

Environmental Monitoring Report

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Afghanistan: Northern Flood Damaged Infrastructure Emergency Rehabilitation Project (N-FIER)

Prepared by

Ministry of Rural Rehabilitation & Development (MRRD) for the Ministry of Finance and the Asian Development Bank

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ABBREVIATIONS

ADB	– Asian Development Bank
CDC	– Community Development Council
DNA	– Damage and Need Assessment
EARF	– Environmental Assessment and Review Framework
EIA	– Environmental Impact Assessment
EMMP	– Environmental Management and Monitoring Plan
EMP	– Environmental Management Plan
GoIRA	– Government of Islamic Republic of Afghanistan
IA	– Implementing Agency
IEE	– Initial Environmental Examination
MEW	_Ministry of Energy and Water
MoF	– Ministry of Finance
MRRD	– Ministry of Rural Rehabilitation and Development
NEPA	– National Environmental Protection Agency
N-FIER	– Northern Flood Damaged Infrastructure Emergency Rehabilitation Project
NGO	- Nongovernmental Organization
PIU	– Provincial Implementation Unit
PMO	– Project Management Office
REA	– Rapid Environmental Assessment
RP	– Regional Programs
SPS	– Safeguard Policy Statement

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Part I

Introduction

Afghanistan is classified as the world's second most flood-prone country, after Bhutan, on the basis of average annual number of flood-related deaths per million people. The topography, climate, and land cover of the mountainous regions result in the mountain valleys being prone to flooding. Typically, heavy rain in the spring and early summer combined with snow and glacier melt cause flash flooding and damage to villages, roads, and farming areas close to the rivers. Flooding is exacerbated by the narrow valleys, which channel the floodwater through villages, destroying homes and livelihoods. Significant losses also result from inundation of crops and irrigation facilities, and the deposit of silt, rocks, and debris in canals and fields.

Between March and June of 2014, the worst flash floods in 100 years struck some of the most remote communities in northern and eastern parts of Afghanistan. The flash floods destroyed the harvests and necessary infrastructure i.e. roads, irrigation systems, bridges, etc. in those rural communities.

When the floodwaters in the remote districts receded, shocked rural communities found their crops washed away and their once-rich agricultural land buried under mud, stone, and sediment.

The harsh floods left the rural communities in 21 severe affected provinces face-to-face with an extended food gap that threatened their lives and livelihoods. Making matters worse, they would not be able to grow foods again unless their damaged crop-growing land and irrigation systems could be restored.

In response the Government of Afghanistan launched an emergency recovery program to rehabilitate the much needed infrastructure in 21 worst affected provinces across the country. While for financing the project the government requested the Asian Development Bank (ADB) through a proposal to support the rehabilitation of severely affected infrastructure in the said provinces. The proposal was accepted and approved respectively by ADB and has awarded with a funding of US \$ 56.6 Million in October 2014 for 3 years. The executive agencies are Ministry of Rural Rehabilitation & Development (MRRD), Ministry of Energy & Water (MEW) and the Ministry of Public Works. ADB has divided the recovery works into three components where the respected ministries will act as the executive agencies to implement their projects in the defined timeframe. The roles of the ministries are explained below:

Ministry of Rural Rehabilitation and Development (MRRD)

MRRD implements Component 1 – village irrigation and local road repair and reconstruction. A PMU has been established under MRRD. Five other Project implementation units (PIUs) has been established in the provincial offices of the Ministry in Balkh, Samangan, Badakhshan, Bamyan and Ghor provinces which are responsible for project implementation at the province level while the PMU in Kabul is responsible for implementation of subprojects in four provinces.

Ministry of Energy and Water (MEW)

MEW implements Component 2 - irrigation systems repair and reconstruction Similarly to Component 1, all works under this component is comprised the reconstruction or repair of destroyed or damaged irrigation infrastructure.

Ministry of Public Works (MoPW)

MPW implements Component 3 – the reconstruction or repair of damage to main roads. In relation to the level of work required under the emergency grant, MPW indicates that it can be handled using its existing ADB-funded PMO.

