-International Consultant (8 person months)	91,000
DSC Resettlement Specialist-National Consultant (90 person months)	648,000
C. Implementation Costs	
Implementing NGO covering NGO engagement, cost of census and survey of APs and inventory of assets, cost of information and consultations, training and monitoring (including evaluation by independent agency), and rental of office space and required physical facilities and materials.	1,949,000
D. Contingencies (15%)	446,000
Total (\$)	3,415,000

²¹ The costs are extrapolated from Tranche 1 sub-projects and a survey of other potential sub-projects not covered in Tranche 1 (this includes a solid waste management sub-project and an urban transport sub-project).

J. Institutional Arrangements and Responsibilities

43. The executing agency (EA) for the Investment Program will be the Urban Development Department (UDD). An IPMU will be established in the EA to manage and monitor the implementation of the Investment Program, and provide policy direction. IPMU will be registered under the Societies Registration Act as an independent entity with the Chief Secretary as its president and Secretary Urban Development, vice president. The registration of IPMU as a society will enable the IPMU's (i) efficient functioning without strictly relying on prior permission of GoU in day-to-day business and decision making, (ii) efficient disbursement and prompt payment of funds to contractors and suppliers, and (iii) engagement of qualified staff and outsourcing the services of professionals from open market as needed. IPMU will have a charter or constitution that will be satisfactory to ADB.

44. IPMU will have a General Body consisting of the Chief Secretary as its Chair and the secretaries of the relevant GoU departments and representatives of ULBs and non-government organizations as its members. The General Body will frame and implement regulations for the conduct of business and management of IPMU which will be satisfactory to ADB. There will also be an Executive Committee under the chair of the Secretary, Urban Development, and consisting, as members, of high-level officials of the State departments of Finance, Drinking Water, and Public Works and relevant ULB. The Executive Committee will meet at least quarterly to provide overall guidance, review Program performance, and decide on all major issues of the Program management. More specifically, the duties of Executive Committee will include (i) providing strategic guidance on and overseeing the implementation of the Program, including urban reform agenda; (ii) approval of subprojects and PFRs, (iii) ratification of the annual budget estimates; (iv) creation of posts and recruitment of staff; (v) ratification of procurement of services, works, and goods, and approval of disbursements; and (vi) ensuring compliance with safeguards and acquisition of land, and other similar matters.

45. GOU will appoint a full time Investment Program Director with a team of administrative, financial, technical, and social/environmental staff drawn from various relevant departments and utilities will be exclusively responsible for executing, managing and supervising the Program implementation. IPMU will engage the UPJN as implementing agency for water supply and sewerage component and PWD for roads and traffic management component, and will set up in each of the agency IPIUs accountable and reporting to IPMU. ULBs will be given a major role in implementing the solid waste management and slum upgrading components under the close supervision and support of IPMU through a special cell within it. They will also be closely associated with planning, design and implementation of the road and traffic management projects.

46. IPMU, under the overall guidance of the Executive Committee, will (i) monitor the Program and have overall responsibility for its implementation; (ii) assist IPIUs in identifying and preparing sub-projects and appraise them in consultation with towns; (iii) compile MFF tranches and PFRs; (iv) appoint consultants; (v) ensure land acquisition and other safeguards; (vi) approve surveys, investigations, engineering designs and bid documents prepared by Project Implementing Units; (vii) review procurement of works and goods undertaken by IPIUs; (viii) assist ULBs in implementing solid waste management, slum improvement, and minor road components; (ix) oversee contract administration; (x) guide in awareness campaigns and participation programs; (xi) organize and operate the program performance monitoring system; (xii) prepare disbursement requests and forward them ADB through GOI; (xiii) prepare and submit timely reports to ADB; (xiv) review and facilitate the progress of the urban reform agenda and compliance with loan covenants; and (xv) design and organize capacity building programs. IPMU will be assisted by Program Management Consultants (PMC) in managing and guiding the overall implementation of the Investment Program.

