Project Administration Manual

Project Number: 57323-001
{Loan Number(s): XXXX, XXXX, XXXX}
{TA Number(s): XXXX, XXXX, XXXX}
April 2024

Islamic Republic of Pakistan: Sindh Emergency Housing Reconstruction Project

ABBREVIATIONS

ADB	–	Asian Development Bank
BTP	–	Biodata Technical Proposal
CQS	–	consultants' qualifications selection
CSO	–	civil society organization
CV	–	curriculum vitae
DMF	–	design and monitoring framework
EA	–	executing agency
EAL	–	emergency assistance loan
EMP	–	environmental management plan
ESMF	–	environmental and social management framework
ESU	–	Environment and Social Unit
GAAP	–	gender assessment and action plan
GAP	–	gender action plan
GIS	–	geographic information system
GoS	–	Government of Sindh
IA	–	implementing agency
ICS	–	Individual Consultant Selection
IEE	–	initial environmental examination
IP	–	implementing partner
IP	–	indigenous people
IR	–	involuntary resettlement
IsDB	–	Islamic Development Bank
ISSAI	–	International Standards for Supreme Audit Institutions
MIS	–	management information system
NBP	–	National Bank of Pakistan
NGO	–	non-governmental organization
O&M	–	operations and maintenance
OCB	–	open competitive bidding
PAM	–	project administration manual
PCR	–	project completion report
PIU	–	project implementation unit
QCBS	–	quality- and cost-based selection
RFA	–	revolving fund account
RFP	–	request for proposal
RFQ	–	request for quotation
RP	–	resettlement plan
RRP	–	report and recommendation of the President
SBD	–	Standard Bidding Document
SBP	–	State Bank of Pakistan
SOE	–	statement of expenditure
SPHF	–	Sindh People's Housing for Flood Affectees
SPS	–	Safeguard Policy Statement
STP	–	Simplified Technical Proposal
TA	–	technical assistance
TASF	–	technical assistance special fund
VLD	–	voluntary land donation
WASH	–	water, sanitation, and hygiene

CONTENTS

Project Administration Manual Purpose and Process

The project administration manual (PAM) describes the essential administrative and management requirements to implement the project on time, within budget, and following the policies and procedures of the government and the Asian Development Bank (ADB). The PAM should reference all available templates and instructions either by linking to relevant URLs or by directly incorporating them into the PAM.

The purposes of the PAM are to (i) share the project status with ADB's and the government's project teams, (ii) identify the contact persons to facilitate communication and coordination between ADB and the government, and (iii) facilitate the preparation of the project completion report. The PAM will be useful for new project members to understand the project status easily and communicate effectively with other members.

The Sindh People's Housing for Flood Affectees (SPHF) is wholly responsible for implementing ADB-financed projects, as agreed jointly between the borrower and ADB, and following the policies and procedures of the government and ADB. ADB staff is responsible for supporting implementation, including monitoring SPHF's compliance with their obligations and responsibilities for project implementation following ADB policies and procedures and the loan agreement.

At loan negotiation, the borrower and ADB shall agree to the PAM and ensure consistency with the loan agreement. Such agreement shall be reflected in the minutes of the loan negotiation. In case of any discrepancy or contradiction between the PAM and the loan agreement, the provisions of the loan agreement shall prevail.

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

II. PROJECT DESCRIPTION

1. The Asian Development Bank's (ADB) emergency assistance loan (EAL) for the Sindh Emergency Housing Reconstruction Project was prepared in response to the Government of Pakistan's request on 14 February 2024 to support its post-flood recovery and reconstruction process. The project will finance the construction of at least 250,000 beneficiary-driven, multi-hazard resilient, inclusive, and environment-responsive housing units affected by the 2022 floods in selected districts of Sindh.[1] It will also finance the community-led construction and maintenance of resilient community infrastructure such as water, sanitation, and hygiene (WASH) and renewable-based off-grid electrification facilities and support livelihoods recovery program of the flood-affected communities. The project is part of ADB's multi-tiered flood response to Pakistan and was designed in close coordination and cooperation with the development partners, including the World Bank and Islamic Development Bank (IsDB).

2. The design and monitoring framework in Appendix 1 presents the impact, outcome, and outputs. The project is aligned with the following impact: resilient human settlement for all ensured.[2] The project will have the following outcome: inclusive and resilient human settlement in Sindh improved.[3] The project will support two (2) outputs as follows:

(i) **Output1: Flood-damaged houses and community infrastructure reconstructed with multi-hazard resilient, inclusive and environment-responsive designs.** This output will fund the beneficiary-driven[4] reconstruction of at least 250,000 multi-hazard resilient houses out of the houses that were fully damaged during the floods, representing about 12% of the total housing needs for Sindh. Support under this output will be through the provision of conditional cash grants to beneficiaries for reconstruction of a housing unit, which comprises a core structure and fixed covered area built to prescribed multi-hazard resilient standards. The output will also support the inclusive design and/or structure (e.g., universal access to housing unit/latrine, adaptive cooking area) for the most vulnerable groups[5], and at least 12,000 households will benefit from the additional conditional cash grant for this purpose.[6] Output 1 will also support community-led construction of multi-hazard resilient and environment-responsive (e.g., lower carbon footprint) infrastructure, such as WASH and renewable-based off-grid electrification solutions for at least 100,000 houses. Houses and community infrastructure will be selected in consultation with GoS and SPHF, and such selection will be based on a set of agreed-upon criteria (footnote 1). Approximately 1,500,000 and 600,000 residents will benefit from the reconstruction of housing and improved community infrastructure, respectively.[7]

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[1] See Appendices 9 for the selection criteria of beneficiary for housing reconstruction, community infrastructure and livelihoods recovery program.

[2] ADB. 2020. Pakistan: Country Partnership Strategy (2021-2025): *Pakistan: Country Partnership Strategy (2021–2025) | Asian Development Bank (adb.org).*

[3] The design and monitoring framework is in Appendix 1 of the RRP.

[4] Beneficiary will construct and maintain the completed works with the support by SPHF and non-governmental organizations. For the vulnerable people (e.g., women-headed households, households with a disability, village organization (e.g., village reconstruction committee) will support the construction of housing unit.

[5] (i) Widows or women with disabled husbands; (ii) women-headed households; (iii) divorced, abandoned women, unmarried older women dependent on others; (iv) people with disabilities (physically or mentally); (v) unaccompanied minors (e.g., orphans); and (v) unaccompanied elders, over the age of 60.

[6] Based on the ongoing Benazir Income Support Programme (BISP) and Proxy Means Test (PMT) Score.

[7] The av*erage household size is 5.6 in Sindh by PDNA.

(ii) **Output 2: Community resilience improved.**[8] The project will support strengthening community resilience, working through SPHF, implementing partners (IPs)[9], and various stakeholders, including non-governmental organizations, civil society organizations (CSOs), national and international institutions, and academia. The project will support (i) recovery of livelihoods for at least 6,000 of the most vulnerable households (footnote 16) by providing agricultural, livestock or small enterprise-related goods, (ii) development and deployment of an e-commerce portal for linking the products of rural entrepreneurs with the online markets, (iii) skills development for resilient housing and community infrastructure; (iv) community-led climate and disaster-resilient village planning; (v) innovative methodologies for climate and disaster-resilient reconstruction of housing and/or community infrastructure; (vi) community-based disaster risk management training through the digitalized platform; and (vii) integrated rural development solutions through GIS-based platform comprised of government data (e.g., land management, disaster risk management, WASH infrastructure, electricity, education, health, transport, and agriculture).

III. IMPLEMENTATION PLANS

A. Project Readiness Activities

Table 1: Project Readiness Activities

	2024				2025		
Indicative Activities	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Responsible**
1. Central Development Working Party CDWP/ECNEC approval		Apr-June					GoS / EAD
2. SPHF PIU staff for implementation of EAL are mobilized			Jul				SPHF (PIU)
3. Review and adopt the technical condition survey of the flood-affected districts and complete detailed engineering designs for the reconstruction of houses			Aug				SPHF (PIU)
4. Disclosure of environmental and social management framework		Apr					SPHF (PIU) / ADB
5. Complete the contract for PIU and implementing partners for project implementation			Aug				ADB / SPHF (PIU)
6. Recruit an engineering firm, M&E firm, and MIS firm (for detailed engineering designs for community infrastructure works) through advance contracting		Apr	Aug				SPHF (PIU) / ADB
7. Complete general engineering design with SPHF for community					Jan		SPHF (PIU) / ADB

[8] Output 2 will be supported by the government counterpart fund and TASF.

[9] The World Bank's funded five (5) IPs (i) Health and Nutrition Development Society (HANDS), (ii) Sustainable Actions to Access Financial Capital Opportunities (SAFCO), (iii) Thardeep Rural Development Programme (TRDP), (iv) National Rural Support Programme (NRSP), and (v) Sindh Rural Support Organization (SRSO) (contract in February 2023 for 30 months) will continue to support the beneficiaries with additional resources under the subject project to support the planned work scope for Outputs 1 and 2.

Indicative Activities	2024				2025		Responsible
	Q1	Q2	Q3	Q4	Q1	Q2	
infrastructure for the flood-affected districts							
8. Obtain ADB Board Approval		Jun					ADB
9. Conduct Loan Signing		Jun					ADB/GoP
10. Declare Loan Effectiveness			Jul-Aug				ADB

ADB = Asian Development Bank, CDWP = Central Development Working Party, EAD = Economic Affairs Division, EAL = emergency assistance loan, ECNEC = Executive Committee of National Economic Council, GoP = Government of Pakistan, GoS = Government of Sindh, MIS = Management Information System, M&E = monitoring and evaluation, PIU = project implementation unit, Q = quarter, RFP = request for proposal, SPHF = Sindh People's Housing for Flood Affectees.
Source: ADB.

Table 2: Advance Contracting Actions

Date	1. Detail design and supervision consultant for community infrastructure	2. Monitoring and evaluation consultant	3. MIS developer
Apr 2024	Advertise EOIs, prepare shortlist report and draft RFP	Advertise EOIs, prepare shortlist report and draft RFP	Draft Bidding document
May - June 2024	Issue RFP	Issue RFP	IFB, issue Bid Document
Jun 2024	Proposal Evaluation	Proposal Evaluation	Bid evaluation
Jul 2024	Contract negotiation	Contract negotiation	Contract negotiation
Aug 2024	Contract award	Contract award	Contract award

ADB = Asian Development Bank, AM = aide memoire, EOI = expression of interest, IFB = invitation for bid, IP = implementing partner, MIS = Management Information System, MOU = memorandum of understanding, M&E = monitoring and evaluation, PAM = project administration manual, PC = planning commission, RFP = request for proposal, RRP = report and recommendation of the President, SPHF = Sindh People's Housing for Flood Affectees.
Source: ADB.

B. Overall Project Implementation Plan

Table 3: Overall Project Implementation Plan

Indicative Activities	Year 2024				Year 2025				Year 2026				Year 2027			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
A. DMF																
Output 1: Flood-damaged houses and community infrastructure with multi-hazard resilient and environment-responsive designs																
1.1 Complete contract with IPs for housing reconstruction and community infrastructure works			O	O	O											
1.2. Advertise contract package for the engineering firm, M&E firm, and MIS firm		O	O													
1.3 Contract award and mobilize engineering firm, M&E firm, and MIS firm				O												
1.4 Complete detailed engineering designs for reconstruction of houses			O													
1.5 Identify prioritized selection criteria for the villages and work scope for the community infrastructure projects			O	O	O											
1.6 Complete detailed designs of community infrastructure project			O	O	O											
1.7 Complete reconstruction of houses			O	O	O	O	O	O	O	O						
1.8. Complete (re)construction of community infrastructure project						O	O	O	O	O	O	O	O	O		
Output 2: Community resilience improved																
2.1 Define the social- and gender-inclusive criteria for the beneficiary and livelihood for the conditional cash grant			O	O	O											
2.2 Complete the development and deployment of an e-commerce portal					O	O	O									
2.3 Complete the livelihood program					O	O	O	O	O	O	O	O				
2.4 Design and complete a training program for resilient housing and community infrastructure, livelihood, and small enterprises.			O	O	O	O	O	O	O	O	O	O	O	O		

Indicative Activities	Year 2024				Year 2025				Year 2026				Year 2027			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
2.5 Identify the villages for community-led climate-resilient village planning and initiate the support				O	O	O										
2.6 Identify new climate-resilient methodologies with IPs, NGOs, CSOs, development partners, and/or academia and initiate the support					O	O	O	O	O	O	O	O	O	O		
2.7 Design and complete a training program for community-based disaster risk management through the digitalized platform					O	O	O	O	O	O	O	O	O	O		
2.8 Review the existing and planned GIS-based information by the government and development partners and integrate the system					O	O	O	O	O	O	O	O	O	O		
B. Management Activities																
1. Recruit key staff for a dedicated team in SPHF			O	O												
2. Prepare and submit quarterly project progress reports, and quarterly safeguard monitoring reports to ADB (2024-2027)			O	O	O	O	O	O	O	O	O	O	O	O		
3. Prepare and submit annual financial audit reports to ADB (2024-2027)			O	O	O	O	O	O	O	O	O	O	O	O		
4. Environmental management plan key activities			O	O	O	O	O	O	O	O	O	O	O	O		
5. Gender action plan key activities			O	O	O	O	O	O	O	O	O	O	O	O		
6. Quarterly project financial statement and yearly financial audit report			O	O	O	O	O	O	O	O	O	O	O	O		
7. Communication strategy key activities				O				O				O				
8. Midterm review (ADB review missions at every six (6) months)			O	O	O	O	O	O	O	O	O	O	O	O		
9. Borrower's project completion report															O	

ADB = Asian Development Bank, CSOs = civil society organizations, IP = implementing partner, MIS = Management Information System, M&E = monitoring and evaluation, NGO = non-governmental organization, SPHF = Sindh People's Housing for Flood Affectees, Q = quarter.
Source(s): ADB

IV. PROJECT MANAGEMENT ARRANGEMENTS

A. Project Implementation Organizations: Roles and Responsibilities

Table 4: Project Management Roles and Responsibilities

Project Implementation Organization	Management Roles and Responsibilities
Steering Committee	Project Steering Committee for Flood Response Emergency Housing Project (i) Chairman, Planning & Development Board, GoS (Chairman) (ii) Additional Chief Secretary, Local Government and HTP Department, GoS (Member) (iii) Secretary, Finance Department, GoS (Member) (iv) Secretary (G.A), SGA&CD, GoS (Member) (v) Secretary (I&C), SGA&CD, GoS (Member) (vi) Secretary, (Rehabilitation), SGA&CD, GoS (Member) (vii) Secretary (Planning), Planning & Development, GoS (Member) (viii) Chief Economist, Planning & Development Board, GoS (Member) (ix) Chief Executive Officer, SPHF / Project Director, Flood Response Emergency Housing Project (Member/Secretary) (x) Housing Expert from the private sector (Member)
SPHF (Executing Agency)	(i) Conduct overall coordination of project planning and implementation, including timely submission of reports to ADB; (ii) Be responsible for overall management and coordination of the project; (iii) Provide overall strategic planning, guidance, and management support to the project; (iv) Coordinate with other concerned agencies on project issues under their jurisdiction; (v) Ensure adequate and timely counterpart resources, including personnel and funding; (vi) Be responsible and accountable for the management of the advance account in accordance with ADB process and policies; (vii) Provide overall management of IPs (viii) Support the overall project implementation; and (ix) Ensure the project's sustainability during the post-implementation stage and report to ADB on the achieved development
SPHF (Implementing Agency)	(i) Conduct day-to-day project management; (ii) Procure goods, services, and works; (iii) Prepare withdrawal applications; (iv) Issue project progress reports; (v) Monitor implementation progress towards achievement of the component objectives, maintaining component-related baseline information, and provide progress reports (quarterly and annual) to ADB; (vi) Establish and manage the project advance accounts, prepare payment requests for direct payment and advance account, including advance, projection, liquidation, and replenishment; (vii) Ensure proper planning, budgeting, and filing requests for government counterpart contribution, as well as timely payments of taxes and duties to appropriate authorities; (viii) Timely recruitment of auditors, consultants, and IPs in line with terms of reference agreed with ADB; (ix) Ensure timely submission of annual audited project financial statements to ADB in accordance with International Public Sector Accounting Standards cash basis, including management letter and auditor's opinion on the project

Project Implementation Organization	Management Roles and Responsibilities
	financial statements, use of loan proceed, advance fund and Statement of Expenditure procedures, and annual audited entity financial statements in accordance with International Financial Reporting Standards and management letter; (x) Prepare quarterly and annual progress reports, including expenditure monitoring reports; (xi) Supervise and monitor the implementation progress of the timebound financial management action plan; (xii) Work with the relevant government departments and ADB to determine the reallocation of funds, if and where necessary; (xiii) Lead procurement activities, consisting of demand aggregation, planning, market outreach, procurement process, contract management, etc.; (xvi) Conduct regular field visits to ensure any adverse environmental and social risks and impacts are properly assessed and duly considered during design and construction, and identify any unforeseen risks for timely redressal and mitigation; (xv) Liaise with the relevant consultant to ensure implementation of environmental and social assessment, mitigation, regular monitoring and reporting; (xvi) Prepare quarterly reports on environmental and social aspects of the project in compliance with multi-hazard climate resilience standards; (xvii) Prepare a quarterly report on the Grievance Mechanism; (xviii) Prepare consolidated annual reports on project implementation progress as well as environmental and social compliance and ensure disclosure of project-related documents; (xix) Develop an effective communications strategy during project implementation, highlighting the component's focus; (xx) Troubleshoot, including identifying and reporting problem areas during implementation and facilitating solutions, including for environmental and social aspects, as necessary; (xxi) Prepare capacity building plans, including for environmental and social aspects, and quality assurance on the delivery of the core activities; (xxii) Facilitate knowledge sharing; (xxiii) Consult regularly with stakeholders, including vulnerable groups; (xxiv) Conduct reviews and assessments of the project activities; (xxv) Advertise and call tenders for each package; and (xxvi) Lead overall responsibility of assuring the eligibility of beneficiaries along with the certification review for disbursement and management of housing reconstruction grants as per standard operating procedures developed for supporting housing reconstruction and community infrastructure works.
ADB	Monitor all aspects of project implementation, including implementation schedule, timeliness of budgetary allocations and counterpart funding, project expenditures, progress with procurement and disbursement, and statement of expenditure when applicable. More specifically, ADB will: (i) Provide technical and financial support and oversight in accordance with Loan and Project Agreements; (ii) Provide guidance and assistance to the executing/ implementing agency throughout implementation to ensure smooth and timely implementation of the activities in accordance with the Loan and Project Agreements; (iii) Review all documents that require ADB approval; (iv) Conduct requisite review missions, including mid-term and project completion;

Project Implementation Organization	Management Roles and Responsibilities
	(v) Monitor compliance with loan covenants, social and environmental safeguards, and implementation of gender assessment and action plan (GAAP); (vi) Ensure timely processing of withdrawal applications and release eligible funds; (vii) Review audit reports and ensure compliance with financial audit recommendations; and (viii) Review project performance reports and provide advice and guidance to the executing/implementing agency as required.

ADB = Asian Development Bank, IP = implementing partner, SPHF= Sindh People's Housing for Flood Affectees
Source: ADB.

Table 5: Implementing Partners[10] and Consultant Roles and Responsibilities

Implementing Partners	Primary Roles and Responsibilities

[10] (i) Health and Nutrition Development Society (HANDS), (ii) Sustainable Actions to Access Financial Capital Opportunities (SAFCO), (iii) Thardeep Rural Development Programme (TRDP), (iv) National Rural Support Programme (NRSP), and (v) Sindh Rural Support Organization (SRSO) (February 2023 for 30 months)

Project Implementation	Support the executing agency and the implementing agency in (i) Organizing training and capacity-building activities for the flood-affected communities and masons on guidelines for multi-hazard resilient housing reconstruction and community infrastructure works (e.g., WASH) along with environmental and social consideration for the execution of civil works; (ii) Provision of training, quality audits, progress mapping, and issues-based training advice through a cascade of field presence (e.g., establish village reconstruction committees; (iii) Monitoring on-filed activities and guiding the beneficiaries in construction works as per approved guidelines by competent authorities, including SPHF; (iv) Mobilizing communities through a dedicated team to undertake collective action to reduce the cost of reconstruction, helping vulnerable and women-headed households complete the reconstruction of their houses. Vulnerable and women-headed households to be provided focused assistance for prioritizing the resolution of any issues and reconstruction of their housing units; (v) Gender helpdesks to be established for providing support to female beneficiaries in housing and community infrastructure activities, paperwork and grievance redressal; (vi) Deploy requisite human resources, including engineers, social mobilizers, environmental and social officers, etc., holding qualifications and in numbers approved by SPHF throughout the operations phase to support reconstruction, verify, and validate construction works and ensure housing and community infrastructure works are being constructed as per approved guidelines provided by competent authority including SPHF; (vii) Verification of construction quality and milestones and provide information as per requirements of the project on defined formats, including provision of data in MIS; (viii) Extend necessary support and facilitation to third party, independent validator, and other supervision missions as per the requirements of the project; (ix) Ensure implementation, monitoring, and reporting of relevant ADB social and environmental standards and local regulatory framework, as per defined requirements of the project in a manner acceptable to the ADB and competent authorities, including SPHF; (x) Carry out procurement of goods and services in accordance with the plans and procedures approved by the competent authority, including SPHF; and (xi) Provide any other information and data related to the project as and when required by the competent authority, including SPHF.
Consultant	Primary Roles and Responsibilities
Design and supervision consultant	Support the executing and the implementing agency in (i) Conducting engineering studies for the menu for community infrastructure (e.g., water supply, latrine, sewerage, solar panel, drainage, and road pavement), including cost estimation; (ii) Preparing cost estimates and bill of qualities for community infrastructure as per ADB's requirement along with Quality Construction Plan, Construction Time Schedule, Work Monitoring Forms, etc.; (iii) Reviewing and endorsing project digests prepared by IP for community infrastructure to be provided in each settlement

	(iv) Assisting SPHF in pre-bid meetings; and (v) Providing periodic top supervision, monitoring/reporting the progress and quality of each civil works and contract with respect to civil works, and safeguarding compliance.

ADB = Asian Development Bank, IA = implementing agency, IP = implementing partner, MIS = Management Information System, PIU = project implementation unit, SPHF = Sindh People's Housing for Flood Affectees, WASH = Water, Sanitation and Hygiene
Source: ADB.

B. Key Persons Involved in Implementation

Executing Agency

Sindh People's Housing for Flood Affectees	Malik Najaf Khan Chief Operating Officer Telephone No.: +92 21 99334120 Email address: coo@sphf.gos.pk Bungalow No.20, Block 7/8, Modern Cooperative Housing Society, Tipu Sultan Road, Karachi

Implementing Agency

Sindh People's Housing for Flood Affectees	Malik Najaf Khan Chief Operating Officer Telephone No.: +92 21 99334120 Email address: coo@sphf.gos.pk Bungalow No.20, Block 7/8, Modern Cooperative Housing Society, Tipu Sultan Road, Karachi

Asian Development Bank

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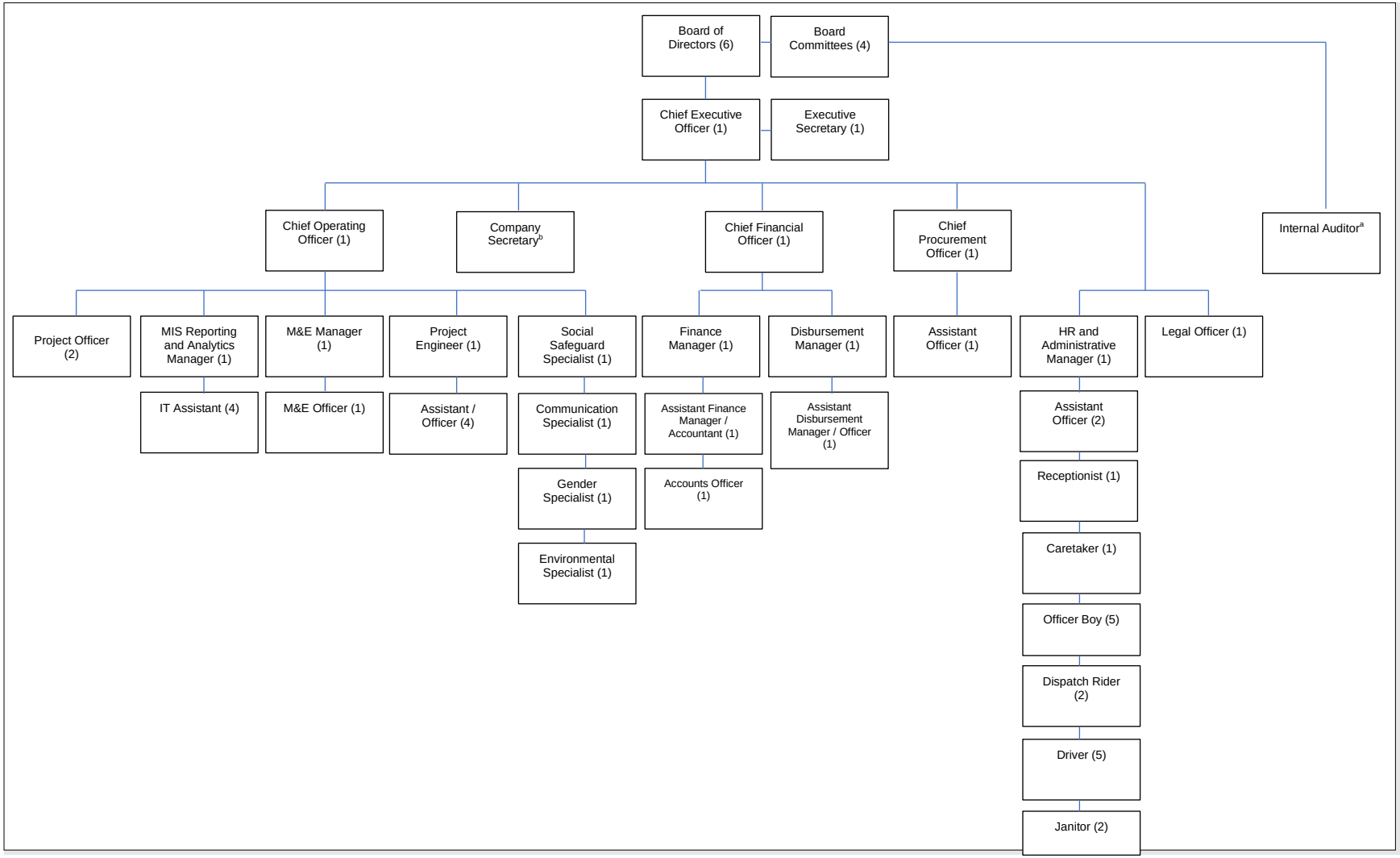
C. Project Organization Structure

Figure 1: Organizational Structure of SPHF



HR = human resource, M&E = monitoring and evaluation, MIS = Management Information System, SPHF = Sindh People's Housing for Flood Affectees

[a] SPHF has outsourced its internal audit services to KPMG Taseer Hadi & Co. (KPMG), a firm of Chartered Accountants

[b] The role of Company Secretary is currently being performed by the Chief Financial Officer. The position has already been advertised.

Source: SPHF.

V. COSTS AND FINANCING

3. The project is estimated to cost $440.0 million (Table 6). The major expenditure items include civil works, goods, equipment, trainings, communications, consulting and non-consulting services, salaries, other project management costs, contingencies, financial charges during implementation, and taxes and duties.

Table 6: Summary Cost Estimates ($ million)

Item		Amount[a]
A.	**Base Cost**[b]	
	Output 1: Flood-damaged houses and community infrastructure reconstructed with multi-hazard resilient, inclusive, and environment-responsive designs	396.1
	Output 2: Community resilience improved	2.1
	Subtotal (A)	**398.2**
B.	**Contingencies**[c]	**33.4**
C.	**Financial Charges During Implementation**[d]	**8.4**
	Total (A+B+C)	**440.0**

[a] Includes taxes and duties of $3.02 million. Such amount does not represent an excessive share of the project cost. The government will finance taxes and duties of $3.02 million through cash contributions; excludes government in-kind contributions in the form of state land for housing reconstruction and community infrastructure.
[b] In mid-2024 prices as of 2 April 2024.
[c] Physical and price contingencies and a provision for exchange rate fluctuation are included.
[d] Includes interest charges.
Source: Asian Development Bank estimates.

4. The government has requested a concessional loan of $400.0 million from ADB's concessional ordinary capital resources to help finance the project. The loan will have a 40-year term, including a grace period of 10 years, an interest rate of 1.0% per year, repayment of principal at 2.0% per year for the first 10 years after the grace period and 4.0% per year thereafter, and such other terms and conditions set forth in the draft loan and project agreements. The loan proceeds will be relent to the Government of Sindh on the same terms and conditions as the ADB loan, and the Government of Sindh will bear the foreign exchange risk in accordance with the government's policy for relending foreign loans.[11]

5. The summary financing plan is in Table 7. ADB will finance the expenditures in relation to civil works, consulting and non-consulting services, contingencies, and financial charges during implementation from the concessional loan. The government will finance all taxes and duties, goods, equipment, training, communications, consulting services, salaries, other project management costs, and contingencies through cash contributions. The government will also provide in-kind contributions in the form of state land for housing reconstruction and community infrastructure where applicable.

Table 7: Summary Financing Plan

Source	Amount ($ million)	Share of Total (%)
Asian Development Bank		
Ordinary capital resources (concessional loan)	400.0	90.9
Government of Sindh	40.0	9.1
Total	**440.0**	**100.0**

Source: Asian Development Bank estimates.

[11] Government of Pakistan, Ministry of Economic Affairs. 2021. *Policy for Relending of Foreign Loan 2020*. Islamabad.

A. Cost Estimates Preparation and Revisions

6. The cost estimates were prepared based on current market prices by the SPHF, who will be the executing and implementing agency, and the ADB staff. Project cost estimates will continue to be refined throughout project implementation at least once a year and an in-depth assessment will be made during the midterm review. The implementing agency is responsible for monitoring and updating the cost estimates.

B. Key Assumptions

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

(i) Exchange rate: PRs278.10 = $1.00 (as of 2 April 2024).

(ii) Price contingencies based on expected cumulative inflation during implementation are in Table 8.

Table 8: Escalation Rates for Price Contingency Calculation

Item	2024	2025	2026	2027	Average
Foreign rate of price inflation	1.8%	1.8%	1.8%	1.8%	1.8%
Domestic rate of price inflation	25.0%	11.5%	7.5%	6.5%	12.6%

Source: Asian Development Bank estimates.

(iii) Physical contingencies were calculated at 4.0% for all cost categories.