N-FIER Project Categorization in compliance with SPS 2009:

Category “A” Sub Projects:

The project will not fund subprojects which requires land acquisition, resettlement and or If subprojects likely to have significant adverse environmental impacts that are irreversible, diverse, or unprecedented as stipulated in the Environmental Assessment and Review Framework of the project.

Therefore there is no category “A” subprojects as the grant will not fund any subproject which will fall under category “A”.

Category B Projects:

Using the prescribed ADB Rapid Environmental Assessment (REA) Checklist only Tangi Tashqurghan Road Rehabilitation and construction RCC Retaining wall subproject was classified as environmental category “B.” Construction of the civil works will have insignificant temporary negative impacts on air quality, noise level, watercourses and soil during implementation, and impacts will be appropriately monitored and adequately mitigated.

An Initial Environmental Examination (IEE) has been carried out by MRRD as the implementing agency of the said subproject. The safeguard team has carried out a technical assessment of the Tangi Tashqurghan road rehabilitation and construction of the proposed retaining wall earlier in September 2015.

The team also conducted a public participation meeting as the requirement of the project and in compliance with the ADB Safeguard Policy Statement of 2009 in the District governor office of the Khulm district of Balk Province. The minutes of the said meeting has been incorporated in the required IEE report under the chapter of public participation and information disclosure.

Category “C” Projects:

MRRD as implementing agency for Component 1 is carrying out the village irrigation and local road repair and reconstruction in 21 worst affect provinces by the 2014 severe flooding. All these Subprojects are anticipated all to be classified as Category “C”. No new infrastructure will be constructed, as all subprojects comprising reconstruction or repair of existing infrastructure.

The Rapid Environmental Assessment Checklist has been used for the categorization of all the assessed subprojects. The environmental impacts associated with category “C”

subprojects have been addressed in the said checklist. The REA has been attached to all the awarded subprojects documents which will be the obligation of the contractors (CDCs) to implement the mitigation measures in accordance with the checklist. While the PIU (Provincial Implementation Unit) engineers will closely monitor the environmental concern and issues and will report any activity which will have adverse or significant environmental impacts to the PIU heads in order to take appropriate corrective actions.

Civil Works Progress

MRRD as implementing agency for component-1 is responsible for rehabilitation and repairing the village irrigation and local roads in the 21 worst affected provinces. MRRD has established a Project Management Office (PMO) within the Directorate of Regional Programs (RP) of the ministry and under the Northern Flood Damaged Emergency Rehabilitation Project (N-FIER) to properly implement the project works.

Within this time of reporting the N-FIER project team has surveyed almost 387 subprojects out of which 298 subproject has passed the design stage while 262 subprojects has been awarded in 19 different provinces to the Community Development Councils (CDCs).

The subprojects activities involved the rehabilitation and reconstruction of the following infrastructures:

- Canals
- Intakes
- Retaining walls
- Small dams
- Bridges
- Culverts

The total cost value of the mentioned 262 subprojects is US\$ 11,573,423.00. Out of the total cost value the amount of US\$ 10,416,080.00 has been borne by the Ministry of Rural Rehabilitation and Development (MRRD) under the funds of the project while the (CDCs) whom are required to contribute a minimum of 10% of the total project costs has contributed the amount of US\$ 1,157,342.00 to the subprojects works.

The Subprojects works has caused to create the opportunity to the local communities that almost 105,129 households—approximately 731,703 people has directly been benefited with implementation of the subprojects.

It is also worth mentioning that the subproject works have created opportunities that enabled people within the affected communities to earn enough money to feed their families during the food gap while also helping restore damaged cropland, build roads, and mitigate the risk of future disasters.

PROJECT ORGANIZATION AND ENVIRONMENTAL MANAGEMENT TEAM

The project safeguard specialist was appointed in mid July 2015 as the only specialist is handling all the safeguard issues. There was no change in composition of project organization in this period of reporting. The organogram below illustrate the N-FIER project organization structure.

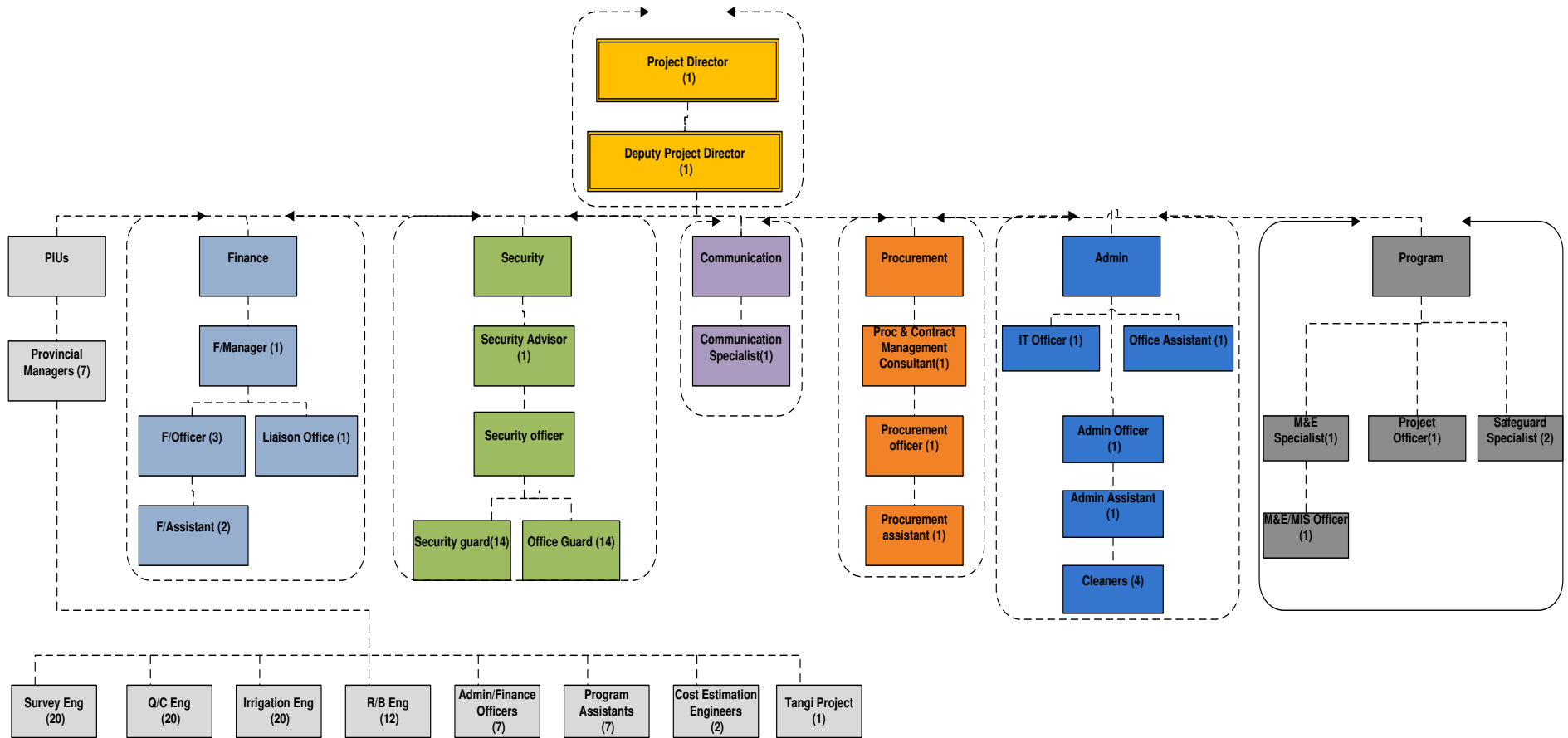


Figure 1- Project Organization Chart

RELATIONSHIP WITH STAKEHOLDERS

During the reporting period relationship among all stakeholders remain quite comfortable. A number of meetings with management, ADB, MEW, MoPW and CDCs have been held.

A good working relationship is maintained among the contractor (CDCs) and the Engineer during the execution of the subprojects. Contractor representatives had been informed about the Environmental Management and Monitoring activities. Environmental non-conformities had been notified to contractor. Management instructions & environment management plans passed on to the contractor to get the true essence of implementation.

Part II

ENVIRONMENTAL MONITORING

The environmental monitoring was carried out by using Rapid Environmental Assessment (REA) Checklist as well as through visual observations to get information on the actual nature and extent of key impacts and the effectiveness on mitigation and enhancement measures outlined in the REA checklist and agreed by the Contractors (CDCs).

During the previous six months, environmental compliance remained satisfactory as no major issues were noticed.

The environmental monitoring typically covered the following:

- Noise and Vibration
- Water Quality
- Air Quality
- Flora and fauna

Noise and Vibration:

As the Subprojects activities involved the repair and rehabilitation of the existing village infrastructures and the construction activities did not involve use of the heavy machinery and the majority of the civil works are executed through the usage of the locally available resources and tools i.e. shovels, pickaxe, wheel borrows and hand borrows, therefore the noise level was remained satisfactory and No grievance was recorded from workforce & communities regarding the noise.

Water Quality:

In all subprojects where the water courses were in close vicinity of the subproject area i.e. Canal, intake or protection wall, the water quality remained safer as no water harmful activity was taken place during this construction period and utmost care was taken by the Contractor(CDCs) to prevent polluting the canal water from any oil spillage and other waste.

The contractors were advised to undertake preventive measures for the eradication of any element which caused the ground Water contamination. It is was also advised to keep fuel and oil storage areas away from water courses.

Air Quality:

There is no potential source of air pollution exists in any of the subproject as only dust and smoke emissions from construction machinery are major aspects of polluting the air temporarily. Proper mitigation measures to mitigate these prospects have been undertaken.

Visual Observations has also been undertaken to monitor regular water sprinkling at dusty areas with loose gravel stuff during the construction activities, site visits executed frequently by site engineers on daily basis. Contractor is strictly instructed to make sure their compliance in this context as it might create air borne diseases and become nuisance for nearby communities.

Contractor is delivering positive response during the reporting period. Visual observations were also made for fitness of the vehicles to minimize the smoke emissions.

Flora and Fauna:

During the reported period no flora and fauna was disturbed by the construction activities.

Part III - ENVIRONMENTAL MANAGEMENT

SITE INSPECTIONS AND AUDITS

Only three site visits were made during this period by the Environmentalist to physically observed the subprojects in Nangarhar, Logar and Bamyān Provinces on 13th January, 27th March and 18th May respectively which is supposed to be not sufficient. It is true that environmental compliance improved due to such visits at site. Regular weekly site visits will have more impact to force the contractor for better compliance and record keeping.

NON-COMPLIANCE NOTICES

No noncompliance notice has been issued to contractors during this period of reporting.

CONSULTATION AND COMPLAINTS

The Public *Consultation and Participation* within the framework of “meaningful consultation” as required by ADB’s SPS 2009, the safeguard team of the N-FIER project has carried out several public consultation meeting for the subprojects in the visited provinces and aims to continue throughout the subproject cycle.

No complain has been registered during this period of the report.

CONCLUSIONS AND RECOMMENDATIONS

- No surface water contamination is reported due to oil spillages or asphalt laying during the reporting period.

- No flora and fauna is disturbed by the construction activity. No mortality of wild animal is reported.
- Comprehensive environment monitoring executed during reporting period which includes analysis of ambient air, ground water, soil, noise etc.
- No complaints from workforce & communities have been registered.
- No damage to the agricultural land due to borrow pits or top soil erosion is reported.
- Contractor is providing PPE's to workforce and train / motivate them about their use.
- The contractor is employing local labor as much as possible. Contractor is made aware about ADB policy that hiring of child labor is strictly prohibited. No child labor observed.
- No complaints regarding transmission of Communicable diseases (such as STI's and HIV/AIDS) are reported.
- Overall no major conflict with the community is observed. Cordial liaison is maintained with local community.

