

**Integrated Flood Resilience & Adaptation Project (IFRAP).
Restoration / Strengthening of Flood Embankment of Hairdin Main Drain from
RD.0+000 to RD.4+850 and Construction of 2 Nos VRB at Different Places
(Package-V)**

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 Hairdin Drain in District Sohbatpur is one of the sub-projects being implemented under Package-V of IFRAP to protect local settlements and agricultural lands from recurrent flood events.

The Hairdin Main Drain lies near villages Dera Haji Dara Khan, Zainullah Jatur, Goth Haji Umar Khan, Goth Sakindar Khan, and Goth Sadiq Khan, at coordinates 28°30'21.91"N 68°36'24.31"E. The proposed Subproject involves the rehabilitation, re-sectioning, and strengthening of the existing drain, in reach RD 0+000 to RD 4+850, to improve its capacity for safe disposal of surplus irrigation water.

The subproject will restore the hydraulic efficiency of the drainage system, which has been compromised due to siltation and reduced section capacity. The proposed works include desilting, reshaping of the drain section, and strengthening of side slopes using improved design standards and construction practices to ensure efficient flow and long-term stability.

Additionally, two (02) Village Road Bridges (VRBs) will be constructed at suitable locations to improve local accessibility and connectivity across the drain without obstructing water flow.

The intervention is designed to reduce waterlogging and soil salinity, thereby protecting agricultural lands and improving overall land productivity in the Hairdin area.

The project aims to:

- Improve drainage efficiency by facilitating the safe disposal of surplus irrigation water.
- Reduce waterlogging and soil salinity in the command area.
- Enhance agricultural productivity and promote sustainable land use; and
- Improve local accessibility and connectivity through the construction of Village Road Bridges (VRBs), thereby supporting socio-economic development in the Hairdin area.

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 associated with the rehabilitation and strengthening of the Hairdin Main Drain and construction of Village Road Bridges (VRBs) 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, improved drainage efficiency, and reduction of waterlogging and salinity, while enhancing community safety and accessibility in the project area.

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 Hairdin Main Drain site lies within a semi-arid region of District Sohbatpur, characterized by low vegetation cover, high temperatures, and limited rainfall. The area is predominantly influenced by irrigation practices, and drainage of surplus irrigation water is critical to control waterlogging and soil salinity. The geological formation mainly comprises alluvial soils with silty and sandy deposits. Groundwater levels are generally shallow in some areas due to waterlogging, with variable quality affected by salinity.

The project area supports subsistence agriculture and livestock-based livelihoods, which are highly dependent on effective drainage conditions. There are no protected ecological habitats, forests, wetlands, or significant cultural heritage sites within or near the project footprint.

Socio-economically, local communities are small, rural, and economically vulnerable. The Subproject is expected to provide short-term employment opportunities, improve drainage efficiency, reduce waterlogging and salinity, and enhance agricultural productivity and livelihood security. Additionally, the construction of Village Road Bridges (VRBs) will improve local accessibility and connectivity for surrounding communities.

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 Subproject's area of influence that could interact with the proposed interventions. As the Subproject primarily involves the rehabilitation and strengthening of an existing drainage system (Hairdin Main Drain) and construction of Village Road Bridges (VRBs), the anticipated impacts are localized, temporary, and manageable through the prescribed mitigation measures.

Overall, no adverse cumulative impacts are expected; rather, the Subproject will contribute positively by improving drainage efficiency, reducing waterlogging and soil salinity, enhancing agricultural productivity, and improving local accessibility and connectivity, thereby supporting the socio-economic well-being of communities in the Hairdin area.

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. CONCLUSION

The Hairdin Main Drain Rehabilitation and construction of Village Road Bridges (VRBs) represent a critical intervention for improving drainage conditions and addressing waterlogging and salinity issues in Sohbatpur 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 improved drainage design, the Subproject will contribute substantially to enhanced agricultural productivity, livelihood improvement, and local accessibility, while supporting the broader resilience-building objectives of the Integrated Flood Resilience and Adaptation Project (IFRAP) in Balochistan.