C. Allocation and Withdrawal of Loan Proceed

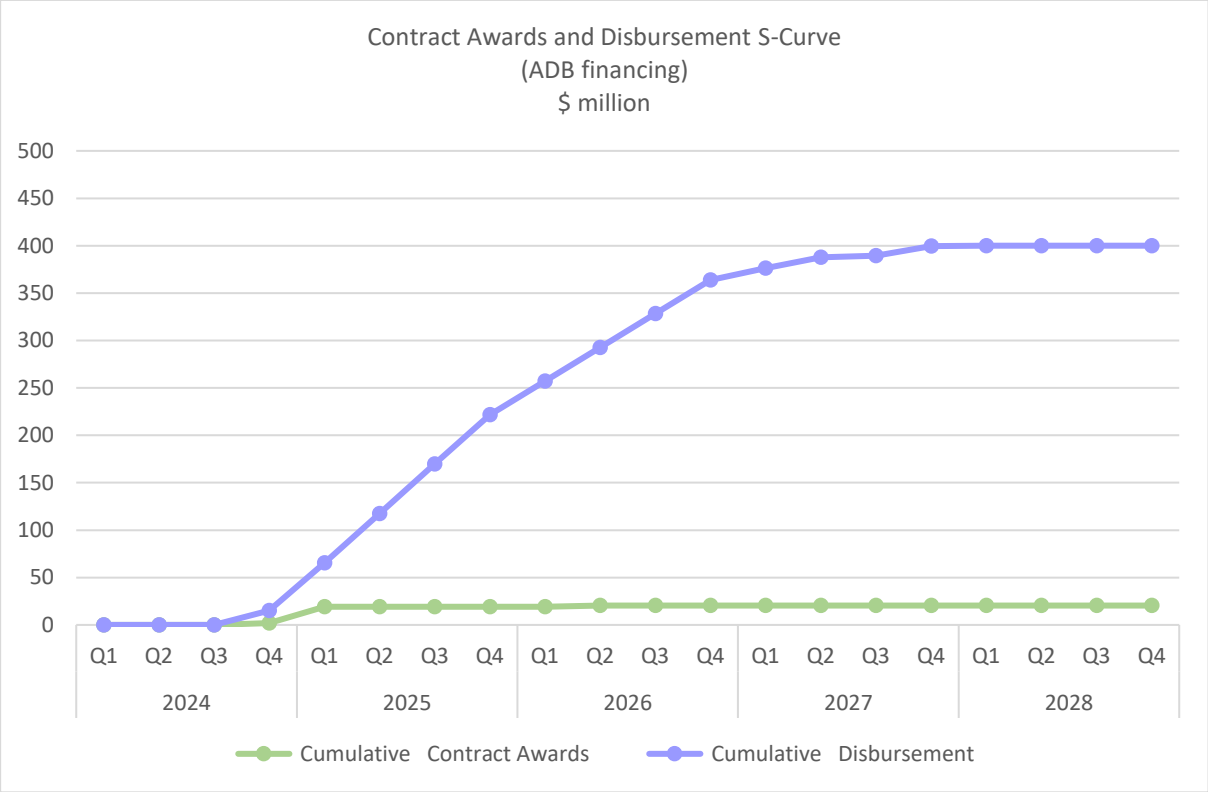
Table 9: Allocation and Withdrawal of Loan Proceeds

	Item	Total Amount Allocated for ADB Financing (in $)	ADB Financing and Basis for Withdrawal from the Loan Account
1	Civil works		
	a. Housing reconstruction	270,000,000	100.0% of total expenditure claimed
	b. Community infrastructure	100,000,000	100.0% of total expenditure claimed
2	Consulting (design and supervision consultants) and nonconsulting services	17,140,000	88.5% of total expenditure claimed
3	Interest charges	8,370,000	100.0% of total amount due
4	Unallocated	4,490,000	
	Total	**400,000,000**	

ADB = Asian Development Bank

D. Contract and Disbursement S-Curve

Figure 2: Cumulative Contract Awards and Disbursement – ADB Loan



ADB = Asian Development Bank, Q = quarter
Source: ADB

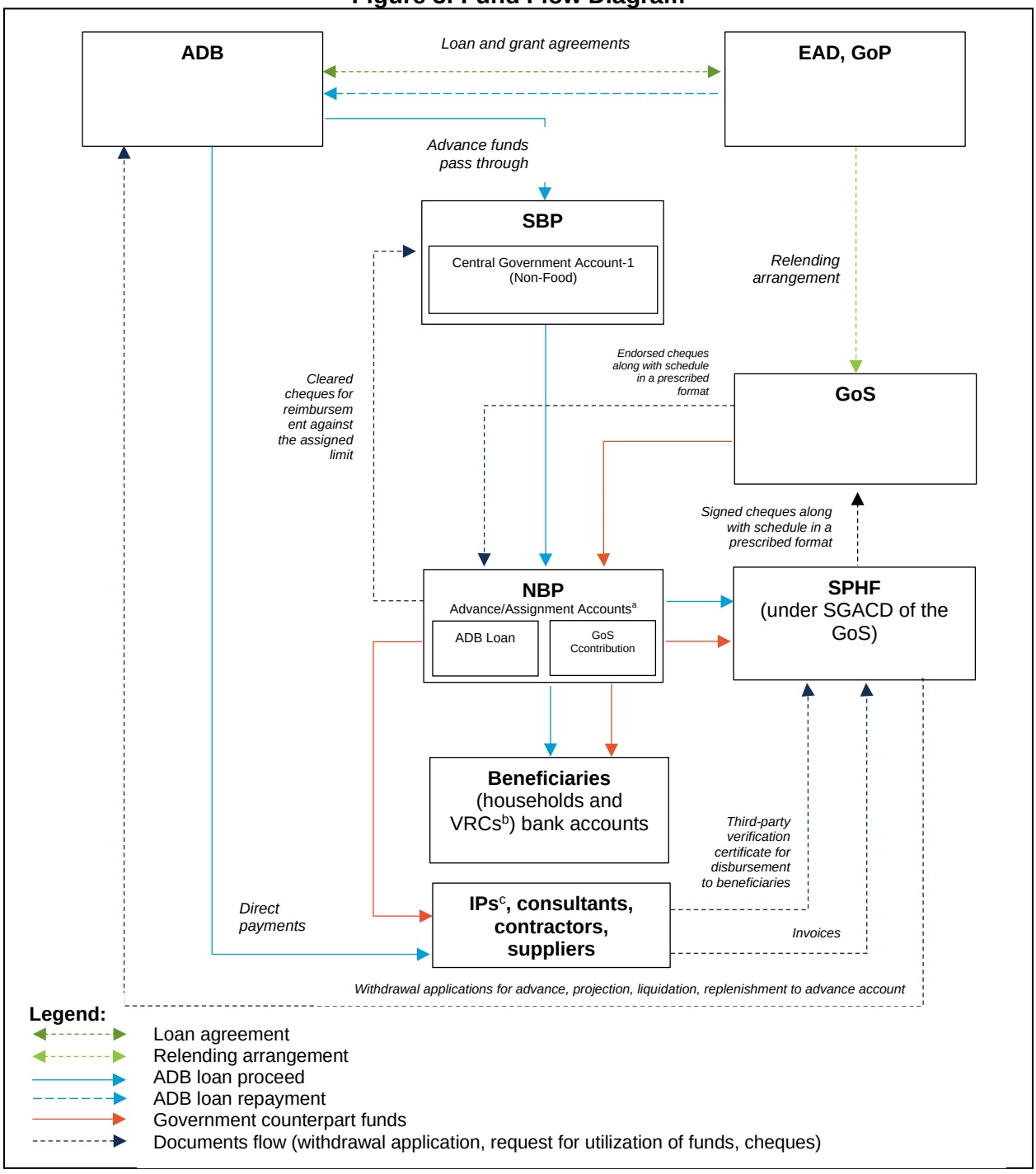
Table 10: Contract Awards and Disbursement Projections – ADB Loan

	Contract Awards (in USD million)					Disbursements (in USD million)				
	Q1	**Q2**	**Q3**	**Q4**	**Total**	**Q1**	**Q2**	**Q3**	**Q4**	**Total**
2024	0.00	0.00	0.00	1.90	1.90	0.00	0.00	0.00	15.00	15.00
2025	17.19	0.00	0.00	0.00	17.19	50.38	52.02	52.16	52.16	206.73
2026	0.00	1.33	0.00	0.00	1.33	35.29	35.63	35.63	35.63	142.17
2027	0.00	0.00	0.00	0.00	0.00	12.21	11.75	1.62	10.00	35.59
2028	0.00	0.00	0.00	0.00	0.00	0.52	0.00	0.00	0.00	0.52
	Total Contract Awards				**20.42**	Total Disbursements				**400.00**

Q = quarter
Source: Asian Development Bank

E. Fund Flow Diagram

Figure 3: Fund Flow Diagram



ADB = Asian Development Bank, EAD = Economic Affairs Division, GoP = Government of Pakistan, GoS = Government of Sindh, IP- = implementing partner, NBP = National Bank of Pakistan, SBP = State Bank of Pakistan, SGACD = Services General Administration and Coordination Department, SPHF = Sindh People's Housing for Flood Affectees, VRCs = village reconstruction committees

[a] SPHF will establish one advance account for the ADB loan and one assignment account for the government counterpart contributions.

[b] The VRCs will receive funding for the construction of community infrastructures such as WASH facilities.

[c] The implementing partners are non-governmental organizations.

Source: Asian Development Bank

VI. FINANCIAL MANAGEMENT

A. Financial Management Assessment

8. The Financial Management Assessment was conducted in January 2024 to assess SPHF's capacity and systems for effectively managing the finances of the project. SPHF has experience implementing a World Bank project, including administering advanced funds and Statement of Expenditure (SOE) procedures, as well as established financial management (FM) systems such as staffing, planning and budgeting, disbursement and fund flow, accounting policies and procedures, internal controls, financial reporting and monitoring, internal and external auditing, and financial information systems.

9. The overall pre-mitigated financial management risk is *substantial*, due to some weaknesses, including: (i) the current number of staff in the Finance Department may not be sufficient to handle the increased workload resulting from the implementation of new projects funded by the ADB and the Islamic Development Bank (IsDB), and the Finance Department staff are not familiar with the FM and disbursement requirements set by the ADB, potentially leading to noncompliance; (ii) there is no formal written financial management manual outlining the accounting policies and procedures and the payroll preparation relies on manual excel sheets, which can be time-consuming and error-prone; (iii) the responsibilities and scope of the SPHF contract with the internal auditor do not explicitly cover the ADB project; (iv) there are unresolved observations in the internal audit reports and management letter; (v) the auditor's opinion on the project financial statements of the World Bank did not include specific opinions regarding compliance with advance fund and SOE procedures; and (vi) a new module in the Management Information System (MIS) is needed to support the community infrastructure, the Systems, Applications, and Products in Data Processing (SAP) accounting system is not fully operational and integrated with the MIS, posing a risk of incomplete or inaccurate data, the hard drives and universal serial bus devices are stored in drawers, making them vulnerable to theft, and the SAP accounting system currently lacks a built-in backup feature.

10. SPHF has agreed to implement a time-bound action plan as a key measure to address these weaknesses, which is provided in Table 11. With SPHF's experience, a robust MIS, and a multi-layered verification process for disbursement to beneficiaries, as described in paras 13 and 14, and the planned mitigation measures for the identified weaknesses, the ADB project's FM arrangements will be considered *satisfactory* and SPHF will have the capacity to administer the advance fund and SOE procedures.

Table 11: Financial Management Action Plan

	Risk Description	Risk Rating	Mitigating Action	Responsibility	Time Frame
1	Staffing capacity: The current number of staff in the Finance Department may not be sufficient to handle the increased workload resulting from the implementation of new projects funded by the ADB and IsDB. The Finance Department staff are not familiar with the FM and disbursement requirements set by the ADB, potentially leading to noncompliance.	Substantial	Hiring two additional staff, an Assistant Finance Manager and an Assistant Disbursement Manager. The CFO will develop the ToR for these positions, which will subsequently undergo review by ADB. Training will also be provided on ADB's FM and disbursement requirements and procedures, including the use of ADB's eLearning courses on FM.[a]	SPHF (PIU), ADB	Before loan effectiveness Within two (2) months after hiring of the additional staff
2	Planning and budgeting: Given the political and economic situation, there is a risk that the project may not be implemented in a timely and adequate manner due to delays and/or insufficient government budget allocation, resulting in deviation from the agreed-upon investment plan.	Substantial	Ensuring that all policies, processes, and procedures are in place to ensure adequate and timely budget allocation that is consistent with the agreed-upon investment plan. This requirement is stipulated as a covenant in the loan agreements.	EAD, ADB GoS, SPHF (PIU)	Covenant will be included in the loan agreement i.e., before effectiveness. Submitting requests to the GoS for budget releases 15 March, 15 June, 15 Sep and 15 Dec in every year.
3	Accounting policies and procedures: There is no formal written FM manual outlining the accounting policies and procedures. Additionally, payroll preparation relies on manual Excel sheets, which can be time-consuming and error-prone.	Substantial-	Preparing a formal written FM manual for review by the ADB and approval by SPHF's BoD. SPHF will be automating the payroll process using SAP software.	SPHF (PIU), ADB SPHF (PIU)	Within six (6) months after loan effectiveness Within six (6) months after loan effectiveness

	Risk Description	Risk Rating	Mitigating Action	Responsibility	Time Frame
4	Internal controls: There are unresolved observations in the internal audit reports.	Substantial	Submitting the minutes of meetings of SPHF's Finance and Audit Committee, which provide updates on or evidence of the resolutions for the observations stated in the internal audit reports.	SPHF (PIU)	Within two (2) months after loan effectiveness
5	Internal audit: The responsibilities and scope of the SPHF contract with the internal auditor do not explicitly cover the ADB project.	Substantial	Amending the existing contract with the internal auditor to incorporate the ADB project within the scope of their work.	SPHF (PIU)	Before loan effectiveness
6	External audit: The auditor's opinion on the project financial statements of the World Bank did not include specific opinions regarding compliance with advance fund and SOE procedures.	Substantial	Writing to the auditor the specific requirements on assurance opinion on the project financial statements, use of loan proceeds for purpose(s) intended, compliance with financial covenants (where applicable), advance fund and SOE procedures. Requiring specific opinions regarding compliance with advance fund and SOE procedures.	SPHF (PIU)	Within two (2) months after loan effectiveness
	There are unresolved observations in the management letter provided by the Directorate General Audit Sindh.		Submitting the minutes of meetings of the Departmental Accounts Committee, which serve as evidence of the resolutions addressing the observations outlined in the management letter.		Within two (2) months after loan effectiveness

	Risk Description	Risk Rating	Mitigating Action	Responsibility	Time Frame
7	Information systems: With the community infrastructure component being a new project for SPHF, the MIS requires a new module.	Substantial	Creating a new module in the MIS for the community infrastructure component of the project.	SPHF (PIU)	Within six (6) months after loan effectiveness
	The SAP accounting system, although in use, is not fully operational and integrated with the MIS, posing a risk that transferred data may be incomplete or inaccurate.		Fully implementing the SAP accounting software and integrating it with the MIS.		Within six (6) months after loan effectiveness
	The hard drives and USB devices are stored in drawers, making them vulnerable to theft. Additionally, the SAP accounting system currently lacks a built-in backup feature.		Creating data security policy; carrying out periodic backup of accounting data for rapid disaster recovery, such as copying data to external drives and storing it in another place or safe, synchronization of important files with cloud drives, and/or including built-in back-up feature in the SAP accounting system.		Within two (2) months after effectiveness

ADB = Asian Development Bank, BoD = Board of Directors, CFO = Chief Financial Officer, EAD = Economic Affairs Division, GoS = government of Sindh, GoP = Government of Pakistan, FM = financial management, IMF = International Monetary Fund, IsDB = Islamic Development Bank, PFM = public financial management, MIS = Management Information System, PIU = project implementation unit, SPHF = Sindh People's Housing for Flood Affectees, SOE = statement of expenditure, ToR = terms of reference, USB = universal serial bus

[a] ADB's eLearning courses on FM include "Financial Management in ADB-Financed Sovereign Operations for Executing/Implementing Agencies," "Project Cost Estimates," and "Cash Basis International Public Sector Accounting Standards for ADB Project Financial Reporting."

Source: Asian Development Bank.

B. Disbursement

1. Disbursement Arrangements for ADB

11. Disbursement of the loan proceeds will follow ADB's *Loan Disbursement Handbook* (2022, as amended from time to time)12 and detailed arrangements agreed between the government and ADB.

12. SPHF will be responsible for (i) preparing disbursement projections, (ii) requesting budgetary allocations for counterpart funds, (iii) collecting and retaining supporting documents, and (iv) preparing and sending withdrawal applications to ADB.

13. **Advance fund procedure.** SPHF should establish and maintain a separate advance account for the ADB loan proceeds. The currency of the advance account is in United States dollar (USD). The advance account is to be used exclusively for ADB's share of eligible expenditures. SPHF administers the advance account and is accountable and responsible for the proper use of advance to the advance account. The advance funds from the ADB will be transferred to the State Bank of Pakistan (SBP) under the Central Government Account-1 (Non-Food). The USD funds will be transferred to the dedicated advance account of SPHF established at the National Bank of Pakistan (NBP)which will be managed through Pakistan's revolving fund account procedure.[13]

14. The total outstanding advance to the advance account should not exceed the estimate of ADB's share of expenditures to be paid through the advance account for the forthcoming three (3) months. SPHF may request for initial and additional advance to the advance account based on an estimate of expenditure sheet[14] setting out the estimated expenditures to be financed through the account for the forthcoming three (3) months. Supporting documents should be submitted to ADB or retained by the SPHF following ADB's *Loan Disbursement Handbook* when liquidating or replenishing the advance account.

15. **Disbursements to beneficiaries**. The disbursements to the beneficiaries will be made in installments. Based on the post-disaster needs assessment (footnote 6), the socio-technical assistance teams of the IPs conduct household-level detailed damage assessment and eligibility verification surveys and upload data into the geographic-information system-enabled MIS using their smartphones. Following this, the Operations Department of SPHF compiles and verifies the data (i.e., batch) and prepares fact sheets for disbursements to the eligible beneficiaries. Additionally, SPHF will hire an independent technical verification consultant to conduct physical verification on a sample basis (1% of the entire case and/or as and when requested) to ensure the authenticity of the data collected through the IPs. Once the Operations Department reviews and clears the batch from an engineering perspective, the project implementation consultant checks the batch to identify cases with identification deviations, with hazardous locations status, with reconstruction started status, and with land title status as non-surveyed katcha[15], tenant and

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[12] The handbook is available at ADB. Loan Disbursement Handbook 2022.

[13] Government of Pakistan, Finance Division (Budget Wing). 2022. *Revised Accounting Procedure for Revolving Fund Accounts (Foreign Aid Assignment Account).* Islamabad. The Finance Division will approve the opening and change of signatories of the RFA.

[14] The estimate of expenditure sheet is in Appendix 8A of ADB's Loan Disbursement Handbook and is available for download from ADB. Loan and Grant Financial Information Services.

[15] [15] Non- or semi-permanent, covering a wide range of local or traditional materials such as stone with mud mortar, adobe brick, mud, wood/bamboo framed, and other construction types. *Pakistan Floods 2022: Post-Disaster Needs Assessment*.

multi-owner land title status, compares beneficiaries urban unit identification number, computerized national identity card number, and account number within the current batch and previous batches to avoid duplicates. Further, SPHF hires an internal auditor whose scope of work includes verifying the list of validated beneficiaries from the project implementation consultant on a sample basis and providing an opinion that all payments are properly supported by necessary documents and made to valid beneficiaries according to defined milestones.

16. The fact sheet, along with the certificate for disbursement from the project implementation consultant, is then forwarded to the Disbursement Manager in the Finance Department of SPHF for checking and processing. Subsequently, the Chief Financial Officer (CFO) and Chief Executive Officer (CEO) of SPHF review and approve the fact sheet. The Finance Manager in SPHF then prepares a bank payment voucher, which is verified by the CFO and approved by the CEO. As authorized signatories, the CFO and CEO sign the cheque, which is then sent to the Treasury Department of the GoS for endorsement. Subsequently, the cheques are endorsed by the Treasury Officer before being presented for clearance. Upon presentation, NBP clears the cheques for payment from the revolving fund account (RFA). After clearance, NBP submits the cheques to the SBP for reimbursement of funds up to the assigned limit. NBP transfers funds to each beneficiary's account and sends an email to SPHF, informing them that the amounts have been credited to the beneficiaries' accounts. SPHF provides the list of beneficiaries who have successfully received funds to the IPs, who then confirm the receipt of funds with the beneficiaries and initiate the reconstruction of houses. The same disbursement procedures as laid down above will be followed for the subsequent installments after the STA teams of the IPs verify the construction quality and milestones. The same disbursement procedures will be applied to the community infrastructure and livelihood components of the project, where ADB funds will be released as advances to the beneficiaries for meeting a certain milestone. Once they reach a certain milestone, the advance for the next milestone will be released.

17. **Statement of expenditure procedure.**[16] The statement of expenditure (SOE) procedure may be used for reimbursement of eligible expenditures and liquidation of advances to the advance account. Supporting documents and records for the expenditures claimed under the SOE should be maintained and made readily available for review by ADB's disbursement and review missions, upon ADB's request for submission of supporting documents on a sampling basis, and for independent audit.

18. Before submitting the first withdrawal application, the borrower should submit to ADB sufficient evidence of the authority of the person(s) who will sign the withdrawal applications on behalf of the government, together with the authenticated specimen signatures of each authorized person.[17] The minimum value per withdrawal application is stipulated in the *Loan Disbursement Handbook*. Individual payments below such amount should be paid (i) by the SPHF and subsequently claimed from ADB through reimbursement or (ii) through the advance fund procedure, unless otherwise accepted by ADB. The borrower should ensure sufficient category and contract balances before requesting disbursements. Using ADB's Client Portal for Disbursements system[18] is encouraged for submitting withdrawal applications to ADB.

[16] SOE forms are available in Appendixes 6A and 6B of ADB's Loan Disbursement Handbook and are available for download from ADB. Loan and Grant Financial Information Services.

[17] The evidence of authorized persons to sign withdrawal applications is in Appendix 4A of ADB's Loan Disbursement Handbook and is available for download from ADB. Loan and Grant Financial Information Services.

[18] The Client Portal for Disbursements facilitates online submission of withdrawal applications to ADB, resulting in faster disbursement. The borrower needs to complete the registration form, which is available at ADB. Guide to the Client Portal for Disbursements.

19. **Direct payment procedure.** SPHF may request that ADB directly pay the implementation partners and consultants on its behalf. To initiate this process, SPHF will need to submit a withdrawal application to ADB, accompanied by a summary sheet and all necessary supporting documents. These documents are essential for verifying the validity of the expenses and ensuring compliance with the agreed-upon terms and conditions of the project. Once the withdrawal application is received and reviewed by ADB, the requested funds will be disbursed accordingly to the designated implementation partners and consultants.

2. Disbursement Arrangements for Counterpart Fund

20. SPHF will establish and maintain a separate assignment account at the NBP to manage the government counterpart contributions. The funds will be made available in this account as per the project's requirements. The request for counterpart funds will be prepared by the SPHF through cheques. These cheques will be endorsed by the Accountant General Sindh to the NBP for processing. The government counterpart contribution will encompass taxes, duties, goods, equipment, training, communications, consulting services, salaries, other project management costs, and contingencies through cash contributions. Additionally, the government will provide in-kind contributions in the form of state land, where applicable, for housing reconstruction and community infrastructure.

3. Accounting

21. The SPHF will maintain, or cause to be maintained, separate books and records for all expenditures incurred on the project from all funding sources, covering ADB concessional loan and government counterpart contribution, and prepare project financial statements following the International Public Sector Accounting Standard (IPSAS) for cash-based accounting.

4. Auditing and Public Disclosure

22. The SPHF will cause the project's financial statements, covering ADB concessional loan and government counterpart contribution, to be audited following International Standards for Supreme Audit Institutions by the Supreme Audit Institution and approved by the Auditor General of Pakistan, as acceptable to ADB. The audited project financial statements, together with the auditor's opinion, will be presented in English to ADB within six (6) months from the end of the fiscal year by the SPHF. The audit terms of reference is in Appendix 6.

23. The audited entity financial statements (AEFS), together with the auditor's report and management letter, will be submitted in English to ADB by the earlier of the time prescribed for their approval following the laws of the country or one (1) month after their approval by the relevant authority or 12 months after fiscal yearend, whichever is earlier.

24. The audit report for the project financial statements, covering ADB concessional loan and government counterpart contribution, will include a management letter and auditor's opinions, which cover (i) whether the project financial statements present an accurate and fair view or are presented fairly, in all material respects, following the applicable financial reporting standards; (ii) whether the proceed of the loan was used only for the purpose(s) of the project; and (iii) whether the borrower, executing agency, and/or implementing agency was in compliance with the financial covenants contained in the legal agreements (where applicable).

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

26. The government and SPHF have been made aware of ADB's approach to delayed submission and the requirements for satisfactory and acceptable quality of the audited project financial statements.[19] ADB reserves the right to require a change in the auditor (in a manner consistent with the constitution of the borrower) or additional support to be provided to the auditor, if the audits are not conducted in a manner satisfactory to ADB or are substantially delayed. ADB reserves the right to verify the project's financial accounts.

27. Public disclosure of the audited project financial statements, including the auditor's opinion on the project financial statements, will be guided by ADB's Access to Information Policy.[20] After the review, ADB will disclose the audited project financial statements and the opinion of the auditors on the project financial statements no later than 14 days of ADB's confirmation of their acceptability by posting them on ADB's website. The management letter, additional auditor's opinions, and AEFS will not be disclosed.[21]

VII. PROCUREMENT

A. Applicable Procurement Policy

28. Procurement of goods, works, consulting services, and nonconsulting services will follow the ADB Procurement Policy (2017, as amended from time to time) and the Procurement Regulations for ADB Borrowers (2017, as amended from time to time).

B. Procurement Strategy Summary

29. The executing agency, SPHF, has prepared a strategic procurement planning report which defines strategies and the procurement plan to support the delivery of the project outputs and the achievement of the project outcomes. The project will finance contracts for consultants, nonconsulting services, and goods, which include engineering design and supervision consultants (community infrastructure and related facilities), monitoring and evaluation consultants (community infrastructure and related facilities), implementing partners (IPs) to support the communities for the construction of community infrastructure and verification of works, MIS developer, vehicles, IT equipment, and office equipment and furniture.

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[19] ADB's approach and procedures regarding delayed submission of audited project financial statements:
(i) When the audited project financial statements are not received by the due date, ADB will write to the executing agency advising that (a) the audit documents are overdue; and (b) if they are not received within the next 6 months, requests for new contract awards and disbursement, such as new replenishment of advance accounts, processing of new reimbursement, and issuance of new commitment letters, will not be processed.
(ii) When the audited project financial statements are not received within 6 months after the due date, ADB will (a) withhold processing requests for new contract awards and disbursement, such as new replenishment of advance accounts, processing of new reimbursement, and issuance of new commitment letters; (b) deny the extension of the loan closing date; and (c) delay the negotiation or Board presentation of new loan proposal. ADB will inform the executing agency of ADB's actions and advise that the loan may be suspended if the audited project financial statements are not received within the next 6 months.
(iii) When the audited project financial statements are not received within 12 months after the due date, ADB may suspend or cancel the loan.

[20] ADB. 2018. Access to Information Policy. Manila.

[21] Such information falls under the Access to Information Policy's exceptions to disclosure. Footnote 10, para. 16.

30. SPHF has procured five (5) implementing partners [22] under the ongoing housing reconstruction project funded by development partners (paragraph 1), and may engage the same IPs for this project to provide the same services for housing reconstruction as well as support for community infrastructure construction through direct contracting. Other procurement packages include engineering design and supervision consultants, monitoring and evaluation consultants, multiple consulting firms, individual consultants to provide a variety of small-value support services, MIS services, IT and office equipment, and vehicles. Direct contracting of the existing IPs is justified to ensure continuity and synchronization with the ongoing housing reconstruction and address the urgent reconstruction needs of flood-affected households, which is critical for the emergency response program. This approach, combined with the use of multi-hazard, climate-resilient design, and inclusive design, as well as off-grid renewable energy facilities for the reconstruction works, will enhance the value and sustainability of procurement under the project, thereby ensuring value for money.

C. Project Procurement Risk Classification

31. Project's procurement risk has been classified as moderate. SPHF, as the implementing agency of the project, is currently executing the Sindh Flood Emergency Housing Reconstruction Project and demonstrates sufficient experience and capabilities to carry out procurement under the project. Contracts for IPs, which are the main procurement packages under the project, aim to provide implementation support to the communities for housing and community infrastructure facilities construction. SPHF has already awarded contracts for these IPs and may direct contract the same IPs to cover the scopes financed by ADB. Since the reconstruction activities are community-driven and financed through conditional cash grants which will be directly transferred to the beneficiaries' bank accounts, they are not classified as procurement transactions. Furthermore, other procurements and consultant selections under the project are of small value and low risk.

32. The procurement risks in this project are mainly the unforeseen capacity constraints of IPs (e.g., reliance on consultants for management of contracts), and unforeseen shortage of materials and labor. These risks will be mitigated through robust planning, monitoring and evaluation, and community oversight. The assigned risk rating takes into account the above factors, alongside the envisaged training on ADB Procurement.

D. Project Implementation Arrangements

33. **Procurement methods.**

a. **Open competitive bidding (OCB) with national advertisement** as per ADB Procurement Policy (2017, as amended from time to time) and the Procurement Regulations for ADB Borrowers (2017, as amended from time to time) will be the default procurement method for procurement of goods, IT equipment and services, and consulting services, unless otherwise specified. Engineering design and supervision consultants and monitoring and evaluation consultants will be hired through the quality- and cost-based selection (QCBS) method with an 80:20 technical and financial scoring. The project also envisages hiring of multiple consulting firms to provide a variety of small-value support services through the consultants' qualifications selection (CQS) method. Selection of consultants will

[22] (i) Health and Nutrition Development Society (HANDS), (ii) Sustainable Actions to Access Financial Capital Opportunities (SAFCO), (iii) Thardeep Rural Development Programme (TRDP), (iv) National Rural Support Programme (NRSP), and (v) Sindh Rural Support Organization (SRSO).

use ADB's Standard Request for Proposal (RFP, recent edition). The MIS services will be procured through OCB national using ADB's Standard Bidding Document (SBD) for IT Products and Services (recent edition). Procurement of goods, IT and office equipment, and vehicles of US$ 100,000 and US$ 200,000 respectively or less will be conducted using request for quotation (RFQ) following ADB's standard template.

b. **Direct contracting** may be adopted for procurement of the IPs for community infrastructure and related facilities with the existing five (5) IPs working as implementing partners on housing reconstruction. The direct contracting process shall be subject to prior review by ADB. Direct contracting typically requires initiating a new procurement process following ADB procurement procedures and the issuance of a new contract. Since SPHF's ongoing IP contracts already encompass the full scope of housing reconstruction works, including those to be financed under this project, SPHF may consider amending the existing contracts with these IPs. The amendments would maintain the same fixed fee and must incorporate ADB as an additional source of financing along with ADB-specific clauses. The contracts may include the scope of work related to housing reconstruction as well as community infrastructure and related facilities. Direct contracting is expected to allow immediate engagement in this emergency project without the need for extensive setup or mobilization time. The scope of work under the project is contiguous to their existing scope under the existing contracts, and the difference will only be the geographical spread and nature of the works. Hence, selecting the same IPs will ensure a natural continuation of the ongoing works, since they have already mobilized teams, and established the required geographical presence and social connections with the flood-damaged communities. The use of OCB will likely result in longer period of engagement with implementing partners and higher financial and social expenses associated with mobilization, onboarding, and reengaging with the communities. Furthermore, the existing IPs have a proven track record having successfully completed the validation phase of the project.

34. **Advance contracting.** Selection of a design and supervision consultant, and monitoring and evaluation consultant, as well as procurement of MIS services will be conducted through advance contracting, and will be subject to prior review by ADB. Considering the emergent nature of the project, advance contracting also applies to all goods, equipment, consulting, and non-consulting services. The borrower, executing agency, and implementing agency have been advised that approval of advance contracting does not commit ADB to finance the project.

35. **Retroactive financing**. The retroactive financing ceiling is 30% of the total ADB loan, incurred before loan effectiveness, but not more than 12 months before the signing of the loan agreement. The borrower, executing agency, and implementing agency have been advised that approval of retroactive financing does not commit ADB to finance the project.

36. **Post-review (sampling)**. Procurement for all other contracts, including procurement of IT equipment, vehicles and office furniture, selection of individual consultants, and selection of consulting firms through CQS will be subject to post-review (sampling) in accordance with ADB's Procurement Policy (2017, as amended from time to time) and Procurement Regulations for ADB's Borrowers (2017, as amended from time to time) and associated Staff Instructions.

37. **Contract management.** SPHF will receive assistance from the engineering design and supervision firm in managing the contracts of IPs and verifying payment requests from IPs. The project implementation support consultant will lend support for the housing component. Contract management will be guided by the use of a contract management plan as envisaged under ADB's Guidance Note on Contract Management. This will provide a tool to SPHF to ensure that the performance remains on track and, if need be, to guide any necessary corrective measures that should be envisaged.

E. Procurement Plan

38. An 18-month procurement plan indicating procurement packages and review procedures for goods, works, consulting services, and non-consulting services is below.

Table 12: Basic Data

Project Name: Sindh Emergency Housing Reconstruction Project	
Project Number: 57323-001	Approval Number: TBD
Country: Islamic Republic of Pakistan	Executing Agency: Sindh Peoples' Housing for Flood Affectees (DIRECT CONTRACT)
Procurement Risk: *Moderate*	Implementing Agency: DIRECT CONTRACT (PIU)
Project Financing Amount: US$440 million ADB Financing: US$400 million Non-ADB Financing (Government of Sindh): $40 million	Project Closing Date: 31 December 2027
Date of First Procurement Plan: xx April 2024	Date of this Procurement Plan: xx April 2024
Procurement Plan Duration: 18 months	Related to COVID-19 response efforts: No
Advance contracting: Yes	Use of e-procurement (e-GP): Yes (advertisement and RFQ)

A. Methods, Review, and Procurement Plan

39. Except as the Asian Development Bank (ADB) may otherwise agree, the following methods shall apply to the procurement of goods, works, nonconsulting services, and consulting services.