Appendix 1: REA (Rapid Environmental Assessment) Checklist- irrigation

Rapid Environmental Assessment (REA) Checklist

Instructions:

- (i) The project team completes this checklist to support the environmental classification of a project. It is to be attached to the environmental categorization form and submitted to the Environment and Safeguards Division (RSES) for endorsement by the Director, RSES and for approval by the Chief Compliance Officer.
- (ii) This checklist focuses on environmental issues and concerns. To ensure that social dimensions are adequately considered, refer also to ADB's (a) checklists on involuntary resettlement and Indigenous Peoples; (b) poverty reduction handbook; (c) staff guide to consultation and participation; and (d) gender checklists.
- (iii) Answer the questions assuming the "without mitigation" case. The purpose is to identify potential impacts. Use the "remarks" section to discuss any anticipated mitigation measures.

Country/Project Title:

**Afghanistan-MRRD/N-FIER/LGR-008- Construction of 250m Protection Wall in Saleh khail village –Azra
District of Logar Province**

Sector Division:

Irrigation

Screening Questions	Yes	No	Remarks
A. Project Siting Is the Project area adjacent to or within any of the following Environmentally sensitive areas?			
▪ Protected Area		X	No protected area is located close to project and nearby of project area.
▪ Wetland		X	No protected or classified wet land is located close to the project area
▪ Mangrove		X	Project road is not located in Coastal areas.
▪ Estuarine		X	No Estuarine is located in the Project area.
▪ Buffer zone of protected area		X	No such area is located in the Project vicinity.
▪ Special area for protecting biodiversity		X	No such area is located in the Project vicinity.
B. Potential Environmental Impacts Will the Project cause...			
▪ Loss of precious ecological values (e.g. result of encroachment into forests/swamplands or historical/cultural buildings/areas, disruption of hydrology of natural waterways, regional flooding, and drainage hazards)?		X	Works are confined to rehabilitation/modernization within existing sites for irrigation infrastructure and will not encroach on new sites.
▪ Conflicts in water supply rights and related social conflicts?		X	No impacts are anticipated as Water User Association is already established at district level

Screening Questions	Yes	No	Remarks
▪ Impediments to movements of people and animals?		X	No or Low impacts Some disruption of movement of people and animals is expected during construction phase. Appropriate works scheduling and temporary access arrangements will be discussed and agreed with the communities during construction phase.
▪ Potential ecological problems due to increased soil erosion and siltation, leading to decreased stream capacity?		X	Not anticipated
▪ Insufficient drainage leading to salinity intrusion?		X	Not impacts
▪ Over pumping of groundwater, leading to salinization and ground subsidence?		X	No groundwater pumping, it's a surface irrigation project
▪ Impairment of downstream water quality and therefore, impairment of downstream beneficial uses of water?		X	No new construction is envisaged in the rivers, therefore downstream water quality is not going to be affected
▪ Dislocation or involuntary resettlement of people?		X	No impacts
▪ Disproportionate impacts on the poor, women and children, Indigenous Peoples or other vulnerable groups?		X	No impacts
▪ Potential social conflicts arising from land tenure and land use issues?		X	No Impacts The land tenure status is known
▪ Soil erosion before compaction and lining of canals?		X	No impact is expected. Mitigation measures include: (i) diversion drains and bunds, and temporary silt traps/ponds; and (ii) stockpiling of soil in flat areas and far from drainage routes

Screening Questions	Yes	No	Remarks
▪ Noise from construction equipment?	X		No or low impacts Noise is expected from construction equipment during construction phase while it will be temporary and can be avoid through Adequate mitigation measures
▪ Dust during construction?	X		Low impacts Dust may be increased during construction phase but will be mitigated by appropriate management measures, such as (i) regular watering of exposed areas; (ii) covering all trucks carrying dispersible materials to and from the site; (iii) and agreement with the local community on the schedule and duration of construction works.
▪ Waterlogging and soil salinization due to inadequate drainage and farm management?		X	Not anticipated
▪ Leaching of soil nutrients and changes in soil characteristics due to excessive application of irrigation water?		X	Not anticipated
▪ Reduction of downstream water supply during peak seasons?		X	Irrigation efficiency will be increased so water flow regimes will not be affected.
▪ Soil pollution, polluted farm runoff and groundwater, and public health risks due to excessive application of fertilizers and pesticides?		X	No impacts No fertilizers and pesticides will be involved in the project activities
▪ Soil erosion (furrow, surface)?		X	No impacts