47. IPIUs will be headed by a senior engineer in the capacity of Superintending Engineer and provided with qualified technical, procurement, social and financial staff. All engineering design, procurement, construction supervision, and quality control of the works shall be carried out by IPIUs which will be assisted by Project Management and detailed design and supervision construction consultants (DSC). IPIUs will carry out their tasks through a dedicated cell created in each of their district units and have regular consultation with the town stakeholders. 54. Town-level committees chaired by the Mayor or chairperson will be formed in each town with representation of ward members, the district magistrate, collector, municipal commissioner, special area development authority, local representatives of UPJN, UJS, PWD, as well as civil society and business representatives. The town committees will review and concur the subprojects selected and formulated in their town, oversee and provide feedback on project implementation progress, ensure cooperation of concerned agencies at town level, and provide a forum for effective involvement and participation of town stakeholders in Program implementation and civic awareness activities. Town committees through their chairperson will also be represented in the General Body of the IPMU, where their concerns about overall policy and Program issues will be addressed.

48. An ESMC will be set up within the IPMU to address environmental and social issues of UUSDIP, and will be staffed by an Environmental Specialist and an SDS. The ESMC will be assisted by the PMC RS to provide guidance to the ESMC ensuring timely and effective implementation of RPs, and provide internal monitoring. The DSC RS will work closely with the ESMC and will be responsible for updating existing RPs, preparing new RPs for future sub-projects, and support monitoring and grievance redress. The EA will implement RPs through an experienced NGO. Further details on agencies responsible for RP activities are in Table 5.

Table 5: Institutional Roles and Responsibilities

Activity	Responsible Agency
Sub-project Initiation Stage	
Finalization of sites for sub-projects	IPMU
Disclosure of proposed land acquisition and sub-project details by issuing Public Notice	IPMU
Meetings at community/household level with APs	IPIU/NGO
Formation of VCs	IPMU/IPIU
RP Preparation and Updating Stage	
Conducting Census of all APs	NGO/DSC RS
Conducting FGDs/meetings/workshops	NGO/DSC RS
Computation of replacement values of land/properties proposed for acquisition and for associated assets	VC/ESMC/NGO/DSC RS
Categorization of APs for finalizing entitlements	ESMC/DSC RS
Formulating compensation and rehabilitation measures	ESMC/DSC RS
Conducting discussions/meetings/workshops with APs and other stakeholders	ESMC/NGO/DSC RS
Fixing compensation for land/property with titleholders	VC/IPMU
Finalizing entitlements and rehabilitation packages	ESMC/DSC RS
Disclosure of final entitlements and rehabilitation packages	IPMU/NGO
Approval of RP	EA/ADB
Sale deed execution and payment	EA/IPMU
Taking possession of land	EA/IPMU
RP Implementation Stage	
Implementation of proposed rehabilitation measures	IPIU/NGO
Consultations with APs during rehabilitation activities	IPIU/NGO
Grievances redressal	NGO/ESMC/GRC
Internal monitoring	ESMC/IPIU
External monitoring	External Agency

ADB-Asian Development Bank, AP-affected person, DSC RS-Design and Supervision Consultant's Resettlement Specialist, ESMC-Environment and Social Management Cell, FGD-focus group discussion, IPIU-Investment Program Implementation Unit, IPMU-Investment Program Management Unit, NGO-nongovernmental organization, RP-resettlement plan, VC-Valuation Committee

K. Implementation Schedule

49. All land acquisition, resettlement, and compensation for a sub-project will be completed before award of civil works contracts. All land required will be provided free of encumbrances to the contractor prior to handing over of sub-project sites and the start of civil works. The implementation of the RP will include: (i) identification of cut-off date and notification,²² (ii) verification of losses and extent of impacts, (iii) finalization of entitlements and distribution of identity cards, (iv) consultations with APs on their needs and priorities, and (v) resettlement, provision of compensation and assistance, and income restoration for APs. The expected implementation schedule for a sub-project is given in Table 6.

Table 6: Schedule of Resettlement Implementation

Activity	Months																	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
i. Establishment of IPMU (including ESMC) and IPIU	♦																	
ii. Appointment of SDS, and RS (PMC and DSC)	♦																	
iii. Appointment of NGOs	♦																	
iv. Briefing of the TLC on GRC functions	♦																	
v. Census and socio-economic surveys (issuance of i.d. cards)	♦	♦																
vi. Consultations and disclosure		♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦
vii. Confirmation of government land to be used and transfer from other departments	♦	♦																
viii. RP preparation		♦	♦															
ix. RP review and approval (IPMU and ADB)			♦															
x. Issue notice to APs				♦														
xi. Compensation and resettlement assistance					♦	♦	♦											
xii. Relocation as required					♦	♦	♦											
xiii. Skills training as required					♦	♦	♦											
xiv. Takeover possession of acquired property								♦	♦	♦								
xv. Internal monitoring				♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦
xvi. Handover land to contractors											♦							
xvii. Start of civil works												♦						
xviii. External monitoring												♦						♦
xix. Rehabilitation of temporarily occupied lands																	Immediately after construction	

* The census will be the cut-off date for non-titled APs. For titled APs, the cut-off date is the date of notification.