Table 13: Procurement of Goods, Works, and Nonconsulting Services

Method	Comments
Open Competitive Bidding (national advertisement)	Non-consulting services; ADB's SBD IT Products and Services; prior review.
Direct Contracting	Non-consulting service contracts with the existing IPs; may use contract amendment (housing reconstruction) or issuance of new contracts (community infrastructure); may use SBD for Non-Consulting Services amended with ADB-specific clauses; prior review.
Request for Quotation	Contract of off-the-shelf items ($100,000 or less) or vehicles ($200,000 or less), ADB's template

Table 14: Procurement of Consulting Services

Method	Comments
Quality- and Cost-Based Selection (firm)	80:20, ADB's standard RFP, prior review.
Consultant Qualification Selection (firm)	ADB's standard RFP, post review (sampling)
Direct Contracting (Single Source Selection, firm or individual)	Subject to ADB's prior approval
Individual Consultant Selection (ICS)	post review (sampling)

B. List of Active Procurement Packages (Contracts)

40. The following table lists goods, works, nonconsulting, and consulting services contracts for which the procurement activity is either ongoing or expected to commence within the procurement plan's duration.

Table 15: Procurement of Goods, Works, and Nonconsulting Services (Active Procurement Package)

Package Number	General Description	Estimated Value ($) million	Procurement Method	Review	Bidding Procedure	Advertise-ment Date	Comments
SPHF/Implementing Partner (IP)/ 01-05	Procurement of IP for Community Infrastructure and related facilities (5 contracts)	13.5	Direct Contracting	Prior	NA	NA	Non-Consulting Services: Yes Risk level: Low. Advertising: NA Advance contracting: No No. Of Contracts: 5 Prequalification of Bidders: No Bidding document: NA Comments: Contracts with existing IPs (Q1/2025). e-GP: NA. COVID-19 Response: No ADB Financing (Loan) - $13.5 million
SPHF/Management Information System	Procurement of Management Information System Services for Community Infrastructure and related facilities	0.71	OCB National	Prior	1S1E	Q 2024	Non-Consulting Services: Yes Risk level: Low. Advertising: National Advance contracting: Yes No. Of Contracts: 1 Prequalification of Bidders: No Bidding document: ADB Standard Documents for Procurement of

							IT Goods and Services Comments: NIL e-GP: Yes (advertisement) COVID-19 Response: No
SPHF/Goods/Vehicles-01	Procurement of 03 Motor Vehicles and 03 Motor bikes for SPHF (2 contracts)	0.181	RFQ	Post	1S1E	Q3 2024	Non-Consulting Services: No Risk level: Low. Advertising: National Advance contracting: No No. Of Contracts: 2 Prequalification of Bidders: No Bidding document: ADB Standard RFQ for Goods Comments: NIL e-GP: Yes COVID-19 Response: No
SPHF/Goods/IT	Procurement of IT Equipment for SPHF (multiple contracts)	0.175	RFQ	Post	1S1E	Q4 2024	Non-Consulting Services: No Risk level: Low. Advertising: National Advance contracting: No No. Of Contracts: Multiple Prequalification of Bidders: No Bidding document: ADB's Standard RFQ for Goods Comments: NIL e-GP: Yes COVID-19 Response: No
SPHF/Goods/Furniture	Procurement of Office Furniture for SPHF	0.017	RFQ	Post	1S1E	Q4 2024	Non-Consulting Services: No Risk level: Low. Advertising: National Advance contracting: No No. Of Contracts: 1 Prequalification of Bidders: No Bidding document: ADB Standard RFQ for Goods Comments: NIL

							e-GP: Yes COVID-19 Response: No

Table 16: Procurement of Consulting Services (Active Procurement Package)

Package Number	General Description	Estimated Value ($) million	Selection Method	Review	Type of Proposal	Advertisement Date	Comments
SPHF/ WASH/ CS-01	Engineering Design and Supervision Consultancy for Community Infrastructure and related facilities	5.6	QCBS	Prior	FTP	Q2 2024	Risk level: Low. Advertisement: National Type: Firm Quality-Cost Ratio: 80:20 Advance contracting: Yes Bidding Document: ADB Standard Request for Proposal Comment:
SPHF/ WASH/ CS-02	Monitoring & Evaluation Consultants (Community Infrastructure and related facilities)	0.75	QCBS	Prior	STP	Q2 2024	Risk level: Low. Advertisement: National Type: Firm Quality-Cost Ratio: 80:20 Advance contracting: Yes Bidding Document: Standard Request for Proposal Comment: May use retroactive financing
SPHF/ ICS-01	Analytical Support Consultants (4 Consultants)	0.16	ICS	Post	ICS	Q4 2024	Risk level: Low. Advertisement: National Comment: Total four contracts of $0.04 million each.
SPHF/ ICS-02	Land Management Consultant	0.04	ICS	Post	ICS	Q4 2024	Risk level: Low. Advertisement: National
SPHF/ ICS-03	Climate Change Specialist	0.04	ICS	Post	ICS	Q4 2024	Risk level: Low. Advertisement: National
SPHF/ ICS-04	Environmental Specialist	0.04	ICS	Post	ICS	Q4 2024	Risk level: Low. Advertisement: National

C. List of Indicative Packages (Contracts) Required under the Project

41. The following table lists goods, works, nonconsulting, and consulting services contracts for which the procurement activity is expected to commence beyond the procurement plan duration and over the life of the project (i.e., those expected beyond the current procurement plan's duration).

Table 17: Goods, Works and Nonconsulting Services (Indicative Package)

Package Number	General Description	Estimated Value ($) million	Procurement Method	Review	Bidding Procedure	Comments
SPHF/DM	Geospatial mapping using drone technology	0.11	RFQ	Post	1S1E	

Table 18: Consulting Services (Indicative Package)

Package Number	General Description	Estimated Value ($) million	Selection Method	Review	Type of Proposal	Comments
SPHF/CS/03	PIU Support Consultants	1.00	CQS	Post	STP	Multiple contracts
SPHF/CS/04	Grievance Redress Mechanism Firm	0.32	CQS	Post	STP	
SPHF/CS/05	Internal Audit Services	0.05	CQS	Post	BTP	

D. List of Awarded and Completed Contracts

42. Nil

E. Non-ADB Financing

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

Table 19: Goods, Works, and Nonconsulting Services (Non-ADB Financing)

General Description	Estimated Value (cumulative, $ million)	Estimated Number of Contracts	Procurement Method	Comments
Implementing Partners 5 Packages	57.26	5	Direct Contracting	Source of Financing: World Bank Advance Contracting: N/A Contract: Ongoing Prequalification: N/A Domestic Preferences: N/A Bidding Document: World Bank's Standard Procurement Document for Non-Consulting Services Covid-19 Response: No Comment: ADB will engage the same Implementing Partners (IPs) through direct contracting.
Hosting of MIS, including Access and Backup	0.1	1	OCB National	Source of Financing: World Bank Contract: Ongoing Advance Contracting: N/A Prequalification: N/A Domestic Preferences: N/A Bidding Document: World Bank's Standard

				Procurement Document for Non-Consulting Services Covid-19 Response: No Service Level Agreement (SLA) is signed for hosting, maintenance, backup, and access. The SLA is signed on yearly basis and is funded by the World Bank.

Table 20: Consulting Services (Non-ADB Financing)

General Description	Estimated Value (cumulative, $)	Estimated Number of Contracts	Recruitment Method	Comments
Project Implementation Support Consultant	0.42	1	Single Source Selection	Source of Financing: World Bank Advance Contracting: N/A Contract: Ongoing Prequalification: N/A Domestic Preferences: N/A Bidding Document: World Bank's Standard Procurement Document for Consulting Services Covid-19 Response: No Comment Consulting Services to certify the payments of work done by the IPs. This contract will also support ADB's housing component.
Independent Technical Verification Consultant.	0.64	1	QCBS	Source of Financing: World Bank Advance Contracting: N/A Contract: Ongoing Prequalification: N/A Domestic Preferences: N/A Bidding Document: World Bank's Standard Procurement Document for Consulting Services Covid-19 Response: No Comment Consulting Services to verify the work done by the communities on 5% sampling basis. The contract will also support ADB's housing component.

VIII. SAFEGUARDS

44. **ESMF for Sindh Emergency Housing Reconstruction Project.** An Environmental and Social Management Framework (ESMF) has been prepared for the project. The existing ESMF presently being implemented by SPHF and its multilateral financing partners, such as the World Bank, has been reviewed and updated to incorporate ADB-specific policies and guidelines to ensure compliance with ADB SPS, 2009. The updated ESMF provides safeguard policies, guidelines, codes of practice and procedures applicable for complying with the SPS requirements during the execution of the project. The document also reviews safeguard policies at the national level, identifies gaps, if any, with ADB's SPS 2009 requirements, and describes the principles, objectives, approaches, and site-specific environmental and social mitigation measures that will

be followed. It explains the processes for screening and assessment of adverse environment and social risks, mitigation and management of adverse impacts, and monitoring of compliance with the ESMF and SPS provisions. The templates of screening and monitoring checklists and the outline for preparation of the initial environmental examination (IEE), if required for any component under the project, and Environment and Social monitoring reports (ESMRs) are also included in the ESMF.

45. **Social Safeguards (Category C).** The project's Output 1 aims to reconstruct flood-damaged housing units and community infrastructure such as WASH facilities. While under Output 2, financial support will be provided for the recovery of livelihoods of the vulnerable flood-affected households and the improvement of community resilience. Reconstruction work for flood-damaged houses will be restricted to the existing land plots owned by the individual households, jointly owned land and/or community-owned land with consent from other owners and the community or government land where the household will be issued ownership. Similarly, WASH facilities will be established on the beneficiaries' own land, unencumbered or donated communal land or government-owned land allocated for the development of such infrastructure and facilities. Although the government could acquire private land through the eminent domain, there will be no land acquisition by the government for the housing reconstruction and community infrastructure works. Where the relocation of flood-affected households could emerge, encumbrance-free government-owned land will be preferred or the landowners and the community will be mobilized for ensuring voluntary land donation (VLD). The involuntary resettlement (IR) and indigenous people (IP) screening checklists, together with the VLD checklist that includes a template for a VLD agreement, are also included in the ESMF.

46. It is envisaged that the project will not involve any involuntary resettlement impacts, including physical or economic displacement due to loss of shelter and productive assets or from restricted access to assets and income sources. The IP or tribal groups having distinct culture, socio-economic and administrative institutional set-up different from mainstream population are not spotted in the project districts of Sindh province. So, the IR and IP category C for the project is justified and it may not involve the preparation, implementation, and monitoring of RPs. However, the IR and IP screening checklists will be prepared for planned flood-affected settlement or relocation site to confirm social safeguards category and complete the social due diligence. Activities that may cause IR impacts will be excluded.

47. **Environment Safeguards (Category B):** The project's Output 1 will consist of in-situ reconstruction of houses damaged by the floods along with development of community infrastructure such as WASH and off-grid renewable energy facilities. Under this Output 1, the proposed civil works will be small-scale projects and the resulting impacts will be minor only during the short period of construction phase and will be site-specific so that it is reversible in nature (e.g., dust emissions, noise generation, waste generation. The most environmentally-sensitive component of the project is the development of the WASH facilities; thus, the proposed project works have been categorized as 'B' for Environment.

48. Once the locations of the sub-projects have been identified amongst the affected communities across Sindh province, those sub-project sites and their proposed works will be screened using the Rapid Environmental Assessment Checklist, reflected in the ESMF. Based on the screening results, one consolidated IEE study covering all sub-projects or multiple IEE studies for the sub-projects will be prepared along with their respective Environmental Management Plans (EMPs).

49. Lastly, the project's Output 2 consists of cash transfers for livelihood support and capacity development measures that are environmentally benign. Thus, the projects do not require any assessment from environmental safeguards aspects.

50. **Institutional set-up for safeguards management and monitoring:** The SPHF and its implementing partner have been engaged for implementing the World Bank-funded component of the project. The SPHF and the implementing partners have dedicated environment and social units (ESU) that have adequately trained staff to manage the environment and social safeguard requirements as required under ESMF and the SPS 2009 provisions. The environment and social experts, including supporting staff (social mobilizers) deployed in IPs and SPHF will actively be engaged in social and technical assessment of flood-affected settlements. The IR, IP, and REA checklists prepared by ESUs for the planned settlement will be shared with ADB for confirming social and environmental safeguards categories. The ESUs in SPHF and IPs will undertake routine monitoring of subprojects as per the requirements outlined in the ESMF or respective safeguard documents (IEE/EMPs). In addition to the internal monitoring by the ESUs, the project will engage a third-party monitor (consultant and/or firm) for monitoring the management of environment and social issues and the ESMF compliance status.

51. **Prohibited investment activities.** Following ADB's SPS, 2009, ADB funds may not be applied to the activities on the ADB Prohibited Investment Activities List in Appendix 5 of the SPS.

IX. GENDER EQUALITY AND SOCIAL DIMENSIONS

52. The SHPF will oversee the project's overall implementation. Existing SPHF staff, particularly the gender specialist, will collaborate closely with relevant personnel and officials of both the SPHF and implementing partners at the district level to execute the gender action plan effectively.

53. Activities under Output 1 in the Gender Action Plan (GAP) will be charged to ADB ordinary capital resources (concessional loan), while the livelihood-related activities in the GAP for Output 2 will be charged to government counterpart funding and TA resources.

X. PERFORMANCE MONITORING, EVALUATION, REPORTING, AND COMMUNICATION

A. Monitoring

54. **Project performance.** The PIU will be responsible for monitoring and reporting performance of the project against the DMF and gender action plan's indicators and targets. The PIU Monitoring & Evaluation and Gender specialist will support in collecting sex-disaggregated data on all relevant indicators and targets. The management information system (MIS) to generate data systemically on the inputs and outputs as well as the indicators to be used to measure project impact will have to be developed. This will also include data on the gender equality related commitment in the GAP.

55. **Compliance.** Compliance with legal, financial, procurement, economic, environmental, social, and other covenants contained in the loan and project agreements will be monitored by PIU. The PIU will report the latest situation in respect of covenant in each of its quarterly progress reports to ADB. ADB will monitor compliance through a review of the PIU progress reports and through selective follow-up discussions or more detailed reviews during supervisory missions.

56. **Safeguards.** The ESUs in IPs and SPHF will undertake routine monitoring of project activities as per the requirements outlined in the ESMF or respective safeguard documents (IEE/EMPs or RPs). The IPs will deliver E&S monitoring reports to the SPHF on a monthly basis. The ESU in SPHF will consolidate the monthly monitoring reports into quarterly environmental and social monitoring reports that will be endorsed to ADB for approval. The ADB approved quarterly E&S monitoring reports will be disclosed on the SPHF and ADB web sites. In addition to the internal monitoring by the ESUs in IPs and SPHF, the project will engage a third-party monitor (consultant/firm) for monitoring the management of environment and social issues and the ESMF compliance status. The third-party monitor will prepare and deliver monitoring and evaluation reports annually. The SPHF and ADB endorsed annual monitoring and evaluation reports will be disclosed by uploading on the SPHF and ADB websites.

57. **Gender equality and social dimensions.** The Gender Specialist at SPHF will oversee the implementation progress of the Gender Action Plan (GAP) and prepare semi-annual progress reports for review by SPHF management. Upon clearance, these reports will be forwarded to the Gender Officer at the ADB Pakistan Resident Mission. Additionally, six months before project completion, the gender specialist will compile the project's gender results, including the GAAP achievements matrix and a narrative detailing quantitative and qualitative outcome. This compiled report will be submitted first to SPHF for review and then to ADB for further assessment

58. **Financial management.** The financial management action plan, financial sustainability risks, and financial reporting and auditing will be reported and reviewed throughout project implementation. The financial management and sustainability risks and mitigating actions will be reassessed regularly during implementation, specifically during review missions. Assessment of financial management action plan implementation will be updated at least annually and reflected in the PAM.

B. Evaluation

59. ADB will conduct an inception mission after loan effectiveness and a review mission every six (6) months. At inception mission ADB will (i) review the adequacy of the preparatory work done by the EA, particularly recruiting personnel, procuring goods and related services, and works; (ii) prepare with EA staff an agreed upon project-specific checklist of implementation requirements; (iii) explain and confirm ADB's reporting requirements and agree on a reporting format and schedule; (iv) discuss and confirm the timetable for compliance with the loan covenants; (v) discuss with the EA the timing for the first review mission; (iv) discuss with the EA the details of PAM which was finalized during project processing including contract awards and disbursement projections; the PAM, with any necessary revisions, will be attached to the memorandum of understanding (MOU) or aide memoire to be signed by the borrower and the mission; and (vii) discuss the EA's role in the process of closing the loan account after completion, among others.

60. Project reviews on performance progress, issues, constraints and proposed solutions will be jointly made by ADB and the government at loan review missions which occurs every 6 months. The PIU will be responsible for providing information and data disaggregated by sex for these semi-yearly reviews, an aide-memoire or MOU containing agreed upon actions will be signed by the government and ADB following each review. ADB, at review missions, will conduct a detailed review of the overall project progress. ADB will also (i) examine implementation problems that the project is encountering or is likely to encounter; (ii) review actions required in terms of initial environmental examinations, environmental management plan, resettlement plans, indigenous peoples plans, gender action plan, and where required; (iii) review project expenditures, and estimate whether the project can be completed within the original cost estimates; (iv) review the

borrower's compliance with loan covenants and, where there is any noncompliance or delay, discuss proposed remedial measures with the borrower (including discussions with the external auditor of the borrower or EA where relevant); (v) review key activities and milestones in the DMF, reassess the risks and critical assumptions and the likelihood or achieving the project's outcome and outputs within target dates, etc. The midterm review mission will indicatively be scheduled in Q4 2025. At Midterm mission, ADB will review whether a project is likely to achieve its outcome and outputs on time and within budget. It will also discuss project extension and propose necessary adjustments, that is, revision of targets, reallocation of savings, inclusion of new activities, etc. Within six (6) months after the physical completion of the project, the PIU will submit to the government and ADB a project completion report (PCR). Within six (6) months of physical completion of the project, the executing agency will submit a project completion report to ADB[23] analyzing implementation, project performance and achievements against the targets, and expected project impact.

C. Reporting

61. The executing agency will provide ADB with (i) quarterly progress reports in a format consistent with ADB's project performance reporting system and should include the project's financial progress, showing periodic and cumulative amounts of budgeted and actual sources and uses of funds (covering the total project cost) following the cost categories in the PAM and reconciled with ADB's records (Appendix 7); (ii) consolidated annual reports including (a) progress achieved by output as measured through the indicator's performance targets, (b) key implementation issues and solutions, (c) updated procurement plan, and (d) updated implementation plan for the next 12 months; and (iii) a project completion report within three (3) months of physical completion of the project. To ensure that projects will continue to be viable and sustainable, project financial statements, together with the auditor's report, should be adequately reviewed. In addition, quarterly progress reports also include updates on DMF, GAAP, loan covenants, progress achieved by output as measures through the indicator's performance targets, key implementation issues and solutions, updated procurement plan, updated implementation plan for the next 12 months and the activities related to reconstruction of housing units and community infrastructure report submitted by the IA (PIU). A project will also be provided by EA through PIU. Table 19 shows key reporting requirements.

Table 21: ADB's Key Reporting Requirements

Report	Timing	Reference
Audited Project Financial Statements	The audit report should be submitted by the borrower to ADB in the English language, no later than six (6) months after close of the fiscal year or as and when requested by ADB	Project Agreement, Section 2.09(a) PAM
Audited Entity Financial Statements	No later than one (1) month after approval by the relevant authority or as and when requested by ADB.	Project Agreement, Section 2.09 (c) PAM
Quarterly Project Progress Reports	Quarterly, within 15 days after the end of each reporting period	PAM
Safeguard Monitoring and Reporting	Quarterly, submit safeguard monitoring reports to ADB and disclose relevant information	Loan agreement, Schedule 4, para 10
Progress Report on	Included in quarterly progress report	PAM

[23] Use the project completion report template for standard projects and for financial intermediation loans. Refer to the relevant project administration instructions in ADB. Project Administration Instructions.

Report	Timing	Reference
Gender Action Plan commitments		
Borrower's Completion Report	No later than three (3) months after physical completion of the project	Section 2.08 (c) of Project Agreement.

ADB = Asian Development Bank, E = executing agency, PAM = project administration manual.
Source: Asian Development Bank.

D. Stakeholder Communication Strategy

Table 20: Stakeholder Communication Strategy

Project Document	Means of Communication	Responsible Party	Frequency	Target Audience
DMF	ADB website	ADB	Included in RRP and PAM	General Public
RRP	ADB website	ADB	Within two (2) weeks of loan approval	General Public
Legal agreements	ADB website	ADB	Within two (2) weeks of loan approval	General Public
PAM	ADB and SHPF websites	ADB and SPHF	Within two (2) weeks of loan approval and at the end of every review mission	General Public
Progress Reports	ADB and SPHF websites	ADB and SPHF	Quarterly from project effectivity	General Public
Safeguard Monitoring Reports	ADB website	ADB	Quarterly from project effectivity Annually from the third-party monitor	General Public
Change in Scope / Implementation arrangement	ADB website	ADB	Within two (2) weeks of approval of the change	General Public
Completion Report	ADB and SPHF websites	ADB and SPHF	A year after project financial closing	General Public
Bidding process and guidelines, result of bidding process (works, goods, consulting and nonconsulting services)	ADB and SHPF websites	ADB and SPHF	Beginning and end of bidding and procurement process, per project progress	General Public
Annual audited financial statements for the project and the opinion of the auditors on the financial statements	ADB website	ADB	Annual (Within 14 days of the date of ADB's confirmation of their acceptability)	General Public

ADB = Asian Development Bank, DMF = design and monitoring framework, PAM = project administration manual, RRP = report and recommendations of the President to the Board, SHPF = Sindh People's Housing for Flood Affectees.
Source: Asian Development Bank.

XI. ANTICORRUPTION POLICY

62. Implementation of the project shall adhere to ADB's Anticorruption Policy (1998, as amended to date) and Integrity Principles and Guidelines (2015, as amended from time to time). ADB has the right to investigate, directly or through its agents, any violations of the Anticorruption Policy relating to the project. All contracts financed by ADB shall include provisions specifying that (i) the contracts are ADB financed; (ii) ADB's Anticorruption Policy and Integrity Principles and Guidelines apply; (iii) the executing and implementing agency and all project contractors, suppliers, consultants (including lead firms and sub-consultants), and other service providers shall permit ADB to review and inspect their accounts and records and other documents relating to the bid submission and contract performance and to have them audited by auditors appointed by ADB; and (iv) the project contractors, suppliers, consultants (including lead firms and sub-consultants), and other service providers undertake that no fees, gratuities, rebates, gifts, commissions, or other payments other than those shown in the bid have been offered, given, or received in connection with the procurement process or in the contract execution. Individuals and entities on ADB's Sanctions List[24] are ineligible to participate in ADB-financed, -administered, and -supported activity and cannot be awarded any contracts under the project.[25]

63. Underpinned by ADB's zero tolerance for corruption, the Office of Anticorruption and Integrity aligns with ADB's commitment to strengthen governance across Asia and the Pacific. To report a complaint of integrity violations to ADB's Office of Anticorruption and Integrity, please visit https://www.adb.org/integrity/report-violations#accordion-0-2.

64. To support these efforts, relevant provisions are included in the loan agreement project agreement, and the bidding documents for the project. SPHF (the executing and implementing agency) is advised to (i) familiarize themselves with ADB's Anticorruption Policy https://www.adb.org/documents/anticorruption-policy and ADB's Integrity Principles and Guidelines, available at: https://www.adb.org/documents/integrity-principles-and-guidelines; (ii) have access to ADB's Complete Sanctions List and check the eligibility of consultants, contractors, and suppliers (more information on debarment and sanctions list is available at: https://www.adb.org/who-we-are/integrity/sanctions); and (iii) are aware about where, how, and what to report if there is an integrity concern or allegation of integrity violation on ADB-related activity: https://www.adb.org/site/integrity/how-to-report-fraud.

65. For the corruption risks, the following measures will be instituted: (i) procurement clinics with a focus on detecting red flags; (ii) mandatory training of relevant fiduciary staff on ADB's procurement and contract administration; (iii) selection of procurement specialist, financial management specialist and contract and contract management specialist, if required, will be subject to prior review; (iv) for enhanced transparency, the pre-bid/pre-proposal conferences, technical proposal submission meetings, financial proposals, and bid opening meetings should be video recorded and proceedings uploaded on the project's website within 60 minutes of the conclusion of such meetings; (v) minutes of bid openings, technical proposal submissions and financial proposal openings shall be uploaded on website on a real-time basis; (vi) detailed guidance will be provided in the program guidelines regarding conflicts of interest, transparency

[24] ADB. Sanctions List; and ADB. Frequently Asked Questions on ADB Sanctions.
[25] ADB. Procurement Regulations for ADB Borrowers; and ADB. Office of Anticorruption and Integrity.

measure, etc.; (vii) conflict of interest undertaking by all staff of SPHF; and (viii) internal audit will be independent of the SPHF.

XII. ACCOUNTABILITY MECHANISM

66. People who are, or may in the future be, adversely affected by the project may submit complaints to ADB's Accountability Mechanism. The Accountability Mechanism provides an independent forum and process whereby people adversely affected by ADB-assisted projects can voice and seek a resolution to their problems, as well as report alleged violations of ADB's operational policies and procedures. Before submitting a complaint to the Accountability Mechanism, affected people should make an effort in good faith to solve their problems by working with the concerned ADB operations department. Only after doing that, and if they are still dissatisfied, should they approach the Accountability Mechanism.[26]

XIII. RECORD OF CHANGES TO THE PROJECT ADMINISTRATION MANUAL

[26] ADB. Accountability Mechanism.

APPENDIX 1: DESIGN AND MONITORING FRAMEWORK

Impact the Project is Aligned with Resilient human settlement for all ensured (Pakistan Floods 2022: Post-Disaster Needs Assessment)[a]			
Results Chain	**Performance Indicators**	**Data Sources and Reporting Mechanisms**	**Risks and Critical Assumptions**
Outcome Inclusive and resilient human settlement in Sindh improved	**By 2027** a. Proportion of *katch*[a] houses in project districts decreased to 22.5% baseline 2022: 32.5%[b]) (OP 5.1.1) b. 100% flood-damaged houses with multi-hazard resilient components reconstructed (baseline 2023: 0%) (OP 3.2.1) c. At least 1,000 villages benefitted from newly developed or improved community infrastructure (baseline 2023: 0) (OP 1.1.2, OP 1.3.1) d. At least 75% of the reconstructed houses on the state land entitled to women (baseline 2023: 0%) (OP 2.5.2) e. At least 75% of the most vulnerable groups (e.g., women-headed households, households with a disability) benefitted from inclusive design and/or structure by the housing reconstruction project (baseline 2023: 0%) (OP 1.3.1)	a.–e. Sindh Housing MIS, project M&E, and annual reports of SPHF	**R:** Prolonged economic slowdown and political tensions shift the government's priority away from the post-flood reconstruction and recovery. **A:** Committed funds and projects for flood-affected areas by development partners are implemented in a timely manner.
Outputs 1. Flood-damaged houses and community infrastructure reconstructed with multi-hazard resilient, inclusive, and environment-responsive designs	**By 2027** 1a. At least 250,000 houses reconstructed with priority to vulnerable groups (e.g., women-headed households, households with a disability) (baseline 2023: 0) (OP 2.5.2, OP 1.3.1) 1b. 100% flood-damaged houses reconstructed with a minimum 2.5 to 3.0 feet higher plinth level than the existing level (baseline 2023: 0%) (OP 3.2.1) 1c. At least 100,000 houses benefitted from constructed community infrastructure (e.g., WASH, off-grid renewable energy solutions) with environment-	1a.–e. Sindh Housing MIS, project M&E, and annual reports of SPHF	**R:** Another major disaster, such as further extreme floods, may occur during the implementation period and delay construction **R:** Supply constraints of construction and consulting industries surge in the prices of materials may cause cost overruns and delays in project completion

	responsive features (baseline 2023: 0) (OP 1.3.1)		
Results Chain	**Performance Indicators**	**Data Sources and Reporting Mechanisms**	**Risks and Critical Assumptions**
	1d. At least 12,000 most vulnerable groups (e.g., women-headed households, households with a disability in PMT score 0-26 level) benefited from the inclusive design and/or structure of the housing reconstruction project (baseline 2023: 0) (OP 1.3.1) 1e. At least 25% of environmentally friendly materials will be used for community infrastructure projects (baseline 2023:0) (OP 3.1.3)		**A:** Continued government commitment to expanding rehabilitation of human settlement within the project implementation period
2. Community resilience improved	**By 2027** 2a. At least 6,000 households' livelihoods restored or improved for the most vulnerable households, based on SPHF's policy on prioritization of vulnerable groups (baseline 2023: 0) (OP 1.3.2) 2b. Development and deployment of an e-commerce portal for linking the products of rural entrepreneurs with the online markets (baseline 2023:0) (OP 5.2.3) 2c. At least 250,000 residents trained skills in resilient housing or community infrastructure (including O&M) (baseline 2023: 0) (OP 3.2.2, OP 5.1.2) 2d. At least 50 community-led climate resilient village planning prepared (baseline:2023: 0) (OP 6.2.4, OP 3.2.4) 2e. At least three (3) innovative climate resilient methodologies explored and implemented with IPs, NGOs, CSOs, development partners, and/or academia, with at least 50% women participation, for the reconstruction of housing and/or community infrastructure (baseline 2023: 0) (OP 3.3.2)	2a.–f. Sindh Housing MIS, project M&E, and annual reports of SPHF	

Results Chain	Performance Indicators	Data Sources and Reporting Mechanisms	Risks and Critical Assumptions
	2f. At least 1,000 selected villages' people, with at least 50% women participation, trained in community-based disaster risk management through the digitalized materials (baseline: 2023: 0) (OP 3.2.4, OP 2.2.2) 2e. At least three (3) key governments' and/or development partners' GIS-based information (e.g., land management, disaster risk management, WASH, electricity, education, health, transport, agriculture, MIS) improved or integrated with each other (baseline 2023:0) (OP 6.2.3)		

Key Activities with Milestones

1. Flood-damaged houses and community infrastructure reconstructed with multi-hazard resilient, inclusive, and environment-responsive designs

1.1 Complete detailed engineering designs for reconstruction of houses (Q3 2024)
1.2 Identify prioritized selection criteria for the villages and work scope for community infrastructure projects (Q3 2024)
1.3 Complete detailed designs of community infrastructure projects (Q1 2025)
1.4 Complete reconstruction of houses (Q2 2026)
1.5 Complete reconstruction of community infrastructure projects (Q2 2027)

2. Community resilience improved

2.1 Define the social and gender-inclusive criteria for beneficiaries and livelihoods to be qualified for the conditional cash grant (Q4 2024)
2.2 Complete the development and deployment of an e-commerce portal (Q2 2025)
2.3 Complete the livelihoods program (Q4 2026)2.3 Design and complete a training program for resilient housing and community infrastructure (Q2 2026)
2.4 Identify the villages for community-led climate-resilient village planning and initiate the support (Q4 2024)
2.5 Identify new climate-resilient methodologies with implementing partners, NGOs, CSOs, development partners, and/or academia and initiate the support (Q2 2027)
2.4 Design and complete a training program for community-based disaster risk management through digitalized platform (Q2 2025)
2.5 Review the existing and planned GIS-based information by the government and development partners and integrate the system (Q2 2027)

Project Management Activities

1. Recruit key staff for a dedicated team in SPHF (Q3 2024)
2. Engage the project IPs for housing reconstruction and community infrastructure works (Q3 2024)
3. Engage a firm and consultants for community infrastructure works (Q4 2024)
4. Prepare and submit quarterly project progress reports, and semi-annual safeguard monitoring reports to ADB (Q4 2024–Q2 2027)
5. Prepare and submit annual financial audit reports to ADB (Q4 2024 – Q4 2027)
6. Implement environmental management plan key activities (Q2 2025)
7. Implement gender action plan key activities (Q4 2024)
8. Conduct inception, midterm, and project completion review (every four (4) months) missions (Q4 2024)
9. Submit project completion report (Q4 2027)

Inputs
ADB: $400.0 million concessional ordinary capital resources loan
ADB: $0.5 million technical assistance ($0.5 million from TASF)
Government of Sindh: $40.0 million

A = assumption, ADB = Asian Development Bank, CSO = civil society organization, DMF = design and monitoring framework, GIS = geographic information system, IP = implementing partner, IsDB = Islamic Development Bank, M&E = monitoring and evaluation, MIS = management information system, NGO = nongovernmental organization, OP = operational priority, O&M = operations and maintenance, PMT = proxy means test, R = risk, SPHF = Sindh People's Housing for Flood Affectees, TASF = technical assistance special fund, WASH = water, sanitation, and hygiene.

