

Integrated Flood Resilience and Adaptation Project (IFRAP)

Restoration of Flood Protection Bund Gandawah Town Left-Right Side

(Package-VI)

EXECUTIVE SUMMARY

1. PROJECT BACKGROUND

Balochistan, the largest province of Pakistan, remains one of the most water-stressed and climate-vulnerable regions of the country. Its fragile irrigation infrastructure, arid climate, and dispersed rural settlements make it highly susceptible to both droughts and floods. The catastrophic monsoon floods of 2022 caused extensive damage to dams, irrigation systems, and flood protection infrastructure, disrupting livelihoods, destroying crops, and endangering rural communities.

In response, the Government of Pakistan, with financial assistance from the World Bank, launched the Integrated Flood Resilience and Adaptation Project (IFRAP) under the broader *Post-Flood 2022 Reconstruction Programme: Resilience Enhancement and Livelihood Diversification in Balochistan*. IFRAP aims to restore and strengthen the province's water and flood management systems, enhance agricultural productivity, and integrate climate resilience into infrastructure planning and implementation.

Initially, 55 sub-projects were included in the PC-I under the Integrated Flood Resilience & Adaptation Project (IFRAP). During initial surveys twenty (20) sub-projects couldn't meet the World Bank's selection criteria given in Project Appraisal Document (PAD), hence, dropped, whereas the remaining thirty-five (35) sub-projects were shortlisted for detailed design.

These Thirty-five (35) shortlisted sub-projects as shown in Figure -1-1 below are located in 19 Districts of Balochistan, including Districts Awaran, Lasbela, Hub, Naseerabad, Jaffarabad, Sohbat Pur, Jhal Magsi, Harnai, Musakhel, Sibi, Kachhi, Killa Saifullah, Pishin, Ziarat, Kalat, Mastung, Kharan, Nushki, and Washuk. The portfolio consists of 11 dams /storage structures, 11 Perennial/ Flood Irrigation schemes, and 13 flood protection structures, which have been grouped in thirteen Packages. The Restoration of Flood Protection Bund Gandava Town left and right side, in District Jhal Magsi is one of the sub-projects being implemented under Package-VI of IFRAP to protect local settlements and agricultural lands from recurrent flood events.

The Restoration of Flood Protection Bund Gandava Town (left and right side), District Jhal Magsi, lies at approximately 28°36'57.15"N and 67°28'47.13"E near Gandava (Main City), Syed Farooq, Siddiq Muhallah, Darga Town and surrounding rural settlements. The works comprise restoration/strengthening of the existing flood protection bund, including site clearance within the approved footprint, earthwork excavation and filling, layer-wise compaction, dressing of bund top and side slopes, UV-stabilized polypropylene geotextile, stone pitching, gabion/apron protection along the toe, erosion/scour protection and restoration of temporary work areas. Design parameters recorded for the scheme include a catchment area of about 8,136 km², crest width of 6.0 m, side slopes of 2H:1V and scour depth of 3.20 m, subject to the final approved engineering drawings and specifications.

The project aims to:

- Protect agricultural lands and human settlements from future flood risks.
- Enhance climate resilience through strengthened flood protection infrastructure.
- Promote sustainable land use and agricultural productivity; and

- Support socio-economic recovery and flood resilience of flood-affected communities in Jhal Magsi District.

The proposed works will be confined to previously disturbed areas and do not intersect with any protected areas, wetlands, or ecologically sensitive zones.

2. OBJECTIVES OF THE ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN (ESMP)

The Environmental and Social Management Plan (ESMP) has been prepared in line with the World Bank Environmental and Social Framework (ESF), the Environmental and Social Commitment Plan (ESCP), and relevant national and provincial environmental legislation. The ESMP provides a practical framework for identifying, mitigating, and monitoring potential environmental and social risks during project planning, construction, and operation. Its primary objectives are to:

1. Ensure that environmental and social impacts are effectively managed and mitigated;
2. Promote compliance with World Bank Environmental & Social Standards (ESS 1–10).
3. Enhance occupational health, safety, and welfare of workers and nearby communities.
4. Maintain stakeholder participation and transparency through effective consultation and grievance mechanisms; and
5. Ensure long-term sustainability, climate resilience, and community safety of the flood protection infrastructure.

The ESMP will form part of the tender and contract documents to ensure that the Construction Contractor (CC) and Construction Supervision Consultant (CSC) fully integrate environmental and social compliance requirements into their respective roles.

3. LEGAL AND POLICY FRAMEWORK

The ESMP is guided by the following frameworks and instruments:

- World Bank Environmental and Social Standards (ESS 1–10), covering risk management, labor and working conditions, pollution prevention, community health and safety, biodiversity, and stakeholder engagement.
- IFC and World Bank Group Occupational Health and Safety Guidelines.
- Pakistan Environmental Protection Act, 1997, and Balochistan Environmental Protection Act, 2012.
- National Environmental Policy, 2005, National Conservation Strategy, Pakistan Climate Change Act, 2017, and National Disaster Management Act, 2010; and
- Relevant international conventions on biodiversity, climate change, labor standards, and cultural heritage to which Pakistan is a signatory.