Screening Questions	Yes	No	Remarks
▪ Scouring of canals?		X	No impacts
▪ Clogging of canals by sediments?		X	One of the activities in rehabilitation will be removal of sediment and clogging of canals. System design will be in place to avoid clogging by sediments. Where unavoidable, adequate operation and maintenance will be designed.
▪ Clogging of canals by weeds?		X	No impacts
▪ Seawater intrusion into downstream freshwater systems?		X	Not anticipated
▪ Introduction of increase in incidence of waterborne or water related diseases?		X	Not anticipated
▪ Dangers to a safe and healthy working environment due to physical, chemical and biological hazards during project construction and operation?		X	No such impacts are anticipated. Adequate awareness will be created amongst people and workers.
▪ Large population influx during project construction and operation that causes increased burden on social infrastructure and services (such as water supply and sanitation systems)?		X	No impacts All the labors will be recruited from the local communities
▪ Social conflicts if workers from other regions or countries are hired?		X	All the labors will be recruited from the local communities

Screening Questions	Yes	No	Remarks
<ul style="list-style-type: none"> Risks to community health and safety due to the transport, storage, and use and/or disposal of materials such as explosives, fuel and other chemicals during construction and operation? 		X	<p>No impacts</p> <p>Rehabilitation work is unlikely to result in significant risks. Specific provision in the contracts and proper monitoring will ensure minimizing such risks.</p>
<ul style="list-style-type: none"> Community safety risks due to both accidental and natural hazards, especially where the structural elements or components of the project (e.g., irrigation dams) are accessible to members of the affected community or where their failure could result in injury to the community throughout project construction, operation and decommissioning? 		X	<p>No impacts</p> <p>Rehabilitation work is unlikely to result in significant risks. Specific provision in the contracts and proper monitoring will ensure minimizing such risks.</p>

Climate Change and Disaster Risk Questions	Yes	No	Remarks
<p>The following questions are not for environmental categorization. They are included in this checklist to help identify potential climate and disaster risks.</p>			
<ul style="list-style-type: none"> Is the Project area subject to hazards such as earthquakes, floods, landslides, tropical cyclone winds, storm surges, tsunami or volcanic eruptions and climate changes (see Appendix I) 	X		<p>Project sites are prone to flooding. Some areas can be affected by earthquake or landslide and slippery mountain etc.</p>
<ul style="list-style-type: none"> Could changes in temperature, precipitation, or extreme events patterns over the Project lifespan affect technical or financial sustainability (e.g., increased glacial melt affect delivery volumes of irrigated water; sea level rise increases salinity gradient such that source water cannot be used for some or all of the year). 		X	<p>Subprojects will generally be more robust than the infrastructure repaired or replaced. Therefore situation improved compared to pre-flood condition</p>
<ul style="list-style-type: none"> Are there any demographic or socio-economic aspects of the Project area that are already vulnerable (e.g., high incidence of marginalized populations, rural-urban migrants, illegal settlements, ethnic minorities, women or children)? 		X	<p>Not available in this area like this issue.</p>

<ul style="list-style-type: none"> ▪ Could the Project potentially increase the climate or disaster vulnerability of the surrounding area (e.g., by diverting water in rivers that further increases salinity upstream, or encouraging settlement in earthquake zones)? 		X	The project will increase climate resilience and decrease vulnerability in project areas
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Note: Hazards are potentially damaging physical events.