[a] Non- or semi-permanent, covering a wide range of local or traditional materials such as stone with mud mortar, adobe brick, mud, wood/bamboo framed, and other construction types. *Pakistan Floods 2022: Post-Disaster Needs Assessment*.

[b] Government of Pakistan, MoPDSI. 2022. *Pakistan Floods 2022: Post-Disaster Needs Assessment.* Islamabad.

[c] About 2.7 million of 8.3 million housing units in Sindh rural areas are *katcha*. Factsheet: Sindh Flood Emergency Housing Reconstruction Project (worldbank.org).

Source: Asian Development Bank.

APPENDIX 2: DETAILED COST ESTIMATES BY EXPENXITURE CATEGORY

Item	(PR million) Foreign Exchange	Local Currency	Total Cost	($ million) Foreign Exchange	Local Currency	Total Cost	% of Total Base Cost
A. Investment Costs							
1. Civil works							
a. Housing reconstruction	0.00	75,600.00	75,600.00	0.00	270.00	270.00	67.8%
b. Community infrastructure	0.00	28,000.00	28,000.00	0.00	100.00	100.00	25.1%
2. Goods and equipment[a]	0.00	537.04	537.04	0.00	1.92	1.92	0.5%
3. Training and communications	0.00	600.00	600.00	0.00	2.14	2.14	0.5%
4. Consulting services							
a. Design and supervision	0.00	1,643.00	1,643.00	0.00	5.87	5.87	1.5%
b. Project management	0.00	963.55	963.55	0.00	3.44	3.44	0.9%
5. Non-consulting services[b]	0.00	3,780.00	3,780.00	0.00	13.50	13.50	3.4%
Subtotal (A)	**0.00**	**111,123.59**	**111,123.59**	**0.00**	**396.87**	**396.87**	**99.7%**
B. Recurrent Costs							
1. Salaries and other project management costs[c]	0.00	370.13	370.13	0.00	1.32	1.32	0.3%
Total Base Cost	**0.00**	**111,493.72**	**111,493.72**	**0.00**	**398.19**	**398.19**	**100.0%**
C. Contingencies							
1. Physical	0.00	4,459.75	4,459.75	0.00	15.93	15.93	4.0%
2. Price	0.00	40,032.07	40,032.07	0.00	17.51	17.51	4.4%
Subtotal (C)	**0.00**	**44,491.82**	**44,491.82**	**0.00**	**33.44**	**33.44**	**8.4%**
D. Financial Charges During Implementation							
1. Interest during construction	3,352.50	0.00	3,352.50	8.37	0.00	8.37	2.1%
Total Project Cost (A+B+C+D)	**3,352.50**	**155,985.55**	**159,338.05**	**8.37**	**431.63**	**440.00**	**110.5%**

PR = Pakistani rupee

Note: Numbers may not sum precisely because of rounding.

[a] Pertains to (i) conditional cash grants for the purchase of agricultural, livestock, and small-enterprise related goods and (ii) the purchase of equipment for e-commerce.

[b] Pertains to contracts with implementing partners or non-governmental organizations.

[c] Includes equipment, computers and peripherals, furniture and fixtures, vehicles to be used by the implementing agency.

Source: Asian Development Bank.

APPENDIX 3: DETAILED COST ESTIMATES BY FINANCIER

Item	ADB Loan		Government of Sindh		Total Cost Amount	Taxes and Duties
	Amount	% of Cost Category	Amount	% of Cost Category		
A. Investment Costs						
1. Civil works						
a. Housing reconstruction	270.00	100.0%	0.00	0.0%	270.00	0.00
b. Community infrastructure	100.00	100.0%	0.00	0.0%	100.00	0.00
2. Goods and equipment[a]	0.00	0.0%	1.92	100.0%	1.92	0.02
3. Training and communications	0.00	0.0%	2.14	100.0%	2.14	0.20
4. Consulting services						
a. Design and supervision	5.19	88.5%	0.68	11.5%	5.87	0.68
b. Project management	0.00	0.0%	3.44	100.0%	3.44	0.40
5. Non-consulting services[b]	11.95	88.5%	1.55	11.5%	13.50	1.55
Subtotal (A)	**387.14**	**97.5%**	**9.73**	**2.5%**	**396.87**	**2.84**
B. Recurrent Costs						
1. Salaries and other project management costs[c]	0.00	0.0%	1.32	100.0%	1.32	0.06
Total Base Cost	**387.14**	**97.2%**	**11.05**	**2.8%**	**398.19**	**2.90**
C. Contingencies	**4.49**	**13.4%**	**28.95**	**86.6%**	**33.44**	**0.12**
D. Financial Charges During Implementation	**8.37**	**100.0%**	**0.00**	**0.0%**	**8.37**	**0.00**
Total Project Cost (A+B+C+D)	**400.00**	**90.9%**	**40.00**	**9.1%**	**440.00**	**3.02**
% Total Project Cost		**90.9%**		**9.1%**		

ADB = Asian Development Bank

Note: Numbers may not sum precisely because of rounding.

[a] Pertains to (i) conditional cash grants for the purchase of agricultural, livestock, and small-enterprise related goods and (ii) the purchase of equipment for e-commerce.

[b] Pertains to contracts with implementing partners or non-governmental organizations.

[c] Includes equipment, computers and peripherals, furniture and fixtures, vehicles to be used by the implementing agency.

Source: Asian Development Bank.

APPENDIX 4: Detailed Cost Estimates by Outputs and/or Components

($ million)

Item	Total Cost	Output 1 Amount	Output 1 % of Cost Category	Output 2 Amount	Output 2 % of Cost Category
A. Investment Costs					
1. Civil works					
a. Housing reconstruction	270.00	270.00	100.0%	0.00	0.0%
b. Community infrastructure	100.00	100.00	100.0%	0.00	0.0%
2. Goods and equipment[a]	1.92	0.00	0.0%	1.92	100.0%
3. Training and communications	2.14	2.14	100.0%	0.00	0.0%
4. Consulting services					
a. Design and supervision	5.87	5.87	100.0%	0.00	0.0%
b. Project management	3.44	3.24	94.0%	0.21	6.0%
5. Non-consulting services[b]	13.50	13.50	100.0%	0.00	0.0%
Subtotal (A)	**396.87**	**394.75**	**99.5%**	**2.12**	**0.5%**
B. Recurrent Costs					
1. Salaries and other project management costs[c]	1.32	1.32	100.0%	0.00	0.0%
Total Base Cost	**398.19**	**396.07**	**99.5%**	**2.12**	**0.5%**
C. Contingencies					
1. Physical	15.93	15.84	99.5%	0.08	0.5%
2. Price	17.51	17.42	99.5%	0.09	0.5%
Subtotal (C)	**33.44**	**33.26**	**99.5%**	**0.18**	**0.5%**
D. Financial Charges During Implementation					
1. Interest during construction	8.37	8.37	100.0%	0.00	0.0%
Total Project Cost (A+B+C+D)	**440.00**	**437.70**	**99.5%**	**2.30**	**0.5%**

Output 1: Flood-damaged houses and community infrastructure reconstructed with multi-hazard resilient, inclusive, and environment-responsive designs; Output 2: Community resilience improved.

Note: Numbers may not sum precisely because of rounding.

[a] Pertains to (i) conditional cash grants for the purchase of agricultural, livestock, and small-enterprise related goods and (ii) the purchase of equipment for e-commerce.

[b] Pertains to contracts with implementing partners or non-governmental organizations.

[c] Includes equipment, computers and peripherals, furniture and fixtures, vehicles to be used by the implementing agency.

Source: Asian Development Bank.

APPENDIX 5: DETAILED COST ESTIMATES BY YEAR

($ million)

Item	Total Cost	2024	2025	2026	2027
A. Investment Costs					
1. Civil works					
a. Housing reconstruction	270.00	45.00	157.50	67.50	0.00
b. Community infrastructure	100.00	10.00	30.00	30.00	30.00
2. Goods and equipment[a]	1.92	0.32	0.64	0.64	0.32
3. Training and communications	2.14	0.36	0.71	0.71	0.36
4. Consulting services					
a. Design and supervision	5.87	0.98	1.96	1.96	0.98
b. Project management	3.44	0.57	1.15	1.15	0.57
5. Non-consulting services[b]	13.50	2.25	4.50	4.50	2.25
Subtotal (A)	**396.87**	**59.47**	**196.46**	**106.46**	**34.48**
B. Recurrent Costs					
1. Salaries and other project management costs[c]	1.32	0.28	0.55	0.39	0.11
Total Base Cost	**398.19**	**59.75**	**197.01**	**106.84**	**34.59**
C. Contingencies	**33.44**	**5.02**	**16.54**	**8.97**	**2.90**
D. Financial Charges During Implementation	**8.37**	**0.25**	**1.44**	**2.96**	**3.72**
Total Project Cost (A+B+C+D)	**440.00**	**65.01**	**215.00**	**118.78**	**41.21**
% Total Project Cost	**100.0%**	**14.8%**	**48.9%**	**27.0%**	**9.4%**

Note: Numbers may not sum precisely because of rounding.

[a] Pertains to (i) conditional cash grants for the purchase of agricultural, livestock, and small-enterprise related goods and (ii) the purchase of equipment for e-commerce.

[b] Pertains to contracts with implementing partners or non-governmental organizations..

[c] Includes equipment, computers and peripherals, furniture and fixtures, vehicles to be used by the implementing agency.

Source: Asian Development Bank.

APPENDIX 6: AUDITOR'S TERMS OF REFERENCE AUDITED PROJECT FINANCIAL STATEMENTS (APFS)

XIV. INTRODUCTION

1. *[A description of the project will be provided with a focus on the purpose for which the funds are intended consistent with broad project objectives and budget. A description of the executing and implementing agencies will be included along with the related accounting and financial management practices, loan amount, financial reporting periods to be audited, and other relevant information that should be brought to the attention of the auditors.]*

XV. MANAGEMENT RESPONSIBILITY FOR PREPARING PROJECT FINANCIAL STATEMENTS

2. Management is responsible for preparing and fairly presenting the project financial statements, and for maintaining sufficient internal controls to ensure that the financial statements are free from material misstatement, whether due to fraud or error. In addition, management is responsible for ensuring that funds were used only for the purpose(s) of the project, for compliance with financial covenants (where applicable), and for ensuring that effective internal controls, including over the procurement process, are maintained. In this regard, management must:

(i) Prepare and sign the Audited Project Financial Statements.
(ii) Prepare and sign a Statement of Compliance.

3. Management must include the following in the Statement of Compliance:

(i) That project financial statements are free from material misstatements, including omissions and errors, and are fairly presented;
(ii) That the borrower or executing agency has utilized the proceeds of the loan only for the purpose(s) of the project;
(iii) That the borrower or executing agency was in compliance with the financial covenants of the legal agreement(s) (where applicable);
(iv) That the advance account procedure, where applicable, has been operated in accordance with the Asian Development Bank's (ADB) *Loan Disbursement Handbook* (2022, as amended from time to time);
(v) That adequate supporting documentation has been maintained to authenticate claims stated on the statement of expenditures (SOE), where applicable, for reimbursement of eligible expenditures incurred and liquidation of advances provided to the advance account; and
(vi) That effective internal control, including over the procurement process, was maintained.

XVI. OBJECTIVES

4. The objective of the audit of the project financial statements is to enable the auditor to (i) express an independent and objective opinion as to whether the project financial statements **present fairly, in all material respects**, or **give a true and fair view** of the project's financial position, its financial performance and cash flows, and (ii) provide a reasonable assurance opinion over certain specific representations made in the Statement of Compliance. (Please refer to paragraph 10).

XVII. AUDITING STANDARDS

5. The audit is required to be conducted in accordance with International Standards for Supreme Audit Institutions (ISSAI). These standards require that the auditor comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the project financial statements are free from material misstatement. An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the project financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the project financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers the internal control relevant to the entity's preparation and fair presentation of the project financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the project financial statements.

6. The standards to be applied will be documented in the project/loan documents, and will include ISSAI promulgated by the International Organisation of Supreme Audit Institutions.
1.

7. In complying with ISSAI, the auditor will pay particular attention to the following standards:
2.

- ISSAI 1800 – Special Considerations – Audits of Financial Statements Prepared in Accordance with Special Purpose Frameworks.
- ISSAI 1240 – The Auditor's Responsibilities Relating to Fraud in an Audit of Financial Statements.
- ISSAI 1250 – Consideration of Laws and Regulations in an Audit of Financial Statements.
- ISSAI 1260 – Communication With Those Charged with Governance.
- ISSAI 1265 – Communicating Deficiencies in Internal Control To Those Charged with Governance and Management.
- ISSAI 1330 – The Auditor's Responses to Assessed Risks.

XVIII. PROJECT FINANCIAL REPORTING FRAMEWORK

8. The auditor will verify that the project financial statements have been prepared in accordance with the International Public Sector Accounting Standards cash basis promulgated by the International Public Sector Accounting Standards Board. The executing agency and/or implementing agency are responsible for preparing the project financial statements, not the auditor.

XIX. AUDIT DELIVERABLES

A. Audited Project Financial Statements

9. An auditor's opinion providing reasonable assurance over the project financial statements, and project financial statements comprising the following:

- A statement of cash receipts and payments
- A statement of budgeted versus actual expenditures

- A statement of advance account
- A summary statement of expenditures
- Significant accounting policies and explanatory notes
- Any additional schedules agreed upon (e.g., a summary of assets)

B. Reasonable Assurance Opinion over the Use of Loan Proceeds and Compliance with Financial Covenants

10. The auditor will provide a reasonable assurance opinion following ISSAI 4200 "Compliance Audit Related to the Audit of Financial Statements" for the following confirmations provided by Management in the Statement of Compliance:

(i) That the proceeds of the loan were used only for the purpose(s) of the project; and
(ii) That the borrower or executing agency was in compliance with the financial covenants of the legal agreement(s), where applicable.

11. The auditor will outline the degree of compliance for each of the financial covenants in the loan agreement.

C. Management Letter

12. The auditor will provide a management letter containing, at a minimum, the following:

(i) Any weaknesses in the accounting and internal control systems that were identified during the audit, including any irregularity in the use of the advance account and statement of expenditures (SOE) procedures;
(ii) Any identified internal control weaknesses related to the procurement process, such as over the bidding, evaluation, and contract management domains;
(iii) Recommendations to rectify identified weaknesses;
(iv) Management's comments on the audit recommendations along with the timeframe for implementation;
(v) The status of significant matters raised in previous management letters;
(vi) Any other matters that the auditor considers should be brought to the attention of the project's management; and
(vii) Details of any ineligible expenditure[27] identified during the audit. Expenditure is considered ineligible if it refers to (i) expenditures incurred for purposes other than the ones intended under the legal agreement(s); (ii) expenditures not allowed under the terms of the legal/financing agreements; and (iii) expenditures incurred in violation of applicable government regulations.

D. Specific Considerations

13. The auditor will, during the course of the audit, pay particular attention to the following:

(i) The use of external funds in accordance with the relevant legal and financing agreements;
(ii) The provision of counterpart funds in accordance with the relevant agreements and their use only for the purposes intended;
(iii) The maintenance of proper books and records;
(iv) The existence of project fixed assets and internal controls related thereto;

[27] If the auditor reports any ineligible expenditure in the management letter, the details of the findings should include the funding source to which the observation relates.

(v) Where the audit report has been issued under ISSAI 1800, it shall include the mandatory Emphasis of Matter paragraph alerting users of the audit report that the project financial statements are prepared in accordance with a special purpose framework and that, as a result, the project financial statements may not be suitable for another purpose. The auditor shall include this paragraph under an appropriate heading;

(vi) Where reasonable assurance has been provided using ISSAI 4200, the assurance report must contain, among others:

- A statement that the engagement was performed in accordance with ISSAI 4200;
- Subject matter;
- Criteria for measurement;
- A summary of the work performed; and
- The auditor's conclusion.

(vii) On the advance account procedure, audit procedures are planned and performed to ensure (a) the advance account (and any sub-accounts) has been managed in accordance with ADB's *Loan Disbursement Handbook* (2022, as amended from time to time), (b) the cash balance of the advance account (and any sub-accounts) is supported by evidence, (c) the expenditures paid from the advance account (and any sub-accounts) comply with the approved project purpose and cost categories stipulated in the loan agreement, and (d) the amount of expenditures paid from the advance account (and any sub-accounts) comply with disbursement percentages stipulated in the loan agreement;

(viii) Adequate supporting documentation has been maintained to authenticate claims stated in the SOE for reimbursement of eligible expenditures incurred and liquidation of advances provided to the advance account;

(ix) On the SOE procedure (where applicable), audit procedures are planned and performed to ensure that (a) the SOEs have been prepared in accordance with ADB's *Loan Disbursement Handbook* (2022, as amended from time to time), (b) the individual payments for expenditures stated in the SOE are supported by evidence, (c) the expenditures stated in the SOEs comply with the approved project purpose and cost categories stipulated in loan agreement, and (d) the amount of expenditures stated in the SOEs comply with disbursement percentages stipulated in the loan agreement; and

(x) Any weaknesses in internal controls over the procurement process.

14. All reports must be presented in the English language and must be provided to ADB within six (6) months following the end of the fiscal year.

15. Public disclosure of the project financial statements, including the auditor's opinion on the audited project financial statements, will be guided by ADB's Access to Information Policy (2018). After review, ADB will disclose the audited project financial statements and the opinion of the auditor on the audited project financial statements no later than 14 calendar days of ADB's confirmation of their acceptability by posting them on ADB's website. The management letter and the additional auditor's opinions will not be disclosed.

3.

XX. OTHER MATTERS

A. Statement of Access

16. The auditor will have full and complete access, at all reasonable times, to all records and documents including books of account, legal agreement(s), bank records, invoices and any other information associated with the project and deemed necessary by the auditor.

17. The auditor will be provided with full cooperation by all employees of the *[XYZ]* and the project implementing units, whose activities involve, or may be reflected in, the annual project financial statements. The auditor will be assured rights of access to banks and depositories, consultants, contractors and other persons or firms hired by the employer.

B. Independence

18. The auditor will be impartial and independent from any aspects of management or financial interest in the entity or project under audit. In particular, the auditor should be independent of the control of the entity. The auditor should not, during the period covered by the audit, be employed by, or serve as director for, or have any financial or close business relationship with the entity. The auditor should not have any close personal relationships with any senior participant in the management of the entity. The auditor must disclose any issues or relationships that might compromise their independence.

C. Auditor Experience

19. The auditor must be authorized to practice in the country and be capable of applying the agreed auditing standards. The auditor should have adequate staff, with appropriate professional qualifications and suitable experience, including experience in auditing the accounts of projects or entities comparable in nature, size, and complexity to the project or entity whose audit they are to undertake. To this end, the auditor is required to provide the curriculum vitae (CV) of the personnel who will provide the opinions and reports, together with the CVs of managers, supervisors, and key personnel likely to be involved in the audit work. These CVs should include details of audits carried out by these staff, including ongoing assignments.

APPENDIX 7: EXPENDITURE MONITORING REPORT

PR million	Expenditure to Date					Cost Estimates				
	Last Quarter	**Cumulative**	**Target**	**Variance**		**At Appraisal**	**Revised**	**Updated**	**Change**	
	A	B	C	D= C-B	% [D/C]	E	F	G	H= F-G	% [H/G]
A Investment Costs										
1 Civil works										
a. Housing reconstruction	0.00	0.00	0.00	0.00	0.0%	0.00	0.00	0.00	0.00	0.0%
b. Community infrastructure	0.00	0.00	0.00	0.00	0.0%	0.00	0.00	0.00	0.00	0.0%
2 Goods and equipment	0.00	0.00	0.00	0.00	0.0%	0.00	0.00	0.00	0.00	0.0%
3 Training and communication	0.00	0.00	0.00	0.00	0.0%	0.00	0.00	0.00	0.00	0.0%
4 Consulting services	0.00	0.00	0.00	0.00	0.0%	0.00	0.00	0.00	0.00	0.0%
a. Design and supervision	0.00	0.00	0.00	0.00	0.0%	0.00	0.00	0.00	0.00	0.0%
b. Project management										
5 Non-consulting services	0.00	0.00	0.00	0.00	0.0%	0.00	0.00	0.00	0.00	0.0%
Subtotal (A)	**0.00**	**0.00**	**0.00**	**0.00**	**0.0%**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0%**
B Recurrent Costs										
1 Salaries and other project management costs	0.00	0.00	0.00	0.00	0.0%	0.00	0.00	0.00	0.00	0.0%
Total Base Cost (A+B)	**0.00**	**0.00**	**0.00**	**0.00**	**0.0%**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0%**
C Contingencies										
1 Physical	0.00	0.00	0.00	0.00	0.0%	0.00	0.00	0.00	0.00	0.0%
2 Price	0.00	0.00	0.00	0.00	0.0%	0.00	0.00	0.00	0.00	0.0%
Subtotal (C)	**0.00**	**0.00**	**0.00**	**0.00**	**0.0%**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0%**
D Financial Charges During Implementation										
1 Interest during construction	0.00	0.00	0.00	0.00	0.0%	0.00	0.00	0.00	0.00	0.0%
Subtotal (D)	0.00	0.00	0.00	0.00	0.0%	0.00	0.00	0.00	0.00	0.0%
Total Project Cost (A+B+C+D)	**0.00**	**0.00**	**0.00**	**0.00**	**0.0%**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0%**

PR = Pakistani Rupee

APPENDIX 8: Indicative List of Potential Subprojects (as of 9th Mar 2024)

No	District	Fully-damaged Households	Ongoing Project (Households)	Potential Beneficiary (Households)
1	Badin	61,850	22,631 (37%)	39,219 (63%)
2	Dadu	126,588	38,215 (30%)	88,373 (70%)
3	Ghotki	51,119	15,171 (30%)	35,948 (70%)
4	Hyderabad	8,831	7,433 (84%)	1,398 (16%)
5	Jacobabad	87,723	41,735 (48%)	45,988 (52%)
6	Jamshoro	38,784	20,595 (53%)	18,189 (47%)
7	Karachi	51	51 (100%)	0 (0%)
8	Kashmore	42,847	7,296 (17%)	35,551 (83%)
9	Khaipur	218,894	61,621 (28%)	157,273 (72%)
10	Larkana	100,518	33,602 (33%)	66,916 (67%)
11	Matiari	26,299	11,155 (42%)	15,144 (58%)
12	Mirpur Khas	49,404	8,919 (18%)	40,485 (82%)
13	Naushahro Feroze	98,540	33,695 (34%)	64,845 (66%)
14	Qambar Shahdadkot	112,845	41,580 (37%)	71,265 (63%)
15	Sanghar	65,701	17,123 (26%)	48,578 (84%)
16	Shaheed Benazirabad	72,346	27,516 (38%)	44,830 (72%)
17	Shikapur	70,335	26,412 (38%)	43,923 (72%)
18	Sujawal	24,702	7,529 (30%)	17,173 (70%)
19	Sukkur	50,067	13,033 (26%)	37,034 74%)
20	Tando Allahyar	20,482	4,019 (20%)	16,463 (80%)
21	Tando Mohammad Khan	18,750	3,396 (18%)	15,354 (82%)
22	Tharparkar	4,866	310 (6%)	4,556 (94%)
23	Thatta	11,570	1,483 (13%)	10,087 (87%)
24	Umerkot	31,108	3,068 (10%)	28,040 (90%)
Total		**1,394,217**	**447,588 (32%)**	**946,629 (68%)**

APPENDIX 9: Selection Criteria for the Beneficiaries of Housing Reconstruction, Community Infrastructure and Livelihoods Projects

A. Selection Criteria for the Beneficiaries of Housing Reconstruction Project

i. The household affected (fully damaged) by 2022 floods and validated as an eligible beneficiary by SPHF;
ii. The household located in the declared as a village or habitant area by respective government (e.g., SPHF) or sought permission of reconstruction works with no objection;
iii. The housing unit located non-hazardous (e.g., flood-prone) area; and
iv. The household located within their own land, state land, or communal land with agreement of reconstruction of housing by the community (or the land owner);
v. The housing unit where village organization (e.g., village reconstruction organization) is established; and
vi. Other housing units complying with GoS and SPHF's updated criteria for housing reconstruction for flood affectees, subject to ADB's agreement.

B. Selection Criteria for the Beneficiaries of Community Infrastructure Project (outside of the house)

i. The settlement where number of housing units is below 150 and the houses are reported as 100% damaged will be given priority;
ii. The settlement severely affected by 2022 floods (e.g., percentage of housing units damaged by the floods) and validated as an eligible settlement to be benefited by SPHF;
iii. The settlement declared as a village or habitant area by respective government (e.g., SPHF) or sought permission of reconstruction works with no objection;
iv. The settlement where drinking water supply (e.g., handpump), sanitation (e.g., sewerage, septic tank), and drainage has been severely affected by the 2022 floods (or not properly established for the essential community's sustainability);
v. The settlement where the proposed community infrastructure is located within the state land or communal land with agreement of (re)construction of community infrastructure project by the community (or the landowner);
vi. The settlement where village organization (e.g., village reconstruction organization) is well established and has a willingness to (re)construct the community infrastructure through a community-led project (i.e., construction, and O&M) with the support from IPs and SPHF;
vii. The settlement agrees to generate savings on monthly basis for O&M of the community infrastructure project to support the required O&M cost; and
viii. Other settlements complying with GoS and SPHF's updated criteria for community infrastructure for flood-affectees, subject to ADB's agreement.

C. Selection Criteria for the Beneficiaries of Community Infrastructure Project (inside of the house)

i. The household located in the selected settlement by criteria described in B above;
ii. The household falls below the poverty line (e.g., PMT Score below 26);
iii. The women-headed household or household with a disability; and
iv. Other vulnerable households complying with GoS and SPHF's requested criteria, subject to ADB's agreement.

D. Selection Criteria for the Beneficiaries of Livelihoods Project

i. The household located in the selected settlement by criteria described in B above:
ii. The women-headed household or household with a disability;
iii. The household falls below the property line (e.g., PMT Score below 11)
iv. The household who has a similar experience of the proposed livelihoods project;
v. The households who is willing to take the capacity building and training course for the subject proposal by IPs or SPHF; and
vi. Other households complying with GoS and SPHF's updated criteria for community infrastructure for flood-affectees, subject to ADB's agreement

APPENDIX 10: Required General Conditions of WASH and Solar System

Overall:

- Ensure maximum feasible distance between latrines and drinking water supplies.
- The design of WASH facilities (water supply, latrine, drainage, solar systems etc.) best fits for soils conditions of riverine, coastal and drought areas.
- WASH facilities and street pavement accessible for all including persons with disabilities, elderly population, etc.

Drinking Water:

- The proposed system will reduce access time to a drinking water point to less than 30 minutes walking distance.
- The proposed water source of drinking water meets minimum permissible water quality standards of Government of Pakistan.
- The proposed drinking water solution offers minimum 15 liters per capita per day to the community members.
- Water points have superstructure and high plinth with appropriate bricks to withstand with storm water, winds and any flooding.
- Construct new sources and rehabilitate only those whom source is untreated and unsafe for human health.

Sanitation:

- Latrines use sealed, honeycombed, brick lined double soakage pits to reduce the risk of sewage flow laterally into the surrounding environment as well as seepage downward to aquifers.
- Septic tanks latrines are sealed and elevated to the highest flood levels experienced in that area.
- Aquifer depth should be taken into account for the soakage pit depths to reduce the risk of sewage seepage downward to aquifers.
- Latrines superstructures are brick to withstand strong winds and high humidity.

Drainage and Street Pavement:

- Drainage designing should be based on intensity duration frequency curves (IDF curves) by taking into account the higher intensity and frequency of extreme rainfall events and local flooding.
- Introduce permeable pavements where water is stored in the pavement structure and infiltrated into the soil or discharged by a drainage system. Also use porous top layers that can facilitate the drainage of the water to the sides of the road and prevent aquaplaning.
- Appropriate sloping and levelling from the house plinth and drainage system to stop flooding and accumulation of water.

Solar System

- Battery manufacturer specifications should be reviewed and determined according to the area as Battery capacity and cycle life is impacted by use in warm and unventilated locations.
- Preferably all PV arrays and batteries shall have security fencing, theft-deterrent mounting hardware, and/or other means to guard against theft.
- PV modules mounted on a roof shall be permanently fixed to an appropriate mounting structure or rack. The roof surface shall be appropriate to support the array mounting system, including any mounting feet from racks and all rail and other fastener systems used by the panel mounts.

APPENDIX 11: Undertaking with Beneficiary

This Undertaking is provided by [NAME] having CNIC No. _____ (herein after referred as beneficiary) resident of [Name of Village and settlement] [Union Council] [District]

1. The house of beneficiary has been validated/assessed by SPHF through its Implementing Partners and the damage of the house due to 2022 floods is categorized as fully destroyed as per damage assessment form No./Assessment No. _____ and is eligible for support/ payment as per policy approved by Govt. of Sindh for hosing reconstruction.
2. That the beneficiary will follow the guidelines and designs of housing reconstruction as provided by SPHF / IP and that he/she has been given the orientation/documents related to reconstruction guidelines by the First Party and that he/she confirms to be trained on resilient reconstruction by Teams and/or partners of SPHF.
3. That the beneficiary will only use the reconstruction grant for multi hazard resilient housing reconstruction and not for any other purpose.
4. That the beneficiary agrees to be responsible for any future damage to the property (during and/or post reconstruction) for which the support is extended along with giving true information about land titleship, tenancy and any other matter along with indemnification of SPHF/ IP(s) from any legal proceeds due to any reason (evidential or not). Furthermore, the beneficiary does not have any liability in terms of land acquisition (Paid/Unpaid, etc.) and/or to pay any kind of compensation for the land acquired by the beneficiary.
5. That the beneficiary confirms that he/she have not received any support from anyone for housing reconstruction
6. That the beneficiary will not make SPHF or its IPs responsible for any damage due to any reason to the reconstructed house in the future even if the is inspected by SPHF or its IPs.
7. That the beneficiary will ensure within its capacity to undertake maximum safety/protection measures during the reconstruction of his/her house along with assuring that the SPHF and its IPs will not be held responsible for any accident that may occur on the project site during reconstruction work.
8. That the beneficiary will not use any kind of child skilled/unskilled labor (of age less than/equal to 14 years) for the reconstruction activity.
9. In case of tenant NOC by Owner of Land [Name] S/Do of _____ ID Card No. _____ to tenant [Name] _____ S/Do for housing reconstruing is attached with MoU
10. In the case of multi-land ownership, a letter of authority in the name of one for receiving housing reconstruction grant along with the responsibility to reconstruct the same.

It is hereby confirmed by the beneficiary that all the details are read out to him and agrees with all the mentioned/articulated clause of the said undertaking.

Signature of Beneficiary

11. After the start of construction work in a village/settlement, a Terms of Partnership (i.e., TOP) are signed between the corresponding IP and the Village Reconstruction Committee formed to facilitate the construction of houses in the village. The draft of ToP is given below.

APPENDIX 11: Terms of Partnership with Village Reconstruction Committees (VRCs)

Name of VRC	Date of Signing of ToP	District
Taluka	Union Council	Deh
Village/Settlement	Total Households	No. of Houses to be Reconstructed

This term of partnership is signed between ……..…… (IP) and VRC ……. Dated ……. with as per terms and conditions detailed below:

1. Whereas, Village Reconstruction Committee has been formed with total members of ……, with ……..……. (Name of President) as the president of the committee. List of members along with designated titles as per the requirements of VRC are detailed in Table-A of the said ToP.
2. The VRC is established to support/facilitate reconstruction of damaged/destroyed houses due to floods in 2022 along with other efforts/activities aim towards rehabilitation and development of respective village/settlement.
3. During reconstruction phase the VRC will overall facilitate socio-technical and assessment teams for data collection and necessary verifications during the project implementation phase.
4. Extend facilitation and assistance to beneficiaries of housing reconstruction grant for reconstruction of multi hazard resilient houses as per guidelines provided by SPHF.
5. Wherever possible carry out bulk procurements for economies of scale and support availability of material for project beneficiaries with special focus on vulnerable and all people with limited capacities for reconstruction of his/her house.
6. To extend support and ensure reconstruction of houses of vulnerable beneficiaries including but not limited to women, children, persons with special needs, and elderly persons.
7. Facilitate in resolving issues/disputes at local level related to matters having direct link with project scope.
8. Engage with the project beneficiaries while ensuring that their genuine needs and concerns are considered with active involvement in planning, decision making, implementation and monitoring of project activities in respective area.
9. Support and facilitate housing reconstruction activities in respective village/settlement for completion at the earliest.
10. Discourage child skilled/unskilled labor and ensure that any person of age less than/equal to 14 years is not involved/forced/hired for any physical work for activities under the project.
11. Ensure proper storage of construction materials along with necessary precautionary measures during movement/transportation/handling of the material.
12. Support/facilitate STAT team in identification of potential environmental and social risks with

carrying out necessary mitigation measures as per the capacity of VRC.

13. Record and maintain information at VRC level as per required formats provided by ……. (IP)

Table-A: Details of Village Reconstruction Committee (VRC) members who were present during the signing of ToP and agree with the terms and conditions signed for the reconstruction of the damaged houses under SFEHRP in their Village/Settlement

S. No.	**Name of VRC Member with Spouse Name / Parentage**	**Gender**	**Title in VRC**	**Signature / Thumb Impression**
]	Cell No. CNIC:			
2.	Cell No. CNIC:			
3.	Cell No. CNIC:			
4.	and so on…			

APPENDIX 13: TERMS OF REFERENCE FOR CONSULTANTS

Output 1: Flood-damaged houses and community infrastructure reconstructed with multi-hazard resilient, inclusive, and environment-responsive designs.
Output 2: Community resilience improved.

1. The Asian Development Bank's (ADB) Sindh Emergency Housing Reconstruction Project will engage with the Government of Pakistan, Government of Sindh, Sindh People's Housing for Flood Affectees (SPHF), implementing partners, and various stakeholders, including non-governmental organizations, civil society organizations, national and international institutions, and academia to deliver the following outputs.

8. **Output 1: Flood-damaged houses and community infrastructure reconstructed with multi-hazard resilient, inclusive, and environment-responsive designs.**
9. This output will fund the beneficiary-driven reconstruction of at least 250,000 multi-hazard resilient houses out of the houses that were fully damaged during the floods, representing about 12% of the total housing needs for Sindh. Support under this output will be through the provision of conditional cash grants to beneficiaries for reconstruction of a housing unit, which comprises a core structure and fixed covered area built to prescribed multi-hazard resilient standards. The output will also support the inclusive design and/or structure (e.g., universal access to housing unit/latrine, adaptive cooking area) for the most vulnerable groups (footnote 16), and at least 12,000 households will benefit from the additional conditional cash grant for this purpose.

10. Output 1 will also support community-led construction of multi-hazard resilient and environment-responsive (e.g., lower carbon footprint) infrastructure, such as WASH and renewable-based off-grid electrification solutions for at least 100,000 houses. Houses and community infrastructure will be selected in consultation with GoS and SPHF, and such selection will be based on a set of agreed-upon criteria.

Approximately 1,500,000 and 600,000 residents will benefit from the reconstruction of housing and improved community infrastructure, respectively. The World Bank's funded five (5) implementing partners (IPs) will continue to support the beneficiaries with additional resources under the subject project to support the planned work scope for Output 1.
2.

3. **Output 2: Community resilience improved.** The project will support strengthening community resilience, working through SPHF, IPs, and various stakeholders, including non-governmental organizations, civil society organizations (CSOs), national and international institutions, and academia. The project will support (i) recovery of livelihoods for at least 6,000 of the most vulnerable households by providing agricultural, livestock or small enterprise-related goods, (ii) development and deployment of an e-commerce portal for linking the products of rural entrepreneurs with the online markets, (iii) skills development for resilient housing and community infrastructure; (iv) community-led climate and disaster-resilient village planning; (v) innovative methodologies for climate and disaster-resilient reconstruction of housing and/or community infrastructure; (vi) community-based disaster risk management training through the digitalized platform; and (vii) integrated rural development solutions through GIS-based platform comprised of government data (e.g., land management, disaster risk management, WASH infrastructure, electricity, education, health, transport, and agriculture).

4. To deliver on these outputs, ADB will engage both individual and firm consulting services and recruit a multidisciplinary team of national and international experts required to provide

support during the implementation of the project. All consultants will be recruited in accordance with the Asian Development Bank's Procurement Policy (2017, as amended from time to time) and its associated Staff Instructions for ADB-administered consulting services and project implementation. The consultants will primarily work with ADB's Pakistan Resident Mission and collaborate closely with the Water and Urban Development Sector Office Emerging Areas Team, the Government of Sindh, and SPHF.

5. The terms of reference (TOR) are outlined with the intent to remain flexible to respond to the requirements of the government, implementing agencies, development partners, and beneficiary communities, and to ensure that grant funds are utilized in a cost-effective manner The TOR, duration, and schedule of grant project inputs will be developed and adjusted, if necessary, during the implementation. The indicative expertise and corresponding person-months are in the table below.

Summary of Indicative Consulting Services Requirement

Positions	Person-months
Emergency Assistance Loan Component	
Gender and Social Inclusion Specialist	36
Procurement Specialist	6
Social and Environmental Safeguards Specialist	6
Analytical Support Consultants	24
Land Management Consultant	6
Climate Change Specialist	6
Environmental Specialist	6
Monitoring and Evaluation Specialist	12
WASH Engineering – Consulting Services Package (Firm)	
• Project Leader/Manager	36
• Deputy Leader/Manager	36
• Water and Sanitation Engineers – 4 positions	144
• Design and Costing Engineering Experts – 2 positions	72
• Urban/Land Use Planner	36
• Climate Change Expert – 2 positions	72
• Capacity Development and Training Experts – 2 positions	72
• Social Safeguards and Gender Experts – 2 positions	36
• Environmental Expert/Engineer	36
• Economist	18
• Geotechnical Engineer – 2 positions	36
• Geographic Information System (GIS) Specialists – 2 positions	72
• Hydrogeologists – 2 positions	72
• IT Expert for MIS Module Development – 2 positions	72
• Solar Engineers – 2 positions	72
• Material/ Mechanical Engineers – 2 positions	36
• Water Quality and Wastewater Engineers – 4 positions	144
• Survey Engineer/Technical Surveyors – 4 positions	144
• Research and Data Analysts – 4 positions	144
• Surveyors – 4 positions	144
• Data Entry Operators – 4 positions	144
• CAD Draftsperson and GIS operators – 4 positions	144
• Planning & Scheduling Engineers – 2 positions	72
• Health, Safety, and Environment (HSE) Engineers – 2 positions	72

Subtotal	**2,028**
TASF Component	
AI/Business Analytics Experts	1.5
Environment-friendly Construction Material Specialist	1.5
Financial Management Specialist	2.5
Monitoring and Evaluation Specialist	5
Communication Specialist	3
Management Information System (MIS) Specialist	5
Geographic Information System (GIS) Specialist	2
Website Developer	7.5
Capacity Development Specialist – Entrepreneurship/Enterprise Development	2.5
Community-based Disaster Risk Management (CBDRM) Specialist	2.5
Social Safeguards Specialist	4.5
Environmental Safeguards Specialist	4.5
Gender Specialist	5
Procurement and Contracts Specialist	3
Project Coordinator	7.5
Project Implementation Analyst	15
Resource Persons	5
Feasibility Study on Environmentally-friendly Brick Kilns – Consulting Services Package (Firm)	
• Team Leader/Climate change Specialist	2
• Financial Analyst	1.5
• Brick Technology Expert	1.5
• Community Specialist	1.5
• Technical Research Specialist – Carbon Credit	3
• Training Specialist	3
• Training Coordinator	4
Study Assessment of Solar Energy Adoption in Rural Sindh: Cost-Effectiveness, Environmental Impact, and Policy Implication – Consulting Services Package (Firm)	
Team Leader/Solar Energy Expert	2
Financial Analyst/Economist	1.5
Economist	2
Environment Specialist	1.5
CBDRM Training Toolkit – Consulting Services Package (Firm)	
• Disaster Risk Management Specialist	3.5
• Graphic Design Specialist	2.75
• Digital Media Production and User Interface Design Specialist	2.75
Subtotal	**110**
TOTAL	**2,138**

CAD = Computer Aided Design, CBDRM = community-based disaster risk management, EAL = emergency assistance loan, GIS = geographic information system, HSE = health, safety, and environment, MIS = management information system, UI/UX = user interface/user experience, WASH = water, sanitation and hygiene

6. Under the Emergency Assistance Loan component of the project, the following consultants will be recruited:

7. **Gender and Social Inclusion Specialists (36 person-months/intermittent).** The Consultant will have at least a Bachelor's degree in gender studies or any relevant social science discipline, with at least eight (8) years of demonstrable experience working on gender equality and social inclusion (GESI) mainstreaming, policy advocacy, analysis, and training.

The Consultant will (i) provide technical support to the project team and collaborate with other relevant stakeholders to ensure that GESI aspects are appropriately considered in the selection and prioritization of grant beneficiaries and incorporated into other activities supported by the grant project; (ii) support the design and implementation of community- and household-level GESI-sensitive innovative IEC campaign and outreach in livelihood recovery; (iii) support the preparation of GESI-responsive training and communications materials.

8. **Procurement Specialist (6 person-months/intermittent).** The Procurement Specialist will hold at least a Bachelor's degree in procurement, business administration, economics, or a related field with eight (8) years of experience in procurement, including experience with international procurement procedures and guidelines. Knowledge of the procurement of goods, works, and services under the ADB context and practical experience in the procurement process of the Government of Pakistan will be an advantage. The Consultant will (i) review legal documents related to procurement and assess additional requirements in these documents; (ii) review procurement documents (including bidding documents, bid evaluation reports, and approval procedures) and analyze systemic issues and recommend remedial actions relating to the procurement processes; (iii) ensure that the procurement process is transparent, competitive, fair, and in accordance with the procurement plan and ADB Procurement Framework; (iv) conduct post-review sampling of procurement not subject to prior review by ADB; and prepare the post-review report as required; (v) assist the project team in initiating procurement actions, such as preparations of bidding documents; and (vi) support the development of progress monitoring tables for managing major procurement of works and equipment supply contracts and consultant selection.

9. **Social and Environmental Safeguards Specialist (6 person-months/intermittent).** The consultant must have a Bachelor's degree in sociology, anthropology, development economics, or other relevant fields from a recognized university and at least eight (8) years of relevant working experience in social safeguards assessment and implementation.

The consultant will (i) support the review of environmental and social compliance of activities undertaken under the project; (ii) participate in site visits to assess the social and environmental impacts of project activities, identify non-compliance to standards, and prepare corrective action plans, etc.; (iii) review social due diligence reports, design the safeguard management framework, and summarize the social safeguard risks and mitigation measures; (iv) review rapid environmental assessment checklists, initial environmental examination reports, environmental management plans, and code of construction practice to ensure that the environmental safeguards provisions are integrated in project activities, including in project bidding documents.

10. **Analytical Support Consultants (24 person-months/intermittent).** The pool of Analytical Consultants will be recruited by ADB individually. This allows a flexible approach and ensures that needed expertise can be recruited for timely project development. Detailed tasks, outputs, qualifications, and requirements will be drafted on a case-by-case basis.

11. **Land Management Consultant (6 person-months/intermittent)**. The Consultant will have a Master's degree or equivalent in land management, land administration, natural resource management, geography, or a related field and at least 10 years of demonstrable experience in digital land management, land information infrastructure, land use planning, and natural resource management, preferably in the context of rural development or community-based projects.

The Consultant will (i) support the digitalization of cadastral information on the Province of Sindh and integration with other GIS system/s maintained/developed by government/development

partners; (ii) support the development and adoption of a digital planning platform that will improve the delivery of assistance and essential services as part of the reconstruction effort by the government, development organizations, and other stakeholders; (iii) provide training and prepare reports for ADB and relevant stakeholders, including government agencies and community beneficiaries on data-informed regional development planning for land management and infrastructure development.

12. **Climate Change Specialist (6 person-months/intermittent).** The Consultant will have a postgraduate degree in climate science or related fields, and at least 10 years of experience in evaluating climate risks, strong expertise in climate adaptation and disaster risk management, and up-to-date technical knowledge of climate-related risks and impacts, including assessing climate scenarios and modeling exercises in developing country and regional contexts. The Consultant will (i) identify data and information that are needed for assessing climate change and disaster scenarios; (ii) assess climate change and disaster scenarios based on the available data and inputs; (iii) prepare the climate risk and vulnerability report, as well as other, provide inputs for other reports required by ADB; (iv) identify and evaluate various adaptation options with reference to international best practices and provide technical inputs/recommendations on climate change adaptation and mitigation options to guide activities to be undertaken as part of the SHERP; (v) support the development of capacity-building and training activities that aim to strengthen the capacity and raise the awareness of various stakeholders regarding climate change and disaster resilience; and (vi) ensure the integration of priority options into planned community resilience solutions and capacity-building programs.

13. **Environmental Specialist (6 person-months/intermittent).** The Consultant will have a Bachelor's degree in environmental management or environmental engineering, with eight (8) years of working experience as an environmental specialist, preferably in donor-financed projects. The Consultant must be familiar with ADB's environmental safeguard policies and procedures.

The Consultant will: (i) provide data and information for the finalization of environmental categorization and climate change screening; (ii) participate in field visits to assess the environmental sensitivity of project locations and climate change risks to the sites posed by the project outputs; (iii) recommend appropriate environmental risk mitigation measures to address identified risks; and (iv) ensure that the environmental safeguards provisions are integrated in project activities; (v) review existing environmental examinations report and assist the project team in conducting public consultations in compliance with ADB's safeguards policy.

Monitoring and Evaluation Specialist (12 person-months/intermittent). The Consultant will have a Bachelor's degree in social sciences, such as statistics, public policy, economics, or a related field or specialized certification in monitoring and evaluations, with eight (8) years of experience in managing and implementing monitoring and evaluation systems for international and national development organizations.

The Consultant will (i) perform quantitative analysis to identify project requirements, priorities, and recommendations to improve performance; (ii) support the development of project metrics/trackers to review performance on a regular basis and identify gaps to inform strategic decision-making; (iii) lead the review, data validation, field monitoring and evaluation, and assist the program team in developing templates for record-keeping; (iv) track and report the progress according to the set indicators and document the output, outcome and impact of the project; (v) support the establishment of project review and reporting mechanisms to timely identify, monitor, report and resolve critical dependency issues; (vi) oversee/supervise the work performed by the technical experts/independent monitoring teams on the field, as per arrangement made by

implementing partners; (vii) support the processing and disbursement of cash grants to beneficiaries.

14. Under the EAL component, a consultancy firm will be recruited for a WASH Engineering consulting services package. The overall purpose of the assignment is to support SPHF in the selection of appropriate technological solutions while ensuring the provision of safe, accessible, and sustainable drinking water, fecal sludge management (including containment, collection, transport, treatment, and disposal and recycling), street pavements and drainage facilities along with climate-smart planning and implementation for overall settlement improvement. Individual consultants to be recruited under this package include the following:

15. **Project Leader/Manager (36 person-months).** The Consultant will have a Master's degree in Engineering (civil, environmental, urban planning or relevant) with 20 years of proven experience in a relevant field and be knowledgeable about climate resilience and sustainability.

The Consultant must have extensive experience in project coordination, planning, vetting, and execution; demonstrable ability to align conceptual designs with project goals and requirements; proven track record of managing timelines, budgets, and resources (technical and financial) effectively; and experience of working with vast clientele and within rural areas.

The Consultant will: (i) lead overall coordination and planning of task 1 activities and ensure that climate resilience considerations are incorporated in the project; (ii) oversee preparation of project digests, ensuring technical feasibility and cost-effectiveness; (iii) supervise project team, providing guidance and support for effective collaboration; (iv) liaise with stakeholders to gather necessary data and ensure alignment of project objectives; (v) ensure design solutions meet quality standards and are gender-sensitive and accessible; (vi) ensure compliance with national/international regulations, SPHF requirements and cultural norms of the area; (vii) monitor project budgets and expenditures, ensuring efficient resource use; and (viii) prepare progress reports highlighting achievements, challenges, and recommendations

16. **Deputy Leader/Manager (36 person-months).** The Consultant will have a Master's degree in engineering with 15 years of proven experience in water and sanitation sector and additional knowledge of climate-resilient water and sanitation programs. The Consultant must have a strong background in project coordination, planning, and execution; be able to ensure conceptual designs aligned with project goals and requirements; be proficient in managing timelines, budgets, and resources, including both technical and financial resources; and have experience working with vast clientele and within rural areas.

The Consultant will: (i) assist in overall coordination and planning of and assist the Team Leader/Project Manager in ensuring the climate resilience perspective of the project; (ii) ensure effective day-to-day management of works; (iii) support in preparation of project digests, ensuring alignment with project goals; (iv) collaborate with the project team, provide assistance and support as needed and ensure compliance with national/international regulations, SPHF requirements and cultural norms of the area; (v) participate in stakeholder meetings, contributing to gathering necessary data and ensuring stakeholder alignment with project activities; (vi) assist in ensuring design solutions meet quality standards and are gender-sensitive and accessible; (vii) support in monitoring project budgets and expenditures to ensure efficient resource utilization; (viii) contribute to preparing progress reports and highlighting key insights and recommendations; (ix) provide assistance in form of reporting to the Team Leader and supervising the staff during execution of WASH infrastructures, addressing technical queries and concerns; (x) assist in reviewing technical submittals, conducting inspections, and verifying completed construction

projects; (xi) support in verifying final Bill of Quantities, certifying interim payments, and ensuring adherence to project budget; (xii) participate in providing recommendations for adjustments or improvements, and documenting site visit findings; and (xiii) contribute to maintaining detailed records and preparing reports summarizing project progress and key findings.

17. **Water and Sanitation Engineers (144 person-months).** The Consultant will have a Master's degree in civil engineering or any other relevant field, with at least 15 years of proven experience and expertise in water sanitation and hygiene. The Consultant must have practical experience designing and implementing rural water supply projects (preferably groundwater projects), hydrogeological studies, and water quality monitoring exercises. S/he must be well-versed in design standards and national/international regulations. The Consultant will: (i) assess technical feasibility and propose innovative, gender-sensitive, and accessible solutions for water and sanitation infrastructure, ensuring adherence with cultural norms and climate resilience strategies; (ii) work with other engineers and stakeholders to ensure designs meet standards and regulations for water supply, sanitation, and street pavement infrastructure and provide expert advice and solutions to address technical queries during the construction phase; (iii) utilize experience in designing and implementing rural water supply projects, including groundwater-based systems; (iv) conduct hydrogeological studies and water quality monitoring exercises; (v) ensure designs address environmental and social concerns and comply with regulations; (vi) maintain detailed records of site visits, inspections, and recommendations; and (vii) work with project team to ensure effective project management and decision-making.

18. **Design and Costing Engineering Expert (72 person-months).** The Consultant will have a Bachelor's degree or equivalent in civil engineering or a relevant discipline, with more than 10 years of experience in designing, costing, and estimating rural water and sanitation projects, preferably in Sindh. S/he must have expertise in cost estimation principles in government-led projects, knowledge of national systems and regulations, and proficiency in design software and tools.

The Design Engineer and Costing Expert will evaluate the environmental impact of the proposed WASH facilities. This entails (i) developing complete designs and cost estimations for rural water and sanitation projects; (ii) incorporating innovative solutions into designs to enhance effectiveness and efficiency while ensuring designs adhere to engineering standards and government guidelines; (iii) integrating sustainable and eco-friendly design solutions into project proposals; (iv) evaluate technical submittals and completed construction projects for accuracy and compliance; (v) provide oversight to ensure construction work meets specified standards and specifications; (vi) verifying Bill of Quantities and certify interim payments to ensure adherence to project budget; and (vii) recommend post-construction adjustments or improvements based on project outcomes.

19. **Urban/Land Use Planner (36 person-months).** The Consultant will have at least a Master's degree in urban/land-use planning, urban development or other related discipline, with a minimum of 12 years of experience in regional and urban planning, urban renewal and rehabilitation, policy and management, infrastructure needs assessments, institutional analysis, program and project development.

The Urban/Land-use Planner will (i) conduct land-use assessments, design circulation pathways, and identify key nodes for efficient access; (ii) prepare landscape design for climate resilience, integrating sustainable and adaptive strategies such as plantation for resilience, green public spaces, native plantings, pedestrian-friendly pathways, etc.; (iii) analyze infrastructure needs and develop strategies for urban renewal and rehabilitation; (iv) supervise a team of experts and

ensure timely delivery of planning outputs; (v) assist in development of Develop climate resilience, adaptability and change plan; and (vi) interface with stakeholders to incorporate their needs into planning processes.

20. **Climate Change Expert (72 person-months).** The Consultant will have an advanced university degree in natural resource management, agriculture, rural development, climate change, or related fields, with proven experience in identifying climate change scenarios, conducting vulnerability assessments, and integrating climate risks into development plans.

The Consultant will: (i) identify climate change impacts and adaptation measures relevant to the project area; (ii) conduct stakeholder consultations to understand local climate change concerns; (iii) support the design of adaptation measures and training programs for communities; (iv) integrate climate resilience into the overall project plan, including the assessment of potential disasters and hazards, and mitigation strategies; (v) assist in development of a climate resilience, adaptability and change plan; (vi) provide inputs on transportation types, housing improvements, and energy conservation from a climate change perspective; (vii) support the identification of the underlying problem analysis (root-causes, preferred solution, barriers, and project specific interventions); (viii) support the design of the adaptation measures and prepare pre- feasibility studies and costs-benefits analysis for adaptation measures to be supported by the project; and (ix) identify and validate relevant national and regional development plans that need to integrate climate risks and related methods.

21. **Capacity Development and Training Experts (72 person-months).** The Consultant will have a university degree or relevant qualification in social sciences preferably psychology, media, communication, from HEC recognized university, with at least 10 years of work experience in capacity development and training in development sector. Having experience in WASH training curriculum and training will be an advantage. S/he must have proficiency in organizing training and need assessment with curriculum development and IT based learning management approaches and excellent oral and written communication skills in English and Sindhi. The Consultant will (i) work with design teams to identify the innovation and skills to be transferred; (ii) develop training manuals and materials for different designs and costing procedures to be imparted to the IPs and CIs; (iii) conduct the need assessments of the IPs and CIs to determine capacity gaps in terms of skills, knowledge and practices; (iv) refine the training manuals in light of need assessments conducted to have better designing and supervision; (v) organize and conduct training of IP staff and CIs in identified areas with a key focus on managing community infrastructure implementation, monitoring and ensuring O&M services; (vi) strengthen the skills of community and social mobilization of CIs and IPs through training and experience sharing; and (vii) develop KPIs for sustainability in the context of knowledge and skills of IPs and communities and track the progress periodically. n

22. **Social Safeguards and Gender Experts (36 person-months).** The Consultant will have a graduate degree or relevant qualification in social safeguards, Gender and/or social development studies from HEC recognized university, with at least 10 years of work experience in social development. S/he must be adept in collecting baseline socioeconomic data and assessing social impacts of projects and activities, and must have excellent oral and written communication skills in English and Sindhi.

The Consultant will: (i) collect baseline socioeconomic data and assess social impacts of the project; (ii) develop measures to address social impacts and ensure social inclusion in project activities; (iii) prepare due diligence reports on indigenous peoples/ethnic minorities, if applicable; (iv) assess potential benefits and impacts to local people and prepare a due diligence report on indigenous peoples/ethnic minorities; (v) facilitate community involvement in project planning and

implementation; (vi) develop measures to specifically target women, poor, and vulnerable groups for project activities; and (vii) assist in development of Develop climate resilience, adaptability and change plan.

23. **Environmental Expert / Engineer (36 person-months).** The Consultant will have a Master's degree in engineering, with over 20 years of experience in evaluating environmental impacts and ensuring compliance with regulations and standards of eco-friendly and green infrastructure. The Consultant must have solid knowledge of sustainable and eco-friendly design solutions, proficiency in environmental assessment methodologies, and strong communication and interpersonal skills.

The Consultant will: (i) evaluate the environmental impacts of proposed WASH facilities to ensure project compliance with environmental regulations and standards; (ii) recommend eco-friendly design solutions to minimize environmental impact and ensure proposed designs are gender-sensitive and accessible to all; (iii) work with project team to integrate environmental considerations into project designs and address project challenges; (iv) provide expert advice and solutions to address environmental concerns during construction phases; (v) review technical submittals and completed construction projects to ensure environmental compliance; (vi) maintain detailed records of environmental assessments and project-related activities; and (vii) prepare reports on environmental findings and recommendations for effective project management.

24. **Economist (18 person-months).** The Consultant will have an advanced University degree in Economics with minimum 10 years of experience in conducting economic appraisals, analysis and life cycle assessments. S/he must have experience in analyzing socioeconomic data, financial and economic data. Excellent oral and written communication skills in English and Sindhi are highly desirable.

The Consultant will: (i) collect and collate essential socioeconomic data from the project and communities; (ii) conduct life cycle cost analysis of different WASH innovations proposed; (iii) lead on economic appraisal and cost benefit analysis of different initiatives in the communities; (iv) contribute to due diligence reports for the partnerships and engagement with communities; (v) develop the tools to track economic benefits and contributions.

25. **Geotechnical Engineers (36 person-months).** The Consultant will have a Master's degree in engineering, at least 20 years of soil investigation experience, and be well-versed in foundations and structural stability. S/he must have an in-depth understanding of soil properties and their implications for infrastructure and a proven track record in geotechnical engineering projects.

The Consultant will: (i) conduct soil investigations to assess soil properties and provide foundation recommendations and considerations regarding climate resilience; (ii) evaluate soil conditions to ensure structural stability of water and sanitation infrastructure and street pavements; (iii) apply expertise in geotechnical engineering to inform project design decisions and solutions for encountered problems; (iv) ensure designs meet national and international regulations and standards; (v) review technical submittals and completed construction projects to ensure adherence to geotechnical specifications; (vi) maintain detailed records of soil investigations, recommendations and their incorporation, and other project-related activities; and (vii) prepare reports summarizing geotechnical findings and recommendations for effective project management.

26. **Geographic Information System (GIS) Experts (72 person-months).** The Consultant will have an MSc/BS degree in Computer Science with 15 years of experience in Geographic Information System (GIS)/Geography/Remote Sensing tools. The Consultant must have strong knowledge of GIS software, spatial data collection techniques, and spatial data analysis, particularly its use for site selection and planning water, sanitation, and other community infrastructure.

The Consultant will: (i) use GIS tools to analyze spatial data for site selection and planning of WASH facilities; (ii) Work with the project team to integrate GIS considerations into project designs and planning and address project challenges effectively, including during construction phases; (iii) ensure GIS analyses comply with relevant regulations and standards; (iv) explore innovative GIS techniques to enhance project outcomes and efficiency; (v) review GIS outputs and completed construction projects to ensure accuracy and compliance; (vi) maintain detailed records of GIS analyses, recommendations, and project-related activities; and (vii) prepare reports summarizing GIS findings and recommendations for effective project management.

27. **Hydrogeologist (72 person-months).** The Consultant will have a Master's degree or equivalent in Hydrogeology or related field with at least 20 years of proven experience in irrigation, water supply, sanitation, and hygiene sectors. S/he must have proven working knowledge of hydrogeological conditions in Pakistan, particularly Sindh province, and possess strong analytical and problem-solving skills. Knowledge and work experience in rural areas will be preferred.

The Consultant will: (i) conduct hydrogeological studies to understand groundwater conditions and availability; (ii) monitor water quality to ensure compliance with standards and regulations; (iii) apply expertise in hydrogeology to assess water resources and work with project team to integrate hydrogeological considerations into project designs including climate resilience; (iv) ensure designs meet national and international regulations and standards and utilize extensive experience in hydrogeology to address project challenges effectively; (v) provide expert advice and solutions to address hydrogeological challenges during construction phases; (vi) review technical submittals and completed construction projects to ensure adherence to hydrogeological specifications; (vii) maintain detailed records of hydrogeological studies, recommendations, and project-related activities; and (viii) prepare reports summarizing hydrogeological findings and recommendations for effective project management.

28. **IT Experts for MIS Module Development (72 person-months).** The Consultant will have an MSc/BS in Computer Science with at least 10 years of experience in developing databases, online applications for data collection and reporting. Experience in developing MIS modules for project management with integration shall be preferred.

The Consultant will: (i) assess the information needs of the different parts of the life cycle of WASH interventions, integration and reporting obligations; (ii) design a MIS information system model (Database structure and information flow) and MIS hardware network; (iii) select and prepare a user friendly MIS platform/dashboard including back-end and frontend software; (v) design and prepare the MIS operational manual; (vi) introduce an integrated web-based MIS system for all levels of project cycle of climate resilient WASH from identification of projects, designing, reviewing, vetting, approval, monitoring, verification and final assessment; (vii) develop relationships, provide on-going liaison to ensure information flows are established and maintained, and help reinforce capacity of partners in the collection of data according to standardized practices.

29. **Solar Engineer (72 person-months).** The Consultant will have a Bachelor's or Master's degree in electrical, environmental, renewable energy engineering or relevant field, with at least 15 years of experience in off-grid and grid-tied solar photovoltaic (PV) systems design, installation, and maintenance. S/he must be proficient in solar energy software tools and simulation programs, and have solid knowledge of local regulations and standards related to solar energy installations. The Consultant will conduct feasibility studies and implement solar energy solutions for water, sanitation, and street pavement infrastructure. With expertise in solar energy systems, they will ensure the integration of sustainable and efficient solar technologies to meet project goals.

30. **Material/ Mechanical Engineer (36 person-months).** The Consultant will have a Bachelor's degree or equivalent in Mechanical Engineering, Material Engineering, or relevant field, with at least 10 years of experience in water supply and sanitation systems. S/he must have expertise in the use of appropriate design materials, a strong knowledge of mechanical engineering principles, and the ability to contribute to developing cost-effective and sustainable design solutions.

The Consultant will: (i) identify appropriate materials for water supply, sanitation systems, and street pavement infrastructure based on design requirements; (ii) design mechanical components of infrastructure such as pumps and treatment systems; (iii) work with the project team to integrate material and mechanical considerations into project designs, ensure robust and efficient design solutions, and address project challenges effectively, including during construction phases; (iv) ensure materials and mechanical designs comply with relevant regulations and standards; (v) review material specifications and mechanical designs to ensure adherence to standards set by the SPHF/national/international; (vi) maintain detailed records of material selection, mechanical design, and project-related activities; and (vii) prepare reports summarizing material and mechanical findings and recommendations for effective project management.

31. **Water Quality and Wastewater Engineers (144 person-months).** The Consultants will have a Bachelor's degree in environmental science, civil engineering or equivalent in a relevant field, with at least three (3) years of experience in field testing of water samples. They must be proficient in water quality and wastewater testing methodologies and able to work effectively in a team environment. The Consultants will: (i) conduct field testing of water samples using appropriate testing kits and assess wastewater quality and quantity to inform design solutions and address project challenges effectively; (ii) work with the project team to recommend solutions that integrate water quality and climate resilience considerations into project design and planning; (iii) ensure water quality and wastewater management activities comply with relevant regulations and standards; (iv) provide expert advice and solutions to address water quality and wastewater challenges during construction phases; (v) review water quality and wastewater testing results, ensuring accuracy and compliance; (vi) maintain detailed records of water quality and wastewater analysis, recommendations, and project-related activities; and (vii) prepare reports summarizing water quality and wastewater findings and recommendations for effective project management.

32. **Survey Engineer/Technical Surveyors (144 person-months).** The Consultants will have a Bachelor's degree in civil engineering, land surveying, water resources engineering, environmental science or equivalent in relevant field with at least five (5) years of experience working on technical aspects of water supply systems. The Consultants must be proficient in conducting field testing for water and soil, irrigation water assessments, and topographic surveying and have a strong understanding of irrigation, l-based, and groundwater water supply systems. The consultants must be proficient in conducting field testing for water and soil, irrigation water assessments, and topographic surveying and have a strong understanding of irrigation, l-based, and groundwater water supply systems.

The Consultants will: (i) conduct technical surveys for irrigation, canal-based, and groundwater water supply systems and ensure adherence to cultural norms; (ii) work with the project team to integrate surveying considerations into project designs and address project challenges effectively, including during construction phases; (iii) ensure surveying activities comply with relevant regulations and standards; (iv) review survey data and completed construction projects to ensure accuracy and compliance; (v) maintain detailed records of survey findings, recommendations, and project-related activities; and (vi) record findings and summarize survey results and recommendations for effective project management.