4. ENVIRONMENTAL AND SOCIAL BASELINE

The Restoration of Flood Protection Bund Gandava Town lies within the Mula / Kachhi plain floodplain setting, characterized by semi-arid climate, low vegetation cover, alluvial deposits and periodic flash-flood flows from hill torrents and seasonal drainage channels. Groundwater is limited and variable in quality, while surrounding communities depend mainly on agriculture,

livestock and local services. No protected ecological habitat, notified forest, wetland or significant cultural heritage site has been identified within the approved works footprint.

Socio-economically, local communities are small, rural, and economically vulnerable. The project's implementation will provide short-term employment opportunities, improved flood protection, and enhanced livelihood security for local residents.

5. IMPACT ASSESSMENT AND MITIGATION

Potential environmental and social impacts were identified for both construction and operation phases. These include:

- Temporary dust, noise, and air emissions from machinery.
- Disposal of construction waste and spoil.
- Occupational and community health and safety risks; and
- Temporary traffic disruptions during material transport.

Downstream and adjacent-area flood risks have been explicitly assessed for this sub-project. Although the restoration of the Gandava FPB is intended to reduce flood exposure, adverse scenarios such as embankment overtopping, piping, settlement, toe scour, slope erosion, blockage of seasonal drainage paths, poor compaction or localized breach could increase flooding, ponding, erosion, sediment deposition or access disruption for nearby settlements and agricultural land if not properly managed.

Sub-project-specific social risks also include temporary disruption of community access and informal crossings to fields, houses, markets, schools, mosques and grazing areas, and possible disputes among upstream/downstream landowners or drainage/flood-flow users if temporary construction arrangements are perceived to obstruct or divert flows.

No permanent displacement or land acquisition is required.

Mitigation measures include:

- Implementation of Contractor's ESMP (CESMP) including site-specific management plans for waste, traffic, health and safety, and emergency response.
- Provision of Personal Protective Equipment (PPEs), first aid, and safety training.
- Controlled disposal of waste through licensed entities at designated locations.
- Restoration of disturbed surfaces post-construction.
- Continuous environmental and social monitoring and reporting; and
- Active stakeholder engagement and a functional Grievance Redress Mechanism (GRM) for workers and communities.

Use of quantitative monitoring indicators with baseline, target/compliance standard, unit, frequency and responsibility for embankment stability, drainage continuity, sediment/spoil handling, borrow areas, air, noise, OHS, CHS, access, GRM, security and water/drainage complaints.

Implementation of a sediment testing, reuse and disposal protocol for excavated silt/spoil or borrow materials where contamination is suspected or where material is proposed for reuse in embankment works.

Maintenance of safe community access through mapping of existing crossings/tracks, provision of temporary crossings or alternative routes, advance public notice and emergency access at all times.

6. INSTITUTIONAL ARRANGEMENTS

Environmental and social management will be coordinated through the Project Implementation Unit (PIU) under the Irrigation Department, Government of Balochistan, with oversight by the World Bank. The Construction Contractor will implement the ESMP on-site, under supervision of the Construction Supervision Consultants (CSC) and periodic audits by the PIU.

Capacity building, training, and awareness programs will be conducted for project staff to ensure effective ESMP implementation. A dedicated Environmental and Social Specialist Team has been mobilized to oversee compliance and reporting.

7. GRIEVANCE REDRESS MECHANISM (GRM)

A transparent and accessible Grievance Redress Mechanism will be operational throughout the project lifecycle to address concerns of both workers and community members. The GRM includes a Public Complaint Cell, Grievance Redress Committee (GRC) at site and PIU level, and clear timelines for acknowledgment, investigation, and resolution of complaints.

8. ENVIRONMENTAL AND SOCIAL MANAGEMENT BUDGET

The ESMP includes an allocated environmental and social management budget, covering mitigation, monitoring, capacity building, awareness programs, and contingency measures. The cost of ESMP will be integrated into the overall project budget to ensure sustainable and compliant implementation.

9. CONCLUSION

The Restoration of Flood Protection Bund Gandava Town left and right side represents a critical intervention for enhancing flood resilience and protecting vulnerable communities in Jhal Magsi District. Implementation of this ESMP will ensure that environmental, social, and occupational risks are minimized and that construction and operation are conducted in a safe, sustainable, and socially inclusive manner. By integrating environmental safeguards, stakeholder engagement, and climate-resilient design, the project will contribute substantially to disaster risk reduction, livelihood restoration, and the broader resilience-building objectives of the Integrated Flood Resilience and Adaptation Project (IFRAP) in Balochistan.