** The RP will be updated based on final detailed design and AP census and surveys.

*** Endorsement and disclosure of finalized RPs consistent with the RF to be undertaken.

ADB-Asian Development Bank, AP-affected person, ESMC-Environment and Social Management Cell, DSC-design and supervision consultants, GRC-grievance redressal cell, IPIU-Investment Program Implementation Unit, PMC-program management consultants, IPMU-Investment Program Management Unit, RS-resettlement specialist, SDS-social development specialist, TLC-Town Level Committee

L. Monitoring and Evaluation

50. RP implementation will be closely monitored to provide the IPMU with an effective basis for assessing resettlement progress and identifying potential difficulties and problems. Internal monitoring will be undertaken by the IPIU (through the DSC RS) with assistance from the IPMU ESMC. Monthly progress reports will be prepared and submitted to the IPMU. The EA will appoint an independent agency to undertake external monitoring. The independent agency will monitor sub-projects twice a year and submit reports directly to the EA. The EA will submit all external monitoring reports to ADB for review.

1. Internal Monitoring

51. Internal monitoring for RP implementation will be carried out during the entire program period. Regular monitoring of resettlement progress will identify potential difficulties and problem areas. After 3 months of project initiation, monitoring will be performed with reports generated every quarter for the first year of implementation and bi-annually thereafter. The DSC RS will undertake internal monitoring and reports will be submitted to the IPIU documenting actual achievements against targets fixed and identifying reasons for shortfalls, if any. All monitoring reports will be produced within fifteen days of the end of each quarter or half-year. After review, the IPIU will submit the monitoring report to the IPMU.

52. Broadly, the monitoring and evaluation system will involve:

- (i) Administrative monitoring including but not limited to: daily planning, implementation, feedback and trouble shooting, individual AP file maintenance, progress reporting;
- (ii) Socio-economic monitoring including but not limited to: case studies, using baseline information for comparing AP socio-economic conditions, evacuation, demolition, salvaging materials, morbidity and mortality, communal harmony, dates for consultations, number of grievances and resolutions; and
- (iii) Impact evaluation monitoring including but not limited to income standards restored or improved.

2. Monitoring Physical and Financial Progress

53. Internal monitoring will involve the following:

- (i) Administrative monitoring to ensure that implementation is on schedule and problems are dealt with on a timely basis.
- (ii) Socio-economic monitoring during and after the relocation process to ensure that people are settled and recovering. This will utilize the baseline information established by the socio-economic survey of APs undertaken during sub-project preparation.
- (iii) Overall monitoring whether recovery has taken place successfully and on time.

54. Data from baseline socio-economic surveys undertaken during sub-project preparation will provide the benchmark for monitoring to assess the progress and success of RP implementation. Monitoring will also include the following:

- (i) Communication with and documentation of reactions from APs.
- (ii) Information from APs on entitlements, options, alternative developments, etc.
- (iii) Valuation of properties.
- (iv) Usage of grievance redress mechanism.
- (v) Disbursement of compensation amounts and all assistance.

55. Monitoring will also cover the physical progress of RP implementation. This will include relocation of APs and affected community properties.

3. Internal Monitoring Indicators

56. The indicators for achievement of objectives during RP implementation are of two kinds:
- (i) Process Indicators: Indicating project inputs, expenditure, staff deployment, etc.
 - (ii) Output Indicators: Indicating results in terms of numbers of APs compensated, area of temporarily occupied lands restored with topsoil (and other pre-project features), number of APs provided with skills training, etc.

57. Input and output indicators related to physical progress of the work will include items such as:

- (i) Training of IPIU and other staff completed
- (ii) Census, assets inventories, assessments and socio-economic studies completed
- (iii) NGO recruited and trained
- (iv) Grievance redress procedures in-place and functionality
- (v) Compensation payments disbursed
- (vi) Relocation of APs completed
- (vii) Project employment provided to APs
- (viii) Infrastructure rehabilitated or constructed
- (ix) Income restoration activities initiated
- (x) Skills training of APs initiated
- (xi) Number of households displaced and resettled, and
- (xii) Monitoring and evaluation reports submitted.

58. A set of indicators will be used to monitor Program objectives. These indicators will form the basis of the monitoring and evaluation of RP implementation. The information collected through the household survey will provide benchmarks for comparison on the socio-economic status of the APs in the Program implementation period. A key objective will be the estimation of the APs incomes and quality of lives. If monitoring and documentation done during the first 6 months of RP implementation indicate that these objectives are not being achieved, more resources will be allocated for implementation. During implementation, benchmarks and indicators will be monitored to ensure that comparisons made on socio-economic status including income streams and not just fixed assets lost due to the sub-project.

4. External Impact Evaluation

59. The broad objectives of the external evaluation are to:
- (i) assess whether APs have improved living standards, in terms of income, housing, access to basic amenities, ownership of land and material assets;
 - (ii) monitor schedules and achievement of targets; and
 - (iii) evaluate whether social development objectives of the Program are achieved.

60. An external impact evaluation agency with prior experience in resettlement implementation monitoring and evaluation will be engaged by the EA. The agency will document: (i) restoration of income levels; (ii) changes and shifts in occupation patterns; (iii) changes in AP type of housing and asset ownership; (iv) assessment of APs access to amenities, such as water, electricity, and transportation; and (v) performance of the NGO, IPIU, and IPMU in resettlement implementation. The agency will monitor the Program twice a year and submit reports directly to the EA. The EA will submit all external monitoring reports to ADB.

61. After Program implementation, the agency will carry out an end-term evaluation to assess the effectiveness of RP implementation. The evaluation will emphasize on the assessment of achievements of RP targets and the change in the quality of life of APs. In

carrying out the evaluation, the agency will develop the necessary evaluation indicators. All evaluations are expected to be done on the basis of selective indicators.

62. Evaluation study reports, one mid-term and one end-term will be generated based on the findings of the mid-term and end-term evaluation studies. Reports will be generated within 1 month after the completion of each study. The mid-term evaluation report will highlight Program achievements based on set targets for the period and specify whether any problem exists in RP implementation. If such problems are encountered, the reports will provide rectification measures for achieving targets in the next phase.

63. The end-term evaluation will reveal the actual target achievements of RP implementation by the IPMU. This report will evaluate whether the Program has improved the quality of life of residents of the towns, especially APs. Gaps will be identified and future strategies to address these should be included in the evaluation's conclusion.

INDIGENOUS PEOPLES DEVELOPMENT FRAMEWORK

I. OVERVIEW AND PROJECT BACKGROUND

1. The Investment Program will support the Government of India (GOI) and the Government of Uttarakhand (GOU) in their policy of balanced regional socio-economic development and poverty reduction through improvements in urban governance, management, and infrastructure and service provision in 31 selected towns in Uttarakhand. These towns are: Almora, Bageshwar, Bajpur, Barkot, Champawat, Dehradun, Gangotri, Gopeshwar, Haldwani, Haridwar, Jaspur, Joshimath, Kashipur, Kichcha, Kotdwar, Manglore, Mussoorie, Nainital, New Tehri, Pauri, Pithoragarh, Ramnagar, Roorkee, Rudraprayag, Rudrapur, Srinagar, Kedarnath, Badrinath, Sitarganj, Uttarkashi, and Yamunotri.

2. The Investment Program will support: (i) water supply; (ii) sewerage and sewage treatment; (iii) municipal solid waste management; (iv) urban roads and traffic management; (v) slum upgrading and poverty reduction; and (vi) planning and design, institutional and policy development, capacity building, and awareness raising.

II. INDIGENOUS PEOPLE

3. Indigenous peoples (IP) are defined as those having a distinct social, cultural, economic, and political traditions and institutions compared with the mainstream or dominant society. The Asian Development Bank (ADB) defines IPs as those with the following characteristics: (i) descent from population groups present in a given area before territories were defined; (ii) maintenance of cultural and social identities separate from dominant societies and cultures; (iii) self identification and identification by others as being part of a distinct cultural group; (iv) linguistic identity different from that of dominant society; (v) social, cultural, economic, and political traditions and institutions distinct from dominant culture; (vi) economic systems oriented more toward traditional production systems rather than mainstream; and (vii) unique ties and attachments to traditional habitats and ancestral territories.

4. Scheduled Tribes (ST) have characteristics covered by the above definition, the Indian Constitution Article 366(25) refers to IPs (STs) as those communities who are scheduled in accordance with Article 342 of the Constitution. According to Article 342 of the Constitution, they are the tribes or tribal communities or part of or groups within these tribes and tribal communities which have been declared as such by the President through a public notification.

5. Potential impacts of the Investment Program's Tranche 1 sub-projects were screened for potential impacts on IPs. Screening shows that there are no impacts on IPs. STs comprise a very small percentage of the urban population in Tranche 1 sub-project towns. Extensive consultations were undertaken during the preparation of Tranche 1. Although classified as STs, their social, cultural, economic, and political characteristics do not differ from non-IP groups. These are the same conditions in other program towns hence it is not expected that the Investment Program will have any IP impacts. However, to ensure that impacts on IPs are addressed consistent with ADB's Policy on Indigenous Peoples (1998), an Indigenous Peoples Development Framework (IPDF) has been prepared for the Investment Program. ADB's policy is triggered by any impacts on IP's customary cultural, economic, social, or political institutions that are separate from those of dominant society and culture.

III. THE INDIGENOUS PEOPLES DEVELOPMENT FRAMEWORK

6. This IPDF is intended to guide selection and preparation of sub-projects under the Investment Program to ensure distribution of program benefits and promote development of IPs in the program area. During Investment Program preparation, there were no IPs identified in the program towns. However, due to the long-term program duration, and future site identification, an IPDF has been prepared to guide further program implementation. In case significant impacts (whether positive or adverse) on IPs are identified, this IPDF framework will be applied during sub-project preparation, in accordance with requirements for future tranches and ADB's Indigenous Peoples Policy (1998).

7. A full Indigenous Peoples Development Plan (IPDP) is required particularly if there exists:

- (i) adverse impacts on customary rights of use and access to land and natural resources;
- (ii) negative effects on socioeconomic and cultural integrity;
- (iii) effects on livelihood, and social security status; and/or
- (iv) Other impacts that may alter or undermine indigenous knowledge and customary institutions.

8. If impacts are insignificant, specific actions in favor of IPs can be incorporated within the Resettlement Plan (RP) for the sub-project.¹ This would ensure appropriate mitigation and benefits for IP.

9. The Urban Development Department (UDD) is the Executing Agency (EA) of the Investment Program. The EA will set up a state-level Investment Program Management Unit (PMU). The PMU will function under a General Body and an Executive Committee. Town Level Committees will be set up in each of the program towns to ensure public participation in the Program. The Implementing Agencies (IAs) will set-up district-level Investment Program Implementation Units (PIUs) to manage implementation of sub-projects in their districts. The IAs for the Investment Program are: the Uttarakhand Peysa Jal Nigam (UPJN) for water supply and sewerage sub-projects, and the Public Works Department (PWD) for roads and traffic management sub-projects. A special cell within the PMU, with assistance from Urban Local

10. Bodies (ULBs), will be the IA for solid waste management and slum improvement sub-projects. The PMU will be assisted by Project Management Consultants (PMCs) who will provide program management support, assure the technical quality of design and construction, and provide advice on policy reforms. PIUs will be assisted by Design and Supervision Consultants (DSCs), who will design the infrastructure, manage tendering of Contractors and supervise the construction process. Construction Contractors (CC) will be appointed to build elements of the infrastructure. The CCs will be managed by the PIUs, and construction will be supervised by the DSC.

11. An ESMC will be set up within the PMU to address environmental and social issues of UUSDIP, and will be staffed by an Environmental Specialist and a Social Development Specialist (SDS). The ESMC will be assisted by the PMC on social issues. The ESMC through the SDS and in cooperation with PIU DSC consultants will implement the IPDF.

12. The IPDP policy framework is based on the overall local and national development strategies and ADB's Policy on Indigenous Peoples (1998). The principal objectives are to:

¹ Impacts are insignificant when fewer than 100 indigenous people are affected.

- (i) ensure IPs affected by any sub-project will benefit from the Investment Program;
- (ii) ensure IPs inclusion in the entire process of preparation, implementation, and monitoring of program activities;
- (iii) ensure benefits from sub-projects are available to IPs more than or at least equal to other affected groups; this may require giving preference to IPs as vulnerable groups over others on certain benefits under the Investment Program; and
- (iv) provide a base for IPs in the area to receive adequate development attention.

IV. PROCEDURES FOR IPDP PREPARATION

13. This IPDP seeks to ensure that IPs are informed, consulted, and mobilized to participate in the sub-projects. Their participation can either provide them benefits with more certainty, or protect them from any potential adverse impacts of the sub-project. The main features of the IPDP will be a preliminary screening process, a social impact assessment (SIA) to determine the degree and nature of impact of each sub-project, and an action plan developed if warranted. Consultations with and participation of IP communities, their leaders, and local government representatives will be an integral part of the overall IPDP.²

A. Preliminary Screening

14. The DSC Resettlement Specialist in the PIU will visit all IP communities and villages near sub-project sites or areas being affected and influenced by sub-project sites. The PIU will arrange public meetings in selected communities to provide information on the Investment Program and the sub-project. During the visits, community leaders and other participants will present their views on the Investment Program and sub-project. At this visit, the PIU will undertake a screening for IP populations with the help of IP community leaders and local leaders. The screening will check for the following:

- (i) Name(s) of IP community group(s) in the area;
- (ii) Total number of IP community groups in the area;
- (iii) Percentage of IP community population to that of area population; and
- (iv) Number and percentage of IP households to be affected by the sub-project.

15. The PIU will also accomplish an IP assessment checklist. The results of the preliminary screening will be provided to the SDS for review as part of the pre-feasibility assessment of the sub-project. If the results show that there are IP households in the zone of influence of the proposed sub-project, an SIA will be planned for those areas.

B. Social Impact Assessment

16. The PIU with guidance from the SDS will undertake SIA as part of the detailed technical feasibility report and resettlement planning. The SIA will gather relevant information on demographic data; social, cultural, and economic situation; and both positive and negative social, cultural and economic impacts.

17. Information will be gathered through separate group meetings within the IP community, including IP leaders; group of IP men and women, especially those who live in the zone of influence of the proposed work under the sub-project. Discussions will focus on positive and

² The IPDPs components are: preliminary screening, social impact assessment, mitigation measures, development assistance, and project monitoring.

negative impacts of the sub-project as well as recommendations on the design of the sub-project and the Investment Program. The SDS will be responsible for analyzing the SIA and for leading the development of an action plan with the IP community leaders. If the SIA indicates that the potential impact of the proposed sub-project will be significantly adverse—threatening the cultural practices and IP sources of livelihood, or that the IP community rejects sub-project works—the PMU will consider other design options to minimize such adverse impacts. If IP communities support the sub-project, implementation of an IPDP will be developed.

C. Indigenous Peoples Development Plan

18. The IPDP is time-bound, with an adequate budget for its implementation. An acceptable IPDP addresses the (i) aspirations, needs, and preferred options of the affected IPs; (ii) local social organization, cultural beliefs, ancestral territory, and resource use patterns among the affected IPs; (iii) potential positive and negative impacts on IPs; (iv) measures to avoid, mitigate, or compensate for the adverse sub-project effects; (v) measures to ensure sub-project benefits will accrue to IPs; (vi) measures to strengthen social, legal, and technical capabilities of government institutions to address IPs issues; (vii) the possibility of involving local organizations and non-governmental organizations with expertise in IPs issues; (viii) budget allocation; and (ix) monitoring. Where there is land acquisition in IP communities, the Investment Program will ensure their rights will not be violated and that they be compensated for the use of any part of their land in a manner that is culturally acceptable to the affected IPs.³ The IPDP will include:

- (i) **Baseline data:** Base line data will be collected both from the primary and secondary sources. The survey will be designed to collect baseline data on their socio-economic and cultural aspect which will help in identifying the intensity of impact on IP. This baseline data will be collected as part of the baseline data collection for resettlement planning.
- (ii) **Land tenure information:** Details on land tenure and usage patterns will be collected in order to measure the dependency of IPs on land.
- (iii) **Local participation:** Free, prior, and informed consultation and community consent is central to development interventions. IPDPs will be developed using a participatory approach with due consultation with local IP communities. It requires a strategy for inclusive consultation. The strategy will pay attention to IPs socio-cultural values and social status within the community and will provide all information, documents, and plans prior to consultations. The views of the IP will be recorded and will be incorporated in the IPDP.
- (iv) **Technical identification of development enhancement or mitigation activities:** Detailed design will be developed or modified based on IPDP inputs to ensure negative impacts are mitigated or better benefits are accorded to IPs. The IPDP will present clear mechanisms for accurate and objective analysis of their circumstances and how to direct such benefits towards IPs while avoiding or minimizing adverse impacts, if any.
- (v) **Institutional arrangement:** Detailed institutional arrangements will be prepared defining tasks for each stakeholder group.
- (vi) **Implementation schedule:** The implementation schedule will be consistent with the overall program implementation schedule and any compensation or applicable mitigation measures will be accomplished prior to the civil work.
- (vii) **Monitoring and evaluation:** The IPDP will be internally monitored by the EMSC, and an independent individual/agency engaged by the EA.

³ The compensation will follow the Resettlement Policy Framework of the Project.

- (viii) Cost estimate and financing plan: Based on impacts, a budget will be prepared for the implementation of the IPDP and the EA will be responsible for providing the budget.

19. The DSC consultants will prepared IPDPs if required and will submit this to the SDS for review and finalization. The SDS will then submit these to the EA for review and approval. Approved IPDPs will be provided to ADB for review and approval prior to implementation. The IPDP policy and measures must comply with ADB's Policy on Indigenous Peoples (1998).

V. CONSULTATION AND INFORMATION DISCLOSURE

20. The IPDP will be prepared in consultation with affected IP groups based on the approach discussed in item (iii) para 19. The mitigation measures and strategies will be presented to them by the DSC consultants and will be made available to them in PIU and PMU offices. Inputs from the IPs through consultation will be considered in sub-project design and the final IPDP. The IPDP will be translated into local IP language(s) prior to implementation. Nongovernmental organizations will be engaged to implement the IPDP and will ensure resolution of any dispute arising out of the implementation process. The EA will further ensure that adequate budget will be available to implement the IPDP.

VI. INSTITUTIONAL FRAMEWORK

21. In the preparation of sub-project IPDPs, the PMU will have overall coordination, financing, and monitoring responsibilities. The PIU will prepare and supervise implementation. Since IP issues are sensitive, the PMU will ensure that the SDS has knowledge and experience of working among IP groups and is available for assisting in the planning and implementation of IPDPs for the Investment Program. The PMU will ensure that the DSC consultant to assist the PIU in planning IPDPs for sub-projects is familiar with ADB policy and requirements for IPDPs.

VII. IPDP BUDGET

22. The EA will provide sufficient resources to formulate IPDPs in sub-projects which will have impacts on IPs. A detailed budget will be prepared by the PIU taking into account all activities associated with the formulation and implementation of IPDPs. Each IPDP will have its own budget. Such budgets will be an integral part of the sub-project cost, and will be made available during project implementation. However, the EA, in advance, has to have the tentative budget ready for each financial year so that the EA can provide the budget on a timely basis in order to avoid any delay in sub-project implementation. The EA will be responsible for making the budget available to its PMU and PIUs or implementation of IPDP.

VIII. MONITORING AND EVALUATION

23. Implementation of the IPDP will be monitored regularly. The PMU will establish a monitoring system involving the SDS, representative of affected IP groups, and nongovernmental and community-based organizations to ensure participatory monitoring arrangements. A set of monitoring indicators will be determined during IPDP implementation. The PMU will also prepare appropriate monitoring formats for effective internal and external monitoring and reporting requirements. Independent monitoring will be undertaken through nongovernmental or community-based organizations or an individual engaged by the EA with ADB concurrence to carry out external monitoring of the IPDP operations for the whole Investment Program. Monitoring will be carried out twice a year during project implementation.

These reports will be submitted to the EA and ADB for review. The EA through the ESMC will be responsible for determining if any follow-up actions are necessary and ensuring any necessary actions are taken regarding the implementation of IPDPs.