33. **Research and Data Analysts (144 person-months).** The Consultants will have a Bachelor's degree in civil engineering, environmental engineering, urban planning, or related field with at least five (5) years of experience in research, data analysis, and infrastructure development, preferably in the context of water supply, sanitation, roads, and drainage systems. The Consultant must have strong analytical skills; proficiency in data analysis tools and software; knowledge of research methodologies, data collection techniques, and statistical analysis s; and familiarity with relevant regulations, standards, and guidelines governing infrastructure development activities. The Consultant must have strong analytical skills; proficiency in data analysis tools and software; knowledge of research methodologies, data collection techniques, and statistical analysis methods; and familiarity with relevant regulations, standards, and guidelines governing infrastructure development activities.

The Consultants will (i) conduct research and data analysis on technological solutions for integrated infrastructure development, including local infrastructure conditions and environmental factors; (ii) collaborate with technical experts to identify appropriate infrastructure solutions; (iii) develop and maintain databases and data visualization tools; (iv) conducting cost-benefit analysis and feasibility studies and provide technical support to the project team in interpreting research findings; and (v) support the preparation of reports and technical documents.

34. **Surveyors (144 person-months).** The Consultants will have a Bachelor's degree in surveying, geomatics, civil engineering, or a related field with at least five (5) years of experience in land surveying, preferably in infrastructure development projects. The Consultants must possess proficiency in surveying equipment and software; strong analytical and problem-solving skills; knowledge of land surveying techniques, methods, and standards; and familiarity with relevant regulations, laws, and procedures governing land use and property rights.

The Consultants will: (i) conduct topographic surveys and establish control points; (ii) collect and analyze spatial data for infrastructure planning and design; (iii) provide technical support, inputs, and recommendations to the project team and assist in identifying challenges and opportunities related to land use and environmental factors; (iv) liaise with local authorities and landowners; (v) ensuring compliance with regulations and standards; and (vi) produce comprehensive survey reports and documentation.

35. **Data Entry Operators (144 person-months).** The Consultants will have a Bachelor's degree in information technology, computer science, office administration, secretarial studies, or related fields with at least three (3) years of experience in accurately and efficiently entering, organizing, and managing data for development projects. The Consultants must be proficient in computer applications such as Microsoft Excel, Word, and databases; have strong attention to detail and organizational skills; and work independently with minimal supervision and meet deadlines.

The Consultants will: (i) enter data accurately and efficiently into designated databases or spreadsheets; (ii) verify the accuracy of data entered by cross-checking with source documents; (iii) organize and maintain electronic and physical files of project-related documents and assist in the compilation and preparation of data for analysis and reporting; (iv) collaborate with project staff and technical experts to ensure timely and accurate data entry; and (v) assist in the preparation of reports, presentations, and technical documents.

36. **CAD Draftsperson and GIS operators (144 person-months).** The Consultants will have a Bachelor's degree or equivalent qualification in civil engineering, architecture, geography, urban planning, or related fields with at least five (5) years of experience in CAD drafting and GIS mapping, preferably in the context of infrastructure development projects. The Consultants must be proficient in CAD software such as AutoCAD, MicroStation, or similar programs; have experience with GIS software such as ArcGIS, QGIS, or similar tools; and have a strong understanding of technical drawing principles, engineering standards, and spatial data analysis techniques. The consultants must be proficient in CAD software such as AutoCAD, MicroStation, or similar programs; have experience with GIS software such as ArcGIS, QGIS, or similar tools; and have a strong understanding of technical drawing principles, engineering standards, and spatial data analysis techniques.

The consultants will: (i) use CAD software to prepare technical drawings, plans, and schematics; (ii) create accurate GIS maps and spatial data sets; (iii) collaborate with technical experts to translate designs into CAD drawings and GIS maps; (iv) incorporate relevant data and technical information into CAD drawings and GIS maps and ensure compliance with technical standards and regulations; (v)conducting quality assurance checks and making necessary revisions; (vi) assist in the preparation of technical documentation and reports; (vi) provide technical support and training to project staff; and (vii) maintain organized files and documentation.

37. **Planning & Scheduling Engineers (72 person-months).** The Consultant will have a Bachelor's degree in civil engineering, project management, or a related field with at least eight (8) years of experience in planning, scheduling, and project management, preferably in infrastructure development projects.

The Consultant will: (i) develop project schedules for infrastructure development activities and identify project requirements and resource needs in coordination with the project team; (ii) use project management software or tools to create and maintain project schedules and Gantt charts; (iii) monitor project progress, identify potential delays and deviations as well as critical path activities and dependencies within project schedules; (iv) provide progress reports and updates to project management and stakeholders; (v) work with procurement specialists to ensure timely procurement and delivery of resources; (vi) provide technical support and expertise on planning and scheduling best practices.

38. **Health, Safety, and Environment (HSE) Engineers (72 person-months).** The Consultant will have a Bachelor's degree in environmental engineering, occupational health and safety, or a related field, preferably with professional health, safety, and environment certification. The Consultant must have at least eight (8) years of experience in HSE management, preferably in infrastructure development projects; strong knowledge of HSE regulations, standards, and best practices; and experience conducting risk assessments, incident investigations, and HSE training.

The Consultant will: (i) develop and implement HSE management plans and procedures, including risk assessments and hazard identification; (ii) investigate incidents and provide recommendations for corrective actions; (iii) develop and deliver HSE training programs; (iv) liaise

with regulatory agencies and stakeholders, when necessary; and (v) monitor and report on HSE performance indicators and support emergency response planning.

39. Under the TASF component, the following consultants will be recruited:

40. **AI/Business Analytics Experts (1.5 person-months/intermittent).** The Consultant will have an advanced degree in computer science, data science, business analytics, or a related field with proven experience in developing and implementing AI-driven solutions in complex project environments. S/he must have proficiency in data management, statistical analysis, and machine learning techniques and experience working with international development projects.

The Consultant will: (i) collaborate with the project implementation team to assess existing data management practices, identify gaps, and recommend AI-driven solutions for enhancing efficiency and effectiveness; (ii) design and develop predictive models and data analytics frameworks to anticipate project performance, identify potential risks, and optimize resource allocation; (iii) provide technical guidance and support for the integration of AI-driven decision support systems to streamline procurement, recruitment, and project monitoring processes; (iv) conduct regular assessments of project performance metrics, utilizing AI techniques to identify trends, patterns, and areas for improvement; (v) facilitate capacity building sessions and knowledge sharing workshops to enhance the project team's understanding and utilization of AI and business analytics tools.

41. **Environment-friendly Construction Material Specialist (1.5 person-months/intermittent).** The Consultant will have an advanced degree in environmental management, sustainable development, policy analysis, or a related field with at least 10 years of experience in environmental policy analysis, advocacy, and stakeholder engagement, particularly in the context of sustainable construction material production. S/he must have strong communication and facilitation skills, with the ability to engage diverse stakeholders and build consensus around complex issues. S/he must have strong communication and facilitation skills, with the ability to engage diverse stakeholders and build consensus around complex issues.

The Consultant will: (i) conduct a comprehensive review of existing regulations, policies, and incentives related to construction material production; (ii) identify barriers, challenges, and opportunities for the adoption of environment-friendly technologies within the brick kiln industry, including economic, technical, and regulatory factors; (iii) develop policy recommendations and advocacy strategies aimed at creating an enabling environment for the adoption of eco-friendly practices in construction material production; (iv) engage with government agencies, industry associations, academia, and civil society organizations to build consensus and support for sustainable construction initiatives; (v) support stakeholder consultations, workshops, and capacity building sessions to raise awareness and build technical capacity in environment-friendly construction practices; and (vi) provide technical assistance and support to brick kiln owners interested in transitioning to environment-friendly technologies, including accessing relevant incentives and financing options.

42. **Financial Management Specialist (2.5 person-months/intermittent).** The Consultant will have a Bachelor's degree in finance, accounting, business administration, or a related field with at least eight (8) years of experience in financial management, budgeting, and accounting, preferably within the context of development projects or international organizations. Knowledge of donor regulations and compliance requirements, particularly those of the ADB, is highly desirable.

The Consultant will: (i) review existing financial management systems and procedures within the project, identifying strengths, weaknesses, and areas for improvement; (ii) develop and implement robust financial management systems, including budgeting, accounting, procurement, and disbursement processes, in compliance with donor requirements; (iii) provide technical guidance and support to project staff and implementing partners on financial management practices, ensuring understanding and adherence to relevant policies and procedures; (iv) monitor project expenditures and financial performance, conducting regular reviews and analyses to identify variances and discrepancies; (v) prepare financial reports and statements in accordance with donor requirements and project guidelines, ensuring accuracy, completeness, and timeliness of reporting; (vi) facilitate capacity building activities, workshops, and training sessions on financial management topics for project staff, partners, and stakeholders; and (vii) liaise with external auditors and regulatory authorities as necessary to ensure compliance with audit requirements and financial regulations.

43. **Monitoring and Evaluation Specialist (5 person-months/intermittent).** The Consultant will have a Bachelor's degree in monitoring and evaluation, statistics, social sciences, or a related field with at least eight (8) years of experience in designing and implementing monitoring and evaluation systems for development projects.

The Consultant will: (i) develop a Monitoring and Evaluation (M&E) plan outlining key performance indicators, data collection methods, and evaluation frameworks for each project output; (ii) design data collection tools to collect relevant data for monitoring and evaluation purposes; (iii) establish a system for collecting, managing, and analyzing project data, ensuring data quality and integrity throughout the project cycle; (iv) conduct regular monitoring activities to track project progress, identify bottlenecks, and facilitate timely decision-making by project management; (v) lead periodic evaluations of project activities, using both quantitative and qualitative methods to assess project impact and effectiveness; (vi) prepare monitoring and evaluation reports, summarizing findings, lessons learned, and recommendations for project improvement; and (vii) support knowledge sharing events to disseminate M&E findings and promote a culture of continuous improvement within the project team and among stakeholders.

44. **Communication Specialist (3 person-months/intermittent).** The Consultant will have a Bachelor's degree in communication, journalism, public relations, or a related field with at least eight (8) years of experience developing and implementing communication strategies for development projects. S/he must have strong familiarity with traditional and digital communication channels, including social media, websites, and multimedia platforms. Previous experience working in Pakistan or similar contexts is desirable. The Consultant will: (i) develop a communication strategy outlining key objectives, target audiences, messaging, and channels for reaching project stakeholders; (ii) create communication materials and content to support project objectives and activities; (iii) coordinate with project partners, government agencies, and other stakeholders to ensure alignment of communication efforts and messaging; (iv) organize stakeholder engagement events, workshops, and training sessions to promote awareness, collaboration, and capacity building around project objectives and activities; (v) monitor media coverage and social media engagement related to the project, and respond to inquiries and feedback from stakeholders as needed; and (vi) evaluate the impact of communication activities and strategies, and provide recommendations for improvement.

45. **Management Information System (MIS) Specialist (5 person-months/intermittent).** The Consultant will have a Bachelor's degree in information technology, computer science, or a related field with at least eight (8) years of experience designing, developing, and managing MIS for development projects or organizations. S/he must have strong technical skills in database

design, data management, and report generation using relevant software tools and platforms and experience working with project management and monitoring systems.

The Consultant will: (i) assess project requirements and develop a detailed MIS implementation plan, including timelines, milestones, and resource requirements; (ii) design database structures, data entry forms, and reporting templates tailored to project objectives and monitoring requirements; (iii) implement data validation and quality control measures to ensure accuracy and reliability of project data; (iv) train project staff and other relevant stakeholders in the use of the MIS, including data entry, retrieval, analysis, and reporting; (v) provide ongoing al support and troubleshooting to address user issues and optimize MIS performance; (vi) generate regular reports to monitor project progress and performance against key indicators and targets; (vii) conduct periodic assessments of MIS functionality and performance, and recommend enhancements or adjustments as needed; and (viii) document MIS processes, procedures, and best practices to support knowledge sharing and capacity building.

46. **Geographic Information System (GIS) Specialist (2 person-months/intermittent).** The Consultant will have a Bachelor's degree in geographic information systems, geography, environmental science, or a related field with at least eight (8) years of experience in developing and implementing GIS solutions for development projects or organizations. S/he must have strong technical skills in GIS software, tools, and techniques and experience conducting spatial analysis and interpreting geographic data to support decision-making processes. The Consultant will: (i) assess project requirements and stakeholder needs to inform the development and implementation of GIS solutions; (ii) develop spatial databases and mapping tools to capture, store, and manage project-related geographic data; (iii) conduct spatial analysis to identify suitable sites for environment-friendly construction material production facilities and assess their environmental and socio-economic impacts; (iv) integrate GIS data with other project datasets, such as socioeconomic, environmental, and infrastructure data, to support comprehensive project planning and decision-making; (v) provide technical support and training to project staff and stakeholders in the use of GIS software, tools, and techniques; (vi) generate spatially explicit outputs, maps, and reports to communicate project findings and support evidence-based decision-making.; (vii) conduct quality assurance and validation of GIS data and analysis results to ensure accuracy, reliability, and consistency; and (viii) document GIS processes, procedures, and best practices or knowledge sharing and capacity building.

47. **Website Developer (7.5 person-months/intermittent).** The Consultant will have a Bachelor's degree in computer science, web development, or a related field with at least eight (8) years of experience in website design, development, and deployment using modern web technologies and frameworks. S/he must have strong proficiency in HTML, CSS, JavaScript, and content management systems and experience with responsive design principles and mobile-first development approaches. The Consultant will: (i) collaborate with project stakeholders to gather requirements and specifications for the website; (ii) design and develop wireframes, mockups, and prototypes for the website layout and functionality; (iii) develop website features, pages, and content based on project objectives and stakeholder needs; (iv) implement responsive design principles to ensure the website is accessible and user-friendly across different devices and screen sizes; (v) integrate multimedia content, forms, and social media feeds to enhance user engagement and interaction; (vi) configure and customize content management systems (CMS) to facilitate easy website management and content updates; (vii) provide technical support and training to project staff and other stakeholders on website management and content updates; (viii) conduct regular monitoring and evaluation of website performance, analytics, and user feedback; and (ix) collaborate with project stakeholders to implement improvements and optimizations based on insights gathered from website analytics and user feedback.

48. **Capacity Development Specialist – Entrepreneurship/Enterprise Development (2.5 person-months/intermittent).** The Consultant will have a Bachelor's degree in entrepreneurship, business administration, economics, or a related field with at least eight (8) years of experience in entrepreneurship development, enterprise support, and capacity building initiatives, preferably. S/he must have excellent facilitation, training, and mentoring skills, with the ability to engage diverse stakeholders and foster collaboration and demonstrated ability to design, implement, and evaluate capacity building programs and initiatives.

The Consultant will: (i) conduct an assessment of the entrepreneurship and enterprise development needs and challenges faced in target areas; (ii) develop a capacity building strategy and action plan tailored to address the identified capacity gaps and needs; (iii) design and deliver capacity building programs, training workshops, and mentoring sessions on entrepreneurship, business management, and environment-friendly technologies; (iv) monitor and evaluate the effectiveness and impact of capacity building interventions, and prepare regular progress reports; (v) identify lessons learned, best practices, and success stories to inform future capacity development efforts and program design.

49. **Community-based Disaster Risk Management (CBDRM) Specialist (2.5 person-months/intermittent).** The Consultant will have a Bachelor's degree in disaster management, community development, social sciences, or a related field with at least eight (8) years of experience in community-based disaster risk management, resilience building, and participatory approaches. S/he must have strong understanding of disaster risk reduction principles, frameworks, and methodologies, including community-based approaches.

The Consultant will: (i) conduct a comprehensive assessment of the disaster risk profile of target communities, including vulnerability, exposure, and capacity; (ii) develop community-based disaster risk management plans, strategies, and interventions in collaboration with community members and relevant stakeholders; (iii) support capacity building workshops, training sessions, and awareness campaigns on disaster risk reduction, preparedness, and response; (iv) facilitate community consultations, meetings, and dialogues to promote community participation, engagement, and ownership in disaster risk management; (v) provide technical assistance and guidance to community members, local authorities, and stakeholders in implementing disaster risk management initiatives; (vi) foster partnerships, collaboration, and networking among government agencies, non-governmental organizations, community-based organizations, and other stakeholders involved in disaster risk management; (vii) monitor and evaluate the progress and impact of community-based disaster risk management interventions, and prepare regular progress reports; and (viii) document and disseminate lessons learned, best practices, and success stories to inform future programming and policy formulation.

50. **Social Safeguards Specialist (4.5 person-months/intermittent).** The Consultant will have a Bachelor's degree in social sciences, development studies, environmental management, or a related field with at least eight (8) years of professional experience in social safeguards, social impact assessment, or community development, preferably in the context of development initiatives. S/he must have a strong understanding of social safeguards policies, regulations, and standards, including those of international financial institutions and experience in conducting social impact assessments, stakeholder engagement, and consultation processes with affected communities and stakeholders.

The Consultant will: (i) conduct social impact assessments, stakeholder analyses, and vulnerability assessments to identify potential risks and impacts of project activities; (ii) develop

social safeguards measures, action plans, and mitigation strategies to address identified risks and enhance positive impacts; (iii) facilitate consultations, meetings, and participatory processes with affected communities, stakeholders, and relevant authorities to solicit feedback, inputs, and consent on project activities; (iv) provide technical assistance, training, and capacity building to project staff, implementing partners, and stakeholders on social safeguards policies, procedures, and practices; (v) establish grievance redress mechanisms and channels for affected communities to raise concerns, complaints, and grievances related to project activities; (vi) monitor and evaluate the implementation of social safeguards measures, document lessons learned, and prepare regular progress reports; and (vii) coordinate with levant government agencies, civil society organizations, and other stakeholders to ensure alignment with national laws, regulations, and standards.

51. **Environmental Safeguards Specialist (4.5 person-months/intermittent).** The Consultant will have a Bachelor's degree in environmental science, natural resource management, ecology, or a related field with at least eight (8) years of professional experience in environmental safeguards, impact assessment, or environmental management, preferably in the context of infrastructure projects or development initiatives. S/he must have a strong understanding of national environmental regulations, international standards, and best practices in environmental management and demonstrated experience in conducting environmental assessments, developing management plans, and implementing mitigation measures in compliance with environmental regulations.

The Consultant will: (i) conduct environmental baseline studies, impact assessments, and risk analyses to identify potential environmental risks and impacts of project activities; (ii)develop environmental management plans, mitigation measures, and monitoring frameworks to address identified risks and ensure compliance with environmental regulations and standards; (iii) facilitate consultations, public hearings, and stakeholder engagement processes to solicit feedback, inputs, and concerns on environmental issues related to project activities; (iv) coordinate with relevant government agencies, environmental authorities, and regulatory bodies to obtain necessary permits, approvals, and clearances for project implementation; (v) provide technical assistance, training, and capacity building to project staff, contractors, and stakeholders on environmental safeguards, pollution prevention, and resource conservation; (vi) monitor and evaluate the implementation of environmental safeguards measures, conduct site inspections, and prepare regular progress reports on environmental performance; and (vii) support environmental awareness and education campaigns, materials, and outreach activities to raise awareness and promote environmental stewardship among project stakeholders.

52. **Gender Specialist (5 person-months/intermittent).** The Consultant will have a Bachelor's degree in gender studies, women's studies, social sciences, international development, or a related field with at least eight (8) years of professional experience in gender mainstreaming, women's empowerment, and gender-sensitive programming, preferably in the context of development projects or international organizations. S/he must have a strong understanding of gender analysis tools, methodologies, and approaches, as well as gender-related policies, frameworks, and standards and extensive experience in conducting gender assessments, designing gender-responsive strategies, and implementing gender mainstreaming activities.

The Consultant will: (i) conduct gender analyses, assessments, and consultations to identify gender-specific needs, priorities, and opportunities within project contexts; (ii) develop gender mainstreaming strategies, action plans, and tools to integrate gender considerations into project design, implementation, and monitoring frameworks; (iii) provide technical assistance, training, and capacity building to project staff, partners, and stakeholders on gender equality, women's

empowerment, and gender-responsive programming; (iv) monitor and evaluate the implementation of gender mainstreaming activities, document best practices, lessons learned, and challenges encountered; (v) facilitate gender-sensitive data collection, analysis, and reporting to ensure that project indicators accurately reflect gender-related outcomes and impacts; (vi) advocate for gender equality and women's empowerment within project activities, partnerships, and decision-making processes; and (vii) coordinate with relevant government agencies, civil society organizations, and other stakeholders to ensure alignment with national gender policies and priorities.

53. **Procurement and Contracts Specialist (3 person-months/intermittent).** The Consultant will have a Bachelor's degree in procurement, supply chain management, business administration, law, or a related field with at least eight (8) years of professional experience in procurement and contract management, preferably in international development projects. S/he must have an in-depth knowledge of procurement regulations, procedures, and best practices (including those of ADB) and experience in conducting procurement processes, including bid solicitation, evaluation, negotiation, and contract administration.

The Consultant will: (i) develop and update procurement plans, manuals, and guidelines in coordination with project management and donor agencies; (ii) prepare and issue procurement notices, bid documents, and requests for proposals (RFPs) based on project requirements; (iii) conduct procurement processes, including pre-qualification, bid evaluation, negotiations, and contract award, ensuring compliance with procurement regulations and quality standards; (iv) manage contracts throughout their lifecycle, including contract administration, performance monitoring, and compliance verification; (v) provide training, workshops, and technical support to project staff, partners, and stakeholders on procurement procedures and best practices; and (vi) monitor procurement activities, track procurement milestones, and prepare regular reports on procurement progress, issues, and risks.

54. **Project Coordinator (7.5 person-months/intermittent).** The Consultant will have a Bachelor's degree in project management, business administration, international development, or a related field; a Master's degree would be an advantage. S/he must have at least eight (8) years of relevant experience in project coordination, administration, or management, preferably in the development sector or with international organizations, strong organizational, communication, and interpersonal skills, and proficiency in project management tools and software and collaboration platforms.

The Consultant will: (i) coordinate and facilitate project meetings, workshops, and events, including agenda preparation, logistics arrangements, and documentation; (ii) assist in the development and monitoring of project work plans, budgets, and timelines to ensure timely delivery of project outputs; (iii) maintain regular communication with project team members, consultants, and stakeholders to provide updates on project progress, deadlines, and deliverables; (iv) prepare and distribute project-related documentation, including meeting minutes, progress reports, and action plans, ensuring accuracy and timely dissemination; (v) monitor project expenditures and financial transactions, in coordination with the project team, to ensure compliance with project budgets and donor requirements; (vi) assist in the identification and resolution of project implementation challenges, risks, and issues, escalating to the Project Manager as necessary; and (vii) support the coordination of project evaluations, assessments, and reviews, including data collection, analysis, and reporting.

55. **Project Implementation Analysts (15 person-months/intermittent).** The Consultant will have a Bachelor's degree in project management, business administration, or engineering

with at least five (5) years of experience in project management, implementation, or analysis, preferably in development projects funded by international organizations. S/he must have strong analytical skills with the ability to interpret data, conduct root cause analysis, and develop actionable recommendations and excellent communication and interpersonal skills to effectively liaise with stakeholders at all levels. The Consultant will: (i) monitor project activities, milestones, and outputs to ensure alignment with project objectives; (ii) prepare comprehensive progress reports highlighting achievements, challenges, and proposed solutions; (iii) coordinate with project stakeholders, including executing agencies, government counterparts, consultants, and beneficiaries, to facilitate effective collaboration and communication; (iv) analyze project data and performance indicators to identify trends, gaps, and areas for improvement; (v) assist in identifying project risks and developing mitigation strategies; (vi) ensure the quality of project deliverables by reviewing documents, reports, and other outputs produced by consultants and project staff and provide feedback and recommendations for improvement; (vii) support capacity-building efforts by organizing training sessions, workshops, and knowledge-sharing events for project staff and stakeholders; (viii) maintain comprehensive project documentation, including contracts, agreements, meeting minutes, and correspondence. Ensure that project files are up-to-date and easily accessible; and (ix) assist in monitoring project expenditures and budget utilization. S/he must have strong analytical skills with the ability to interpret data, conduct root cause analysis, and develop actionable recommendations and excellent communication and interpersonal skills to effectively liaise with stakeholders at all levels.

Resource Persons (5 person-months/intermittent). Resource persons will be recruited by ADB individually. This allows a flexible approach and ensures that needed expertise can be recruited for timely project development. Detailed tasks, outputs, qualifications, and requirements will be drafted on a case-by-case basis.

56. Under the TASF component, a consultancy firm will be recruited for the conduct of a Feasibility Study on Environmentally-friendly Brick Kilns. The study will assess the technical, environmental, and financial viability of establishing medium-sized brick kilns with environment-friendly technology and retrofitting existing brick kilns onto this technology in Sindh. Individual consultants to be recruited under this package include the following:

57. **Team Leader/Climate Change Specialist (2 person-months).** The Consultant will have an advanced degree in environmental science, engineering, or related field with at least 10 years of experience in climate change mitigation, environmental sustainability, or related fields, preferably with experience in brick kiln technologies. S/he must have strong analytical skills and ability to interpret technical data related to brick kiln operations and environmental impacts; strong familiarity with environmental regulations, policies, and incentives relevant to brick kiln operations in Sindh; and demonstrated ability to liaise effectively with government agencies, NGOs, and other stakeholders.

The Consultant will: (i) lead the team in conducting a detailed technical assessment of environment-friendly brick kiln technologies and their suitability for the local context; (ii) coordinate the evaluation of technical requirements, design considerations, and operational aspects of establishing and retrofitting brick kilns; (iii) supervise the assessment of the environmental impact of traditional brick kilns and the potential benefits of transitioning to environmentally-friendly technologies; (iv) oversee the identification and evaluation of environmental benefits, including reductions in air pollution, greenhouse gas emissions, and resource consumption; (v) direct the comprehensive financial analysis to evaluate the cost-effectiveness and financial viability of establishing new environment-friendly brick kilns and retrofitting existing kilns; (vi) lead the estimation of initial investment costs, operational expenses, and potential revenue streams

associated with adopting environment-friendly technologies; (vii) supervise the analysis of market demand and supply dynamics for bricks to assess the market potential for environment-friendly bricks; (viii) coordinate the assessment of market opportunities for environment-friendly brick products; (ix) oversee the review of existing regulations, policies, and incentives related to brick kiln operations and environmental conservation in Sindh; and (x) provide recommendations for policy reforms and incentives to promote the adoption of environment-friendly technologies.

58. **Financial Analyst (1.5 person-months).** The Consultant will have a Bachelor's degree in finance, economics, business administration, or related field with at least eight (8) years of experience in financial analysis, investment appraisal, or related fields, preferably with experience in sustainable development projects. S/he must have strong analytical skills and ability to interpret financial data and trends and proficiency in financial modeling and analysis tools. The Consultant will: (i) conduct a detailed financial analysis to evaluate the cost-effectiveness and financial viability of establishing new environment-friendly brick kilns and retrofitting existing kilns; (ii) estimate the initial investment costs, operational expenses, and potential revenue streams associated with adopting environment-friendly technologies; (iii) assess the financial implications of transitioning from traditional brick kilns to environmentally friendly technologies, including potential savings and returns on investment; (iv) analyze the financial risks and uncertainties associated with establishing and operating environment-friendly brick kilns in the local context; (v) provide recommendations for optimizing financial resources and maximizing the financial sustainability of environment-friendly brick kilns; (vi) collaborate with the project team to integrate financial considerations into the overall feasibility study and ensure alignment with technical and environmental assessments; and (vii) prepare clear and concise reports and presentations summarizing financial analysis findings and recommendations for decision-makers and stakeholders.

59. **Brick Technology Expert (1.5 person-months).** The Consultant will have a Bachelor's degree in civil engineering, mechanical engineering, or related field with at least eight (8) years of experience in brick kiln technologies, including expertise in environment-friendly kiln technologies. S/he must have a strong technical knowledge of brick manufacturing processes, including kiln design, combustion systems, and emissions control and experience in conducting technical assessments and providing recommendations for sustainable technologies. Familiarity with environmental regulations and standards related to brick kiln operations is required. The consultant will: (i) conduct a detailed technical assessment of environment-friendly brick kiln technologies and their suitability for the local context; (ii) evaluate the technical requirements, design considerations, and operational aspects of establishing new environment-friendly brick kilns and retrofitting existing kilns; (iii) provide recommendations for optimal design and layout of environment-friendly brick kilns to maximize efficiency and minimize environmental impact; (iv) assess the environmental impact of traditional brick kilns and the potential benefits of transitioning to environmentally friendly technologies; (v) identify and evaluate the environmental benefits, including reductions in air pollution, greenhouse gas emissions, and resource consumption, associated with adopting environment-friendly brick kilns; (vi) collaborate with project experts to integrate technical considerations into the financial analysis of establishing and retrofitting brick kilns; (vii) review existing regulations, policies, and incentives related to brick kiln operations and environmental conservation in Sindh and provide recommendations for alignment with environment-friendly technologies; (viii) provide technical guidance and support to the project team throughout the feasibility study, including data collection, analysis, and reporting; and (ix) liaise with relevant stakeholders, including government agencies, NGOs, and industry experts, to gather input and ensure alignment with best practices in brick kiln technology.

60. **Community Specialist (1.5 person-months).** The Consultant will have a Bachelor's degree in social sciences, community development, anthropology, or related field with at least five (5) years of experience in community engagement, participatory approaches, and stakeholder consultation processes. S/he must have experience working with marginalized or vulnerable communities, preferably in the context of environmental and sustainable development projects, and possess strong facilitation and interpersonal skills, with the ability to build rapport and rust with diverse community groups. Knowledge of environmental and social impact assessment methodologies and principles are required.

The Consultant will: (i) conduct stakeholder mapping to identify and engage with relevant community groups, including brick kiln workers, nearby residents, local authorities, and community leaders; (ii) organize and facilitate community consultations, focus group discussions, and participatory workshops to gather input on the environmental, social, and economic impacts of brick kiln operations; (iii) facilitate dialogue between community members, project stakeholders, and technical experts to ensure a comprehensive understanding of community perspectives and concerns; (iv) collaborate with the environmental and social specialists to assess the potential environmental and social impacts of transitioning to environmentally friendly brick kiln technologies; (v) identify community priorities and preferences regarding the establishment and operation of environment-friendly brick kilns, including potential benefits and challenges; (vi) provide support and capacity building to local communities to enhance their participation in decision-making processes related to brick kiln operations and environmental conservation; (vii) document and analyze community feedback and incorporate it into the overall feasibility study, ensuring that community perspectives are adequately represented in project recommendations and policy reforms; (viii) develop communication materials and outreach strategies to disseminate study findings and engage with broader community audiences on the importance of environment-friendly brick kilns; (ix) liaise with local NGOs, community-based organizations, and other relevant stakeholders to leverage existing networks and resources for community engagement activities.

61. **Technical Research Specialist – Carbon Credit (3 person-months/intermittent).** The Consultant will have a Bachelor's or Master's degree in relevant fields such as environmental science, carbon management, engineering, economics, finance, or a related field, with 5-8 years of experience in conducting feasibility studies, particularly in the context of renewable energy or environmental projects. S/he must have experience in carbon accounting, emission reduction projects, or climate finance and knowledge of methodologies for quantifying emission reductions and assessing carbon credit potential.

The Consultant will: (i) work with other experts on data collection, analysis, and report writing for a feasibility study; (ii) review existing literature and methodologies related to carbon accounting in the brick kiln sector; (ii) develop a methodology for quantifying emission reductions and assessing the potential for carbon credit generation; (iii) collect and analyze data on emissions from representative brick kilns and calculate baseline emissions; (iv) estimate emission reductions resulting from the adoption of environment-friendly technologies; (v) assess the eligibility of emission reductions for carbon credit certification; (vi) provide technical inputs for integrating carbon credit assessment into the feasibility study, as well as on specific aspects of the feasibility study, such as environmental impact assessment, financial analysis, or technology evaluation; and (vii) contribute to the preparation of policy recommendations.

62. **Training Specialist (3 person-months/intermittent).** The Consultant will have an advanced degree in education, organizational development, or project management, or relevant fields with at least eight (8) years of experience in designing and delivering capacity-building programs, particularly in the context of sustainable development projects. S/he must have an in-

depth knowledge of project management principles, governance frameworks, and environmental sustainability; strong facilitation and communication skills, with the ability to engage diverse audiences and foster participatory learning environments; and fluency in the local dialect in Sindh.

The Consultant will: (i) conduct a training needs assessment to identify knowledge gaps and training requirements of target participants; (ii) develop tailored training modules and materials; (iii) deliver and facilitate training workshops, seminars, and webinars at regional hubs and other relevant venues; (iv) collaborate with project stakeholders to ensure alignment of training activities with project objectives and outcomes; (v) monitor and evaluate the effectiveness of training interventions; and (vi) document best practices, lessons learned, and success stories to inform future capacity-building efforts.

63. **Training Coordinator (4 person-months/intermittent).** The Consultant will have a Bachelor's degree in education, organizational development, project management, or a related field with at least five (5) years of experience in coordinating and delivering capacity-building programs, preferably in sustainable development projects. The Consultant will: (i) collaborate with other experts and relevant stakeholders to identify training needs and objectives; (ii) support the development of a detailed training plan and schedule, including topics, methodologies, and delivery formats; (iii) coordinate with experts to design and develop training materials and resources; (iv) organize and facilitate training workshops, seminars, webinars, and other capacity-building activities; (v) provide logistical support for training events, including venue booking, participant registration, and travel arrangements; (vi) monitor and evaluate training activities to assess effectiveness and impact; (vii) support the preparation of reports to the project team and other relevant stakeholders.

64. Under the TASF component, a consultancy firm will be recruited for the conduct of a Study Assessment of Solar Energy Adoption in Rural Sindh: Cost-Effectiveness, Environmental Impact, and Policy Implication. The study will determine the effectiveness of the project's intervention for providing solar energy solution, its impact on beneficiaries and environment, and also compare impacts of such intervention with the conventional on-grid electrification. Individual consultants to be recruited under this package include the following:

65. **Team Leader/Solar Energy Expert (2 person-months).** The Consultant will have an advanced degree (Masters or Ph.D.) in renewable energy, environmental science, engineering, or a related field with proven expertise in solar energy technologies, including PV systems, with a focus on rural electrification and off-grid applications. S/he must have at least 10 years of experience in leading interdisciplinary research teams and managing complex projects and possess strong analytical skills and experience with quantitative methods, cost-benefit analysis, and environmental impact assessment. Familiarity with policy analysis and development processes, particularly in the context of renewable energy and sustainable development is required.

66. The Consultant will: (i) collaborate with relevant stakeholders to define the study methodology, including data collection techniques, sample selection, and analysis frameworks; (ii) lead a team of experts in collecting data on beneficiaries of solarization through the project and assess the effectiveness of solarization interventions in terms of energy access, socio-economic development, and quality of life improvements; (iii) evaluate the suitability of various solar technologies for rural applications in Sindh; (iv) conduct a rigorous cost-benefit analysis to compare the financial implications of solarization versus conventional on-grid solutions; (v) assess the financial viability of solar energy solutions for low-income households and evaluate the environmental impact of solar energy adoption; (vi) compare the environmental footprint of

solarization with conventional energy sources to determine the overall sustainability of solar energy solutions; (vii) develop policy recommendations based on study findings, addressing regulatory frameworks, incentive structures, and institutional mechanisms to support the widespread adoption of solar energy in rural areas of Sindh; and (viii) identify barriers and opportunities for scaling up solarization initiatives and integrating renewable energy into provincial/national energy policies, highlighting strategies for overcoming challenges and maximizing benefits.

67. **Financial Analyst/Economist (1.5 person-months).** The Consultant will have a Bachelor's degree in economics, finance, or a related field, with at least eight (8) years of experience in conducting economic evaluations of energy projects or renewable energy initiatives, particularly in developing country contexts. S/he must have a strong quantitative and analytical skills, proficiency in statistical software and economic modeling tools, and familiarity with energy policy analysis, environmental economics, and sustainable development concepts.

68. The Consultant will: (i) collaborate with the research team to develop a comprehensive framework for financial analysis, incorporating relevant indicators and methodologies; (ii) collect and analyze data on the initial investment costs, operational expenses, and long-term savings associated with solarization under the project compared to conventional on-grid solutions; (iii) conduct a detailed cost-benefit analysis to evaluate the financial implications of solar energy adoption for individual households; (iv) assess the financial viability of solar energy solutions for low-income households; (v) explore the economic impacts of solar energy adoption on rural livelihoods, income generation opportunities, and overall socio-economic development in Sindh; (vi) analyze the fiscal implications of scaling up solarization initiatives, including the budgetary implications for the government and potential revenue streams from renewable energy investments; (vii) evaluate the cost-effectiveness of solar energy solutions in reducing greenhouse gas emissions, improving air quality, and mitigating climate change effects, from both financial and economic perspectives; (viii) provide evidence-based policy recommendations to support the adoption of solar energy solutions in rural areas of Sindh, including strategies to enhance affordability, access to finance, and regulatory frameworks.

69. **Economist (2 person-months).** The Consultant will have a Bachelor's degree in economics, with a focus on development economics, energy economics, or environmental economics preferred. S/he must have proven expertise in economic analysis, including cost-benefit analysis, economic modeling, and econometric techniques and experience in conducting economic evaluations of energy projects or renewable energy initiatives, particularly in developing country contexts.

The Consultant will: (i) collaborate with the research team to develop a comprehensive framework for economic analysis, incorporating relevant indicators and methodologies; (ii) collect and analyze data on the economic costs and benefits of solarization under project; (iii) conduct a detailed cost-benefit analysis to compare the economic implications of solar energy adoption versus conventional on-grid solutions; (iv) assess the economic viability of solar energy solutions for low-income households, examining affordability constraints, income generation opportunities, and potential financing mechanisms; (v) explore the broader economic impacts of solar energy adoption on rural livelihoods, employment generation, local economic development, and poverty reduction in Sindh; (vi) analyze the fiscal implications of scaling up solarization initiatives; (vii) evaluate the economic benefits of solar energy adoption in terms of reducing greenhouse gas emissions, improving air quality, and mitigating climate change effects, from both microeconomic and macroeconomic perspectives; and (viii) provide evidence-based policy recommendations to support the adoption of solar energy solutions in rural areas of Sindh.

70. **Environment Specialist (1.5 person-months).** The Consultant will have a Bachelor's degree in environmental science, ecology, environmental engineering, or a related field with demonstrated experience in conducting environmental evaluations of energy projects or renewable energy initiatives, particularly in developing country contexts. S/he must have strong analytical skills; proficiency in environmental modeling, GIS, and other relevant software tools; and familiarity with energy policy analysis, climate change mitigation strategies, and sustainable development concepts.

The Consultant will: (i) work with the research team to develop a comprehensive framework for environmental assessment; (ii) collect and analyze data on the environmental impacts of solarization under the project; (iii) conduct a comparative analysis to assess the environmental footprint of solar energy adoption versus conventional on-grid solutions; (iv) evaluate the potential environmental benefits of scaling up solarization initiatives; (v) assess the environmental risks and challenges associated with solar energy adoption and propose mitigation measures; (vi) analyze the social and environmental co-benefits of solar energy adoption, including improvements in health outcomes, reduction of indoor air pollution, and enhancement of community resilience to climate change impacts; (vii) provide evidence-based policy recommendations to support the adoption of solar energy solutions in rural areas of Sindh, with a focus on enhancing environmental sustainability and minimizing negative impacts. Under the TASF component, consulting firms will be recruited for four (4) consulting services packages.

71. A consulting services package is required for the digitization of community-based disaster risk management (CBDRM) training toolkits which the implementing partners can use to deliver trainings to the communities. The following individual consultants will be recruited for this package:

72. **Disaster Risk Management Specialist (3.5 person-months).** The Consultant will have a Master’s degree or equivalent in disaster risk management, environmental science, atmospheric science, applied climatology, climate informatics, earth science (hydrology), physical geography, geographic information systems, civil engineering, or related fields, with a minimum 10 years of demonstrated experience in disaster risk management, preferably in the context of community-based disaster risk management initiatives or climate resilience projects in developing countries. The Consultant must have strong analytical and research skills; experience conducting hazard and vulnerability assessments, risk mapping, and community profiling; proficiency in designing and delivering CBDRM training programs and materials, including knowledge of adult learning principles and participatory methodologies; and strong familiarity with CBDRM principles, tools, and processes, including early warning systems, hazard mapping, and disaster preparedness planning.

The Consultant will (i) lead the comprehensive assessment of disaster risks, vulnerabilities, and capacities in the target communities, including analysis of hazard maps, vulnerability assessments, and community profiles; (ii) lead the review of existing DRM training materials and tools and providing recommendations for their digitization and enhancement to ensure relevance, effectiveness, and accessibility; (iii) collaborate with implementing partners and community stakeholders to design and develop CBDRM training toolkits, including interactive modules, videos, animations, and other multimedia content with support from project officers and experts; (iv) support the training of relevant stakeholders on the use of digitized CBDRM training toolkits, including capacity building activities on CBDRM principles, tools, and methodologies; (vi) support community-led climate resilient village resettlement planning processes, including risk assessment, land use planning, infrastructure development, and community engagement; (vii)

provide technical assistance and guidance to community members, local leaders, and other stakeholders on CBDRM principles, practices, and tools; (viii) develop community-based disaster risk management committees or similar structures to oversee DRM initiatives, coordinate with local authorities, and facilitate community participation and ownership; (ix) monitor and evaluate the effectiveness of DRM interventions, collect feedback from stakeholders, and make recommendations for improvement; (x) support the identification of villages that are willing and interested to participate in a community-led climate resilient village resettlement planning process; and (xi) conduct a participatory vulnerability and capacity assessment (PVCA) for each village, involving representatives from different groups (such as women, youth, elderly, persons with disabilities, etc.) to identify their risks, needs, priorities and preferences for resettlement.

73. **Graphic Design Specialist (2.75 person-months/intermittent).** The Consultant will have a Bachelor's degree and at least five (5) years of demonstrable experience in graphic design, branding, visual identity, or related field. Experience in branding design for international development projects and familiarity with ADB design/layout guidelines is considered an asset.

The Consultant will provide graphics support to develop the visual identity/branding and enhance the visual impact and delivery of various visibility collaterals to be developed under this grant project, and ensure that these collaterals are consistent with the visibility requirements of concerned parties, including ADB, the Government of Pakistan, and the Government of Sindh. This entails undertaking brand concept development, crafting visual brand elements, and implementing layout/design work for various visibility collaterals, including project signages, posters, brochures, flyers, presentations, training materials, and publications, among others that will be produced under the grant project.

74. **Digital Media Production and User Interface Design Specialist (2.75 person-months/intermittent).** The Consultant will have a university degree in a relevant field, such as Graphic Design, Multimedia Arts, User Interface/User Experience (UI/UX) Design, or a related discipline, with at least five (5) years of experience in digital media production, user interface design, and multimedia content development, preferably in the context of disaster risk management or community development projects. The Consultant should have demonstrable proficiency in graphic design software, video editing tools, animation software, and user interface design tools. Familiarity with ADB multimedia/digital production guidelines is considered an asset.

The Consultant will provide specialized expertise in digital media production and user interface design to support the digitization and distribution of CBDRM training toolkits and the development of user-friendly interfaces for community-led climate-resilient village resettlement planning. The Consultant will assess existing CBDRM training materials and tools and identify opportunities for digitization and enhancement through digital media production; collaborate with project team members, experts, and other stakeholders to design and develop digital CBDRM training toolkits, including interactive modules, videos, animations, and other multimedia content; create user-friendly interfaces for the CBDRM training toolkits and ensure accessibility, ease of navigation, and compatibility with various devices and platforms. The Consultant will provide technical support and training to implementing partners on using the digitized CBDRM training toolkits, as well as visualizations, maps, and other digital media content to support community-led climate-resilient village resettlement planning processes. The Consultant will ensure that all digital media content and user interfaces adhere to relevant standards, guidelines, and best practices.

TERMS OF REFERENCE
Climate Resilient WASH Engineering Design and Supervision Consultant

1. Project Background

Post 2022 Foods, Government of Pakistan developed the strategic policy and prioritization document “Resilient Recovery, Rehabilitation, and Reconstruction Framework” (4RF) to guide the recovery, rehabilitation and reconstruction of the country. The Government of Sindh has established Sindh Peoples Housing for Flood Affectees (A Section 42, Public Sector Company) to support housing reconstruction of around 2.1 million houses along with interventions related to water, sanitation, hygiene, street pavement, drainage, household solarization, etc. which shall be broadly called as Climate Resilient WASH in these ToRs, and. As per Strategic Recovery Objective 4 of 4RF “Restore and Improve Basic Services and Physical Infrastructure in a Resilient and Sustainable Manner”, SPHF is seeking services to support effective Climate Resilient WASH initiative for the health and well-being of citizens and for sustainable housing.

Climate Resilient WASH services in Pakistan have multiple challenges, including quality, access, and sustainability. Water supply is mostly intermittent and not potable. Before the flood only 36 percent of households had access to safely managed water supply services and only 68 percent of the population had basic sanitation facilities, with huge regional disparities. The 2022 flood damaged more than 7,060 schemes, including 4,344 water supply and 2,716 sanitation schemes in the public sector, requiring major repair and reconstruction. Under the Climate Resilient WASH component, SPHF is planning to implement a range of Climate Resilient WASH related interventions in selected smaller settlements (below 150 HHs in the flood-affected districts, while ensuring operational sustainability. The implementation under this component shall be guided by a comprehensive SPHF WASH Strategy which will be augmented with climate smart resilient interventions. The implementation strategy of climate resilient WASH and its related interventions will aim to address the critical needs of Sindh's flood-affected population. Furthermore, the strategy encompasses enhancing access to safe drinking water, adequate sanitation, drainage facilities and promoting hygiene practices to improve the overall health and well-being of communities in the affected districts while keeping in view climate smart and multi hazard resilience as central pillar.

2. Purpose of the Assignment

Overall purpose of the assignment is to support SPHF in the selection of appropriate technological solutions while ensuring provision of safe, accessible, and sustainable drinking water, fecal sludge management (including containment, collection, transport, treatment, and disposal and recycling), street pavements and drainage facilities along with climate smart planning and resilience.

a. In the first stage, the assignment will provide detailed engineering designs, costing and feasibility of all proposed technological solutions of various types for at least 50 villages/settlements (stage 1) that are typical for different areas and solutions shall be widely applicable and largely manageable by the communities themselves in the affected area. The designs would include a digital base map of respective communities on which the conceptual designs are overlaid. These villages shall be selected from 23 project districts based on the topography and soil classification in addition to other climate factors. This will be followed by training the engineers of the implementing partner NGOs to apply these designs and plans to the specific settlements, based on varying ground conditions.
   4.

b. In addition, an MIS-based Module shall be included in the engineering design and estimation model. The model will also streamline the project planning, design, and estimation process for Water and Sanitation projects, leading to more accurate cost estimates, improved project outcomes, and better resource allocation. This module will also support IPs to develop Water and Sanitation related project(s) while using various technical and social requirements for any village in Sindh.
   5.
c. The second stage will include vetting of designs, costs and plans submission by IPs through MIS- based module, followed by top supervision and bills verifications of 1,000 – 1,500 villages/settlements. This number can increase or decrease, based on average number of HHs in these settlements as the project is targeting 100,000 to 150,000 houses initially. The vetting and supervision will be conducted in a manner that classifies provision of water supply, sanitation, street pavement, drainage as climate smart and resilient services into 'prototype packages' which are rationally defined by a mix of parameters including: demography, safe water sources and their distances from population, water quality, ground water depths, wastewater treatment, recycling and conservation, land availability, soil conditions, and costs.

d. Moreover, based on desktop analysis, each classified package should provide a total cost of works if applied across all selected settlements (below 150 HH) to cover the whole project population that falls in this category in all the districts covered by SPHF in Sindh. **This shall be divided into 2 categories to determine the cost of the consultancy for design and supervision. First category included settlements with minimum 20 to maximum 75 housing units, and second category comprises of settlements with minimum 76 to maximum 150 units.**

3. Duration and Location of the Services

The duration of the assignment will be 36 months, and services will be required in 24 prioritized flood affected districts of Sindh province affect by the 2022 floods.

4. Scope of Services

The Consultants will be required to provide a comprehensive feasibility report capturing the various scenarios and technological options, with cost estimates and designs of technological options (including innovative technologies) of climate resilient WASH related interventions for at least 50 villages/settlements with different prototypes. Basic essential social, economic, financial, and environmental assessments will be part of the feasibility study and will also be integrated into the design assessment procedures. Furthermore, design review and vetting of the Climate Resilient WASH Project Digests (PDs) prepared/developed (through MIS based modules) by Implementing Partners for 1,000 to 1,500 settlements/villages initially (which can be increased or decreased depending upon coverage of housing units) along with bill verification and supervision.

It is expected that all schemes will be non-complex, comprising of small infrastructure works that can be undertaken by the communities themselves, and only top supervision would be required. The IP staff, trained by the consultants, will be responsible for working with communities for resident supervision. This specific project will focus on settlements with maximum 150 housing units. All settlements and villages more than 150 housing units shall be addressed through separate arrangements (which is outside the scope of this assignment) as they may require resident supervision due to complexity of intervention.

To determine the reliability of water as a source, the consultant/firm would also be required to carry out hydrology and water quality assessment to examine the aquifer characteristics (through test bores/trial bores and yield tests) on canal banks and existing groundwater sources (public or private). The consultant will also advise on the optimum rate of abstraction for resource sustainability, conduct a groundwater salinity assessment and do water quality testing including arsenic and other prevalent heavy metals reported in the area. Climate resilience will be integrated for all WASH related and settlement improvement interventions especially from rainwater flooding.

The said assignment would be carried out by high level of technical and scientific rigor and is expected to provide detailed documentation of testing methods, test locations (with GIS) and results along with the final assessment along with an MIS based Project Development Document Module(s).

5. **Details of Outputs of the Assignment**

1. **Preparation of Project Digests including Design Feasibility, and Cost Estimations**
   6.
   - Identification of villages/settlements in consultation with SPHF.
   - Comprehensive technical surveys, with designs and drawings, layout plans/base maps, bill of quantities and cost estimations, defining technical criteria, and outlining specifications for a range of water, sanitation, street pavement and drainage infrastructures with prototypes structures that are climate smart and resilient.
   - The proposed designs should be gender-sensitive and accessible to all.
   - Development of an MIS based Project Development Document Module (s) that has all essential features of different designs, its planning and reviewing process along with cost estimation, standardization and monitoring procedures.
   - Training/capacity building of technical staff of SPHF and IPs on PDD.
   - Vetting of PDD's prepared by IPs,

2. Implementation of Interventions:

- Top supervision (as per project documents) of works implemented by Community Institutions with technical assistance of Implementing Partners.
- Check, review and certify different milestones of payments submitted by the CIs through IPs
- Evaluate the final execution/completed facilities to verify that the implemented infrastructure meets specified standards.
- Provide recommendations for any necessary post-construction adjustments or improvements.
- Verify the final Bill of Quantities and assess the payment milestones in relation to the completed construction, ensuring accuracy and consistency. Cross-reference the bill with actual construction outcomes to validate cost estimates and project budget adherence.
- Provide reports to SPHF summarizing site visit findings, inspection outcomes, and advisory recommendations for effective project management and decision-making.

Furthermore, the consultants will extend advisory services to SPHF across the entire construction process, concluding in the successful completion of the Climate Resilient WASH Services and Settlement Plans.

Note: during the course of assignment the consultants will be required to visit villages and meet with community, the relevant offices of SPHF implementing partners. The consultants will be required to organize at least two consultative workshops for design and a quarterly review meeting for supervision from second quarter of the project implementation.

6. Detailed Description of Outputs and Task

Task 1: Preparation of Project Digests including Design Feasibility, and Cost Estimations

Design Feasibility

Village Profile: The consultants will conduct a detailed survey of each village to collect or update the following types of village data while taking into account accessibility, sustainability and safety of the services:

- **i)** **Demographics:** Population, number of settlements in the village and types of housing units and population density by settlement and overall context of vulnerability and social inclusion
- **ii)** **Location and Geography:** Spread and density of housing units, within settlement and overall, distance of specific settlements from neighboring villages, and average distance from the water source and even nearby drainage systems.
- **iii)** **Water resource:** Mapping of existing source(s) of water, water use patterns, quality of water, water availability in wet and dry seasons (through test bores/trial bores and yield tests (if needed)), and alternate sources (if any).
- **iv)** **Sanitation arrangements:** Explore the context of existing sanitation chain that includes type of facilities, containment, emptying transport, treatment and safe disposal and recycling of both liquid as well as solid waste management in the settlement.
- **v)** **Drainage:** Study and mapping existing and potential drainage channels and routes in the settlements as per topography and soil conditions, gravity based with zero to very low operation and maintenance costs, mechanism to address overflow and contamination of water sources, stormwater drainage, safe disposal, and recycling.
- **vi)** **Street Pavements:** Study internal pathways of the village and provide Paved pathways as per standard layering and required loads, pathways should also have appropriate slope and surface permeability in order to promote surface water runoff to drainage system during rainy seasons. Type and scale of tiling and bricks for street pavements as per soil conditions and topography of land, levelling parameters, landscaping, climate resilience, etc.
- **vii)** **Circulation Network and Nodes:** Study existing circulation pattern of village and its surrounding, and then design circulation pathways and key nodes such as black top roads for main vehicular access routes, proposing paved pedestrian circulation network within the village and improve existing circulation and efficient accesses within organic planning of the village.

Topographic and Technical Survey/ Assessment: A topographic mapping exercise with GSP coordinates (mainly gradient, level, location of housing units, public facilities i.e. schools, mosques, roads, streets etc.) through as built survey, catchment area maps along with disaster risk assessment, vulnerability analysis, hydrological maps, etc.

The maps generated and assessments conducted from these exercises will be utilized to plot the climate resilient WASH infrastructure that includes but not limited to proposed water, sanitation, drainage, and street pavement networks. A key consideration while designing the solution will be zero or very low operation and maintenance cost which can be arranged by the local communities if required. The technical survey will include parameters that will inform the design of the water supply infrastructure, water treatment/disinfection solutions, water supply transmission and distribution network including the storage and pressure-break tanks/reservoirs. The survey will also map the proposed sanitation system on the topographic maps including key fecal sludge collection catchments (mainly septic tanks and communal anaerobic baffled reactors), delivery network for fecal waste, wastewater and storm water (collection drains, sewers and appurtenances, main drains and sewers, premises connections), community managed treatment solutions, desludging options and water flush arrangements (low cost and energy efficient pumping for desludging points etc.) and safe disposal sites (agricultural land, land recharge sites, drains etc.)

Design and Costing of the Technological Solutions with innovations for WASH:

The consultants will be responsible for developing detailed engineering designs of selected priority investments that is climate and muti-hazard resilient. All designs will ensure minimum 15-liter per capita access to drinking water with minimum permissible level of water quality, essential levels of basic sanitation that means construction of environment friendly latrines with appropriate fecal management, etc. Requirements involve, but are not limited to, undertaking the following tasks and responsibilities for each investment: The designs for the technological solutions will adhere to engineering standards while also observing the SPHF's and Government guidelines. The design should include complete drawings for all the proposed mix of technological options including network diagrams, design of the small pumping machinery (that can be operated and maintained by the communities themselves) for water source, hydraulic profiles (both water and drainage systems) and CAD drawings for infrastructure and pipe networks (with cross-sections where needed). The designs should incorporate elements to address environmental and social concerns, to build resilience to climate change and natural hazards and ensure social inclusion. Based on the data from the village survey the firm will develop a low-cost community managed package and prototypes for each village to address the drinking water (abstraction, treatment, delivery, storage and distribution), sanitation (fecal waste and wastewater collection, delivery, treatment and disposal), drainage (circulation, stormwater management, etc.), and street pavement (layering, surface water run-off, sloping, etc.), efficient and community managed energy options and waste management.

The package will include:

i) **Technological solutions with innovations:** Selection of innovative technological solution based on the onsite situation and related water supply and fecal sludge treatment demand and other climate resilient WASH related interventions. Ensure that it meets WHO quality standards for drinking water and national environmental standards of effluents for fecal sludge treatment. The solutions will ensure minimum 15-liter per capita access to drinking water and outflow of sewage from houses. Specific recommendations for alternate sources to be made for selecting drinking water sources where water is neither brackish nor arsenic in order to minimize the costs of treatment.

ii) **Design:** Complete design of the proposed technological solutions including drawings, sections, and relevant engineering parameters. The proposed designs should be gender-sensitive and accessible to all and shall include the options to select suitable materials

and technologies for climate resilient WASH taking into account durability, maintenance needs, and environmental effects. This involves choosing materials and methods that are long-lasting, easy to maintain and have minimal impact on the environment.

iii) Environmental, Green and Social Safeguard:

a. Undertake environmental and social safeguard studies (including but not limited to IEE, land acquisition through voluntary donations only, and resettlement plans, health and safety management plan, gender action plan for the proposed investments,
b. Conduct energy requirement analysis for the overall project and the best suitable, community affordable and manageable, solutions must be recommended (inclusive of solarization), that have local support and minimum costs for O&M.
c. Consultant's inputs are specifically required on design aspects related to flood management, drainage, forestry, green spaces, reuse of liquid waste, grey water, and other ecosystem-based rural adaptation. Ensure that design and implementation of green infrastructure components are based on international best practices while remaining contextually responsive to the local needs.
d. Prepare and finalize the detailed engineering designs of priority schemes, technical specifications, detailed cost estimates (including costs for addressing environmental concerns based on Environmental, Health and Safety Management Plan (EHSMP). The detailed engineering designs should be prepared using integrated rural planning approach keeping the future needs in mind and new technologies, etc.

iv) Costing: Bills of quantities and cost estimates of the proposed technological solution based on the market rate compared with existing government standards (if needed). The cost estimates should account for both planned new works and the repair/rehabilitation of existing works for water supply, drainage, and waste-treatment infrastructure (if any). The costing should be based on acquired process from real market rates.

v) Life Cycle Cost Analysis (LCCA) and Economic Analysis: Aspire to achieve sustainable designs, that leverage indigenous eco-system (specially plant ecology) and local labor skillsets, have low life-cycle costs and are easy to maintain. Calculating the life cycle cost analysis including economic internal rate of return of proposed menu of climate resilient WASH and settlement plans that will include all costs associated with the system over its entire lifespan. This includes initial investment costs, operating and maintenance costs, as well as any future costs such as replacements or upgrades.

7. Overall Key Considerations: Develop a range of customized technological solutions and innovative technologies for different types of villages in the selected areas. Options may propose single village versus multi village solutions considering the factors of costs, proximity, availability, and accessibility. **Development of Training Materials and Modules for the IPs:** Develop training curriculum, materials and course that include designing procedures of key WASH related interventions with innovations, and costing methodologies while ensuring climate resilience, social inclusion and low cost and maintenance approaches.

8. Development of MIS-based Project Development Document Model(s) for Water and Sanitation projects

This shall be comprised of following sub modules/components of a MIS module for PDD:

Project Information Management/Robust WASH Dashboard: Centralized storage and management of project information including site details (including layout plan), design specifications, and cost estimation data based on prevailing market rates.
Data Integration: Integration of data from various sources including GIS data, topographic surveys, and water quality and soil analysis to inform the engineering design and estimation process.
Engineering Design Tools: Software tools for creating engineering designs/simulation for water supply and sanitation infrastructure, including pipelines, treatment plants, and various sanitation facilities.
Cost Estimation: Tools for estimating the costs of materials, labor, equipment, and other resources required for construction, operation, and maintenance of water and sanitation infrastructure. The module should support calculating the life cycle cost analysis (LCCA) of water supply and sanitation systems. The LCCA will include all costs associated with the system over its entire lifespan. This includes initial investment costs, operating and maintenance costs, as well as any future costs such as replacements or upgrades.
Risk Assessment: Modules will include the tools for assessing and mitigating risks associated with the design and construction of water and sanitation projects, including environmental risks, geological hazards, and budget overruns.
Budgeting and Financial Analysis: Tools for budgeting project costs, tracking expenses, and conducting financial analysis to ensure project feasibility and sustainability.
Collaboration and Communication: Features for collaboration and communication among project stakeholders, including SPHF, IPs, Community, and relevant public and private sectors.
Monitoring and Evaluation: Tools for monitoring project progress, tracking performance indicators, and evaluating the effectiveness of engineering designs and cost estimates.
Reporting and Documentation: Generation of reports, drawings, and documentation necessary for project planning, approval, and implementation. Any other tool as required by SPHF during the course of project implementation.

Task 2: Top Supervision of Construction/Execution Works

The Consultant, in close coordination with SPHF and Implementing Partners will perform the following tasks for **Vetting and Supervision** of climate-resilient community infrastructure construction work with a key focus on water supply, sanitation, street pavement, solar kits, etc.

- Review and endorse engineering designs and technical specifications, submitted by community institutions (CIs) through the partner organizations, based on agreed/approved criterion of resilience and design specifications.
- Review and approve the cost estimates including bill of quantities of submitted projects in light of technical specifications and parameters approved by SPHF in the system.
- Organize training and capacity development of the IPs in execution of proposed designs of WASH-related interventions with their costing, and procedures for ensuring operation and maintenance. Training will include how to conduct community need assessments and using MIS-based PDD for submitting the proposals, entering the data for tracking the progress and seeking technical advice where needed.
- Conduct review and approve the training materials for CIs and communities that are led by the Implementing Partners especially in the areas of monitoring the execution, operation and maintenance (O&M) of the newly constructed infrastructure; and compliance to Environmental, Health and Safety Management Plan (EHSMP) for all stakeholders.
- Assess the progress of the different initiatives undertaken for climate resilient community infrastructure and fulfilling settlement plans; check that the lines, levels, and layout of the

construction conform with those specified in the contract; and assess the adequacy of necessary inputs in material, labor, construction methods, and safety measures,

- Liaise with SPHF and implementing partners to ensure that required sites with all voluntary land acquisition have been addressed at the planning stage; and these are integrated into SPHF MIS to track the progress reporting and dashboard.
- Monitor the progress of subproject construction against the contractual construction schedules by developing and implementing a quality monitoring plan to ensure the works comply with the specifications in the contract documents regarding materials used, technical requirements, and economic life of assets.
- Undertake field visits to inspect the quality of work, guidance to the implementing partners and CIs in designing and implementing the projects where required. Maintain the records of all field visits.
- Check, review and certify applications for milestone payments submitted by the CIs through IPs and assist SPHF in claim management, including review, evaluation, recording claims, and resolving any contractual issues.
- Plan and review the final commissioning tests being conducted upon completion of each community construction package; approve the content of the O&M procedures and mechanisms.
- Evaluating and confirming CIs claims for cost increase or time extension, and contract variation orders.
- Report to SPHF and ADB on monthly basis on pre-agreed work plans. Prepare and maintain comprehensive monthly records and reports on formats acceptable to both SPHF and ADB. The monthly progress report must cover all the designs approved, reviewed and advised in addition to meetings and trainings held for the CIs and implementing partners. All reports shall be submitted in both hard and soft copies i.e. 3 hard copies and 1 CD with editable MS Office and PDF formats.
- Facilitate and participate in reviews meetings of SPHF and Partners to assess operations and financial performance and the forward plan for the upcoming period and provide necessary input where required.

11. Timelines for Deliverables

Deliverable Stage 1	Timeline
Inception Report	Month-1
Topographic and social survey report of ~50 villages/Settlements	Month 2-3
(i) Preliminary designs of selected Technological Options, (ii) customized bills of quantities, cost estimates and designs of the water and sanitation solutions for all the sample villages for water and sanitation, (iii) Draft Hydrologic assessment (including ERS, trial bores, salinity lens, water abstraction rates and analysis for tube well designs)	Month 3-4
Draft Project Digests (inclusive of cost estimates, sampling results, designs, costs, hydrologic assessment and feasibility) - in form and format acceptable to the SPHF, data set and consultation with key stakeholders included. The draft Project Digests with required modules. The Consultant would extend support and facilitation to Service Providers to be procured by SPHF separately for MIS development/ Recourse Planning Software	Month 3-7

with submission, review and approval process of system based developed Project Documents.	
Submission of **Final Project Digests** (inclusive of cost estimates, sampling results, designs, costs, climate and hydrologic assessment and feasibility)	Month 4-8
Deliverables Top Supervision, Vetting and Monitoring	
The firms are expected to bid separate unit costs for supervision, capacity building, vetting and monitoring of WASH related intervention (as described earlier) for settlement with houses ranging from 20 to 75 and the settlement with houses ranging from 76 to 150. Total target will be between 1000-1500 settlements, which can further increase or decrease depending upon size and spread of targets. A payment will be made for achieving a deliverable against each settlement (which will be multiplied with number of settlements that covered that deliverable). **For each settlement, below is schedule of payment for four deliverables/tasks:** • Report stating that X number of PDs of IPs reviewed, vetted and approved that have detailed Bill of Quantities with approved designs. 25% of the settlement cost. • Payment Verification Report stating Implemented PDs verified for payments for their respective stages (three stages of payments each stage with 15% payments)- 45% of the settlement cost. • Site visit Report, stating number of sites physically monitored and reported independently on monthly basis (minimum 10% of executed projects)- 15% of the settlement cost. • Completion Reports of the Interventions verifying that the completed schemes meet their agreed standards and specifications (desk review of all completed projects with certificates). -15% of the settlement cost.	6-36 months

12. Reporting Requirements

SR.	Report
1.	An **Inception Report**, which covers at least initial findings and the work program including staffing plan and schedule for approval by SPHF and ADB, 2 weeks after commencement of services.
2.	**Monthly progress report**s (contents include at least briefing details of the works carried out during the previous month, problems encountered or anticipated, together with steps taken or recommendations for their correction, and financial and physical progress to date) within 10 days after each month subsequently.
3.	**Quarterly progress report**s (at least including detailed description of the achieved progress of works, difficulties and delays encountered or anticipated, contract awards and disbursement status, payments to the consultants and contractors, and remedial

	actions taken or suggested, the overall progress, and plan for the upcoming quarter) within 14 days after each quarter subsequently:
4.	A **project completion report** (covering at least detailed description of all the work by items of technical and non-technical matters, As-Built drawings, economic analysis, financial and disbursement data, analyses, difficulties and delays encountered and reasons, and remedial actions taken, the overall progress of the Project, including recommendations to PMU and ADB) one month after the contract of consulting services completed

13. Consultant's Qualification

The consultant should be a reputable firm able to demonstrate significant experience in carrying out feasibility and research studies in climate resilient WASH related interventions in South Asia, and particularly in Pakistan. Prior experience in rural setting of Pakistan in a similar role would be ideal. Moreover, the firm should be able to demonstrate significant experience carrying out project feasibility studies in the water and sanitation sector in Sindh. The firm should be credibly positioned to carry out a detailed review at the intersection of engineering, hydrology, social sciences and public policy.

The firm must furnish the following information:

(i) Corporate Capacity (Core business and years of experience in same business for at least 10 years);
(ii) At least three (3) similar assignments completed in the last five years indicating the nature and scope of these assignments to be comparable with scale and volume of funds to this assignment.
(iii) The logistical capacity of firm and;
(iv) Number of technically qualified staff

Experience of executing the large public sector projects, preferably funded by multilateral development partners would be an added advantage.

14. Team Composition

The Consultant shall provide, for the duration of the entire assignment, a team of national experts who are experienced in, (i) Designing the land use and developing WASH Systems in the rural and small settlements ((iii) construction supervision of civil works related to community infrastructure
A total of **1,998 person-months** including **810 person-months** for the National Key Experts; **1,188 person-months** for National Non-Key experts; The assignment is output based. Below are the required experts with their level of efforts.

S.No	Position	Positions	P.M	Quantity
Key Staff – National		**26**	**432**	**810**
1	Project Leader/Manager for Task 1 and Task 2	1	36	36
2	Deputy Leader/Manager for Task 1 and Task 2	1	36	36
3	WASH Engineers- two for Water and two for Sanitation	4	36	144
4	Design and Costing Engineering Expert	2	36	72

5	Urban/Land Use Planner	1	36	36
6	Climate Change Expert	2	36	72
7	Capacity Development and Training Expert	2	36	72
8	Social Safeguard and Gender Expert	2	18	36
9	Environmental Expert / Engineer	2	18	36
10	Economist	1	18	18
11	Geotechnical Engineer	2	18	36
12	GIS Expert	2	36	72
13	Hydrologist	2	36	72
14	IT Expert for MIS Module Development	2	36	72
Non-Key Staff – National		**34**	**378**	**1188**
15	Solar Engineer	2	36	72
16	Material/ Mechanical Engineer	2	18	36
17	Water Quality and Wastewater Technicians	4	36	144
18	Survey Engineer/Technical Surveyors	4	36	144
19	Research and Data Analysts	4	36	144
20	Surveyors	4	36	144
21	Data Entry Operators	4	36	144
22	CAD Draftsperson and GIS operators	4	36	144
23	IT Officers for MIS and IT support	2	36	72
24	Planning & Scheduling Engineer	2	36	72
25	HSE Engineer	2	36	72
TOTAL		**60**	**810**	**1998**

15. Qualifications, Roles, and Responsibilities

The required qualifications and experience of the key experts and the key tasks they are expected to undertake are provided in **below table.**

National Key Staff			
Sr.	**Position Title**	**Expected Qualification**	**Scope of Work**
1	**Team Leader/ Project Manager** **1 position** (Continuous-36 months)	9. Qualification and Experience	Master's degree in engineering (civil, environmental, urban planning, rural development, project management or relevant) with minimum 15 years of proven experience in relevant field and is knowledgeable about climate resilience and sustainability. Extensive experience in project coordination, planning, vetting, and execution. Demonstrated ability to align conceptual designs with project goals and requirements. Proven track record of managing timelines, budgets, and resources (technical and financial) effectively. Experience of working with vast clientele and within rural areas
		10. Responsibilities	The Team Leader/ Project Manager will oversee the organization, conduct, and delivery of consultancy services for this assignment, and ensure satisfactory reporting to the SPHF. As the head of the Consultants' team, they will directly manage the project and maintain liaison. Additionally, they will provide guidance to the teams responsible for both task 1 and 2, ensuring effective management and implementation of their respective tasks along with coordination with the project staff and stakeholders. Expected responsibilities of the Expert will include but are not limited to the following. The details of responsibilities of the Project Manager for **Task 1** are as below: 1. Lead overall coordination and planning of task 1 activities and ensure that climate resilience

			considerations are incorporated in the project. 2. Oversee preparation of project digests, ensuring technical feasibility and cost-effectiveness. 3. Supervise project team, providing guidance and support for effective collaboration. 4. Liaise with stakeholders to gather necessary data and ensure alignment of project objectives. 5. Ensure design solutions meet quality standards and are gender-sensitive and accessible. 6. Ensure compliance with national/international regulations, SPHF requirements and cultural norms of the area. 7. Monitor project budgets and expenditures, ensuring efficient resource use. 8. Prepare progress reports highlighting achievements, challenges, and recommendations. The details of responsibilities for **Task 2** are provided as below: 1. Provide top supervision during implementation of WASH infrastructure rehabilitation project, offering expert advice and solutions. 2. Ensure that the project is implemented based on the findings of the design and pre-feasibility phase so that lesson learned are incorporated and infrastructure is ensured to be climate resilient. 3. Review technical submittals, conduct inspections, and verify completed construction projects for quality assurance and quality control. 4. Verify final Bill of Quantities, endorse interim payments, and ensure adherence to project budget. 5. Provide recommendations for adjustments or improvements, and document findings.

			6. Maintain detailed records, prepare reports summarizing project progress and key findings.
2	**Deputy Team Leader/ Deputy Project Manager** **1 position** (Continuous- 36 months)	11. Qualification and Experience	Master's degree in engineering with minimum 12 years of experience in W&S sector and additional knowledge of climate resilient W&S programs Strong background in project coordination, planning, and execution. Ability to ensure conceptual designs aligned with project goals and requirements. Proficient in managing timelines, budgets, and resources including both technical and financial resources. Experience of working with vast clientele and within rural areas
		12. Responsibilities	The Deputy Team Leader/ Deputy Project Manager will oversee the organization, conduct, and provide delivery of consultancy services for this assignment, and ensure satisfactory reporting to the SPHF. They will manage the project in accordance with guidance provided by team leader and, in the absence of the project manager, act in their stead. Additionally, they will co-supervise the teams responsible for both task 1 and 2, ensuring effective management and implementation of their respective tasks along with coordination with the project staff and stakeholders. Expected responsibilities of the Expert will include but are not limited to the following. The details of responsibilities of the Deputy Project Manager for **Task 1** are as below: 1. Assist in overall coordination and planning of Task 1 activities and assist the Team Leader/Project Manager in ensuring the climate resilience perspective of the project. 2. Ensure effective day-to-day management of works. 3. Support in preparation of project digests, ensuring alignment with project goals. 4. Collaborate with the project team, provide assistance and support as needed and ensure compliance with national/international regulations,

			SPHF requirements and cultural norms of the area. 5. Participate in stakeholder meetings, contributing to gathering necessary data and ensuring stakeholder alignment with project activities. 6. Assist in ensuring design solutions meet quality standards and are gender-sensitive and accessible. 7. Support in monitoring project budgets and expenditures to ensure efficient resource utilization. 8. Contribute to preparing progress reports and highlighting key insights and recommendations. The details of responsibilities of the Deputy Project Manager for **Task 2** are as below: 1. Provide assistance in form of reporting to the Team Leader and supervising the staff during execution of WASH infrastructures, addressing technical queries and concerns. 2. Ensure effective day-to-day management of works. 3. Assist in reviewing technical submittals, conducting inspections, and verifying completed construction projects. 4. Support in verifying final Bill of Quantities, certifying interim payments, and ensuring adherence to project budget. 5. Participate in providing recommendations for adjustments or improvements, and documenting site visit findings. 6. Contribute to maintaining detailed records and preparing reports summarizing project progress and key findings.
3	**<u>Water and Sanitation Engineers</u>** **4 positions**	13. Qualification and Experience	Master's degree in civil engineering or any other relevant field Expert of Water Sanitation and Hygiene with minimum 10 years of proven experience Practical experience of design and implementation of rural water supply projects (preferably groundwater projects)

	(Continuous- 36 months)		Proven experience of hydrogeological studies and water quality monitoring exercises Well-versed in design standards and national/international regulations
		14. Responsibilities	The Water and Sanitation Engineer will perform technical feasibility of the project and will perform tasks including but not limited to following. The details of responsibilities of the Water and Sanitation Engineer for **Task 1** are as below: 1. Assess technical feasibility and propose innovative solutions for water and sanitation infrastructure ensuring adherence with cultural norms and climate resilience strategies. 2. Work with other engineers and stakeholders to ensure designs meet standards and regulations for water supply, sanitation, and street pavement infrastructure. 3. Utilize experience in designing and implementing rural water supply projects, including groundwater-based systems. 4. Conduct hydrogeological studies and water quality monitoring exercises. 5. Ensure designs address environmental and social concerns and comply with regulations. The details of responsibilities of Water and Sanitation Engineer for **Task 2** are as below: 1. Ensure proposed designs are gender-sensitive and accessible to all specially marginalized and vulnerable groups. 2. Provide expert advice and solutions to address technical queries during construction phase and conduct additional hydrogeological studies and water quality monitoring exercises when required. 3. Review technical submittals, conduct inspections, and verify completed construction projects

			meet standards set up by SPHF/national/international. 4. Propose innovative technologies to enhance water and sanitation infrastructure. 5. Maintain detailed records of site visits, inspections, and recommendations. 6. Work with project team to ensure effective project management and decision-making.
4	**<u>Design Engineer and Costing Expert</u>** **2 positions** (Continuous- 36 months)	15. Qualification and Experience	Bachelor's degree or equivalent in Civil Engineering or relevant discipline Minimum 10 years of experience in designing, costing, and estimation of rural water and sanitation projects, preferably in Sindh Expertise in cost estimation principles in government-led projects Knowledge of national systems and regulations Strong proficiency in design software and tools 16.
		17. Responsibilities	The Design Engineer and Costing Expert will evaluate the environmental impact of the proposed WASH facilities. The responsibilities of the expert will include but are not limited to following tasks. The details of responsibilities of the Design Engineer and Costing Expert for **Task 1** are as below: 1. Develop complete designs and cost estimations for rural water and sanitation projects. 2. Apply knowledge of cost estimation principles and national systems to ensure accurate estimates. 3. Incorporate innovative solutions into designs to enhance effectiveness and efficiency. 4. Ensure designs adhere to engineering standards and government guidelines. 5. Integrate sustainable and eco-friendly design solutions into project proposals.

			6. Work with stakeholders to ensure designs meet project goals and requirements. The details of responsibilities of the Design Engineer and Costing Expert for **Task 2** are as below: 1. Evaluate technical submittals and completed construction projects for accuracy and compliance. 2. Provide oversight to ensure construction work meets specified standards and specifications. 3. Verify Bill of Quantities and certify interim payments to ensure adherence to project budget. 4. Offer suggestions for post-construction adjustments or improvements based on project outcomes. 5. Maintain records of site visits, inspections, and advisory interactions for documentation and reference purposes.
5	**Urban/Land-use Planner** 1 position (Continuous- 36 months	18. Qualification and Experience	At least a master's degree in urban/land-use planning, urban development or other related discipline from HEC recognized university. Minimum 12 years of experience in regional and urban planning, urban renewal and rehabilitation, policy and management, infrastructure need assessments, institutional analysis, program, and project development. Demonstrated ability to supervise a team of experts, interface with the team. Proven ability of working with multiple stakeholders (including government, private, and development partner agencies) Fluent oral and written communication skills in English
		19. Responsibilities	The Urban/Land-use Planner will conduct land-use assessments, design circulation pathways, and identify key nodes for efficient access. They will integrate stakeholder needs, assess transportation advancements, and ensure alignment with project objectives.

			Expected responsibilities of the Expert will include but are not limited to the following. • Conduct land-use planning assessments. • Prepare landscape design for climate resilience, integrating sustainable and adaptive strategies such as plantation for resilience, green public spaces, native plantings, pedestrian-friendly pathways, community gardens, water features and ponds, recreational areas, sustainable infrastructure, agroforestry, food forests, water harvesting and conservation, drought-tolerant/flood-soaking plantation, composting, and soil health. • Analyze infrastructure needs and develop strategies for urban renewal and rehabilitation. • Supervise a team of experts and ensure timely delivery of planning outputs. • Assist in development of Develop climate resilience, adaptability and change plan. • Interface with stakeholders to incorporate their needs into planning processes. • Design circulation pathways and internal pathways within the village. • Assess transportation types and technological advancements relevant to land-use planning. • Identify key nodes for efficient access within the organic planning of the village
6	**<u>Climate Change Expert</u>** 2 positions (Continuous-36)	20. Qualification and Experience	Advanced university degree in natural resource management, agriculture, rural development, climate change, or related field from an HEC recognized university. minimum 10 years of experience in identifying climate change scenarios, conducting vulnerability assessments, and integrating climate risks into development plans. Fluent in oral and written English language communication skills.

		21. Responsibilities	The Climate Change Expert will identify climate change impacts, integrate resilience measures, and assess potential hazards. They will provide input on transportation and housing improvements, ensuring alignment with climate goals. Expected responsibilities of the Expert will include but are not limited to the following. • Identify climate change impacts and adaptation measures relevant to the project area. • Conduct stakeholder consultations to understand local climate change concerns. • Support the design of adaptation measures and training programs for communities. • Integrate climate resilience into the overall project plan. • Assess potential disasters, hazards, and mitigation strategies. • Assist other team members in developing and suggesting climate resilient technologies. • Assist in development of Develop climate resilience, adaptability and change plan. • Provide input on transportation types, housing improvements, and energy conservation from a climate change perspective. • Support the identification of the underlying problem analysis (root-causes, preferred solution, barriers, and project specific interventions. • Support the design of the adaptation measures and prepare pre- feasibility studies and costs-benefits analysis for adaptation measures to be supported by the project. Identify and validate relevant national and regional development plans that need to integrate climate risks and related methods.
7	**Capacity Development and Training Expert** **Two positions**	22. Qualification and Experience	University degree or relevant qualification in social sciences preferably psychology, media, communication, from HEC recognized university. Minimum 10 years of work experience in capacity development and training in development sector. Having

	Continuous 36 months		experience in WASH training curriculum and trainings will be advantage. Proficient in organizing training and need assessment with curriculum development and IT based learning management approaches. Excellent oral and written communication skills in English and Sindhi
		23. Responsibilities	The Capacity Building and Training Expert will lead on conducting needs assessment, developing training curricula and materials followed by delivery of training to the IPs and community institutions at the community levels. Also facilitating on rolling out and capacitating O&M procedures. Expected responsibilities of the Expert will include but are not limited to the following in both stages • Work with design teams to identify the innovation and skills to be transferred. • Develop training manuals and materials for different designs and costing procedures to be imparted to the IPs and CIs. • Conduct the need assessments of the IPs and CIs to determine capacity gaps in terms of skills, knowledge and practices. • Refine the training manuals in light of need assessments conducted to have better design and supervision. • Organize and conduct training of IP staff and CIs in identified areas with a key focus on managing community infrastructure implementation, monitoring and ensuring O&M services. • Strengthen the skills of community and social mobilization of CIs and IPs through training and experience sharing. • Develop KPIs for sustainability in the context of knowledge and skills of IPs and communities and track the progress periodically.

8		24. Qualification and Experience	Graduate degree or relevant qualification in social safeguards, Gender and/or social development studies from HEC recognized university. Minimum 10 years of work experience in social development Adept in collecting baseline socioeconomic data and assessing social impacts of projects and activities. Excellent oral and written communication skills in English and Sindhi
	Social Safeguards and Gender Specialist 1 position Continuous- 9 months and 9 months intermittent)	25. Responsibilities	The Social Safeguards Specialist will collect socioeconomic data, assess social impacts, and target vulnerable groups for inclusion. They will prepare due diligence reports, facilitate stakeholder engagement, and ensure compliance throughout the project. Expected responsibilities of the Expert will include but are not limited to the following. • Collect baseline socioeconomic data and assess social impacts of the project. • Develop measures to address social impacts and ensure social inclusion in project activities. • Prepare due diligence reports on indigenous peoples/ethnic minorities, if applicable. • Assess potential benefits and impacts to local people and prepare a due diligence report on indigenous peoples/ethnic minorities. • Facilitate community involvement in project planning and implementation. • Develop measures to specifically target women, poor, and vulnerable groups for project activities. • Assist in development of Develop climate resilience, adaptability and change plan.
9	**Economist** 1 position 18 months (Intermittent)	26. Qualification and Experience	Advanced University degree in Economics with minimum 10 years of experience conducting economic appraisals, analysis and life cycle assessments. Experience in analyzing socioeconomic data, financial and economic data. Excellent oral and written communication skills in English and Sindhi are highly desirable.

		27. Responsibilities	The Economist will lead on conducting Life Cycle Cost Analysis and other key economic analysis of WASH related interventions by using primary and other secondary data from the project areas. Expected responsibilities of the Expert will include but are not limited to the following. • Collect and collate essential socioeconomic data from the project and communities. • Conduct life cycle cost analysis of different WASH innovations proposed. • Lead on economic appraisal and cost-benefit analysis of different initiatives in the communities. • Contribute to due diligence reports for the partnerships and engagement with communities. • Develop the tools to track economic benefits and contributions.
10	**<u>Environmental Engineer</u>** **2 positions** Intermittent	28. Qualification and Experience	Master's degree in engineering with over 20 years of experience in relevant field Minimum 10 years of experience in evaluating environmental impacts and ensuring compliance with regulations and standards of eco-friendly and green infrastructure. Ability to recommend sustainable and eco-friendly design solutions. Proficiency in environmental assessment methodologies Strong communication and interpersonal skills 29.
		30. Responsibilities	The Environmental Engineer will evaluate the environmental impacts of the proposed WASH facilities, the expected responsibilities include but are not limited to following. The details of responsibilities of the Environmental Engineer for **Task 1** are as below: 1. Evaluate the environmental impacts of proposed WASH facilities. 2. Ensure project compliance with environmental regulations and standards.

			3. Recommend eco-friendly design solutions to minimize environmental impact. 4. Ensure proposed designs are gender-sensitive and accessible to all. 5. Work with project team to integrate environmental considerations into project designs. 6. Utilize expertise in environmental engineering to address project challenges. The details of responsibilities of the Environmental Engineer for **Task 2** are as below: 1. Provide expert advice and solutions to address environmental concerns during construction phases. 2. Review technical submittals and completed construction projects to ensure environmental compliance. 3. Maintain detailed records of environmental assessments and project-related activities. 4. Prepare reports summarizing environmental findings and recommendations for effective project management.
11	**<u>Geo-technical Engineer2</u>** **2 positions** Intermittent	31. Qualification and Experience	Master's degree in engineering with a minimum of 10 years of experience in relevant field. Expertise in conducting soil investigations and well-versed with foundations and structural stability. In-depth understanding of soil properties and their implications on infrastructure. Proven track record in geotechnical engineering projects.
		32. Responsibilities	The Geo-technical Engineer will conduct soil investigations to assess the soil properties and their expected responsibilities for the assignment will include but are not limited to the following. The details of responsibilities of Geo-technical Engineer for **Task 1** are as below: 1. Conduct soil investigations to assess soil properties and provide foundation

			recommendations and considerations regarding climate resilience. 2. Evaluate soil conditions to ensure structural stability of water and sanitation infrastructure and street pavements. 3. Apply expertise in geotechnical engineering to inform design decisions and solutions for encountered problems. 4. Work with project team to integrate geotechnical considerations into project designs. 5. Utilize extensive experience in relevant field to address project challenges effectively. 6. Ensure designs meet national and international regulations and standards. The details of responsibilities of Geo-technical Engineer for **Task 2** are as below: 1. Provide expert advice and solutions to address geotechnical challenges during construction phases. 2. Review technical submittals and completed construction projects to ensure adherence to geotechnical specifications. 3. Maintain detailed records of soil investigations, recommendations and their incorporation, and other project-related activities. 4. Prepare reports summarizing geotechnical findings and recommendations for effective project management.
12	**GIS Specialist** **2 positions** (Continuous-36 months)	33. Qualification and Experience	MSc/BS in Computer Science with minimum 10 years of experience in GIS/Geography/Remote Sensing Proficiency in Geographic Information System (GIS) tools Experience in analyzing spatial data and its utilization for site selection and planning. Strong knowledge of GIS software and techniques for collecting spatial

			data
		34. Responsibilities	The GIS Specialist will use spatial data for assisting in selection of suitable sites for water and sanitation infrastructure as well as street pavements. The expected responsibilities of the GIS Specialist will include but are not limited to the following. The details of responsibilities of GIS Specialist for **Task 1** are as below: 1. Use GIS tools to analyze spatial data for site selection and planning of WASH facilities. 2. Apply expertise in GIS, geography, and remote sensing to support project activities. 3. Work with project team to integrate GIS considerations into project designs and planning. 4. Utilize extensive experience in GIS and remote sensing to address project challenges effectively. 5. Ensure GIS analyses comply with relevant regulations and standards. 6. Explore innovative GIS techniques to enhance project outcomes and efficiency. The details of responsibilities of GIS Specialist for **Task 2** are as below: 1. Provide expert advice and solutions to address GIS challenges during construction phases. 2. Review GIS outputs and completed construction projects to ensure accuracy and compliance. 3. Maintain detailed records of GIS analyses, recommendations, and project-related activities. 4. Prepare reports summarizing GIS findings and recommendations for effective project management.
13	**<u>Hydrogeologist</u>** **2 positions**	35. Qualification and Experience	Master's degree or equivalent in Hydrogeology or related field with minimum 10 years of proven experience

	(Continuous- 36 months)		Proven working knowledge of hydrogeological conditions in Pakistan, particularly Sindh province. Experience in irrigation, water supply, sanitation, and hygiene sectors. Strong analytical and problem-solving skills Knowledge and work experience in rural areas will be preferred
		36. Responsibilities	A seasoned hydrogeologist with experience in Pakistan and preferably knowledge of hydrogeological situation of Sindh will have expected responsibilities including but not limited to the following. The details of responsibilities of the Hydrogeologist for **Task 1** are as below: 1. Conduct hydrogeological studies to understand groundwater conditions and availability. 2. Monitor water quality to ensure compliance with standards and regulations. 3. Apply expertise in hydrogeology to assess water resources and propose solutions considering climate change impacts. 4. Work with project team to integrate hydrogeological considerations into project designs including climate resilience. 5. Ensure designs meet national and international regulations and standards. 6. Utilize extensive experience in hydrogeology to address project challenges effectively. The details of responsibilities of the Hydrogeologist for **Task 2** are as below: 1. Provide expert advice and solutions to address hydrogeological challenges during construction phases. 2. Review technical submittals and completed construction projects to ensure adherence to hydrogeological specifications. 3. Maintain detailed records of hydrogeological studies, recommendations, and project-

			related activities. 4. Prepare reports summarizing hydrogeological findings and recommendations for effective project management.
14	**IT Expert for MIS Module Development 2 positions** (Continuous-36 months)	37. Qualification and Experience	MSc/BS in Computer Science with minimum 10 years of experience in developing databases, online applications for data collection and reporting. Experience in developing MIS modules for project management with integration shall be preferred.
		38. Responsibilities	IT Expert for MIS development will use spatial data for assisting in selection of suitable sites for water and sanitation infrastructure as well as street pavements. The expected responsibilities of the IT will include but are not limited to the following: Assess the information needs of the different parts of the life cycle of WASH interventions, integration and reporting obligations. Design a MIS information system model (Database structure and information flow); and MIS hardware network. Select and prepare a user friendly MIS platform/dashboard including back-end and frontend software Design and prepare the MIS operational manual. Introduce an integrated web-based MIS system for all levels of project cycle of climate resilient WASH from identification of

			projects, designing, reviewing, vetting, approval, monitoring, verification and final assessment. Develop relationships, provide on-going liaison to ensure information flows are established and maintained, and help reinforce capacity of partners in the collection. of data according to standardized practices.
15	**Solar Engineer** **2 positions** (Continuous- 36 months)	39. Qualification and Experience	Bachelor's or Master's degree in Electrical, Environmental, Renewable Energy Engineering or relevant field Minimum 10 years of experience in solar energy system design, installation, and maintenance Experience with off-grid and grid-tied solar photovoltaic (PV) systems Proficiency in solar energy software tools and simulation programs Knowledge of local regulations and standards related to solar energy installations
		40. Responsibilities	The Solar Engineer will conduct feasibility studies and implement solar energy solutions for water, sanitation, and street pavement infrastructure. With expertise in solar energy systems, they will ensure the integration of sustainable and efficient solar technologies to meet project goals. The expected responsibilities of the Solar Engineer include but are not limited to following. The details of responsibilities of the Solar Engineer for **Task 1** are as below: 1. Conduct comprehensive feasibility studies to assess the viability of integrating solar energy into water supply, sanitation, and street pavement infrastructures. 2. Provide innovative engineering solutions for the design and implementation of solar energy systems, optimizing efficiency and sustainability and ensuring climate resilience. 3. Work closely with project stakeholders to integrate solar energy solutions into

			infrastructure designs while ensuring alignment with project objectives. 4. Ensure solar energy systems comply with relevant regulations, standards, and safety requirements. 5. Assess and address technical, financial and technological challenges and optimize system performance. The details of responsibilities of Solar Engineer for **Task 2** are as below: 1. Offer expert technical support during the construction phase, resolving any solar energy-related issues and ensuring smooth implementation. 2. Conduct thorough inspections and quality checks to verify the proper installation and functioning of solar energy systems, maintaining high standards of performance and reliability. 3. Maintain detailed documentation of solar system installations, inspections, and recommendations for future reference and project evaluation. 4. Prepare comprehensive reports summarizing solar energy system performance, highlighting achievements and areas for improvement to facilitate informed decision-making.
16	**Material and/or Mechanical Engineer** **2 positions** Intermittent	41. Qualification and Experience	Bachelor's degree or equivalent in Mechanical/Material Engineering or relevant subject Minimum 10 years of experience in water supply and sanitation systems. Expertise in the use of appropriate design materials Strong knowledge of mechanical engineering principles Ability to contribute to the development of cost-effective and sustainable design solutions

		42. Responsibilities	Material and Mechanical Engineer will be responsible for water supply, sanitation systems and street pavement infrastructures and use of appropriate design material. The expected responsibilities of the Material and/or Mechanical Engineer will include but are not limited to following. The details of responsibilities of Material and/or Mechanical Engineer for **Task 1** are as below: 1. Identify appropriate materials for water supply, sanitation systems and street pavement infrastructure based on design requirements. 2. Design mechanical components of infrastructure such as pumps and treatment systems. 3. Apply knowledge of materials and mechanical engineering to ensure robust and efficient design solutions. 4. Work with project team to integrate material and mechanical considerations into project designs. 5. Utilize experience in water supply and sanitation systems to address project challenges effectively. 6. Ensure materials and mechanical designs comply with relevant regulations and standards. The details of responsibilities of Material and/or Mechanical Engineer for **Task 2** are as below: 1. Provide expert advice and solutions to address material and mechanical challenges during construction phases. 2. Review material specifications and mechanical designs to ensure adherence to standards set by the SPHF/national/international. 3. Maintain detailed records of material selection, mechanical design, and project-related activities. Prepare reports summarizing material and mechanical findings and recommendations

			for effective project management.
17	**<u>Water Quality and Wastewater Engineer</u>** **4 positions** (Continuous-36 months)	43. Qualification and Experience	Bachelor's degree or equivalent in relevant subject. Minimum of 5 years of experience in field testing of water samples using field-testing kits. Proficiency in water quality and wastewater testing methodologies. Ability to work effectively in a team environment.
		44. Responsibilities	A team of junior water quality and wastewater testing experts responsible for conducting field testing of water samples using the field-testing kits. The expected responsibilities of the Water Quality and Wastewater Engineer will include but are not limited to the following. The details of responsibilities of Water Quality and Wastewater Engineer for **Task 1** are as below: 1. Conduct field testing of water samples using appropriate testing kits. 2. Assess wastewater quality and quantity to inform design solutions. 3. Apply knowledge of water quality and wastewater management to propose solutions and integrate climate resilience into planning. 4. Work with project team to integrate water quality considerations into project designs. 5. Utilize experience in water quality testing and wastewater analysis to address project challenges effectively. 6. Ensure water quality and wastewater management activities comply with relevant regulations and standards. The details of responsibilities of Water Quality and Wastewater Engineer for **Task 2** are as below: 1. Provide expert advice and solutions to address water quality and wastewater challenges during

			construction phases. 2. Review water quality and wastewater testing results, ensuring accuracy and compliance. 3. Maintain detailed records of water quality and wastewater analysis, recommendations, and project-related activities. 4. Prepare reports summarizing water quality and wastewater findings and recommendations for effective project management.
18	**<u>Technical Surveyors</u>** **4 positions** (Continuous-36 months)	45. Qualification and Experience	Bachelor's degree or equivalent in relevant field Minimum 5 years of experience working on technical aspects of water supply systems Proficiency in conducting field testing for water and soil, irrigation water assessments, and topographic surveying Strong understanding of irrigation, canal-based, and groundwater water supply systems
		46. Responsibilities	A team of technical surveyors with background in carrying out field testing for water and soil, irrigation water assessments and topographic surveying for water and sanitation infrastructure as well as street pavements. The expected responsibilities of the Technical Surveyors will include but are not limited to the following. The details of responsibilities of Technical Surveyors for **Task 1** are as below: 1. Conduct technical surveys for irrigation, canal-based, and groundwater water supply systems and ensure adherence to cultural norms. 2. Gather data on water and soil conditions, irrigation water assessments, and topographic surveying for water and sanitation infrastructure and street pavement. 3. Apply knowledge of surveying techniques to inform design decisions and solutions.

			4. Work with project team to integrate surveying considerations into project designs. 5. Utilize experience in technical surveying to address project challenges effectively. 6. Ensure surveying activities comply with relevant regulations and standards. The details of responsibilities of Technical Surveyors for **Task 2** are as below: 1. Provide expert advice and solutions to address surveying challenges during construction phases. 2. Review survey data and completed construction projects to ensure accuracy and compliance. 3. Maintain detailed records of survey findings, recommendations, and project-related activities. 4. Record findings and summarize survey results and recommendations for effective project management.

16. Facilities/Support

The SPHF will share information it possesses, as appropriate. The consultancy firm will make its own arrangements in terms of offices, work equipment, travel, accommodation and other requirements to complete this assignment.

17. Procurement

The Consultant will be selected in accordance with the **Quality and Cost Based Selection (QCBS) criterion with 80-20 ratio,** in accordance with ADB's Procurement Guidelines (as amended from time to time). Provisional sums have been included in the consultancy agreement for procurement of various requirements that will support the project. SPHF will be responsible for preparing the exact implementation arrangements, TORs, specifications, and detailed cost estimates of the procurement which will be approved by SPHF Senior Management Committee before initiating procurement.

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