

Integrated Flood Resilience and Adaptation Project (IFRAP)
Rehabilitation of Main Drains i-e Rupa, Umrani and Magsi Drains(Package-IV)

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 dam's /storage structures, 11 Perennial/ Flood Irrigation schemes, and 13 flood protection structures, which have been grouped in thirteen Packages. The Restoration of Main Drains in District Jaffarabad & Naseerabad is one of the sub-projects being implemented under Package-IV of IFRAP to protect local settlements and agricultural lands from recurrent flood events.

The Main Drains rehabilitation scheme lies near villages Bhand, Dera Allah Yar, Dirgi, Ghaus pur, Jaffarabad, Magsi, Rohjan Jamali and Mangle kot at coordinates 28°13'12.12"N,67°56'0.15"E. The rehabilitation of Rupa, Umrani, and Magsi Drains in the Naseerabad and Jaffarabad districts is proposed to restore drainage capacity and improve floodwater disposal in the region. Due to heavy siltation, distorted bed slopes, and embankment erosion, the drains have lost hydraulic efficiency, leading to overtopping, backwater effects, and waterlogging of nearby agricultural lands. Under Package-IV, about 18.5 km of these drains will be rehabilitated through desilting, re- sectioning, and restoration of stable channel geometry based on Lacey's Regime Theory. The works will also include strengthening of embankments, reconstruction of deteriorated culverts and aqueducts, and installation of pipe inlets to allow controlled runoff entry. These measures will enhance drainage performance, reduce flood risks, and improve the sustainability of agricultural lands in the surrounding command areas. The sub-project will rehabilitate and strengthen the existing damaged structure with improved design standards and materials to withstand future hydrological extremes.

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 of flood-affected communities in Naseerabad and Jaffarabad 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 Main Drains site lies within the Kachhi plain River Basin, characterized by semi-arid climate, low vegetation, and periodic flash floods from hill torrents. The geological formation mainly comprises alluvial and gravelly silt deposits. Groundwater is limited and variable in quality. The area supports subsistence agriculture and livestock-based livelihoods. There are no protected ecological habitats, forests, or significant cultural heritage sites within or near the project 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. 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.

5.1 CUMULATIVE IMPACTS:

In line with the World Bank's ESS1 requirements, the potential for cumulative environmental and social impacts was assessed. The review confirmed that no significant concurrent or planned projects exist within the sub-project's area of influence that could interact with the proposed interventions. As the sub-project primarily involves rehabilitation of an existing flood protection embankment, the anticipated impacts are localized, temporary, and manageable through the prescribed mitigation measures. Overall, no adverse cumulative impacts are expected; rather, the sub-project will contribute positively by enhancing flood resilience, safeguarding agricultural lands and local communities, and reducing the risk of future flood-related damages.

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 rehabilitation of Main drains represents a critical intervention for enhancing flood resilience and protecting vulnerable communities in Naseerabad and Jaffarabad 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.