



Consultation Workshops “Enabling Environment for Risk-Informed Development (EE4RID) – Building a Systematic Understanding of Risk”

Summary Report: District Rahim Yar Khan & District Swat

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On behalf of the

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1. Introduction

The consultation workshops on “Enabling Environment for Risk-informed Development (EE4RID) – Building a Systemic Understanding of Risk” were organised on 26th September 2024 at Hotel One by PC, Rahim Yar Khan, and on 1st October 2024 at Serena Swat, Swat, by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH Pakistan under the framework of the Global Initiative on Disaster Risk Management (GIDRM). The aim of the workshop was to introduce the EE4RID approach to the participants in the two districts. The workshop supported the participants in understanding systemic risks in the districts, looking at hazards, exposure, vulnerability and the interlinkages between sectoral development processes and the environment. The workshop focused on discussing the difference between *protecting development from risk* and *the role development plays in creating risk*. Despite progress, risk creation is outstripping risk reduction. In order to ensure sustainable development, there is the need to better understand how risk is created within different systems and how we can break the vicious cycle of dealing with increased numbers of disaster events with increasingly limited resources.

During the consultation workshops, participants engaged in an in-depth exploration of the **Enabling Environment for Risk-Informed Development (EE4RID)**. EE4RID is defined as the set of critical conditions required to ensure that risks, such as environmental, social, and governance-related issues, can be systematically integrated into various development processes and decision-making frameworks. This environment consists of a **complex network of policy instruments, planning tools, institutional arrangements, stakeholders, and activities**, all of which are interconnected and have the potential to reinforce one another (UNDP, 2019)¹. Often, the expertise, capacities and skills of actors and decision-makers are not yet at a level that would enable them to address risks effectively. A narrow focus on a small set of hazards, by one or two government agencies, is not enough to prevent or even respond to complex risks. Systematically understanding multiple hazards and complex risks and crafting development decisions that avoid risk creation (where possible) and enable risk reduction is therefore crucial².

The discussions highlighted that EE4RID is more than just a collection of guidelines or frameworks. It represents a robust system encompassing **policy, regulatory, organisational, procedural, and cultural conditions** that work together to institutionalise risk within development decision-making (UNDP,

¹ UNDP, 2019. *Risk-informed development – From crisis to resilience*. Retrieved from: <https://www.undp.org/publications/risk-informed-development>

² GIDRM, 2024 [What is risk-informed development \(RID\)? | The Global Initiative on Disaster Risk Management](#)

2022)³. By embedding risk considerations into the heart of development strategies, this environment ensures that decision-makers proactively assess potential risks and take preventive measures to safeguard sustainable outcomes.

A key takeaway from the event was the importance of identifying **gaps or weaknesses** within the EE4RID in specific contexts. These gaps, whether they be in regulatory frameworks, institutional capacity, or stakeholder engagement, serve as **entry points** for development decision-makers and practitioners to step in and develop targeted solutions. By addressing these deficiencies, they can foster stronger, more resilient systems that are better equipped to manage and mitigate risks, now and in the future. The event underscored that building capacities, enhancing policy coherence, and fostering collaboration among stakeholders are essential strategies to strengthen EE4RID, ultimately supporting more sustainable and risk-informed development pathways (**Error! Reference source not found.**).

2. Integrating Risks into Decision-Making in Context of Climate Change

During the consultation workshops, the **difference between protecting development from risk and the role development plays in creating risk** was stressed. A systemic understanding of risk that looks especially at the interlinkages between development processes and related vulnerabilities, hazards and exposure is needed to safeguard development achievements in the future and in the context of increased volatility and unknown risks. Understanding how decisions that are being taken e.g. in the agricultural sector are affecting water resource management or soil erosion in the future and therefore also impact the intensity of hazards like floods in the future is crucial. This forward-thinking approach is a key element of the **EE4RID**, as it strives to ensure that development processes and decision-making frameworks are equipped to handle both current and emerging risks and are limiting the creation of new and additional risks.

³ UNDP, 2022. *The UNDP Approach to Risk-informed Development*. Retrieved from: <https://www.undp.org/publications/undp-approach-risk-informed-development>



FIGURE 1: THE COMPONENTS OF EE4RID PROCESS

3. District Rahim Yar Khan

District Rahim Yar Khan is one of the largest districts of southern Punjab. The river Indus separates Rahim Yar Khan from Muzafargarh, Rajanpur, Kashmore & Ghotki districts. The district borders with Muzaffargarh district on the north, with Jasilmir (India) and Ghotki district of Sindh province on the south, with Bahawalpur district on the east, and with Rajanpur district on the west. Its economy primarily relies on agriculture, particularly cotton and mango production. However, climate change has made the city's agricultural sector highly vulnerable to hazards such as floods, droughts, and shifting climate conditions. These challenges have significant impacts on local farmers, whose livelihoods depend on crop production, especially cotton and mango cultivation.

Key hazards impacting Rahim Yar Khan's development are:

- **Floods:** Recurring riverine and flash floods causing widespread damage to crop, infrastructure, and settlements.
- **Droughts:** Prolonged water scarcity affecting agricultural productivity and livelihoods.
- **Heat Waves:** Intensifying heat waves impacting human health and livestock
- **Shifting weather patterns:** Unpredictable weather changes disrupting farming cycles and water resource management.
- **Pest infestations:** Agricultural pests exacerbated by changing climatic conditions affecting crop yields.

Identified Challenges and Issues

The participants identified several critical challenges and hazards impacting the Rahim Yar Khan district.

- The discussions focused on the vulnerabilities of the agriculture sector, which is highly susceptible to hazards like floods, droughts, and shifting climate conditions. The impacts of these challenges are particularly severe for local farmers, whose livelihoods depend on the region's agricultural output, especially crop production and the cultivation of mangoes.
- One of the primary hazards affecting Rahim Yar Khan is the recurring pattern of floods and droughts. The region is prone to both extremes, with floods devastating crops and infrastructure, while droughts lead to water shortages that severely limit agricultural productivity. Participants highlighted that these events disrupt farming cycles and increase economic hardship for local farmers.
- During recent years, the severity and frequency of floods have increased while the torrential rainfall is an additional hazard damaging standing crops severely. During 2022 flood, the standing crops were damaged by the heavy rainfall and not by riverine flood water.
- The event brought attention to how shifting temperatures are impacting the agriculture sector, especially the flowering of mango trees. Mangoes, one of the region's most valuable crops, are highly sensitive to temperature changes. The erratic climate patterns as presented in Figure 2, are affecting the timing and quality of mango production, which in turn impacts the farmers' income and the local economy.

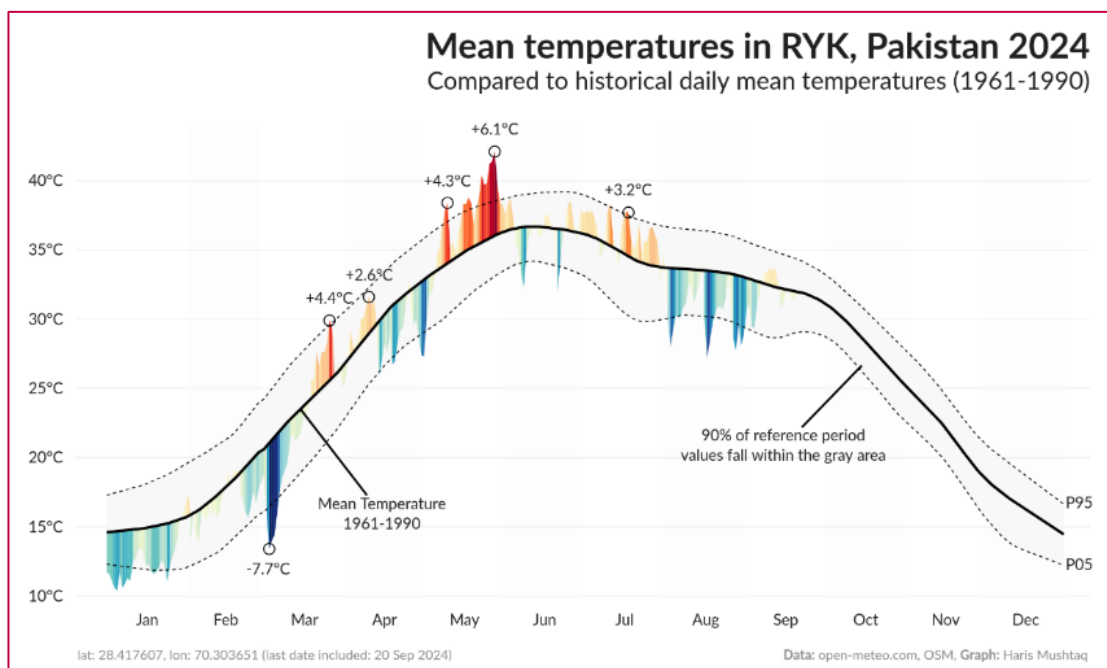


FIGURE 2: MEAN TEMPERATURES ANOMALY PLOT FOR RAHIM YAR KHAN

- Agriculture in Rahim Yar Khan relies heavily on water from the **canal irrigation system** for six months of the year (from April 15 to October 15). However, participants pointed out that the availability of canal water has become increasingly unpredictable. In some cases, the water supply period is shortened due to insufficient water resources, which forces farmers to find alternative solutions. This lack of water availability during critical growing periods results in reduced crop yields and financial losses for farmers.
- Due to the inconsistent supply of canal water, farmers have turned to **groundwater extraction** as a supplementary resource for irrigation. While this provides a short-term solution, it has led to a significant **depletion of the water table**. The over-extraction of groundwater is becoming a growing concern, as it poses long-term environmental risks and threatens the sustainability of farming in the region.
- One of the emerging trends discussed was the increasing use of **solar panels** by farmers to power water pumps for **groundwater extraction**. These **affordable energy solutions** have made it easier for farmers to access groundwater, especially in areas where canal water is insufficient or unavailable. Solar-powered water pumps reduce the operational costs of water extraction, providing farmers with a more cost-effective and environmentally friendly alternative to diesel-powered pumps.
- While solar technology offers significant benefits in terms of reducing energy costs and reliance on fossil fuels, participants also expressed concerns about its contribution to the overuse of groundwater. Without proper water management practices, the widespread adoption of solar-powered pumps could exacerbate the problem of water table depletion, further endangering the region's agricultural sustainability.

Key Takeaways

- **Hazards vs. Disasters:** Only hazards can be natural; there are no natural disasters. We are always able to limit the impact of hazards on our houses, communities, countries and reduce the risk of experiencing substantial damages and losses.
- **Risk Awareness:** Engaging in discussions about risk is crucial for fostering awareness and understanding of what it means to be risk informed. Promoting risk-informed decision-making requires a mind-set change – new policies, guidelines, and similar paper-based approaches are therefore not sufficient.
- **Systemic risk:** Systemic risk cannot be eliminated entirely, but it can be reduced and addressed more effectively. Addressing systemic risk requires building on existing risk

reduction know-how and developing enhanced approaches to address the characteristics of systemic risk such as its cascading effects and inherent complexity and uncertainty.

- **Water scarcity:** In the face of water scarcity, particularly in the agriculture sector, significant changes must be made to ensure sustainability and resilience. Adoption of **climate-smart agriculture** practices can enhance productivity and resource management, particularly under climate constraints. Implementing **Nature-based Solutions** (NbS) can provide effective strategies for managing water resources, improving agricultural resilience, and enhancing biodiversity.
- **Capacity Building:** Conducting capacity-building exercises is essential for empowering local communities and stakeholders to adapt to changing climate conditions.
- **Climate Resilience:** Identifying actionable steps to become more climate resilient, such as improving irrigation practices and diversifying crops, is critical for sustaining agriculture.
- **Hazard Mitigation:** Emphasis on hazard mitigation strategies can help reduce vulnerabilities and improve preparedness for future risks.
- **Desertification and Environmental Degradation:** Addressing issues of desertification and environmental degradation is necessary to protect livelihoods and maintain agricultural productivity.
- **Erratic Rainfall Patterns:** Understanding and adapting to erratic rainfall patterns is vital for effective water management and agricultural planning.

Key Recommendations

Underneath is a summary of the key recommendations for Rahim Yar Khan, with a focus on systemic risk, linking natural resource management, environmental degradation, climate change, and socio-economic development. The recommendations are structured around the six core dimensions of EE4RID and are also based on a desk-based analysis of key policy documents relevant for Rahim Yar Khan⁴:

1. Knowledge and Information

- **Systemic Risk Mapping:** Conduct integrated risk mapping that highlights the interconnections between natural resource management, environmental degradation, and socio-economic

⁴ The Rahim Yar Khan Climate Adaptation Plan as well as the Punjab Growth Strategy have been included in a first desk-based analysis of the EE4RID gap analysis.

development. This should include impacts on the agriculture, water, health, and infrastructure sectors under varying climate scenarios in Rahim Yar Khan. This knowledge should be used to inform land-use and sector planning. Existing disaster and climate risk assessment often do not reflect economic, and planetary and societal health considerations leading to an undervaluation of key assets in decision-making processes.

- **Enhance Risk Communication:** Build a risk communication platform that disseminates clear and actionable risk information to local farmers, water managers, and planners, particularly in agriculture and water sectors. Include traditional knowledge and local weather patterns to support preparedness and decision-making at the grassroots level.

2. Policy and Regulation

- **Embed Systemic Risk in Policy Frameworks:** Strengthen local policies to explicitly integrate systemic risk considerations, particularly the links between natural resource management, environmental degradation, and climate change. Policies in agriculture, water, health, and infrastructure sectors to account for long-term climate impacts and natural resource depletion / environmental degradation.
- **Risk-Informed Land Use Regulations:** Ensure that land-use policies restrict development in high-risk areas prone to environmental degradation (e.g., floodplains, drought-prone zones). Integrate climate and environmental risk data into zoning laws to mitigate the cascading impacts of climate-related hazards on socio-economic development.

3. Institutional Arrangements

- **Cross-Sector Coordination on Systemic Risks:** Create a district-level coordination body to manage cross-sectoral risks, ensuring collaboration between agriculture, water and infrastructure stakeholders. This body should focus on identifying and managing the systemic risks posed by climate change and environmental degradation to development goals.
- **Capacity Building for Risk Management:** Enhance institutional capacity for managing systemic risks through training programmes that focus on integrated risk management approaches. Officials from key sectors (e.g., agriculture, water, infrastructure) should receive training on how to incorporate systemic risks into planning and implementation processes.

4. Finance and Resources

- **Allocate Budgets for Systemic Risk Management:** Ensure financial allocations are targeted towards addressing interlinked risks across sectors. This could include investment in climate-resilient infrastructure, sustainable water management systems, or social protection mechanisms that prevent climate-induced poverty.

- **Leverage Climate Finance for Integrated Solutions:** Tap into climate finance mechanisms to fund multi-sectoral projects that address systemic risks. For example, projects that combine water management with agricultural resilience and infrastructure upgrades could yield co-benefits and address underlying risk drivers.

5. Partnership and Collaboration

- **Multi-Stakeholder Engagement for Systemic Risk:** Foster collaboration between government, private sector, civil society, and local communities to jointly address systemic risks. Establish partnerships that promote integrated approaches, such as using nature-based solutions (NbS) to simultaneously manage flood risks and improve agricultural resilience.

6. People, Culture, and Environment

- **Promote Risk Awareness on Systemic Risks:** Implement district-wide awareness campaigns on the systemic nature of risks linking environmental degradation, climate change, and socio-economic vulnerabilities. These campaigns should engage communities in sustainable land-use and resource management practices.
- **Strengthen Ecosystem-Based Approaches:** Promote the use of ecosystem-based solutions (e.g. reforestation, wetland restoration) to address both climate change and environmental degradation. Involving local communities in these efforts ensures that solutions are tailored to local conditions while enhancing resilience.

Conclusion

These recommendations aim to strengthen the enabling environment for risk-informed development in Rahim Yar Khan by embedding the understanding of systemic risks - particularly the relationships between natural resource management, climate change, environmental degradation, and socio-economic development - into all aspects of planning and decision-making. By following these recommendations, stakeholders across sectors such as agriculture, water, infrastructure can adopt a risk-informed approach, ensuring that development plans are sustainable and resilient to future challenges.

4. District Swat

The Valley of Swat is in the middle of the foothills of the Hindukush Mountain range centred on the Swat River. The valley is an integral part of the strategic and significant region where three parts of the Asian continent—South Asia, Central Asia and China, meet. The valley is enclosed on all sides by mountains. Above the mountains ridges to the west is the valley of the Panjkora River, to the north the Gilgit Valley, and Indus River gorges to the east. To the south, across a series of low mountains, is Peshawar, the capital city of Khyber-Pakhtunkhwa Province. The valley is prone to number hazards impacting the districts overall development. Following is some of the key hazards:

- **Floods:** Frequent riverine and flash floods, particularly during the monsoon season.
- **Glacial Lake Outburst Floods (GLOFs):** Melting glaciers causing sudden flooding events.
- **Earthquakes:** High seismic activity due to its location in a tectonically active zone.
- **Landslides:** Triggered by heavy rains, deforestation, and steep terrain, disrupting connectivity and causing property damage.
- **Avalanches:** Common in the higher-altitude areas during winter, endangering lives and isolating communities.
- **Droughts:** Periodic water scarcity affecting agriculture and livelihoods.
- **Climate Change Impacts:** Altered precipitation patterns, rising temperatures, and increased frequency of extreme weather events.
- **Deforestation:** Unsustainable logging leading to soil erosion and environmental degradation.
- **Tourism-Related Strain:** Overuse of natural resources and increased pressure on local infrastructure.

Identified Challenges and Issues

As a mountainous community and a part of the Hindukush–Himalayan region, the area is severely exposed to the impacts of climate hazards. As mentioned in previous section, the region is subject to influences from various kinds of disturbances, natural as well as anthropogenic, including floods, snow droughts, flash floods, soil erosion, landslides, deforestation, and forest fires, among others. A real understanding of climate hazards is essential for informed decision-making, associated solutions, and policy matters. Hence, the local indigenous knowledge can be utilised in contemporary and future policy frameworks.

The participants identified several critical challenges and hazards impacting the Swat region.

- The discussions focused on the vulnerabilities of the agriculture sector, which is highly shifting climate conditions particularly in Swat district. The impacts of these challenges are particularly severe for local farmers, whose livelihoods depend on the region's agricultural output.
- Swat is part of the larger Hindukush Himalayan (HKH) region, and this region is warming faster than the rest of the country. This shift in temperatures is evident from the Figure 3 presented in the workshop.

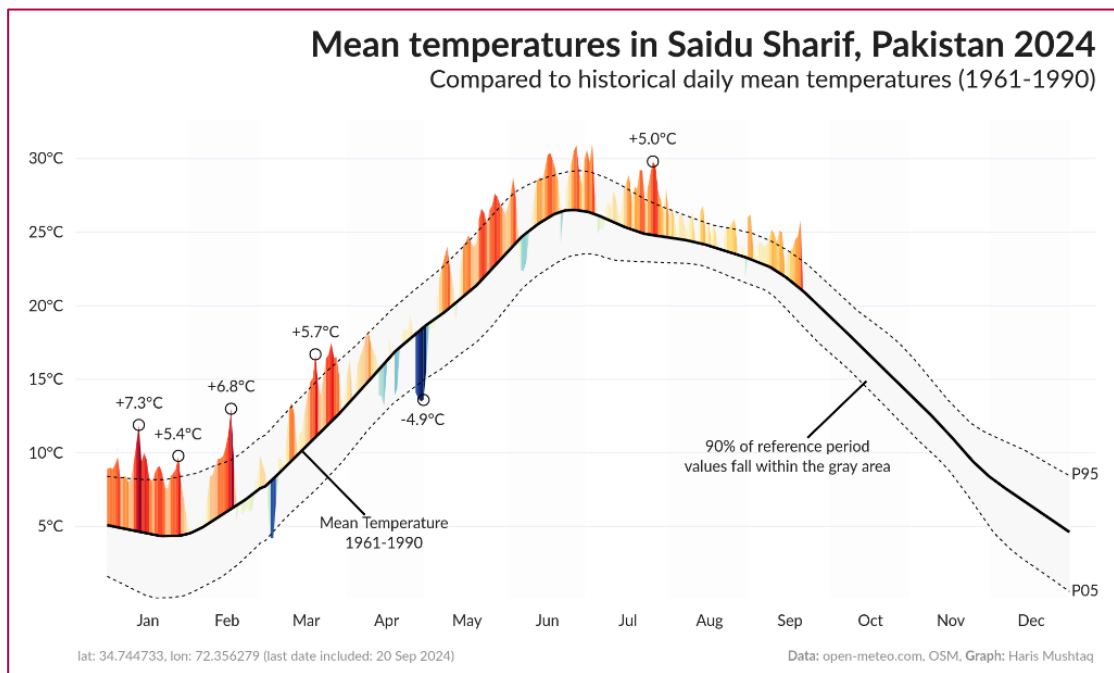


FIGURE 3: MEAN TEMPERATURE ANOMALY PLOT FOR SAIDU SHARIF, SWAT DISTRICT

- Another important challenge the region is facing is riverbed mining, which may lead to change the dynamics of the region from being irrigated region to rainfed region heavily impacting the agricultural productivity.

Key Takeaways

- Ongoing efforts: the Climate Change Cell in the Planning and Development (P&D) department is actively working to operationalise existing climate change policies and integrate climate considerations in decision-making processes.
- Local Adaptation Plan: Similar workshops focusing on systemic risks should be conducted for stakeholders involved with local adaptation plans to ensure that a systemic understanding of risk is integrated in these plans.
- Integrate risk-informed development aspects in policies: Review existing policy documents for key sectors to ensure that climate and disaster risk considerations are fully included.

- RID process at local level: There is a need to design and promote risk-informed development processes at the district level to better understand area specific mitigation measures.
- Implementing a **Risk-Informed Development (RID)** process at the district level to identify area-specific mitigation measures for climate adaptation and disaster risk reduction. RID involves evaluating vulnerabilities, risks, capacities data collection and stakeholder consultations specific to each district.
- The workshop was instrumental in identifying agriculture-specific challenges posed by climate change. Promoting climate-smart agriculture practices, such as water-efficient irrigation, resilient seed varieties, and agroforestry. Identifying capacity-building needs for farmers and local agricultural department.

Key Recommendations

The following recommendations are informed by the workshop discussions, risk analysis, and EE4RID gap analysis and framed around the six core dimensions of the EE4RID framework.

1. Knowledge and Information

- **Strengthen Local Risk Data Collection and Integration:** Develop a localised multi-hazard risk assessment system that integrates climate projections, environmental degradation data, and socio-economic impacts. This system should focus on hazards like floods, landslides, and temperature changes and be accessible to development stakeholders involved in decision-making. Ongoing efforts in updating Multi-Hazard Vulnerability Risk Assessments (MHVRAs) should take a comprehensive risk understanding into account and reflect existing localised climate risk profiles.

2. Policy and Regulation

- **Update District-Level Policies to Integrate Risk-Informed Development:** Review and revise current policies to ensure that systemic risks, particularly those linked to climate change, deforestation, and land use, are fully integrated into local planning processes. Use ongoing opportunities such as the development of a new Disaster Risk Reduction (DRR) policy to include risk-informed development from the start.
- **Implement and Enforce Land Use Zoning:** Enforce zoning regulations to prevent the development of infrastructure in high-risk areas, such as floodplains and areas prone to landslides. Use risk assessments to guide urban planning and agricultural expansion, particularly to mitigate flood risks.

3. Institutional Arrangements

- **Establish a Cross-Sector Coordination Body:** Form a cross-sectoral committee at the district level that includes representatives from agriculture, water, infrastructure, health, and disaster management sectors. This body should coordinate the implementation of risk-informed development strategies and ensure that systemic risks are addressed across sectors.
- **Capacity Building for Local Institutions:** Strengthen the capacity of local institutions by providing targeted training on risk-informed development, climate adaptation, and disaster risk management. This should focus on district-level officials, particularly those involved in agriculture, water management, and infrastructure development.

4. Finance and Resources

- **Allocate Specific Budgets for Promoting Risk-Informed Approach:** Ensure that the district's development plans include dedicated budgets for initiatives to operationalise risk-informed development across sectoral and territorial plans. This funding should support sustainable water management practices, resilient infrastructure, and climate-smart agriculture.
- **Access Climate Finance:** Facilitate access to international climate finance mechanisms, such as the Green Climate Fund, to support projects that enhance resilience in agriculture, water management, and infrastructure. Prioritise projects that deliver multiple co-benefits, such as water conservation and flood protection.

5. Partnership and Collaboration

- **Promote Public-Private Partnerships for Resilient Infrastructure:** Engage the private sector in building climate-resilient infrastructure (e.g., roads, bridges, flood protection systems) and sustainable water management systems. Create incentives for the private sector to invest in risk-reduction initiatives.
- **Foster Community Engagement:** Strengthen collaboration with local communities and civil society organisations to integrate traditional knowledge into risk management and climate adaptation efforts. Ensure that local farmers, water users, and indigenous groups are actively involved in the design and implementation of resilience-building measures.

6. People, Culture, and Environment

- **Raise Awareness of Systemic Risks:** Implement district-wide awareness campaigns that highlight the interconnected nature of risks related to climate change, environmental degradation, and socio-economic development. These campaigns should focus on encouraging sustainable agricultural practices, water conservation, and disaster preparedness.

- **Gender and Inclusion in Risk Management:** Ensure that women and marginalised groups are included in decision-making processes related to risk-informed development, particularly in the agriculture and water sectors.
- **Leverage Ecosystem-Based Approaches:** