

OUTLINE TERMS OF REFERENCE FOR CONSULTANTS

1. The transaction technical assistance (TA) facility will assist India to strengthen capacity to prepare and implement sustainable rural infrastructure projects. ADB, through the Environment, Natural Resources, and Agriculture Division will coordinate the overall TA facility activities working closely with the government and resident mission. The TA facility will support a team of short-term international and national consultants. The TA facility will require up to 44.50 person-months of international consultants and 80.60 person-months of national consulting services (Table 1). Consultants will be recruited by ADB in accordance with ADB Procurement Policy (2017, as amended time to time) and the associated project administration instructions/TA Staff Instructions. An outline of the terms of reference for each consultant is listed below.

Table 1: Indicative Consultants' Input Allocation
(person-months)

Item	Total
A. International	
Water Resources Specialist	4.10
Irrigation Modernization Specialist	3.00
Irrigation Institutions Specialist	2.60
Water Governance Specialist	1.60
River Basin Management Specialist	1.30
River Specialist	2.00
Agricultural Specialist	3.80
Procurement Specialist	3.50
Economist	3.70
Financial Management Specialist	2.00
Environmental Safeguard Specialist	2.70
Social Development Specialist	3.50
Gender Specialist	1.00
Hydrologist/Climate Change Specialist	1.00
Coastal Management Specialist	1.50
Coastal Morphologist/Beach Management Specialist	1.00
Communication Specialist	2.50
Unallocated	3.70
Subtotal A	44.50
B. National	
Water Resources Specialist	4.50
Irrigation Modernization Specialist	7.00
Water Governance Specialist	1.50
Agricultural Specialist	6.00
Procurement Specialist	8.00
Economist	6.50
Financial Management Specialist	6.50
Environmental Safeguard Specialist	3.00
Social Development Specialist	8.50
Gender Specialist	1.00
Project Coordinator	18.00
Institutional Capacity Assessment Specialist	0.50
Coastal Processes and Hydrodynamics Specialist	1.50
Geotechnical	0.50
Communication Specialist	2.80
Unallocated	4.80
Subtotal B	80.60
Total (A + B)	125.10

Source: Asian Development Bank.

A. International Consultants

2. **Water Resources Specialist (international, 4.10 person-months).** The specialist will have a degree in water resources, or related field and preferably 15 years of professional experience. The specialist will have extensive experience in planning and managing water resources development projects and experience in ADB-funded projects (or by any other similar international funding agencies). The specialist will (i) conduct technical due diligence of the components and packages of identified projects, including reviewing selected feasibility studies and detailed design reports, ensure quality control, analyze technical and institutional risks associated with the proposed approach and identify mitigation measures; (ii) support the selected projects' executing agency and ADB team in meeting project readiness criteria for project Board approval; and (iii) help solve (as required) technical challenges in ongoing projects.

3. **Irrigation Modernization Specialist (international, 3.00 person-months).** The specialist will have a degree in hydrology, water resources or related field and preferably 15 years of professional experience. The specialist will have extensive experience in hydrologic and water resources modeling and design and experience in ADB-funded projects (or by any other similar international funding agencies). The specialist will (i) conduct technical due diligence of the components and packages of identified projects, including reviewing selected feasibility studies and detailed design reports, ensure quality control, analyze technical and institutional risks associated with the proposed approach and identify mitigation measures; (ii) support the selected projects' executing agency and ADB team in meeting project readiness criteria for project Board approval; and (iii) help solve (as required) technical challenges in ongoing projects.

4. **Irrigation Institutions Specialist (international, 2.60 person-months).** The specialist will have a degree in water resources management, irrigation management, or related field and preferably 15 years of professional experience. The specialist will have extensive experience in sector institutional development, management operation and maintenance improvement in the irrigation/water resource sector including participatory irrigation management and experience in ADB-funded projects (or by any other similar international funding agencies). The specialist will (i) review selected feasibility studies and detailed design reports, ensure quality control, analyze institutional risks associated with the proposed approach and identify mitigation measures; (ii) support the selected projects' executing agency and ADB team in meeting project readiness criteria for project Board approval; and (iii) help solve (as required) technical challenges in ongoing projects.

5. **Water Governance Specialist (international, 1.60 person-months).** The specialist will have a degree in a relevant field law and agriculture water resources, or related field and preferably 15 years of professional experience. The specialist should have demonstrated experience with water policy and governance development and reforms and experience in ADB-funded projects (or by any other similar international funding agencies), as well as with governance training of executing agencies. The specialist will (i) provide policy advices for the development of water resources projects; (ii) support the selected projects' executing agency and ADB team in meeting project readiness criteria for project Board approval; and (iii) provide training to stakeholders as required.

6. **River Basin Management Specialist (international, 1.30 person-months).** The specialist will have a degree in management, use and development of water resources or related field and preferably 10 years of professional experience. The specialist will have extensive experience in developing and implementing integrated river basin and sub-basin management and experience in ADB-funded projects (or by any other similar international funding agencies).

The Specialist will (i) review selected feasibility studies and detailed design reports, ensure quality control, analyze technical and institutional risks associated with the proposed approach and identify mitigation measures; (ii) support the selected projects' executing agency and ADB team in meeting project readiness criteria for project Board approval; and (iii) help solve (as required) technical challenges in ongoing projects.

7. **River Specialist (international, 2.00 person-months).** The specialist will have a degree in civil engineering with a specialty in river engineering or equivalent, or related field and preferably 10 years of professional experience. The specialist will have extensive experience in hydrological and hydraulic analysis, designing river training works, river water intake systems, planning flood warning systems, and designing urban storm water drainage systems and experience in ADB-funded projects (or by any other similar international funding agencies). The Specialist will (i) conduct technical due diligence of the components and packages of identified projects, including reviewing selected feasibility studies and detailed design reports, ensure quality control, analyze technical and institutional risks associated with the proposed approach and identify mitigation measures; (ii) support the selected projects' executing agency and ADB team in meeting project readiness criteria for project Board approval; and (iii) help solve (as required) technical challenges in ongoing projects.

8. **Agricultural Specialist (international, 3.80 person-months).** The specialist will have a degree in agronomy or other related fields and preferably 10 years of professional experience, including experience in India. The specialist will have experience in planning and managing agricultural intensification and diversification projects/programs. The specialist will (i) review selected feasibility studies and detailed design reports, ensure quality control, analyze technical and institutional risks associated with the proposed approach and identify mitigation measures; (ii) support the selected projects' executing agency and ADB team in meeting project readiness criteria for project Board approval; and (iii) help solve (as required) technical challenges in ongoing projects.

9. **Procurement Specialist (international, 3.50 person-months).** The specialist will preferably have a degree in civil engineering or equivalent, with 15 years of experience on similar development projects in Asia including India. The specialist should have demonstrated experience with procurement processes for externally financed projects, mainly those funded by ADB or the World Bank, as well as with procurement training of executing agencies. The specialist will (i) review and upgrade the selected projects procurement plans, procurement capacity assessments, tender documents and request for proposals; (ii) support the relevant executing agency in addressing comments provided by ADB during the procurement and recruitment process; (iii) support the selected projects' executing agency and ADB team in meeting project readiness criteria for project Board approval; and (iv) provide training to stakeholders as required.

10. **Economist (international, 3.70 person-months).** The economist will preferably have a master's degree in economics or other relevant discipline with 10 years of professional experience in economic and financial analysis of infrastructure investment projects, preferably on ADB/World Bank-funded agriculture and natural resources projects. The Specialist will have demonstrated experience in conducting financial analysis and cost-benefit analysis according to ADB standards and guidelines, and familiarity with ADB project processing requirements. The specialist will (i) review and update the economic analysis of selected projects to meet to comply with ADB's Guidelines for the Economic Analysis of Projects (2017), (ii) review and update project cost estimates prepared for selected projects to ensure this meets ADB and executing agency requirement, and (iii) support the selected projects' executing agency and ADB team in meeting project readiness criteria for project Board approval.

11. **Financial Management Specialist (international, 2.00 person-months).** The Financial Management Specialist should preferably have a master's degree or equivalent in accounting, business, finance or commerce with a professional accounting designation (e.g., CPA, CA or equivalent) and 10 years of experience in financial management including conducting financial management assessment for ADB or the World Bank-financed project. The specialist will (i) review and update the financial management assessment of selected projects to meet ADB requirements, (ii) review and update project cost estimates prepared for selected projects to ensure this meets ADB and executing agency requirements, (iii) support the selected projects' executing agency and ADB team in meeting project readiness criteria for project Board approval, (iv) provide guidance and support in all areas of financial management with the goal of ensuring that adequate fiduciary safeguards are maintained to assure accurate, reliable and timely financial reporting, (v) liaise with all the parties and follow up financial management action plan measures and any internal/external audit and financial management queries or recommendations, and (vi) participate in project missions to help resolve financial management related issues and strengthen the financial management capacity of the executing agencies/implementing agencies, as needed.

12. **Environmental Safeguard Specialist (international, 2.70 person-months).** The specialist will have preferably a master's degree in environmental sciences or equivalent as required and 10 years of experience in working in the field of environmental impact assessment and the preparation of environment management plans in donor agencies including ADB. The Specialist will have demonstrated experience and understanding of ADB standards and guidelines with experience in producing the ADB reports. The Specialist will (i) review environmental safeguards documents produced by the executing agency and filling the gaps if any to ensure compliance with ADB Safeguard Policy Statement (SPS) 2009, (ii) revise the project administration manual (PAM) safeguard sections as required, (iii) support the executing agency in implementing environmental safeguard plans by developing a detailed terms of reference and assisting the executing agency in implementing the plan, and (iv) support the selected projects' executing agency and ADB team in meeting project readiness criteria for project Board approval.

13. **Social Development Specialist (international, 3.50 person-months).** The specialist will have preferably a master's degree in social sciences or equivalent as required and 10 years of experience in working in the field of involuntary resettlement and indigenous people planning in donor agencies including ADB. The specialist will have demonstrated experience and understanding of ADB standards and guidelines with experience in producing the ADB reports. The Specialist will (i) review social safeguards documents produced by the executing agency and filling the gaps if any to ensure compliance with ADB SPS 2009, (ii) revise the PAM safeguard sections as required, (iii) support the executing agency in implementing social safeguard plans by developing a detailed terms of reference and assisting the executing agency in implementing the plan, and (iv) support the selected projects' executing agency and ADB team in meeting project readiness criteria for project Board approval.

14. **Gender Specialist (international, 1.00 person-month).** The Specialist will have preferably a master's degree in social sciences or equivalent as required and 10 years of experience in working in the field of gender equality and social inclusion (GESI) and the preparation of GESI management plans in donor agencies including ADB. Demonstrated experience and understanding of ADB standards and guidelines with experience in producing the ADB reports. The specialist will (i) review GESI safeguards documents produced by the executing agency and filling the gaps if any to ensure compliance with ADB SPS 2009, (ii) revise the PAM safeguard sections as required, (iii) support the executing agency in implementing GESI safeguard plans by developing a detailed terms of reference and assisting the executing agency

in implementing the plan, and (iv) support the selected projects' executing agency and ADB team in meeting project readiness criteria for project Board approval.

15. Hydrologist/Climate Change Specialist (international, 1.00 person-month). The specialist will have a master's degree or higher in hydrology or a related area with preferably 10 years of relevant experience in the areas directly related to water resources availability assessment, analysis and planning, assessment of flow in ungauged rivers, flood forecasting, groundwater and other form of water use and experience in environment and climate change adaptation and conducting climate change vulnerability and impact assessments. The specialist will support: (i) review selected hydrological methodologies and studies and ensure quality control; (ii) help solve (as required) technical challenges in ongoing projects, (iii) identification of climate change risks and assessing the impacts on selected projects; (iv) developing measures to improve climate change resilience and promote adaptation and mitigation, and (v) provide training to stakeholders as required.

16. Coastal Management Specialist (international, 1.50 person-months). The specialist will have at least a master's degree in civil engineering, ocean engineering, hydraulic or related field, and preferably 15 years of professional experience in Coastal (Wave) Hydrodynamics, Coastal Engineering, Wave-structure Interaction, and Coastal Processes. The specialist will have extensive experience in planning and design of coastal protection projects facilities and experience in ADB-funded projects (or by any other similar international funding agencies). The Specialist will (i) conduct technical due diligence of the components and packages of identified projects, including reviewing selected feasibility studies and detailed design reports, ensure quality control, analyze technical and institutional risks associated with the proposed approach and identify mitigation measures; (ii) support the selected projects' executing agency and ADB team in meeting project readiness criteria for project Board approval; and (iii) help solve (as required) technical challenges in ongoing projects.

17. Coastal Morphologist/Beach Management Specialist (international, 1.00 person-month). The specialist will have a master's degree in coastal / ocean engineering, water resources, civil engineering, hydraulic or related field and preferably 15 years of professional experience. The specialist will have extensive experience in coastal morphological modelling. Specific experience in shoreline change and dune modelling is preferable, planning and design of coastal protection projects including sand nourishment projects with good working knowledge of supporting sand inventory mapping and management of dredged material in coastal areas and experience in ADB-funded projects (or by any other similar international funding agencies). The specialist will (i) conduct technical due diligence of the components and packages of identified projects, including reviewing selected feasibility studies and detailed design reports, ensure quality control, analyze technical and institutional risks associated with the proposed approach and identify mitigation measures; (ii) support the selected projects' executing agency and ADB team in meeting project readiness criteria for project Board approval; and (iii) help solve (as required) technical challenges in ongoing projects.

18. Communication Specialist (international, 2.50 person-months). The specialist shall have a college degree or post-graduation specialization in the field of public relations, mass communication, or journalism with a minimum of ten years of professional international experience in media relations, journalism, development communications, or a related field in ADB or by any other similar international funding agencies. The Communication specialist shall assist in its communication, and outreach activities through multiple channels such as media, publications, multimedia and web. The specialist will provide support in awareness campaigns, organizing events and press conferences, producing and launching knowledge products, devising

and posting social media content, and writing content for e-Newsletter. He shall support launch of key knowledge products, write project briefs and features, and develop infographics on key ADB reports and publications, in consultation with SAER; Support in producing content for key ADB briefs, reports, awareness-raising material, and publications; and provide other outreach support as requested.

19. **The unallocated amount (international, 3.70 person-months)** will cover the following profiles as required: Flood Management Specialist, Agricultural Value Chain Specialist, Public–Private Partnership/Design–Build–Operate Specialist, Project Implementation Specialist, Coastal Management Specialist and Coastal Morphologist/Beach Management Specialist.

B. National Consultants

20. **Water Resources Specialist (national, 4.50 person-months).** The specialist will have a degree in water resources or related field and preferably 10 years of professional experience. The specialist will have extensive experience in planning and managing water resources development projects and experience in ADB-funded (or by any other similar international funding agencies). The consultant will (i) review selected feasibility studies and detailed design reports, ensure quality control, analyze technical and institutional risks associated with the proposed approach and identify mitigation measures; and (ii) support the selected projects' and ADB team in meeting project readiness criteria for project Board approval; and (iii) help solve (as required) technical challenges in ongoing projects.

21. **Irrigation Modernization Specialist (national, 7.00 person-months).** The specialist will have a degree in hydrology, water resources or related field and preferably 10 years of professional experience. The specialist will have extensive experience in hydrologic and water resources modeling and design and experience in ADB-funded (or by any other similar international funding agencies). The consultant will (i) review selected feasibility studies and detailed design reports, ensure quality control, analyze technical and institutional risks associated with the proposed approach and identify mitigation measures; and (ii) support the selected projects' and ADB team in meeting project readiness criteria for project Board approval; and (iii) help solve (as required) technical challenges in ongoing projects.

22. **Water Governance Specialist (national, 1.50 person-months).** The specialist will have a degree relevant field law and agriculture water resources, or related field and preferably 10 years of professional experience. The specialist will have extensive experience with water policy and governance development and reforms and experience in ADB-funded (or by any other similar international funding agencies). The consultant will (i) review selected feasibility studies and detailed design reports, ensure quality control, analyze technical and institutional risks associated with the proposed approach and identify mitigation measures; and (ii) support the selected projects' and ADB team in meeting project readiness criteria for project Board approval; and (iii) help solve (as required) technical challenges in ongoing projects.

23. **Agricultural Specialist (national, 6.00 person-months).** The specialist will have a degree in agronomy or other related fields and preferably 10 years of professional experience, including experience in South Asia. The specialist will have experience in planning and managing agricultural intensification and diversification projects/programs. The specialist will (i) review selected feasibility studies and detailed design reports, ensure quality control, analyze technical and institutional risks associated with the proposed approach and identify mitigation measures; (ii) support the selected projects' executing agency and ADB team in meeting project readiness

criteria for project Board approval; and (iii) help solve (as required) technical challenges in ongoing projects.

24. **Procurement Specialist (national, 8.00 person-months).** The specialist will preferably have a degree in civil engineering or related field, and a minimum of 10 years of experience in handling procurement for rural infrastructure projects. Preference will be given to specialists with experience in irrigation and waterworks and procurement capacity building of executing agencies. Experience in ADB or World Bank procurement guidelines is preferred. The specialist will (i) review and upgrade the selected projects procurement plan, procurement capacity assessment, tender documents and request for proposal; (ii) support the relevant executing agency in addressing comments provided by ADB during the procurement and recruitment process; (iii) support the selected projects' executing agency and ADB team in meeting project readiness criteria for project Board approval; and (iv) provide training to stakeholders as required. The specialist may be considered for subsequent downstream projects work based on individual performance.

25. **Economist (national, 6.50 person-months).** The specialist will preferably have a degree in economics or related field, and a minimum of 10 years of experience in economic and financial analysis of infrastructure investment projects, preferably on ADB/World Bank-funded agriculture and natural resources projects. The specialist will have demonstrated experience in conducting financial analysis and cost-benefit analysis according to ADB standards and guidelines, and familiarity with ADB project processing requirements. The specialist will (i) review and update the economic analysis of selected projects to meet to comply with ADB's Guidelines for the Economic Analysis of Projects (2017), (ii) review and update project cost estimates prepared for selected projects to ensure this meets ADB and executing agency requirement, and (iii) support the selected projects' executing agency and ADB team in meeting project readiness criteria for project Board approval and (iv) provide training to stakeholders as required. The specialist may be considered for subsequent downstream projects work based on individual performance.

26. **Financial Management Specialist (national, 6.50 person-months).** The Financial Management Specialist should preferably have a master's degree or equivalent in accounting, business, finance or commerce with a professional accounting designation (e.g., CPA, CA or equivalent) and a minimum of 10 years of experience in financial management including conducting financial management assessment for ADB or the World Bank-financed projects. Preference will be given to specialists with experience in irrigation and waterworks projects. The specialist will have demonstrated experience in conducting financial analysis according to ADB standards and guidelines, and familiarity with ADB project processing requirements. The specialist will (i) review and update the financial management assessment of selected projects to meet ADB requirements, (ii) review and update project cost estimates prepared for selected projects to ensure this meets ADB and executing agency requirements, (iii) support the selected projects' executing agency and ADB team in meeting project readiness criteria for project Board approval (iv) provide guidance, training and support in all areas of financial management with the goal of ensuring that adequate fiduciary safeguards are maintained to assure accurate, reliable and timely financial reporting, (v) liaise with all the parties and follow up financial management action plan measures and any internal/external audit and financial management queries or recommendations, and (vi) participate in project missions to help resolve financial management related issues and strengthen the financial management capacity of the executing agencies/implementing agencies, as needed. The specialist may be considered for subsequent downstream projects work based on individual performance.

27. **Environmental Safeguard Specialist (national, 3.00 person-months).** The specialist will preferably have a degree in environmental sciences or equivalent as required and 10 years of experience in working in the field of environmental impact assessment and the preparation of environment management plans in donor agencies including ADB. The specialist will have demonstrated experience and understanding of ADB standards and guidelines with experience in producing the ADB reports. The Specialist will (i) review environmental safeguards documents produced by the executing agency and filling the gaps if any to ensure compliance with ADB SPS 2009; (ii) review and update the PAM safeguard sections, as required; (iii) support the executing agency in implementing environmental safeguard plans by developing a detailed terms of reference and assisting the executing agency in implementing the plan; and (iv) support the selected projects' executing agency and ADB team in meeting project readiness criteria for project Board approval.

28. **Social Development Specialist (national, 8.50 person-months).** The specialist will preferably have a degree in social sciences or equivalent as required and 10 years of experience in working in the field of involuntary resettlement and indigenous people planning in donor agencies including ADB. The Specialist will have demonstrated experience and understanding of ADB standards and guidelines with experience in producing the ADB reports. The specialist will (i) review social safeguards documents produced by the executing agency and filling the gaps if any to ensure compliance with ADB SPS 2009; (ii) review and update the PAM safeguard sections, as required; (iii) support the executing agency in implementing social safeguard plans by developing a detailed terms of reference and assisting the executing agency in implementing the plan; and (iv) support the selected projects executing agency and ADB team in meeting project readiness criteria for project Board approval.

29. **Gender Specialist (national, 1.00 person-month).** The specialist will preferably have a degree in social sciences or equivalent as required and 10 years of experience in working in the field of GESI and the preparation of GESI management plans in donor agencies including ADB. Demonstrated experience and understanding of ADB standards and guidelines with experience in producing the ADB reports. The Specialist will (i) review GESI safeguards documents produced by the executing agency and filling the gaps if any to ensure compliance with ADB SPS 2009, (ii) review and update the PAM safeguard sections as required, (iii) support the executing agency in implementing GESI safeguard plans by developing a detailed terms of reference and assisting the executing agency in implementing the plan, and (iv) support the selected projects' executing agency and ADB team in meeting project readiness criteria for project Board approval.

30. **Project Coordinator (national, 18.00 person-months).** The project coordinator will support the recruitment of the Consultants during the TA implementation.

31. **Institutional Capacity Assessment Specialist (national, 0.50 person-month).** The specialist will have a degree in civil engineering, financial management, social sciences, management or equivalent and preferably 10 years of professional experience in assessing institutional capacity and the procedures adopted. The specialist will have extensive experience in sector institutional development, understanding of government institutions working, mapping the institutional resources and capacities; for timeliness in management operation and maintenance improvement in the coastal sector. Also experience in ADB-funded (or by any other similar international funding agencies) would be a plus. The consultant will (i) assess and recommend resources requirement and capacity or coastal development; (ii) analyze technical and institutional risks associated, and (iii) identify and recommend mitigation measures.

32. **Coastal Processes and Hydrodynamics Specialist (national, 1.50 person-months).** The specialist will have a master's degree in Civil Engineering, Ocean Engineering, related field and preferably 10 years of professional experience in coastal hydrodynamics, coastal engineering, and coastal processes. The specialist will (i) conduct technical due diligence of the components and packages of identified projects, including reviewing selected feasibility studies and detailed design reports, ensure quality control, analyze technical and institutional risks associated with the proposed approach and identify mitigation measures; (ii) support the selected projects' executing agency and ADB team in meeting project readiness criteria for project Board approval; and (iii) help solve (as required) technical challenges in ongoing projects.
33. **Geotechnical (national, 0.50 person-month).** The specialist will have a degree in civil engineering, geology, geotechnical engineering or related field and preferably 10 years of professional experience. The specialist will have extensive experience in geotechnical investigations and foundation aspects of coastal projects design and construction and experience in ADB-funded (or by any other similar international funding agencies). The consultant will review selected feasibility studies and detailed design reports, ensure quality control, analyze technical geotechnical issues and geological risks associated with the proposed approach and identify mitigation measures.
34. **Communication Specialist (national, 2.80 person-months).** The specialist shall have a college degree or post-graduation specialization in the field of public relations, mass communication, or journalism with a minimum of 5 years of professional experience in media relations, journalism, development communications, or a related field. The specialist shall assist in its communication, and outreach activities through multiple channels such as media, publications, multimedia and web. The specialist will provide support in awareness campaigns, organizing events and press conferences, producing and launching knowledge products, devising and posting social media content, and writing content for e-Newsletter. He shall support launch of key knowledge products, write project briefs and features, and develop infographics on key ADB reports and publications, in consultation with Environment, Natural Resources, and Agriculture Division; Support in producing content for key ADB briefs, reports, awareness-raising material, and publications; and provide other outreach support as requested.
35. **The unallocated amount (national, 4.80 person-months)** will cover the following profiles as required: Road Safety Specialist, Construction Specialist, Hydrologist, GIS Specialist, Institutional Capacity Assessment Specialist and Geotechnical Specialist.