Appendix I: Environments, Hazards and Climate Changes

Environment	Natural Hazards and Climate Change	Example Impact on Irrigation Systems
Arid/Semi-arid & desert environments	<p>Low erratic rainfall of up to 500 mm rainfall per annum with periodic droughts and high rainfall variability. Low vegetative cover. Resilient ecosystems & complex pastoral and systems, but medium certainty that 10–20% of drylands degraded; 10-30% projected decrease in water availability in next 40 years; projected increase in drought duration and severity under climate change. Increased mobilization of sand dunes and other soils as vegetation cover declines; likely overall decrease in agricultural productivity, with rain-fed agriculture yield reduced by 30% or more by 2020. Earthquakes and other geophysical hazards may also occur in these environments.</p>	<p>In cases where water availability may decrease due to reduced precipitation, increased water use may be unsustainable</p>
Humid and sub-humid plains, foothills and hill country	<p>More than 500 mm precipitation/yr. Resilient ecosystems & complex human pastoral and cropping systems. 10-30% projected decrease in water availability in next 40 years; projected increase in droughts, heatwaves and floods; increased erosion of loess-mantled landscapes by wind and water; increased gully erosion; landslides likely on steeper slopes. Likely overall decrease in agricultural productivity & compromised food production from variability, with rain-fed agriculture yield reduced by 30% or more by 2020. Increased incidence of forest and agriculture-based insect infestations. Earthquakes and other geophysical hazards may also occur in these environments.</p>	<p>In many cases, climate change is expected to result in more intense but less frequent rainfall events and longer dry seasons and water capture systems may not be designed to accommodate these changes.</p>
River valleys/deltas and estuaries and other low-lying coastal areas	<p>River basins, deltas and estuaries in low-lying areas are vulnerable to riverine floods, storm surges associated with tropical cyclones/typhoons and sea level rise; natural (and human-induced) subsidence resulting from sediment compaction and ground water extraction; liquefaction of soft sediments as result of earthquake ground shaking. Tsunami possible/likely on some coasts. Lowland agri-business and subsistence farming in these regions at significant risk.</p>	<p>As temperature increases, the spread of vector and water borne diseases may spread, standing water created by irrigation systems may promote their spread by creating habitats for their transmission.</p>

Environment	Natural Hazards and Climate Change	Example Impact on Irrigation Systems
Small islands	Small islands generally have land areas of less than 10,000km ² in area, though Papua New Guinea and Timor with much larger land areas are commonly included in lists of small island developing states. Low-lying islands are especially vulnerable to storm surge, tsunami and sea-level rise and, frequently, coastal erosion, with coral reefs threatened by ocean warming in some areas. Sea level rise is likely to threaten the limited ground water resources. High islands often experience high rainfall intensities, frequent landslides and tectonic environments in which landslides and earthquakes are not uncommon with (occasional) volcanic eruptions. Small islands may have low adaptive capacity and high adaptation costs relative to GDP.	Areas previously suitable for agriculture may become less so as sea-level rise causes salt water intrusion and soil salinity. Planned agricultural areas may no longer be viable and therefore irrigation systems that feed them.
Mountain ecosystems	Accelerated glacial melting, rock falls/landslides and glacial lake outburst floods, leading to increased debris flows, river bank erosion and floods and more extensive outwash plains and, possibly, more frequent wind erosion in intermundane valleys. Enhanced snow melt and fluctuating stream flows may produce seasonal floods and droughts. Melting of Permafrost in some environments. Faunal and floral species migration. Earthquakes, landslides and other geophysical hazards may also occur in these environments.	Irrigation infrastructure may be damaged and blocked by glacial lake outbursts and mudflows. Water resources supplied by mountain systems may increase or diminish as rates of glacial melt change.
Volcanic environments	Recently active volcanoes (erupted in last 10,000 years – see www.volcano.si.edu). Often fertile soils with intensive agriculture and landslides on steep slopes. Subject to earthquakes and volcanic eruptions including pyroclastic flows and mudflows/lahars and/or gas emissions and occasionally widespread ash fall.	Irrigation infrastructure may be lost during volcanic eruptions.

Appendix-2: Sub Projects Photographs:



Figure 2 Protection Wall Subproject-Doshi District-Baghlán Province



Figure 3 Canal Protection Wall Subproject-Doshi District-Baghlán Province



Figure 4 Canal Protection Wall Subproject-Kishm District-Badakhshan Province



Figure 5 Rehabilitation of Canal- Probil- Panjshir Province