

FRAMEWORK FINANCING AGREEMENT

Sustainable Coastal Protection and Management Investment Program

Parties	This Framework Financing Agreement (FFA) dated 01 September 2010 is between India acting by its President, and the Asian Development Bank (ADB).
Background	India has requested, on behalf of the States of Karnataka, Maharashtra, and Goa (the States), ADB to finance Sustainable Coastal Protection and Management Investment Program (the Program) described in Schedule 1 hereto.
Multitranche Financing Facility Investment Program	<p>India will cause the States to implement the Program forming a part of the States' Investment Plan for the sector and is described in the Schedule 1 hereto.</p> <p>The total cost of the Program over the period of 2010 to 2019 is expected to be \$404.6 million equivalent.</p>
Multitranche Financing Facility	<p>The Multitranche Financing Facility (the Facility) is intended to finance the components including their subprojects of the Investment Plan, which are divided based on procurement packages and/or implementation years and are packaged as individual projects (or tranches). The specific components include:</p> <ul style="list-style-type: none">A. Sustainable Plans and Management for ShorelineB. Coastal Erosion and Instability ReductionC. Capacity Development for Shoreline Planning and Development <p>This FFA does not constitute a legal obligation on the part of ADB to commit any financing. Exercised reasonably, ADB has the right to deny any financing request made by India, cancel the uncommitted portion of the Facility, and withdraw India's rights to request any financing tranche under the Facility. 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.</p> <p>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 also has the right at any time to cancel any uncommitted portion of the Facility.</p> <p>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.</p>

Financing Plan

The Financing Plan for the Sustainable Coastal Protection and Management Investment Program is summarized below. Details are set out in Schedule 1 hereto.

Tentative Financing Plan

(\$ million)

Source	Total	%
Asian Development Bank	250.0	61.8
State Governments	119.8	29.6
Other sources including private sector	34.8	8.6
Total	404.6	100.0

Financing Terms

ADB will provide loans to finance components and their subprojects under the Investment Program, as and when they are ready for financing, subject to India and the States being in compliance with the understandings hereunder, the components and their subprojects are in line with those same understandings and a related request is made under a periodic financing request. 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, and ADB's financing policies, all prevailing on the date of signing the legal agreement for such tranche. 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 the legal agreements are signed for a tranche, will apply with respect to such tranche.

Amount

The maximum financing amount available under the Facility is two hundred and fifty million dollars (\$250,000,000). It will be provided as individual loans from ADB's Ordinary Capital Resources.¹

Availability Period

The last date on which any disbursement under any tranche may be made will be 31 December 2019. The last financing tranche is expected to be executed no later than 31 December 2015.

Terms and Conditions

India will cause the proceeds of each tranche to be applied to the

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).

financing of expenditures of the Investment Program, in accordance with conditions set forth in this FFA and the legal agreements for each tranche.

Execution

The Executing Agencies (the SEAs) for the Facility will be the respective States acting through the Maharashtra Maritime Board (in case of Maharashtra), Goa Water Resources Department (in case of Goa), and the Karnataka Public Works, Ports and Inland Water Transport Department (in case of Karnataka). The SEAs will implement the Investment Program in accordance with the principles set forth in Schedule 1 of this FFA, and as supplemented in the legal agreements for each tranche. The Facility will be implemented over a 9-year period. Implementation is proposed in three or more tranches over the said period.

Periodic Financing Requests (PFRs)

India may request, and ADB may agree, to provide loans under the Facility to finance the Investment Program and its related components and their subprojects upon the submission of a Periodic Financing Request (PFR). Each PFR should be submitted by India. India will make available to the States the proceeds of the loan in accordance with the related PFR, and the legal agreements for the tranche.

The first loan under tranche 1 will be for an amount of fifty one million five hundred and fifty five thousand US dollars (\$51,555,000) equivalent, covering initial sets of subprojects of Karnataka and Maharashtra. The first loan for the remaining state of Goa, to cover its initial sets of subprojects will be for an amount greater than or equal to four million and five hundred thousand US dollars (\$4,500,000) equivalent. Each subsequent individual tranche will be for an amount greater than or equal to twenty million US dollars (\$20,000,000) equivalent except for the final tranche. ADB will review each PFR and, if found satisfactory, prepare the related legal agreements.

The components and subprojects for which financing is requested under a PFR will be subject to the terms of this FFA, the criteria set out in Schedule 4 hereto, satisfactory due diligence, preparation of relevant safeguards and fiduciary frameworks and other documents, including performance assessment of previous loans and incorporation of lessons into the requested loan. ADB and India will agree on a Facility Administration Memorandum and a schedule to initiate these activities.

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, Government of India is designated as authorized representative of India for the purpose of executing the PFRs.

General Implementation Framework

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

Procedures	<p>Tranches to be provided under the Facility will be subject to the following procedures and undertakings:</p> <ul style="list-style-type: none"> (a) India will have notified ADB of a forthcoming PFR in advance of the submission of the PFR. (b) India will have submitted a PFR in the format agreed with ADB. (c) ADB may, decline to authorize the negotiation and execution of any legal agreement for a tranche. (d) If ADB confirms acceptance of the PFR, the legal agreements will be negotiated and executed by the parties.
PFR Information	<p>The PFR will substantially be in the form attached hereto, and will contain the following details:</p> <ul style="list-style-type: none"> (i) Loan amount (ii) Description of subproject/components to be financed (iii) Cost estimates and financing plan; (iv) Implementation arrangements specific to the subprojects or components; (v) Confirmation of the continuing validity of and adherence to the understandings in this FFA; (vi) Confirmation of compliance with the provisions under previous Loan Agreement(s) and Project Agreement(s) as appropriate; and (vii) Other information as may be required under the Facility Administration Memorandum, or reasonably requested by ADB.
Safeguards	<p>Attached as Schedule 5 are references to the Safeguard Frameworks that will be complied with during implementation of the Facility.</p>
Procurement	<p>All goods and services to be financed under the Facility will be procured in accordance with ADB's Procurement Guidelines (2010, as amended from time to time).</p>
Consulting Services	<p>All consulting services to be financed under the Facility will be procured in accordance with ADB's Guidelines on the Use of Consultants (2010, as amended from time to time).</p>
Advance Contracting and Retroactive Financing	<p>Under each tranche, ADB may, subject to its policies and procedures, allow on request (a) advance contracting of civil works, equipment and materials, and consulting services, and (b) retroactive financing of eligible expenditures up to 20% of the proposed individual loan, incurred prior to loan effectiveness but not earlier than 12 months before the date of signing of the related legal agreement. India and the States acknowledge that any approval of advance contracting and/or retroactive financing will not constitute a commitment by ADB to finance the related project.</p>

Disbursements

Disbursements will be in accordance with ADB's Loan Disbursement Handbook (2007, as amended from time to time). Each loan under the Facility will have its own imprest account in the Reserve Bank of India, established by India as the Borrower. Each State through its respective SEA may if required, establish a second-generation imprest account (SGIA) for each loan in a commercial bank acceptable to ADB. India and the SEAs will be responsible for administering and managing the imprest account and the SGIA, respectively. The amount in the imprest account or the SGIA at any given time will not exceed the lower of the estimated expenditure for the first 6 months of project implementation, or 10% of the relevant loan amount. The imprest account and the SGIA(s) will be established, managed, and liquidated in accordance with ADB's Loan Disbursement Handbook (2007, as amended from time to time). The statement of expenditures (SOE) procedure will be used to reimburse/liquidate eligible expenditures not exceeding \$100,000 equivalent per individual payment.

Monitoring, Evaluation, and Reporting Arrangements

The SEAs will establish and maintain an Investment Program Performance Management System (IPPMS) for the Facility and also project performance management system (PPMS) for individual projects under the Facility. The PPMS will be set up within 3 months of loan effectiveness of each project, whereas the IPPMS will be set up within 3 months of loan effectiveness of first project. Schedule 2 hereto sets as the Design and Monitoring Framework for the Facility, against which the implementation effectiveness will be evaluated.

SEAs will establish baseline data for each of the selected indicators and will conduct annual surveys with the assistance of the consultants, and update the States and ADB on the progress against each indicator. The SEAs will also provide India and ADB with quarterly progress reports in the format to be attached with the FAM, within 45 days of the end of each quarter. Quarterly reviews will be completed by the review meetings by the States, and ADB.

The project accounts will be audited annually and submitted by the SEAs to ADB. In addition to the regular review missions for each Loan, a midterm review mission for the Facility will be conducted in July 2014. The reviews will include an implementation progress including progress against institutional development and capacity development milestones. The midterm review will identify corrective actions needed if any including those related to changes needed. Within 3 months of physical completion, the SEAs will submit to ADB a project completion report for each project. Likewise within 3 months of the completion of the Facility, the SEAs will submit to ADB a Facility completion report.

Undertakings

India and the States of Maharashtra, Goa, and Karnataka undertake the following actions:

Sector Road Map. India will ensure that the Facility funds are utilized effectively and efficiently to implement the Facility under the Investment Program and achieve its objectives. The States will ensure compliance with the institutional development actions in the Sector Road Map, which are identified in Table 1 of

Schedule 1, including actions to finalize and initiate implementation of the recommended actions on (i) states coastal protection and management plan including establishment of processes and procedures for approvals of the same, plans and designs, implementation, and plan for sustainable operation and maintenance program for coastal protection, (ii) project planning and design, and (iii) community and private sector involvement in coastal protection and management works. States will ensure policy reforms at State levels including the preparation of shoreline protection and management plans, organizational restructuring within SEAs, and empowering them to coordinate all coastal protection and management programs., increased public private partnership (PPP) in coastal protection as feasible.,

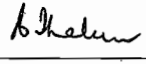
The States shall ensure evaluation of adequacy of budgetary requirements for necessary expenditures, in particular for operations and maintenance of subprojects. To ensure availability of the funds required to meet such expenditures, the States will take into consideration various funding sources, including subsidies, financial performance of local bodies, introduction of schemes as necessary, to ensure financial sustainability through introduction of appropriate taxes as required and feasible.

Fiduciary Oversight. India and the States will ensure that each Project account will be audited by independent auditors whose qualifications, experience and terms of reference are acceptable to ADB and the audit reports will be submitted to ADB within 6 months of the end of the relevant fiscal years.

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

Safeguards. India and the States will ensure that subprojects under the Facility will be carried out in accordance with applicable laws and regulation of India and the States, the safeguard policies of ADB, as referred to in Schedule 5 of this FFA.

INDIA

By  1/9/2010
Anuradha Thakur
Director (ADB)
Department of Economic Affairs
Ministry of Finance

ASIAN DEVELOPMENT BANK

By  1/9/2010
Rana Hasan
Officer-in-Charge
India Resident Mission

SCHEDULE 1
MFF CONSTITUENTS
SECTOR ASSESSMENT, ROAD MAP AND INVESTMENT

A. Introduction²

1. The coastal zone forms a key part of the Indian economy; about 20-25% of India's population lives within 50 km of the coast with 70% of these residing in rural areas. It is the rural poor coastal communities who are the most vulnerable to the impacts of erosion and poor coastal management. Many of India's rapidly growing urban areas are also vulnerable to coastal erosion; Mumbai, for example, incurs a cost of about \$2.5 million per km on capital works alone to protect some of its prime waterfront property. The impact of climate change is likely to aggravate coastal erosion and management issues even further. Sea level rise in the Indian subcontinent is projected to be between 25 and 50 centimeters by the end of the 21st century. 1 meter rise in sea level in India would inundate about 5,700 square kilometers of land, affecting around 7 million people.

B. Sector Assessment

2. Coastal erosion is the natural result of coastal processes and their interaction with land; erosion can in many cases be initiated and/or exacerbated by human activities; along all the coast of India there are numerous examples where human activities have contributed to or caused coastal erosion. Typical causes of beach erosion include change in sediment supply through river damming and sand mining or the construction of littoral barriers such as groins, jetties or ports. Beach scour and erosion can be caused by seawall construction and the loss of vegetation on the shoreline. Sediment traps such as dredged navigational channels and alteration to wave processes caused by jetties and ports also play a role. In addition, urbanization of the coast has exacerbated natural erosion phenomena into problems of growing intensity. The natural causes of shoreline erosion include severe storms, an imbalance in the long-shore sediment and Aeolian transport³.

3. The coastal protection strategy in India is synonymous with the objective of protection of the land and overall economic growth. The concept of protecting the beach and the environment are relatively new concepts. The most frequently applied methods for coastal protection have been through the use of hard structures such as seawalls or groins. Long term plans to manage coastal erosion are available. However resource constraints result in the measures being undertaken to target the more vulnerable sections of the coasts and as local emergency measures. Such interventions provide mostly land protection. Seawalls and groins continue to be preferred measures which though do not necessarily address the root cause of the problem. As the pressure on the coastal zone due to human-induced activities as well as relative sea level rise keeps expanding, there is an urgent need to find sustainable solutions for coastal protection.

4. There is a general awareness of the impacts of hard structures. The soft solutions such as artificial reefs, beach nourishment and management, dune management, mangroves etc. are untried on a large scale. There is a widespread interest and realization of a need to change to

² Based on ADB. 2007 *Technical Assistance to India for Preparing the Sustainable Coastal Protection and management Project*. Manila.

³ Pertaining to the wind, especially used with deposits such as dune sand, and sedimentary structures like wind-formed ripple marks.

softer and appropriate solutions that would require an integrated program of awareness, training, capacity building, policy measures, and other support initiatives.

5. Coastal protection and management involves a wide number of stakeholders covering a number of sectors. It is multi-disciplined, dynamic, and participatory and cross-sectoral. It requires dealing with technical, environmental, social and economic issues and their consequences within the coastal zone. Coastal protection is one aspect of coastal management and largely deals with either rectifying or preventing the physical outcomes of coastal and especially littoral processes, including erosion, silting and similar problems; these can be natural, events or induced by interventions such as ports and sand mining. The number and diversity of stakeholders in the shoreline zone is very large and complex requiring Liaison and coordination of needs and activities; as well as coordinated and integrated stakeholder participation.

6. **New Technology.** Continuing coastal erosion across the world is leading to the development and installation of innovative techniques for the effective and unobtrusive shoreline and near shore control. Worldwide there is now increasing examples of replacement or modification of hard rock protection with softer options such as beach nourishments, dune management or submerged reefs. There is an urgent need for coastal erosion management to move away from the present approach to a more comprehensive and pro-active one based on planning, good practice and accountability of achievements, with long-term cost-minimization goals and economic benefits. The Program is designed to facilitate the transition to softer solutions. The Program aims at significant changes in the approach to coastal protection and management; build up of capacities; and a well planned and programmed transition process to new approaches and technologies of participative planning and integrated development of environmentally appropriate and sustainable solutions.

7. Until 1991, the Government of India (Government) had provided assistance to the coastal states to finance coastal protection works. This was discontinued after 1991-92. In 1994, the Ministry of Water Resources (MOWR) initiated the National Coastal Protection Project (NCP) to formulate a national project on sustainable coastal protection by consolidation of state level proposals. Largely as a result of lack of funding, most of the proposals in the NCP have not been implemented. The Tenth five-year plan saw the revival of central assistance to states though on a limited scale. Constrained by limited funds, state government investment in coastal protection measures has not remained to the expected levels, and funds have often been inadequate to address even urgent coastal protection works. Despite long term plans and intermittent measures, protection measures are often taken up on an emergency basis, or in a bid to prevent impending disasters. Since these are treated as emergency measures, technical and economic viability or environmental and social impact of coastal protection works are not adequately addressed. Because of the shortage of funds, maintenance work is largely hampered.

C. Institutional Arrangements

8. **Central Government.** MOWR and MOEF are the two key central Government Ministries which, through their various agencies and institutions that govern the coastal zones in the country. In addition, there are a number of other Ministries which through their agencies and research establishments play an important role in policy planning, advising, administration and program implementation of shoreline protection and coastal zone management. The presence of a number of specialized agencies provides a forum for better coordination, knowledge sharing and interactions for capacity enhancement among the institutions and the implementing

agencies. In addition, four other Ministries of the Government of India, namely, (i) Ministry of Defense, (ii) Ministry of Home Affairs, (iii) Ministry of Agriculture and (iv) Ministry of Shipping have governance jurisdiction over shoreline, and coastal protection and management activities through their framework laws and policies. In addition, the Ministry of Earth Sciences and the Ministry of Science and Technology play an important role through their programs and research support for coastal protection works.

9. Central Water Commission (CWC), the technical arm of MOWR is the apex agency for shoreline protection and coastal erosion works in the country. CWC implements coastal protection works through two Directorates, namely, the Coastal Erosion Directorate (CED) and the Beach Erosion Directorate (BED). Better coordination of the activities of the two directorates will foster an integrated approach to coastal erosion problems. Coastal Protection and Development Advisory Committee (CPDAC) is an advisory body of 25 members representing different Government Departments/State Agencies/Research Institutions and three Non-Official members and has wide mandate on coastal protection activities. CPDAC depends upon its secretariat CED for translating its mandate into implementation programs.

10. Central Water and Power Research Station (CWPRS) under MOWR is the major national level institution for providing technical support to the State Governments for planning and undertaking research studies including design development for anti-sea erosion works. Two other national key research institutions which play an important role in providing research assistance and expert services in the field of coastal environment and engineering are (i) Centre for Earth Science Studies (CESS) in Thiruvananthapuram, Kerala and IIT Madras (IITM), Department of Ocean Engineering in Tamil Nadu.

11. MOEF is the central authority for regulating the activities in the coastal zone of the country. It operates through various national level bodies like the National Coastal Zone Management Authority (NCZMA), State/Union Territory Coastal Zone Management Authorities (SCZMA), Central and State Pollution Control Boards and other State level agencies. MOEF enforces compliance through the umbrella Act viz., Environment Protection Act (EPA), 1986 and a number of policies, legislations and Notifications. MOEF operates at the State level through various agencies and programs and maintains an information data base for use by various sectors.

12. **State Government.** The protection of the coasts from erosion is the responsibility of the line departments/agencies in the respective States responsible for administration of the coasts and implementation of coastal protection and anti-erosion works. In Maharashtra, the responsibility vests with the Maharashtra Maritime Board under the, Home – (Transport & Port) Department and the Public Works Department which executes the works through the Coastal Engineer (Coastal Engineering Circle) under it. In Goa, the key Department for planning and implementation of anti-sea erosion work is the Water Resources Department while in Karnataka the responsibility vests with the Public Works, Ports and Inland Water Transport Department. .

13. These departments/agencies in all the three States assess the vulnerability of the coastal stretches based on the severity of the erosion and its likely impact on the landward installations, assets and the threat posed to the immediately adjacent human settlements; the focus is primarily on the protection of the land.

14. In the process, the activities involved in coastal protection starting from planning, designing and implementation remains vertical along the administrative hierarchy of the respective Departments. There appears to be a need for greater inter-Departmental/Agency

coordination and involvement of local bodies. Considering the vulnerability of the coastal communities to natural hazards, there is now increasing realization that the various options for coastal protection and shoreline management need to be deliberated upon by the implementing agencies with the different stakeholders, such as, the fishing communities, local residents, tourism service providers, industrial units, and agriculturists.

15. The problems of coastal erosion and protection are mainly referred by the states to the CWPRS for technical consultancy. In cases where referral to CWPRS is made in situations of severe erosion, CWPRS is required to prepare an emergency solution to protect the eroding coast and land with the key requirement to provide adequate protection. In such an emergent situation, where there is threat to human life and property due to erosion is imminent, most of the times, the option is to go for hard solutions.

16. Viewed from the angle of sustainability, the present implementation approach should move forward towards an inclusive paradigm of integrated planning and management that conforms to central theme of India's Eleventh Five Year Plan (2007-2012) - 'Towards Faster and more Inclusive Growth'.

17. MOEF is responsible for framing legislations and conservation of the environment of the country including the marine environment. The Environment (Protection) Act 1986 is an umbrella legislation enacted for the purpose of protecting and conserving the environment. The mandate of the MOEF includes environment and ecology, including environment in coastal waters, in mangroves and coral reefs but excluding marine environment on the high seas.

18. **Key Institutional Issues:** There is technical and professional expertise in key institutions. But there is a need for better coordination and integration and the agencies need to upgrade and improve the technical and financial capacities. There is also a need for oversight and coordination among the departments and agencies with the emphasis on prioritizing and planning coastal protection works. There must be more allocation of funds for regular maintenance and protection works. The planning approach needs to change the underlying practices to a more participative, bottom-up approach as soft engineering solutions require closer monitoring and systematic maintenance which can best be provided by the local community. The states are committed to enhancement of capacities, augmentation of enabling fund and organizational reforms to meet the new challenges.

D. Strategic Context

19. A key theme of the Government's 11th Five Year National Plan is the integration of environmental concerns into policy, planning and development activities. The plan also addresses the need to address the impacts of sea level rise particularly for coastal agriculture as well as management of sea water ingress into coastal areas. The plan stresses the importance of the participation of fishing communities in coastal zone planning and management. Tourism forms a key part of the national economy with coastal tourism identified as a key industry.

18. ADB's assistance program for India strives for stronger integration of environmental dimensions into interventions. It emphasizes sustainable measures for coastal protection. The focus is on enhanced capacity of state authorities to design, implement, monitor, and finance appropriate measures for coastal protection and management. In view of the Government's development priorities, ADB's assistance program stresses on addressing coastal protection

infrastructure and more effective and sustainable coastal protection and management measures.

21. Strategic context of the partnership between the states and ADB has been drawn following the stress of ADB's assistance program in India on effective and sustainable coastal protection and management measures, and is consistent with the Government's 11th Five Year National Plan and request for ADB assistance.

E. Road Map

22. A road map, comprising the policy and institutional actions and an investment program has been prepared to support the states to move toward integrated and sustainable coastal protection and management. The objective of the road map is to reduce coastal erosion and instability. The road map envisages actions for a more comprehensive and pro-active approach based on integrated planning with long-term cost-minimization goals and economic benefits. The longer-term vision of the road map is protected and managed shorelines of the three states meeting the needs of the communities and other stakeholders, while maintaining the environmental integrity of the shorelines. Considering this longer-term vision, the Program aims at effecting significant changes in approach to coastal protection and management; building capacities and ensuring a planned and programmed process of participative planning and integrated development of environmentally appropriate and sustainable solutions. The road map includes an outline of key issues and recommended actions on (i) states coastal protection and management policy, (ii) project planning and design, and (iii) coastal protection and management investments. Key milestones in road map include agreed states policies for coastal protection and management incorporating project initiatives, upgrading the coastal planning process, developing capacity of all stakeholders involved in planning and designs of projects, promotion of private sector participation in the coastal protection and management, and stakeholder participation in management and maintenance of coastal interventions.

23. **The Technical Framework.** The effective adoption of new technologies together with the development of capacities for effective planning and design for coastal protection is a key area requiring professional support and coordinated program research, training and dissemination of information. The erosion problems may stem from inadequately planned infrastructure projects; harbor or other structures crossing the beach that disturb the natural processes, inadequately planned dredging that results in environmental damage and loss of key sand resources. Creating and increasing the stakeholder capacities to address these challenges is a major focus of the Program.

24. **Institutional Framework.** To meet the long term goals of sustainability requires a change in direction from stand alone coastal protection to integrated coastal protection and management. Coastal protection and management have fundamental requirements for community and stakeholder interactions as well as lateral coordination between departments. Even within the existing institutional framework, implementation arrangements can be significantly improved. The target of the institutional improvements include: (i) integrated and effective institutional arrangements; (ii) effective linkages between institutions; (iii) effective measures to ensure sustainability; (iv) effective stakeholder participation at state and district levels and (v) increased participation of the private sector in coastal protection and management; and (vi) at the state level, establish a Coastal Information Management Unit (CIMU) within the SEAs to coordinate MIS.

F. Policy Framework

25. The 1991 CRZ notification, Environment Protection Act 1986, a number of other policies, legislations and notifications, and the state level shoreline management plans provide an ample policy framework for the implementation of the Program. The Government of India is considering further regulatory improvement because of the new challenges that are likely to arise from climate change-induced sea level rise and the growing pressures of population on coastal resources and biodiversity. To support the implementation of the Investment Program, the states have identified some policy improvements at state level as a part of the agreed sector road map. These include preparation of state shoreline management plans, organizational restructuring within SEAs for sustainable coastal protection and management, for increased PPP in coastal protection, establishment of processes and procedures for approvals of coastal infrastructure plans and designs, and sound action plan for sustainable operation and maintenance program for coastal protection.

G. Investment Plan

26. The three States have envisaged an investment plan of about \$700 million for the coastal protection and management over the medium-term. The investment priorities of the states will remain on coastal protection and management with parallel support for the initiatives of economic and social development and environmental management. Key areas for investment strategy includes (i) addressing the immediate coastal erosion needs through the implementation of environmentally and socially appropriate solutions, (ii) fostering natural protection measures through development and planting of dunes, planting of mangrove or other trees for protection or shelter, (iii) considering wider coastal protection issues including water quality, navigational entrances, dredging, reclamation, and training of river and drain mouths, and (iv) encouraging private sector participation in coastal protection and management.

27. An adjustment to the long-list based on prioritization of sub-projects has been carried out. All sub-projects to be included under the Investment Program will have to meet the selection criteria, namely, (i) erosion status; (ii) technical, institutional, and economic feasibility; (iii) compliance with safeguards requirements; (iii) endorsement by stakeholders including local government resolution for purposes of support the project; and (iv) state priority. Based on these criteria, sub-projects have been selected for project 1, and a long-list of sub-projects has been agreed for project 2 and project 3 subject to meeting these criteria. All these sub-projects, selected or long-listed are similar in nature in terms of design - focusing on environmentally and socially appropriate solutions, and in implementation arrangement.

28. Road map with policy and institutional matrix is presented in Table 1. The road map matrix includes an outline of key issues and recommended actions on (i) states coastal protection and management policy, (ii) project planning and design, and (iii) coastal protection and management investments.

Table 1: Road Map - Policy and Institutional Action Matrix

Key Issues and Actions		Actions by	Time Frame	Performance Indicators
1	Coastal Protection and Management Policy			
1.1	Formal Establishment of States Program Steering committees (PSC). Improved liaison and cooperation between the State Environment Departments coastal management programs and SEA Coastal Protection and Management Project, MOEF and MOWR.	States and SEA	PSC by July 2010 Rest by July 2011	Documented minutes of meetings
1.2	Empowerment and defining roles of SEA with that of central agencies such as CWC, CWPRS and CPDAC (Coastal Protection and Advisory Committee)	SEA	January 2012	Scope and terms of reference for the SEAs .
1.3	Mandating the SEA as the lead agency to coordinate coastal management and formal establishment of Coastal Information Management Unit (CIMU)	States PSC and SEA	July 2012	State notification for the establishment of CIMU and mandate to SEA.
1.4	Establishment of processes and procedures for approval of coastal infrastructure plans and designs within SEA	State and SEA	July 2011	Guidelines available. Prequalified individuals and or organizations engaged.
1.5	Agreed states policy for Coastal Protection and Management: <ul style="list-style-type: none"> • Preparation of operation and maintenance plans for existing shoreline • Organizational restructuring within SEAs for sustainable coastal protection and management • Shoreline protection and management plans • Increased PPP in coastal protection 	SEAs/State PSCs	December 2011 July 2012 July 2011 July 2013	Documentations on the policy actions Preparation of integrated shoreline plans becomes a part of the state policy.

Key Issues and Actions		Actions by	Time Frame	Performance Indicators
2	Planning and Design			
2.1	Training and capacity building to prepare shoreline plans.	State and Districts	July 2012	Training provided to State/ Districts agencies, local experts/agencies, local bodies and stakeholders on integrated planning of shoreline. Effective mechanisms in place for participation by stakeholders.
2.2	Development of criteria and guidelines for planning, design for coastal projects including the use of soft technologies and requirements for environmental and social assessments. Agreed processes for selection of sub projects.	SEA and PMC consultants	July 2012	Development of criteria and guidelines and criteria for coastal protection and management. States seek endorsement of CWC.
2.3	Development of capacity through private sector and government institutions for detailed planning and design of projects including specialist skills in numerical modeling and design of soft engineering solutions. -Development of a database of experts and trainers. -Training of trainers and extensive training to 3 states.	SEA, State Institutes and local experts/agencies including the private sector	July 2014	Training assessments Baseline assessments, review assessments at end of year 3,6 and 8
3	Community and Private Sector Engagement			
3.1	Beneficiary stakeholder including local bodies engaged in the management and maintenance of subprojects.	SEAs	July 2012	Agreed management plans for all sub projects. Monitoring and assessment of management and maintenance of completed projects
3.2	Community development and shoreline economic development initiatives established.	SEAs	July 2013	Training in income generating activities; and new initiatives towards income generation of local communities.
3.3	Promotion of private sector participation in the Coastal protection and management, to be incorporated into the project planning and development. This would include a preliminary plan for PPP in the coastal protection and management, scoping of investor opportunities, contracts and agreements for specific projects.	SEAs	July 2013	State policies and guidelines for private sector participation prepared. Viable PPP projects identified for implementation

H. Investment Program-Program Description

1. Impact

29. The impact of the Program will be improved income and reduced poverty of the coastal communities in the sub-project areas of three coastal States. The impact will be measured by rising income of coastal communities, lifted by the expansion in tourism and businesses, reduction in poverty in the coastal communities.

2. Outcome

30. The outcome of the Program will be protected and managed shorelines in the three States meeting the needs of stakeholders and the environment. In outcome, the key performance target is protecting and managing 150 km of coastlines with the participation of community and private sector.

3. Outputs

31. The Program outcome will be achieved through the following outputs: (i) sustainable plans and management for shorelines developed, (ii) coastal erosion and instability reduced, and (iii) enhanced capacity for shoreline planning and development.

3.1. Output 1: Sustainable Plans and Management for Shorelines Developed

32. The output 1 will include the following: (i) participatory shoreline management plans to meet the long term needs for shoreline management, (ii) functional coastal management information systems within each of the State Executing Agencies (SEAs) with linkages to the central agencies and (iii) management and supervision for coordination and implementation of sub-projects and preparation of detailed design of sub-projects for future tranches. The sub-outputs will be as follows:

- (i) **Participatory Shoreline Management Plans:** Shoreline management plans will be prepared to meet the long term needs for shoreline management. It is proposed to produce participatory and integrated shoreline management plans for the whole coastline of the three states. The total length of coastline for the three states is about 1,100 km, including the estuaries the total length might be increased by about 20%. Shoreline plans will be prepared for each district and will address key issues of the coastal processes, shoreline land use and present proposals for the long term sustainable protection and management of the shoreline. The plans would also identify potential economic development opportunities in the coastal areas. The shoreline management plans will be prepared by a multi-disciplinary team of coastal management specialists as part of the project management and design consultancy. The shoreline planning will be implemented over three years; the areas of coast where erosion or other problems have been identified will be taken up for priority planning. A key output of the process for shoreline management planning is to develop the planning capacities at the State and district level in the public and private sectors to undertake this work.
- (ii) **Coastal Management Information Systems:** Coastal management information system will be developed and established within each of the State Executing Agencies

with linkages to central agencies. The databases will source information from National and State level institutions and other specialized agencies including MOEF. It will establish effective mechanisms for sharing information with the various state and district level coastal agencies and stakeholders. The maintenance of the MIS will be a key responsibility of the new Coastal Information Management Units (CIMU) to be established within each of the State Executing Agencies.

- (iii) **Management and Planning of Sub-projects:** Planning and design of projects for implementation will be selected based on the outputs of the shoreline management planning process. Selected projects will be formulated and submitted for preliminary selection and assessment. Feasibility studies including numerical modeling as required will be carried out for all projects to assess their technical and economic viability as well as their social and environmental impacts. Detailed designs will be prepared for projects selected for implementation. Appropriate and viable projects will be presented for funding under Tranches 3 and 4.

3.2 Output 2: Coastal Erosion and Instability Managed and Reduced

33. The output 2 will comprise the following: (i) reduction of coastal erosion and instability through the implementation of economically viable protection works using environmentally and socially appropriate solutions, and (ii) community engagement in coastal erosion and instability reduction. The sub-outputs will be as follows:

- (i) **Reduction of coastal erosion, salinity, and instability:** This sub-output will include a range of investments to meet specific needs. The scope of the investment will focus on coastal protection but will also support the physical investments to support the wider area of coastal management. Two areas of potential investment have been identified : (i) investments for coastal protection to address the immediate coastal erosion needs through the implementation of economically viable protection works using environmentally and socially appropriate solutions; (ii) investments to address the causes of coastal erosion, salinity (khar/khazan land), or coastal instability. Key areas of other coastal protection interventions include (a) navigation inlets and training of river and drain mouths; (b) investments to provide natural protection through development and planting of dunes, planting of mangrove or other trees for protection or shelter; and (c) investments to support coastal management including water quality, dredging, reclamation etc.
- (ii) **Community Engagement:** The key output will be (i) training provided to local communities in shoreline management; (ii) training in income generating activities; and (iii) new initiatives towards income generation of local communities. . This sub-output is envisaged to develop sustainable initiatives to engage the community in the development and management of the shoreline.
- (iii) **Private Sector:** The States will take steps towards encouraging private sector investments in coastal protection and management. Towards this the States will put in place enabling policies and guidelines for private sector participation in coastal protection and management as feasible. The SEAs will also undertake training of local experts/agencies, local bodies and stakeholders in the area of integrated coastal protection and management including use of site specific soft technologies.

3.3 Output 3: Enhanced Capacity for Shoreline Planning and Development

34. The output 3 will comprise following: (i) enhanced capacity within districts and states to design, and implement shoreline protection and management projects, (ii) enhanced capacity of national private consultants and government institutes to provide specialist support for designing and reviewing coastal protection and management projects, (iii) improved capacity of communities and stakeholders to manage and maintain the beaches and (iv) mandated SEAs to coordinate all coastal infrastructure projects and programs. The sub-outputs are as follows:

- (i) **Enhanced capacity within districts and states:** The capacity at the district and state level will be enhanced to prepare and implement participatory shoreline management plans together with mechanisms to prioritize the investments and to effectively implement the plans. Coastal Information Management Unit (CIMU) will be established and shoreline management plans will be prepared and updated at five yearly intervals. The shoreline management plans would form the basis of long term shoreline protection and management.
- (ii) **Enhanced capacity of local experts/agencies, local bodies and stakeholders :** The capacity of local experts/agencies, local bodies and stakeholders will be enhanced to provide specialist support for planning, modeling, design, checking and review for coastal protection and management.
- (iii) **Improved capacity of communities and stakeholders:** The mandates and capacities of communities and stakeholders will be improved to manage and maintain the beaches.
- (iv) **Mandated SEAs:** The States will take all necessary steps to empower the SEAs to coordinate all coastal management programs. Towards this the capacity of the SEAs will be enhanced. Establishment of a CIMU within the SEAs will support the coordination of MIS.

I. Program Investment Plan

35. The project investment cost is estimated at \$404.6 million (Table 2: Project Investment Plan) including taxes and duties of \$ 35.5 million to be financed by the Government.

Table 2: Project Investment Plan

(\$million)

Item	Amount
A. Base Cost ^a	
1. Planning and Design	19.8
2. Coastal Erosion and Instability Reduction	309.3
3. Capacity Development	19.7
Subtotal (A)	348.8
B. Contingencies ^b	41.9
C. Financing Charges During Implementation ^c	13.9
Total (A+B+C)	404.6

a) Base costs in mid 2009 prices

- b) Includes price contingencies and physical contingencies at 10% of base costs on civil works, materials, supplies and equipment.
- c) Interest during implementation at the LIBOR 5 year US\$ swap rate plus a margin.

36. The financing plan is in Table 3 and detailed in Tables 4 to 7. The program schedule is given in Figure 1.

Table 3: Financing Plan
(\$ million)

Source	Total	%
Asian Development Bank	250.0	61.8
State Governments	119.8	29.6
Other Sources including Private Sector	34.8	8.6
Total	404.6	100.0

Table 4: Detailed Cost Estimates by Financiers (Total Investment Program) (\$ '000)

TOTAL 3 STATES	Government		Asian Development Bank		Other Sources including Private Sector		Total		Taxes and Duties
	Amount	% cost category	Amount	% cost category	Amount	% cost category	Amount	%	
Whole Program									
\$'000									
1. Civil works	78,735	28.0	175,262	62.3	27,373	9.7	281,370	67.5	27,294
2. Equipment and Supplies	5,598	22.8	16,465	67.1	2,492	10.1	24,555	6.1	5,598
3. Training	123	9.8	1,123	90.2	-	0.0	1,246	0.3	123
4. Community Initiatives	238	6.6	3,043	84.2	333	9.2	3,614	0.9	180
5. Studies & Surveys	181	12.3	1,299	87.7	-	0.0	1,480	0.4	181
6. Consulting Services	2,155	8.7	22,696	91.3	-	0.0	24,851	6.1	21,555
7. PMU Staff Costs	11,406	100.0	-	0.0	-	0.0	11,406	2.8	0
8. Sub-project maintenance	-	0.0	201	82.3	43	17.7	244	0.1	0
Total Base Costs	98,436	28.2	220,089	63.1	30,241	8.7	348,766	86.2	35,531
Price and Physical Contingencies	7,484	17.9	29,910	71.4	4,516	10.8	41,910	10.4	0
Financing Charges	13,910	100.0	-	0.0	-	0.0	13,910	3.4	0
Total Disbursement	119,830	29.6	250,000	61.8	34,757	8.6	404,587	100.0	35,531

Note: Some numbers may not tally due to rounding.

Table 5: Detailed Cost Estimates by Financiers – Maharashtra (Total Investment Program)
(\$ '000)

MAHARASHTRA Whole Program	Government		Asian Development Bank		Other Sources including Private Sector		Total		Taxes and Duties
	Amount	% cost category	Amount	% cost category	Amount	% cost category	Amount	%	
\$'000									
1. Civil works	34,912	30.6	66,263	58.2	12,769	11.2	113,944	69.7	11,394
2. Equipment and Supplies	2,548	22.8	7,478	66.8	1,166	10.4	11,192	6.8	2,548
3. Training	50	10.0	453	90.0	-	0.0	503	0.3	50
4. Community Initiatives	99	6.7	1,220	82.7	156	10.6	1,475	0.9	75
5. Studies & Surveys	61	12.3	437	87.7	-	0.0	498	0.3	61
6. Consulting Services	825	8.9	8,420	91.1	-	0.0	9,245	5.7	825
7. PMU Staff Costs	3,931	100.0	-	0.0	-	0.0	3,931	2.4	-
8. Sub-project maintenance	-	-	-	-	-	-	-	-	-
Total Base Costs	42,426	30.1	84,271	59.9	14,091	10.0	140,787	86.1	14,953
Price and Physical Contingencies	3,454	19.9	11,762	67.8	2,138	12.3	17,354	10.6	-
Financing Charges	5,316	100.0	-	0.0	-	0.0	5,316	3.3	-
Total Disbursement	51,196	31.3	96,033	58.8	16,229	9.9	163,457	100.0	14,953

Table 6: Detailed Cost Estimates by Financiers - Goa (Total Investment Program) (\$ '000)

GOA	Government			Asian Development Bank			Other Sources including Private Sector			Total		Taxes and Duties
	Amount	% cost category		Amount	% cost category		Amount	% cost category		Amount	%	
Whole Program												
\$'000												
1. Civil works	6,789	26.9	16,633	66.0		1,784	7.1	25,206	58.5		2,419	
2. Equipment and Supplies	510	23.4	1,514	69.4		159	7.3	2,183	5.1		510	
3. Training	20	8.5	216	91.5		-	0.0	236	0.5		20	
4. Community Initiatives	27	6.6	365	88.3		21	5.1	413	1.0		17	
5. Studies & Surveys	39	9.8	358	90.2		-	0.0	397	0.9		39	
6. Consulting Services	419	7.9	4,902	92.1		-	0.0	5,321	12.4		419	
7. PMU Staff Costs	3,738	100.0	-	0.0		-	0.0	3,738	8.7		0.0	
8. Sub-project maintenance	-	0.0	201	82.3		43	17.7	244	0.6		0.0	
Total Base Costs	11,542	30.6	24,188	64.1		2,007	5.3	37,737	87.6		3,424	
Price and Physical Contingencies	707	18.2	2,884	74.3		291	7.5	3,883	9.0		-	
Financing Charges	1,445	100.0	-	0.0		-	0.0	1,445	3.4		-	
Total Disbursement	13,693	31.8	27,073	62.9		2,299	5.3	43,065	100.0		3,424	

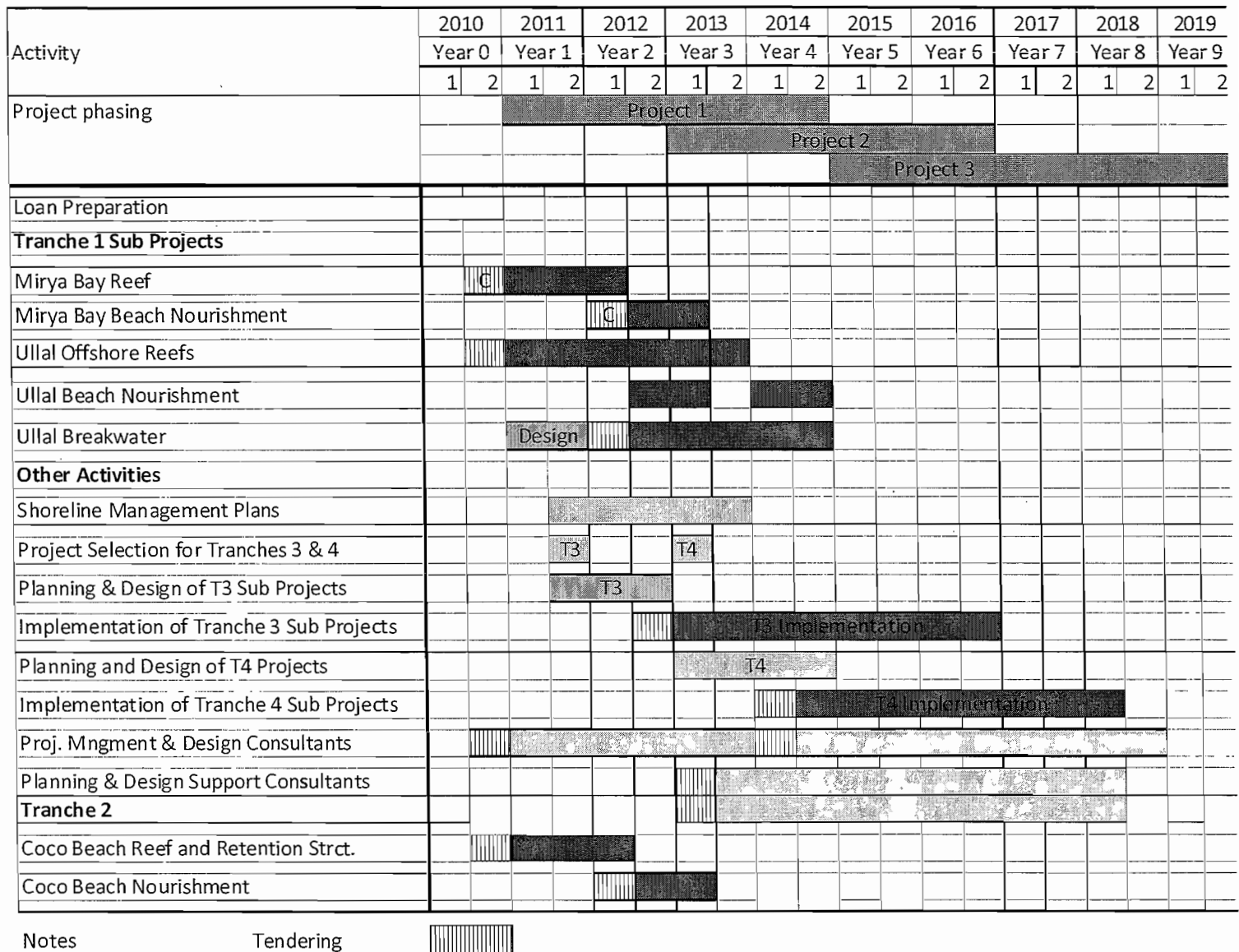
Note: Some numbers may not tally due to rounding.

Table 7: Detailed Cost Estimates by Financiers - Karnataka (Total Investment Program) (\$ '000)

KARNATAKA Whole Program \$'000	Government		Asian Development Bank		Other Sources including Private Sector		Total		Taxes and Duties
	Amount	% cost category	Amount	% cost category	Amount	% cost category	Amount	%	
1. Civil works	37,067	26.1	92,383	64.9	12,814	9.0	142,264	71.8	13,525
2. Equipment and Supplies	2,547	22.8	7,474	66.8	1,166	10.4	11,187	5.6	2,547
3. Training	50	10.0	453	90.0	-	0.0	503	0.3	50
4. Community Initiatives	111	6.5	1,458	84.5	156	9.0	1,725	0.9	87
5. Studies & Surveys	77	13.2	505	86.8	-	0.0	582	0.3	77
6. Consulting Services	868	8.5	9,374	91.5	-	0.0	10,242	5.2	868
7. PMU Staff Costs	3,738	100.0	-	0.0	-	0.0	3,738	1.9	-
8. Sub-project maintenance	-	-	-	-	-	-	-	-	-
Total Base Costs	44,458	26.1	111,647	65.6	14,137	8.3	170,242	86.0	17,154
Price and Physical Contingencies	3,334	16.1	15,247	73.8	2,092	10.1	20,674	10.4	-
Financing Charges	7,149	100.0	-	0.0	-	0.0	7,149	3.6	-
Total Disbursement	54,941	27.7	126,894	64.1	16,229	8.2	198,064	100.0	17,154

Note: Some numbers may not tally due to rounding.

Figure 1 : Program Schedule



SCHEDULE 2

DESIGN AND MONITORING FRAMEWORK

Design Summary	Performance Targets/Indicators	Data Sources/Reporting Mechanisms	Assumptions and Risks
Impact Improved income and reduced poverty of the coastal communities in the sub-project areas of three coastal States	After 5 years of Program completion (2024): <ul style="list-style-type: none"> Higher per capita income for coastal communities in the subproject areas Contribution from tourism to State GDP increased Poverty incidence in coastal communities reduced 	<ul style="list-style-type: none"> Statistics on State GDP and tourists and tourism-related economic activities Human Development Index (HDI) and Below Poverty Level (BPL) for intervention districts District and panchayat reports Baseline data and BME reports 	Assumption <ul style="list-style-type: none"> Stable socio-political environment States continue to support coastal protection Climate change related environmental impacts are within predicted levels Risk <ul style="list-style-type: none"> Complexity of coastal process Shifting population along coastlines may impact poverty reduction analyses
Outcome Protected and managed shorelines in the three States meeting the needs of stakeholders and the environment	At the end of the Program (2019): <ul style="list-style-type: none"> About 150 km of coastline in the States protected and managed using soft technologies⁴ as required Community and private sector participate in coastal protection and management Number of businesses at intervention beaches increased by 15% 10% increase in coastal shipping and fish landings at intervention districts 	<ul style="list-style-type: none"> CIMU data Space Application Centre satellite imageries Statistics from District Industry Centers, Trade Association of small and medium enterprises Panchayat and rural development department statistics Project progress reports Baseline data and BME reports 	Assumption <ul style="list-style-type: none"> Coastal protection and management projects are implemented using highest technical standards Risks <ul style="list-style-type: none"> Implementation delays Emergency measures due to natural calamities Role of extraneous

⁴ Such as artificial reefs, beach nourishment, dune management etc.

			<p>factors that impact data on overall economic growth</p> <ul style="list-style-type: none"> Organizational capacity to undertake maintenance and sustainability of subprojects
<p>Outputs</p> <p>1. Sustainable Plans and Management for Shorelines Developed</p> <p>1.1 Participatory shoreline management plans to meet the long term needs for shoreline management for 3 State coastlines prepared and endorsed</p> <p>1.2 Coastal management information system to support planning and management established</p> <p>1.3 Project management system established and operational, and sub-projects for future tranches planned and designed</p>	<ul style="list-style-type: none"> All plans are completed and endorsed by local bodies as stakeholders, and relevant planning authorities by 2013 Coastal management information system is functional in each states with linkages to central agencies Staff are trained to manage and maintain the system PMUs established, staffed (2010) PMU staff trained (2011) Project manuals prepared and fully operational (2011) Consultants engaged and provide support (2011) Designs for future 	<ul style="list-style-type: none"> Shoreline Management Plans documents Project progress reports ADB review missions Project progress reports ADB review missions Detailed operational guidelines Consultants reports Project progress reports ADB review missions Approved design documents and supporting reports 	<p>Assumptions</p> <ul style="list-style-type: none"> Government and political support Active stakeholder support and participation Mechanisms and finance to update the plans are maintained <p>Assumption</p> <ul style="list-style-type: none"> Information and data are provided freely from relevant institutions <p>Risk</p> <ul style="list-style-type: none"> Information systems are not updated after completion of the project <p>Assumption</p> <ul style="list-style-type: none"> Sufficient counterpart funding Engagement of qualified and experienced consultants State Governments to officially

	tranches are approved by qualified professional technical review panel and endorsed by communities and stakeholders		constitute review panels
2. Coastal Erosion and Instability Reduced 2.1 Coastal erosion and instability reduced	<ul style="list-style-type: none"> Coastline subject to erosion is reduced to 380 km from the present level of 530 km Community/local government resolution for purposes of maintenance of completed projects 	<ul style="list-style-type: none"> Space Application Centre satellite imageries Consultants reports Project progress reports ADB review missions Baseline data and BME reports 	Assumptions <ul style="list-style-type: none"> Stable socio political environment Engagement of qualified and experienced consultants Risks <ul style="list-style-type: none"> Delay in implementation including procurement activities
2.2 Community and private sector engaged in coastal erosion and instability reduction	<ul style="list-style-type: none"> 50 communities with up to 30% women beneficiaries at each intervention district supported Private sector investments in coastal protection and management up to 7% of total cost 	<ul style="list-style-type: none"> BME reports Project progress reports ADB review missions Business licenses application records 	Assumptions <ul style="list-style-type: none"> Community and private sector supportive of coastal protection and management initiatives Private Sector appetite
3. Enhanced capacity for integrated shoreline planning and development 3.1 Enhanced capacity for districts and states to plan, design, and implement shoreline protection and management projects	<ul style="list-style-type: none"> Training provided to State/ Districts agencies, local experts/agencies, local bodies and stakeholders (2012) Coastal Information Management Unit (CIMU) operational by 2012 Shoreline management plans are updated at five yearly intervals 	<ul style="list-style-type: none"> PMU data on training Shoreline management plan documents Project progress reports ADB review missions 	Assumption <ul style="list-style-type: none"> Government allows continuity of core trained coastal staff to remain in the coastal divisions

<p>3.2 Enhanced capacity for State/ Districts agencies, local experts/ agencies, local bodies and stakeholders to provide specialist support for planning, modeling, design, checking and review for coastal protection and management</p>	<ul style="list-style-type: none"> • Adequate numbers of State/ Districts agencies, local experts/ agencies, local bodies and stakeholders trained • in application of new technologies. • 50 staff at CWC, CWPRS and other central agencies trained 	<ul style="list-style-type: none"> • Project progress reports • ADB review missions 	<p>Assumption</p> <ul style="list-style-type: none"> • States open to use of new technologies and related capacity building
<p>3.3 Beaches are managed and maintained by the communities and stakeholders</p>	<ul style="list-style-type: none"> • Shoreline Management involving local bodies as stakeholders with at least 30% representatives from women functional • Shoreline management active at each sub-project site 	<ul style="list-style-type: none"> • Project progress reports • ADB review missions 	<p>Assumption</p> <ul style="list-style-type: none"> • States are supportive of institutional reforms
<p>3.4 SEAs formally mandated to coordinate all coastal protection and management programs</p>	<ul style="list-style-type: none"> • Approved formal mandate as part of proposed shoreline planning and management policy • Approved Shoreline Planning and Management Policy • Appropriate notification by the States as required 	<ul style="list-style-type: none"> • Project progress reports • ADB review missions 	<p>Assumption</p> <ul style="list-style-type: none"> • State support to the proposed activities <p>Risk</p> <ul style="list-style-type: none"> • Procedural delays

Activities with Milestones	Inputs
<p>1. Preparatory Activities by SEAs</p> <p>1.1 Establishment of PMU (Q4 2010)</p> <p>1.2 Tendering and engagement of Project Management and Design Consultants (PMDC) (Q4 2010)</p> <p>2. Output 1: Sustainable Plans and Management for Shorelines Developed</p> <p>2.1 Preparation of shoreline management plans and information systems for whole 3 state coast coastline- preliminary plans (Q4 2011), approved plans (Q2 2012).</p> <p>2.2 Updating of the long list of potential projects (Q1 2011).</p> <p>2.3 Plan, identify, prescreen and prepare design of Tranches 3 (Q2 2012) and 4 subprojects (Q2 2014)</p> <p>3. Output 2: Coastal Erosion and Instability Reduced</p> <p>3.1 Contract out and implement detailed designs and construction works (Q1 2011-Q1 2019)</p> <p>3.2 State guidelines for private sector participation in coastal protection and management (Q3 2011)</p> <p>3.3 Identify effective areas of PPP(Q4 2011)</p> <p>4. Output 3: Enhanced Capacity for Shoreline Planning and Development</p> <p>4.1 Preparation of training needs assessment and training plan (Q1 2011)</p> <p>4.2 Implementation of training plan(Q2 2011 to Q4 2015)</p> <p>4.3 Shoreline protection and management policy review (Q4 2011)</p> <p>4.4 Draft guidelines and policy document(Q1 2012)</p> <p>4.5 Agreed guidelines and approved policy (Q1 2013)</p> <p>5. Loan Approvals and support(by ADB)</p> <p>5.1 Program approval (Q3 2010)</p> <p>5.2 Inception mission (Q1 2011) midterm review (Q2 2015), review missions (intermittent)</p> <p>5.3 Total Project</p> <p>Tranche 1 (Q4 2010 to Q4 2014)</p> <p>Tranche 2 (Goa first loan) (Q4 2010 to Q4 2014)</p> <p>Tranche 3 (Q1 2013 to Q4 2016)</p> <p>Tranche 4 (Q1 2015 to Q4 2019)</p>	<ul style="list-style-type: none"> • ADB support consultants <ul style="list-style-type: none"> • PMDC, SEAs and statakeholders • Training, institutional development • Mobilization of counterpart funds • PMU supported by PMDC • ADB and Government funding <ul style="list-style-type: none"> • PMU staff resources • PMDC <ul style="list-style-type: none"> • PMDC • PSC, District Planning Bodies, and SEAs <p>Project Cost</p> <p>ADB \$250.0 million</p> <p>Government \$119.8 million</p> <p>Other Sources including Private sector \$34.8 million</p> <p>Total \$ 404.6 million</p> <p>Consulting services</p> <p>1361 person-months (261 international and 1,100 national) consultancy, and 29 person-months of panel of experts</p>

ADB = Asian Development Bank, BME = Benefit Monitoring and Evaluation, BPL = Below Poverty Lists, CIMU = Coastal Information Management Unit, CWC = Central Water Commission, CWPRS = Central Water and Power Research Station, GDP = Gross Domestic Product, HDI= Human Development Index, MOWR= Ministry of Water Resources, PMDC= Project Management and Design Consultants, PMU= Program Management Unit, PMDC = Project Management and Design Consultants, SEAs = State Executing Agencies.

SCHEDULE 3 IMPLEMENTATION FRAMEWORK

A. Implementation arrangements

1. Facility management

a. Organizational set-up and functions

1. (a) Each State will establish a state Program Steering Committee (PSC) to provide project oversight, policy guidance, facilitate interdepartmental coordination among all relevant State departments and agencies, and help institutionalize effective mechanisms to plan, improve and manage coastal management initiatives. The PSC will also be responsible for coordination with the central level ministry of water resources (MOWR), central water commission (CWC) and other ministries as required including Finance, Water Resources, Environment and Forests, Agriculture (Fisheries), Science and Technology, Earth Sciences, Defense (Hydrography office), and Home Affairs. The PSC will also ensure that the projects under the Facility follow the requirements of the central agencies referred including the national strategies and approvals as required.

(b) The PSC will be chaired by the State executing agency's (SEA's) departmental secretary with the following as members: the secretaries of departments in charge of finance, water resource development, port and fisheries development, environment, urban development, rural development and tourism, (and in case of Maharashtra the chief executive officer of the Maharashtra Maritime Board); representatives of the district level administration, representatives of the civil society. The project director of each PMU will serve as secretary of the PSC. The PSC will meet as required but at least twice every year to (i) review project progress, (ii) approve subproject selection and, (iii) act on any issues in need of resolution at the state level.

2. Each State will have an executing agency (SEA) for the Facility, with responsibility for overall project management and implementation. These will be (i) the Karnataka Public Works, Ports and Inland Waterways Department for Karnataka, (ii) the Maharashtra Maritime Board for Maharashtra; and (iii) the Goa Department of Water Resources for Goa. To carry out its responsibility, each SEA will establish a Program Management Unit (PMU) with the following roles: (i) preparation of an overall implementation plan and annual budget; (ii) overall interagency coordination; (iii) recruitment of consultants/NGOs and award of procurement and consulting contracts, (iv) subproject planning and appraisal; (v) subproject safeguards document preparation, state agencies clearance coordination and safeguard plans implementation; (vi) project financial management; (vii) consolidation, review, and submission of regular progress and financial reports to the PSC and ADB; (viii) preparation of the periodic financing request for tranches and (ix) establishment of a coastal management information system (MIS) and; (x) monitoring and evaluation of project outputs and results.

3. The Program management units as established by each SEA (the PMU) will be headed by a full time project director. The project director will report to the SEA departmental secretary (and in case of Maharashtra to the chief executive officer of the Maharashtra Maritime Board). The PMU will be staffed by full time deputy directors for (i) technical matters; (ii) finance and administration and (ii) interdepartmental coordination and planning. The PMU will have a multidisciplinary team comprising staff deputed from the SEA and associated line departments and/or recruited from the market. The PMU will be assisted by the Project Management and

Design Consultants. The PMU will also be supported by a Panel of Experts comprising international renowned consultants.

4. Coastal Information Management Unit (CIMUs) will be established by July 2012 by each State. These CIMUs will be established as a separate cell within the SEAs. The CIMU will have the responsibility to take over and manage the Coastal Management Information Systems (MIS) established by the PMU at State level and liaise with the Central Water Commission (CWC) MIS. The databases will source information from National and State level institutions and other specialized agencies including MOEF. It will establish effective mechanisms for sharing information with the various state and district level coastal agencies and stakeholders. The maintenance of the MIS will be a key responsibility of the CIMU at State level.

5. Each SEA will ensure that Shoreline Management will be undertaken by involving local bodies as stakeholders. Local community and beneficiaries will support the coordination and monitoring of the project during the implementation and would take on the responsibility for the management and maintenance of the projects after the completion of the capital works. The stakeholders will include women's participation along with CBO's and other stakeholders and with required project support and resources to ensure they effectively represent the shoreline stakeholders and have capacities to take on their full management responsibilities.

Institutional Reforms

6. **Mandated SEAs:** The States will take all necessary steps to empower the SEAs to coordinate all coastal protection and management programs. Towards this the capacity of the SEAs will be enhanced under the Program. Establishment of a CIMU within the SEAs will support the coordination of MIS.

7. **Sustainability.** The States shall ensure evaluation of adequacy of budgetary requirements for necessary expenditures, in particular for operations and maintenance of subprojects. To ensure availability of the funds required to meet such expenditures, the States will take into consideration various funding sources, including subsidies, financial performance of local bodies, introduction of schemes as necessary, to ensure financial sustainability through introduction of appropriate taxes as required and feasible.

Specific additional arrangements existing for Karnataka State

8. The PSC in the case of Karnataka will be further guided by the Technical Expert Committee (TEC) as established by the State. The TEC is chaired by experienced senior coastal expert from a technical government department with members being chief engineers from water resources, irrigation and public works departments and heads of Karnataka relevant technical institutes. The TEC supports and has the mandate for review of shoreline planning, subproject feasibility studies and detail design technical approvals, including the environmental safeguards. The TEC will also be supported by a Panel of Experts. Further, the State has established a State Empowered Committee (SEC) that meets periodically throughout to guide in project implementation.

b. Implementation procedures and arrangements

9. In implementing the program component 1: Sustainable Plans and Management for shoreline developed, the following procedures will be followed.

(i) Participatory long term coastal management plans will be developed for successive Tranche 3 and 4 subprojects identification. The PMU planning and coordination unit will be in charge of

the overall planning process with assistance of the PMDC. The sub-projects will have to be selected in accordance with the criteria as stipulated in schedule 4 and approved by the State steering committee.

(ii) A coastal MIS, will be established in each PMU to support the planning process and management and provide standardized and comparable information to the central agencies. The MIS database will be created in each PMU by the PMDC and maintained by the PMU. It will be gradually transferred to the CIMU once established. 8. In implementing the program component 2: coastal erosion and instability reduced, the following procedures will be followed.

- (i) Feasibility studies and detail designs for all subprojects of tranche 1 investment have been completed during the preceding project preparatory technical assistance (PPTA). This does not include however the detailed design of the realignment of Ullal sub-project breakwaters that will need to be undertaken during the first year of the tranche one execution. Pre-feasibility studies, feasibility studies and detail design of tranche 1 Ullal breakwaters and subsequent tranche 3 and 4 subprojects will be undertaken by the PMDC under the overall supervision of the PMUs.
- (ii) Tendering and implementation of coastal protection works and anti erosion activities will be undertaken by the PMUs. Works tender documents for the subprojects of tranche 1 (excluding Ullal breakwater) have been finalized by the PPTA. Tender documents for Ullal breakwaters realignment and subsequent tranche 3 and 4 subprojects will be prepared by the PMDC under the overall guidance of the PMUs. The PMUs will be responsible for complying with ADB's procurement processes.
- (iii) Communities' initiatives support will exclusively be provided to enhance the economic or social benefits of a subproject or eventually mitigate the potential negative impact on a specific stakeholder group. The community initiatives activities will be executed by the PMUs with support from the PMDC.
- (iv) For the first tranche, the beneficiary/private sector initiatives are restricted to the shoreline maintenance. The identification and development of PPPs will further be undertaken by the PMU with the support of the PMDC and the state PPP cells.

10. In implementing the program component 3: enhanced capacity for shoreline planning and management, the following procedures will be followed.

- (i) PMDC will prepare specific plans and programs based on the capacity building and training programs as identified under the PPTA. The beneficiaries of the training will include SEA and PMU staff as well as staff from the district administration, the Panchayat, state and central agencies.
- (ii) The development of States policies and plans for coastal protection and management will be carried out by the PMUs with support from the PMDC.

2. Funds and financial management

11. The Government of each state will ensure that its budget incorporates annual funding requirements of the projects for the government contribution and the release of funds.

12. A Finance and Administration Unit (FAU) will be established in the each PMU to ensure the rules and regulations and reporting formalities of ADB are followed. The Project Finance manager will be adequately qualified with major responsibilities that include overseeing the budgeting, accounting, and reporting of all financial transactions relating to the implementation of the project under the overall supervision of the Project Director.

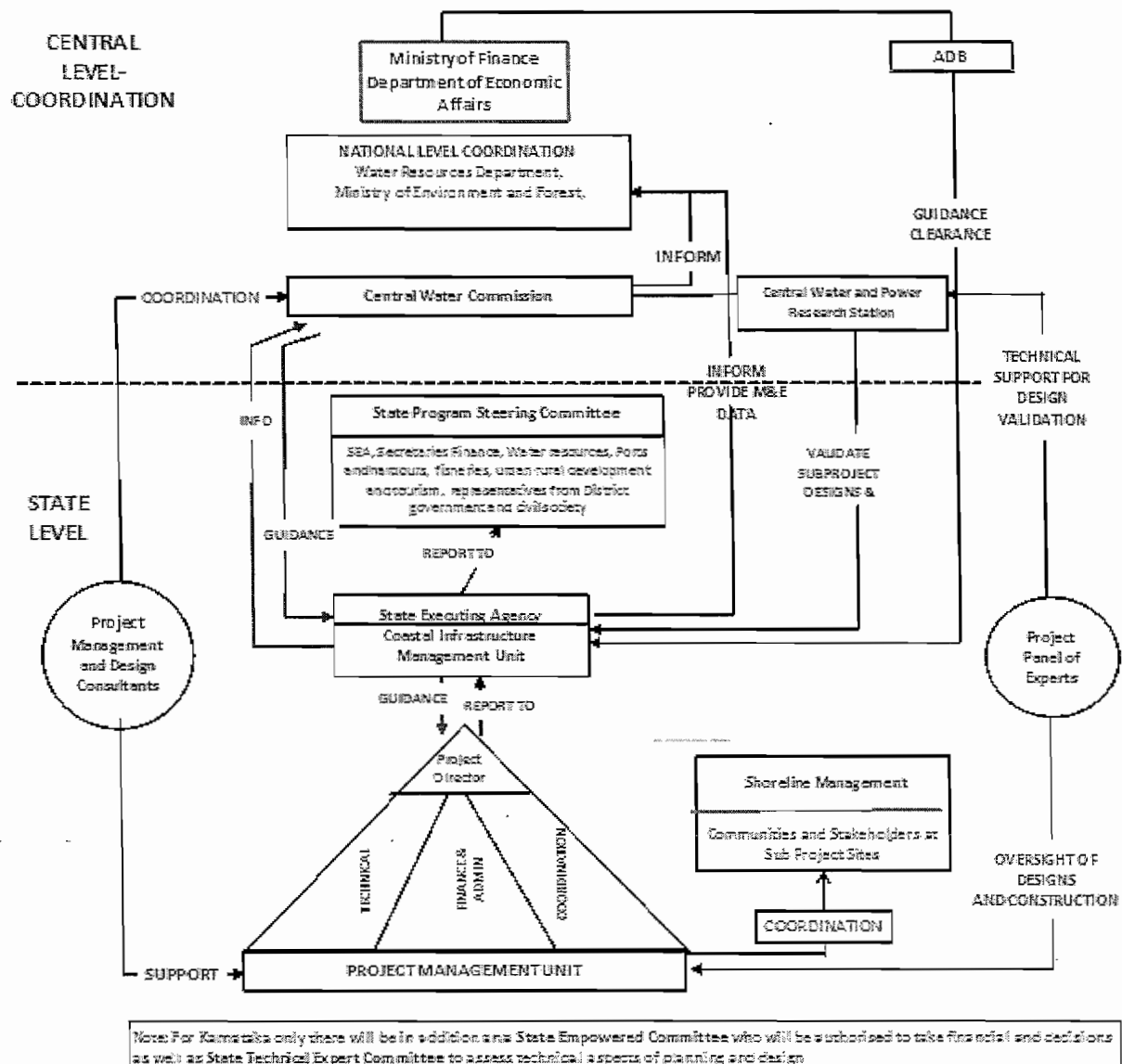
B. Social

13. Each State through SEA will ensure that civil works contracts under the projects follow all applicable labor laws of India and the State and that these further include provisions to the effect that contractors; (i) 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; (ii) do not use children as labor, and (iii) follow legally mandated provisions of labor (including equal pay for equal work), health, safety, sanitation, welfare and working conditions. The contracts will also include clauses for termination in case of any breach of these provisions by contractors.

C. Subproject approval and Implementation

14. Each SEA will ensure that all subprojects are selected, processed for approval, and implemented in accordance with the criteria and procedures included under Schedule 4 to this FFA and safeguard requirements included under Schedule 5 to this FFA.

Figure 1: Program Organization and Implementation Structure



SCHEDULE 4 APPROVAL PROCESS OF TRANCHES AND SUBPROJECTS

A. Selection and Approval of Sub-projects

1. Four subprojects were prepared under the ADB's PPTA, including Mirya (Maharashtra), Coco, and Colva (Goa) and Ullal (Karnataka) and found eligible for inclusion under the Facility. All subsequent sub-projects to be included under the Facility will have to meet the selection criteria as applicable, namely, (i) erosion status; (ii) technical, institutional, and economic feasibility; (iii) compliance with safeguards requirements; (iv) endorsement by stakeholders including resolutions as required to support the subproject; (v) state priority, and (vi) the State shoreline management plan as prepared and available under Project 1. Based on these criteria, while the sub-projects have been selected for tranche 1, a long-list of sub-projects has also been prepared for subsequent tranches subject to these meeting the criteria.

2. The long list of possible investment projects for the Facility covers a wide range of possible interventions and investments. Due to the complex nature of the coastal environment and the high requirements for studies (including numerical modeling) required to support feasibility studies, a three stage selection process will be followed.

3. **Stage 1: Identification:** Subprojects proposed for implementation should be identified and supported based on the participative shoreline management processes. Subproject identification assessments will be required to present information (both quantitative and qualitative) on key assessment parameters including:

- (i) Rationale and assessment and subproject description.
- (ii) Social and environmental assessments.
- (iii) Indicative project cost and maintenance requirements.
- (iv) Community and stakeholder support including of district administration and panchayats.

4. **Stage 2: Pre-feasibility.** Due to high costs and resources for numerical modeling projects will be initially screened through simple pre-feasibility studies. These will include supplementary assessments of coastal dynamics, identification of options, preliminary cost assessments and formal meetings with the communities and key stakeholders. More detailed assessments of likely economic benefits as well as CRZ and environmental issues will be undertaken. The resources and costs to undertake feasibility studies would also be assessed. Small or simple projects not requiring numerical modeling, such as, dune management could go directly to feasibility studies.

5. **Stage 3: Feasibility Studies.** Detailed feasibility studies will be undertaken including data collection, numerical modeling, and economic, social and environmental assessment to meet Government and ADB requirements. Individual subproject feasibility studies would require demonstrating:

- (i) Full technical feasibility, supported by full numerical modeling if required, assessment that any technical risks that might undermine the efficacy, economic returns, safety or sustainability are minimal;

- (ii) Financial and economic viability with economic rate of returns of over 12% with robustness under sensitivity and risk analysis.
- (iii) That the subproject is socially and environmentally acceptable.
- (iv) Fulfillment of the safeguard requirements (involuntary resettlement, indigenous peoples, and environment) of the Government, the State, and ADB.
- (v) Concurrence of the stakeholders of the subproject..

B. Procedures

6. Based on the stages described above, the subsequent tranches will be processed in accordance with the following procedures:

- (i) SEAs with the assistance of the PMDCs, will prepare the appraisal reports for each subproject together with documents as required, i.e., resettlement plan (RP), indigenous peoples development plan (IPDP) and environmental assessment with environment management plan (EMP), as applicable, and submit the same to ADB for approval and thereafter finalize these based on ADB comments if any. If the subprojects remain categorized as environmental category A or B sensitive, compliance with the 120-day advance disclosure rule is required including in case of major changes in its content. The finalized summary environmental impact assessment (SEIA) or summary initial environmental examination (SIEE) must be circulated to the ADB Board and made available to the general public 120 days before the respective PFR is submitted to ADB with the finalized plans as referred.
- (ii) The SEAs will translate the RP if any prepared, in the local language and disclose it to the affected people and incorporate the results of the consultation, before ADB's approval. The final RP will also be disclosed on the ADB website and the website of SEA.
- (iii) ADB will review the updated appraisal report together with the required attachments. If ADB finds that a proposed subproject is not likely to satisfy the eligibility criteria and/or the agreed procedures, ADB will advise the SEA either (a) to modify the subproject proposal in a manner that will make it eligible for approval or (b) that the subproject must be rejected.
- (iv) All necessary approvals of the Governments of India and the States will have been obtained prior to ADB approval of a subproject. The SEAs will be responsible for obtaining all such approvals and will provide ADB with a report showing that all approvals have been obtained prior to submission of subproject appraisal report.

SCHEDULE 5

SAFEGUARD REQUIREMENTS AND SOCIAL DEVELOPMENT ACTIONS

1. India will cause the State to ensure that all the requirements prescribed in this Schedule, and the following frameworks that have been prepared with respect to the Facility and of which ADB has been provided full copies, and which are deemed incorporated herein by reference, are complied with during the processing and implementation of the subprojects under the Facility.

- (i) Environmental Assessment and Review Framework (EARF)
- (ii) Environmental Impact Assessment (EIA) of each of the subprojects and Summary EIA including related environment management plans (EMPs)
- (iii) Resettlement Framework (RF)
- (iv) Indigenous Peoples Planning Framework (IPPF)

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

3. 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 safeguard policies, as amended from time to time.

4. In all cases, for each new PFR preparation, India will cause the States to review ongoing subprojects to check on the status of compliance with the safeguard plans and frameworks, and submit the review reports to ADB, together with other required safeguard documents relevant to the subprojects included in the tranche being processed. In any case if major noncompliance is discovered in the course of the review of ongoing subprojects, a corrective action plan will be prepared and submitted to ADB.

PERIODIC FINANCING REQUEST

Date 1 September 2010

To:

Asian Development Bank
6 ADB Avenue
Mandaluyong City, Metro Manila
Philippines

ATTENTION: Director General, South Asia Department

Sir:

RE: Sustainable Coastal Protection and Management Investment Program
– Periodic Financing Request # 1

Please refer to the Framework Financing Agreement (FFA) for the Sustainable Coastal Protection and Management Investment Program dated 1 September 2010 between Asian Development Bank (ADB) and India. Expressions defined in the FFA shall have the same meanings herein.

Pursuant to the provisions of the FFA, India requests ADB to process this Periodic Financing Request (PFR) for a tranche, in the form of a loan from its ordinary capital resources. The proposed financing amounts, terms, conditions and financing plan are specified in Attachment A hereto. Descriptions of the subprojects/components for which financing is hereby requested are also set out in the Attachment hereto.

By: INDIA



Anuradha Thakur
Director (ADB)
Department of Economic Affairs
Ministry of Finance
Government of India

ATTACHMENT A

Cost Estimates and Financing Plan

The total cost of the Project is estimated at \$62.7 million, inclusive of taxes, duties, and financing charges on the loan during construction (Table 1). The detailed cost estimates and financing plan are in Annex 2.

Table 1: Cost Estimates and Financing Plan for Project 1 (Maharashtra and Karnataka)

(\$ million)			
	Government	ADB	Total
A. Project Costs including Contingencies and Taxes			
1. Planning & Design	0.5	5.9	6.4
2. Coastal Erosion and Instability Reduction	4.1	42.5	46.6
3. Capacity Development	3.2	3.2	6.4
Subtotal	7.8	51.6	59.4
B. Financing Charges	3.3	-	3.3
Total (A+B)	11.1	51.6	62.7
Financing Share	17.7%	82.3%	100%

Source: Asian Development Bank estimates

Loan Amount and Terms

This request is for a loan of \$51,555,000 from the ordinary capital resources of the Asian Development Bank (ADB) provided under ADB's London Interbank offered rate (LIBOR)-based lending facility, with a 25 year term including a grace period of 5 years, an interest rate determined in accordance with ADB's LIBOR-based lending facility, a commitment charge of 0.15%, and such other terms and conditions as agreed in the FFA, and supplemented under the Loan and Project Agreements.

Period of Loan Utilization

The Project is expected to be completed by June 2014. No disbursement from the loan amount will be requested or made later than December 2014.

Implementation Arrangements

The Executing Agencies (the SEAs) for the Facility will be the respective States acting through (i) the Maharashtra Maritime Board (in case of Maharashtra), and (ii) the Public Works, Ports and Inland Water Transport Department (in case of Karnataka).

Procurement and Consulting Services	All goods and services to be financed under the Project will be procured in accordance with ADB's Procurement Guidelines (2010, as amended from time to time). All consulting services to be financed under the Project will be procured in accordance with ADB's Guidelines on the Use of Consultants (2010, as amended from time to time).
Advance Contracting and Retroactive Financing	Advance contracting of eligible civil works, equipment and materials, and consulting services are requested in accordance with agreed procedures and guidelines of ADB. The related expenditures are also requested for retroactive financing, provided these are incurred for a period no longer than 12 months prior to the signing of the Loan Agreement and Project Agreement, and do not exceed an amount equivalent to twenty percent (20%) of the loan. The Procurement Plan for the loan is attached as Annex 3.
Disbursement	Disbursement of the loan proceeds will be in accordance with ADB's Loan Disbursement Handbook (January 2007, as amended from time to time). The implementation arrangements concerning imprest account and second generation imprest account will follow the FFA provisions.
Confirmation of Continued Validity of and Adherence to Provisions of FFA and the Design and Monitoring Framework	India confirms that the provisions of the FFA are adhered to in submission of this PFR and in the implementation of this Project.
Readiness of the Investment Program for Implementation	The two subprojects included in this PFR have been appraised by the States. SEAs have prepared the detailed designs and tender documents for the works, and already tendered the relevant civil works and materials procurement packages. Relevant consulting services packages have been prepared in the advance stages of selection, with the finalization of the detailed terms of reference, and completion of advertisements, short listing, and issuance of request for proposals, and technical evaluation.
Safeguards	<p>The Project is environmental category A. The environmental impact assessments (EIAs) have been prepared for the subprojects including the SEIAs. The related environmental management plans (EMPs) for all sub-projects have also been prepared, and the specific mitigation actions will be incorporated in the related works contracts.</p> <p>None of the technical solutions proposed for controlling sea erosion require any land acquisition or resettlement of people. The Project interventions will be either carried out offshore (in the case of offshore reefs) or on the shore itself (in the case of dune management and beach nourishment). The surveys carried out under the PPTA show that none of the settlements in the sub-projects have indigenous people or ethnic minority groups. However during implementation of the Project in the unforeseen event of any</p>

resettlement impacts or impacts on indigenous peoples occurs during implementation of the Project, these will follow the requirements of the Resettlement Framework and the Indigenous Peoples Framework respectively as included under the FFA.

Annex 1

Table 1: Sub Project Profiles

Scheme	Objective and Main Scope
Maharashtra Mirya Bay	<p>Objective: Protection of community land and housing along north part of the bay, reinstatement of beach will allow landing access to fishing boats and opportunities for tourism. Reef is expected to provide habitat for fish and fish breeding.</p> <ol style="list-style-type: none"> 1. Offshore Geotextile Reef in northern part of the bay. Single layer shore perpendicular bags-volume-10,060m³. Sand to be sourced from sand heaps near harbour 2. Beach nourishment 450,000m³ to be placed on beach and in shallow water - inside the geotextile reef. Sand to be sourced from sand heaps, the harbour, and sand accumulated outside the harbour. The beach nourishment is expected provide a natural buffer against storms along north and central part
Karnataka Ullal	<p>Objective: Provision of long term and sustainable erosion protection to prevent severe erosion at Ullal and possible breaching of the spit.</p> <ol style="list-style-type: none"> 1. Construction of two large reefs located 600m offshore and in 6m depth of water. Construction of four near-shore berms. 2. Beach nourishment of 350,000m³ along the Ullal spit-sand to be sourced from the entrance and lower part of the Netravati river. 3. To shorten the southern breakwater and create an extension of the northern breakwater. This would allow sediment from the Netravati river to be pushed southwards and support nourishment of the southern beach

Table 2: Detailed Cost Estimates by Financiers – (Project 1 Maharashtra and Karnataka)
(\$ '000)

	Government		Asian Development Bank		Total		Taxes and Duties
	Amount	% cost category	Amount	% cost category	Amount	%	
1. Civil works	4,083	10.0	36,838	90.0	40,921	65.3	4,083
2. Equipment and Supplies	159	22.4	550	77.6	709	1.2	159
3. Training	74	10.2	648	89.8	722	1.2	74
4. Community Initiatives	41	5.0	766	95.0	807	1.3	41
5. Studies & Surveys	61	10.3	538	89.7	599	1.0	61
6. Consulting Services	446	6.0	7,255	94.0	7,701	12.3	446
7. PMU Staff Costs	2,876	100.0	-	-	2,876	4.6	-
8. Sub-project maintenance	-	0.0	-	-	-	0.0	-
Total Base Costs	7,739	14.2	46,595	85.8	54,334	86.7	4,864
Price and Physical Contingencies	41	0.81	4,960	99.2	5,001	7.9	-
Financing Charges	3,338	100.0	-	-	3,338	5.3	-
Total Disbursement	11,118	17.7	51,555	82.3	62,673	100.0	4,864

Table 3: Detailed Cost Estimates by Financiers – Maharashtra (Project 1) (\$ '000)

	Government		Asian Development Bank		Total		Taxes and Duties
	Amount	% cost category	Amount	% cost category	Amount	%	
1. Civil works	962	15.3	5,324	84.7	6,286	44.5	962
2. Equipment and Supplies	80	22.4	277	77.6	357	2.5	80
3. Training	37	10.2	324	89.8	361	2.6	37
4. Community Initiatives	14	5.0	264	95.0	278	2.0	14
5. Studies & Surveys	27	10.3	235	89.7	262	1.9	27
6. Consulting Services	212	6.0	3,301	94.0	3,513	24.9	212
7. PMU Staff Costs	1,474	100.0	-	-	1,474	10.4	-
8. Sub-project maintenance	-	0.0	-	-	-	0.0	-
Total Base Costs	2,806	22.4	9,725	77.6	12,531	88.7	1,332
Price and Physical Contingencies	21	2.6	810	97.4	831	5.9	-
Financing Charges	762	100.0	-	-	762	5.4	-
Total Disbursement	3,589	25.4	10,535	74.6	14,124	100.0	1,332

Note: Some numbers may not tally due to rounding.

Table 5: Detailed Cost Estimates by Financiers - Karnataka (Project 1) (\$ '000)

	Government		Asian Development Bank		Total		Taxes and Duties
	Amount	% cost category	Amount	% cost category	Amount	%	
1. Civil works	3,121	9.0	31,514	91.0	34,635	71.3	3,121
2. Equipment and Supplies	79	22.4	273	77.6	352	0.7	79
3. Training	37	10.2	324	89.8	361	0.7	37
4. Community Initiatives	27	5.1	502	94.9	529	1.1	27
5. Studies & Surveys	34	10.1	303	89.9	337	0.7	34
6. Consulting Services	234	5.6	3,954	94.4	4,188	8.6	234
7. PMU Staff Costs	1,402	100.0	0.0	0.0	1,402	2.9	
8. Sub-project maintenance	-	0.0	0.0	0.0	-	0.0	
Total Base Costs	4,933	11.8	36,870	88.2	41,803	86.1	3,532
Price and Physical Contingencies	20	0.5	4,150	99.5	4,170	8.6	0.0
Financing Charges	2,576	100.0	-	0.0	2,576	5.3	0.0
Total Disbursement	7,529	15.5	41,020	84.5	48,549	100.0	3,532

Note: Some numbers may not tally due to rounding.

PROCUREMENT PLAN

Basic Data

Project Name: Sustainable Coastal Protection and Management Investment Program – Project 1	Executing Agency:
Country: India	Maharashtra Maritime Board for Maharashtra state
	Public Works, Ports and Inland Water Transport Department for Karnataka state
Loan Amount: \$51.6 million	Loan (Grant) Number: TBD
Date of First Procurement Plan: Procurement Plan for Project 1 was approved on 15 January 2010	Date of this Procurement Plan: Procurement Plan for Project 1 was approved on

A. Process Thresholds, Review and 18-Month Procurement Plan

1. Project Procurement Thresholds

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

Procurement of Goods and Works	
Method	Threshold
International Competitive Bidding (ICB) for Works ¹	\$10,000,000 and above
International Competitive Bidding (ICB) for Works (geotextile reefs)	Any value
International Competitive Bidding for Goods / supply & installation ¹	\$1,000,000 and above
National Competitive Bidding (NCB) for Works ¹	Below that stated for ICB, Works other than community works contracts
National Competitive Bidding for Goods / supply & installation ¹	\$100,000 and above and less than \$1,000,000
Shopping for Goods	Below \$100,000
Force account for works	Less than \$500,000
	Utility shifting and deposit works of state owned departments or organizations in all 3 states.
Exceptional methods: Direct contracting	Simple civil works contracts costing less than \$30,000 may be directly awarded to NGOs, community groups as a community works contract

¹ For ICB, NCB works, goods and supply contracts, post-qualification procedures will be followed

2. ADB Prior or Post Review

2. Except as ADB may otherwise agree, the following prior or post review requirements apply to the various procurement and consultant recruitment methods used for the project.

Procurement Method	Prior or Post	Comments
Procurement of Goods and Works		
ICB Works	Prior	
ICB Goods	Prior	
NCB Works	Prior for the first NCB	Post review for subsequent NCBs
NCB Goods	Prior for the first NCB	Post review for subsequent NCBs
Shopping for Goods	Prior for the first shopping bid document	Post review for subsequent shopping
Force account for works	Post	
Exceptional methods: Direct contracting	Post	
Recruitment of Consulting Firms		
Quality- and Cost-Based Selection (QCBS)	Prior	
Other selection methods: Least-Cost Selection (LCS), and Single Source Selection(SSS)	Prior	
Recruitment of Individual Consultants		
Individual Consultants	Prior	

3. Goods and Works Contracts Estimated to Cost More Than \$1 Million

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

Contract Package No.	Contract Description	Value \$million	Procurement Method	Expected Date of Advertisement	Prequalification of Bidders Y/N	Type
Works and Goods						
1. Maharashtra						
CW-NCB-M1	Mirya Bay - dredging and beach nourishment using bulk sand stockpiled on the beach and from dredging of the fishing harbor. Nourishment by sand after one year.	3.40	NCB	April 2011	N	Works
CW-ICB-M1	Mirya Bay - construction of one multipurpose geotextile reef	3.00	ICB	December 2010	N	Works
2. Karnataka						
CW-NCB-U1	Ullal - Dredging and beach nourishment (initial and after one year)	5.00	NCB	June 2011	N	Works
CW-ICB-U1	Ullal - construction of two multi-purpose geotextile reefs and four	18.40	ICB	December 2010	N	Works

Contract Package No.	Contract Description	Value \$million	Procurement Method	Expected Date of Advertisement	Prequalification of Bidders Y/N	Type
	inshore berms					
CW-ICB-U2	Ullal - shortening and rehab of southern breakwater, extension and rehab of northern breakwater, crest protection.	12.00	ICB	March 2011	N	Works

4. Consulting Services Contracts Estimated to Cost More Than \$100,000

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

Contract Package Number	General Description	Contract Value	Recruitment Method ¹	Advertisement Date (quarter/year)	International or National Assignment	Comments
CS-1-K	Project Management and Design Consultants - Karnataka	4.87	QCBS Q: C ratio 90:10	May 2010	International	Consulting Services
CS-1-M	Project Management and Design Consultants - Maharashtra	4.03	QCBS Q: C ratio 90:10	December 2010	International	Consulting Services

ICB= international competitive bidding, LIB= limited international bidding, NCB= national competitive bidding, QCBS= quality cost based selection, QBS = quality based selection, SSS= single source selection, LCS= least cost selection.

5. Goods and Works Contracts Estimated to Cost Less than \$1 Million and Consulting Services Contracts Less than \$100,000

5. The following table groups smaller-value goods, works and consulting services contracts for which procurement activity is either ongoing or expected to commence within the next 18 months.

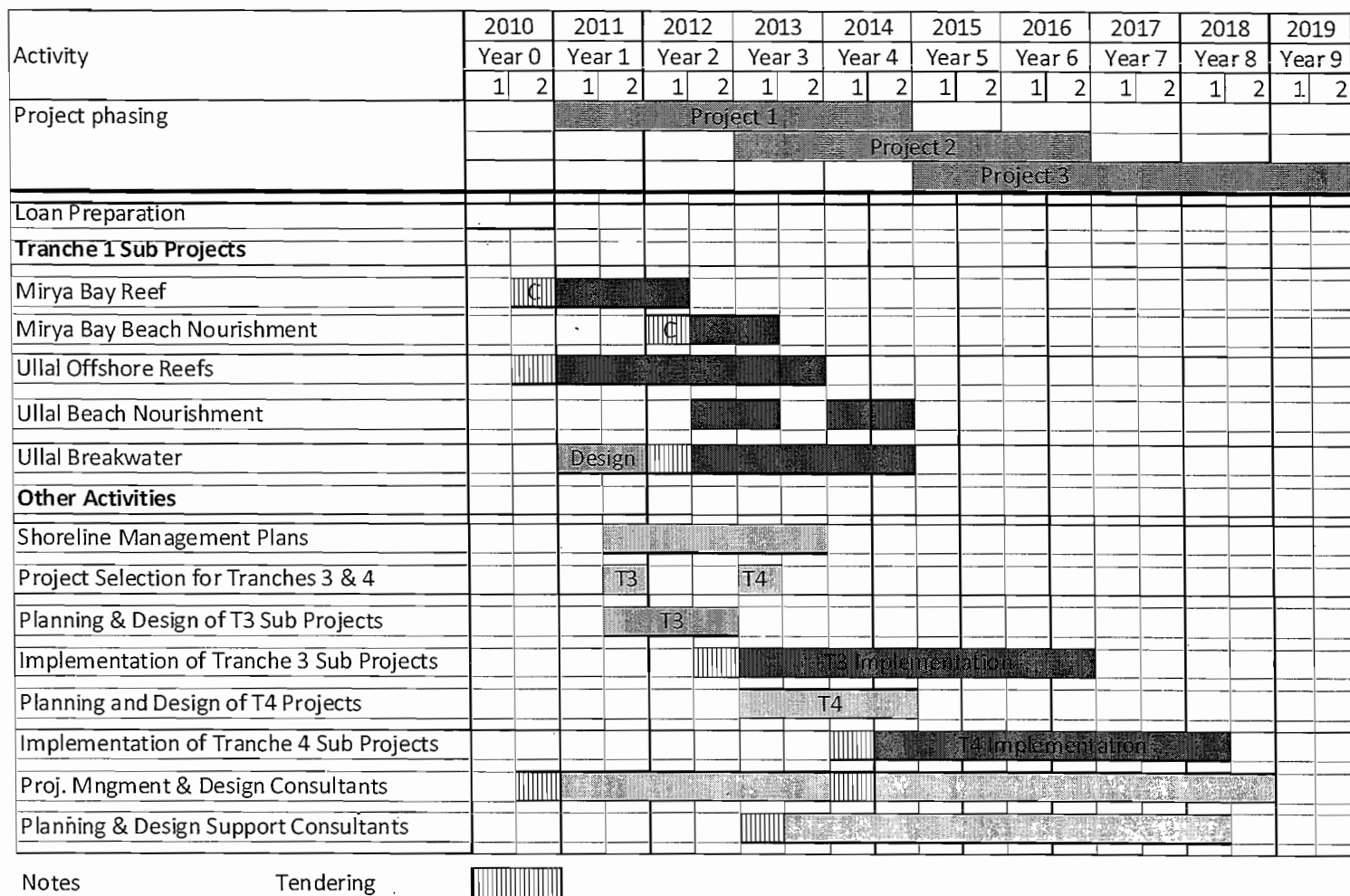
Contract Package No.	Contract Description	Value \$million	Procurement / Recruitment Method	Expected Date of Advertisement	Prequalification of Bidders Y/N	Type
A. Works and Goods						
1. Maharashtra						
Various lots	Mirya Bay - Community Initiatives to support shoreline development in multiple lots	0.30	Direct contracting or shopping	Y2010 – Y2012	N	Works/ goods
2. Karnataka						
Various lots	Ullal community initiatives to support shoreline development	0.55	Direct contracting or shopping	Y2010 – Y2014	N	Works/ goods

Contract Package No.	Contract Description	Value \$million	Procurement / Recruitment Method	Expected Date of Advertisement	Prequalification of Bidders Y/N	Type
3. Force Account	Deposit works including utility shifting of public works, forest, state water and power utilities, fisheries department etc.	0.5	Force Account	Y2010 – Y2014	N	Works/ goods
4. Others						
Various lots	Computers and peripherals, office equipment (multiple lots)	0.6	Shopping / direct purchase	Y2010 – Y2014	N	Supply
Various lots	Software (various in multiple lots)	0.3	Shopping / direct purchase	Y2010 – Y2014	N	Supply
B. Consulting Services						
NGO-various	NGO/CBOs to support community initiatives and activities (dune management & plantation, etc.) as required	0.50	LCS/SSS	Y2010 – Y2013	National	Consulting or Advisory Services
Various	Direct appointment of government institutes listed below for support activities including environmental monitoring, technical support as required (various packages): <ul style="list-style-type: none"> • Centre for Marine Fisheries Research Institute • Central Water and Power Research Station • National Institute of Oceanography • Maharashtra Engineering Research Institute • Karnataka Engineering Research Station • National Institute of Technology, Surathkal 	1.0	SSS	Y2009 – Y2013	National	Consulting, Advisory, Design, Survey, Investigation

B. Indicative List of Packages Required Under the Project

6. As noted above.

Figure 1: Implementation Schedule



DESIGN AND MONITORING FRAMEWORK (Project 1)

Design Summary	Performance Targets/Indicators	Data Sources/Reporting Mechanisms	Assumptions and Risks
Impact Improved income and reduced poverty of the coastal communities in the sub-project areas of three coastal States	After 5 years of Program completion (2019): <ul style="list-style-type: none"> Higher per capita income for coastal communities in the subproject areas Contribution from tourism to State GDP increased Poverty incidence in coastal communities reduced 	<ul style="list-style-type: none"> Statistics on State GDP and tourists and tourism-related economic activities Human Development Index (HDI) and Below Poverty Level (BPL) for intervention districts District and panchayat reports Baseline data and BME reports 	Assumption <ul style="list-style-type: none"> Stable socio-political environment States continue to support coastal protection Climate change related environmental impacts are within predicted levels Risk <ul style="list-style-type: none"> Complexity of coastal process Shifting population along coastlines may impact poverty reduction analyses
Outcome Protected and managed shorelines in the three States meeting the needs of stakeholders and the environment	At the end of the Program (2014): <ul style="list-style-type: none"> About 10 km of coastline in the States protected and managed using soft technologies¹ as required Community and private sector participate in coastal protection and management Number of businesses at intervention beaches increased by 15% 10% increase in coastal shipping and fish landings at intervention districts 	<ul style="list-style-type: none"> CIMU data Space Application Centre satellite imageries Statistics from District Industry Centers, Trade Association of small and medium enterprises Panchayat and rural development department statistics Project progress reports Baseline data and BME reports 	Assumption <ul style="list-style-type: none"> Coastal protection and management projects are implemented using highest technical standards Risks <ul style="list-style-type: none"> Implementation delays Emergency measures due to natural calamities Role of extraneous factors that impact data on overall economic growth

¹ Such as artificial reefs, beach nourishment, dune management etc.

			<ul style="list-style-type: none"> Organizational capacity to undertake maintenance and sustainability of subprojects
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Outputs 1. Sustainable Plans and Management for Shorelines Developed 1.1 Participatory shoreline management plans to meet the long term needs for shoreline management for 3 State coastlines prepared and endorsed 1.2 Coastal management information system to support planning and management established 1.3 Project management system established and operational, and sub-projects for future tranches planned and designed	<ul style="list-style-type: none"> All plans are completed and endorsed by local bodies as stakeholders, and relevant planning authorities by 2013 Coastal management information system is functional in each states with linkages to central agencies Staff are trained to manage and maintain the system PMUs established, staffed (2010) PMU staff trained (2011) Project manuals prepared and fully operational (2011) Consultants engaged and provide support (2011) Designs for future tranches are approved 	<ul style="list-style-type: none"> Shoreline Management Plans documents Project progress reports ADB review missions Project progress reports ADB review missions Detailed operational guidelines Consultants reports Project progress reports ADB review missions Approved design documents and supporting reports 	Assumptions <ul style="list-style-type: none"> Government and political support Active stakeholder support and participation Mechanisms and finance to update the plans are maintained Assumption <ul style="list-style-type: none"> Information and data are provided freely from relevant institutions Risk <ul style="list-style-type: none"> Information systems are not updated after completion of the project Assumption <ul style="list-style-type: none"> Sufficient counterpart funding Engagement of qualified and experienced consultants State Governments to officially constitute review

	by qualified professional technical review panel and endorsed by communities and stakeholders		panels
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<p>2. Coastal Erosion and Instability Reduced</p> <p>2.1 Coastal erosion and instability reduced</p> <p>2.2 Community and private sector engaged in coastal erosion and instability reduction</p>	<ul style="list-style-type: none"> • Coastline subject to erosion is reduced to 380 km from the present level of 530 km • Community/local government resolution for purposes of maintenance of completed projects <ul style="list-style-type: none"> • 50 communities with up to 30% women beneficiaries at each intervention district supported • Private sector investments in coastal protection and management up to 7% of total cost 	<ul style="list-style-type: none"> • Space Application Centre satellite imageries • Consultants reports • Project progress reports • ADB review missions • Baseline data and BME reports <ul style="list-style-type: none"> • BME reports • Project progress reports • ADB review missions • Business licenses application records 	<p>Assumptions</p> <ul style="list-style-type: none"> • Stable socio political environment • Engagement of qualified and experienced consultants <p>Risks</p> <ul style="list-style-type: none"> • Delay in implementation including procurement activities <p>Assumptions</p> <ul style="list-style-type: none"> • Community and private sector supportive of coastal protection and management initiatives • Private Sector appetite <p>Assumption</p> <ul style="list-style-type: none"> • Government allows continuity of core trained coastal staff to remain in the coastal divisions
<p>3. Enhanced capacity for integrated shoreline planning and development</p> <p>3.1 Enhanced capacity for districts and states to plan, design, and implement shoreline protection and management projects</p>	<ul style="list-style-type: none"> • Training provided to State/ Districts agencies, local experts/agencies, local bodies and stakeholders (2012) • Coastal Information Management Unit (CIMU) operational by 2012 • Shoreline management plans are updated at five 	<ul style="list-style-type: none"> • PMU data on training • Shoreline management plan documents • Project progress reports • ADB review missions 	

<p>maintained by the communities and stakeholders</p> <p>3.4 SEAs formally mandated to coordinate all coastal protection and management programs</p>	<p>active at each sub-project site</p> <ul style="list-style-type: none"> • Approved formal mandate as part of proposed shoreline planning and management policy • Approved Shoreline Planning and Management Policy • Appropriate notification by the States as required 	<ul style="list-style-type: none"> • Project progress reports • ADB review missions 	<p>Assumption</p> <ul style="list-style-type: none"> • State support to the proposed activities <p>Risk</p> <ul style="list-style-type: none"> • Procedural delays
Activities with Milestones		Inputs	

<p>1. Preparatory Activities by SEAs</p> <p>1.1 Establishment of PMU (Q4 2010)</p> <p>1.2 Tendering and engagement of Project Management and Design Consultants (PMDC) (Q4 2010)</p> <p>2. Output 1: Sustainable Plans and Management for Shorelines Developed</p> <p>2.1 Preparation of shoreline management plans and information systems for whole 3 state coast coastline-preliminary plans (Q4 2011), approved plans (Q2 2012).</p> <p>2.2 Updating of the long list of potential projects (Q1 2011).</p> <p>2.3 Plan, identify, prescreen and prepare design of Tranches 3 (Q2 2012) and 4 subprojects (Q2 2014)</p> <p>3. Output 2: Coastal Erosion and Instability Reduced</p> <p>3.1 Contract out and implement detailed designs and construction works (Q1 2011-Q1 2019)</p> <p>3.2 State guidelines for private sector participation in coastal protection and management (Q3 2011)</p> <p>3.3 Identify effective areas of PPP(Q4 2011)</p> <p>4. Output 3: Enhanced Capacity for Shoreline Planning and Development</p> <p>4.1 Preparation of training needs assessment and training plan (Q1 2011)</p> <p>4.2 Implementation of training plan(Q2 2011 to Q4 2015)</p> <p>4.3 Shoreline protection and management policy review (Q4 2011)</p> <p>4.4 Draft guidelines and policy document(Q1 2012)</p> <p>4.5 Agreed guidelines and approved policy (Q1 2013)</p> <p>5. Loan Approvals and support(by ADB)</p> <p>5.1 Program approval (Q3 2010)</p> <p>5.2 Inception mission (Q1 2011) midterm review (Q2 2015), review missions (intermittent)</p> <p>5.3 Total Project</p> <p>Tranche 1 (Q4 2010 to Q4 2014)</p> <p>Tranche 2 (Q4 2010 to Q4 2014)</p>	<ul style="list-style-type: none"> • ADB support consultants • PMDC, SEAs and stakeholders • Training, institutional development • Mobilization of counterpart funds • PMU supported by PMDC • ADB and Government funding • PMU staff resources • PMDC • PMDC • PSC, District Planning Bodies, and SEAs <p>Project Cost ADB \$51.6 million Government \$11.1million Total \$62.7 million</p>
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ADB = Asian Development Bank, BME = Benefit Monitoring and Evaluation, BPL = Below Poverty Lists, CIMU = Coastal Information Management Unit, CWC = Central Water Commission, CWPRS = Central Water and Power Research Station, GDP = Gross Domestic Product, HDI= Human Development Index, MOWR= Ministry of Water Resources, PMDC= Project Management and Design Consultants, PMU= Program Management Unit, PMDC = Project Management and Design Consultants, SEAs = State Executing Agencies,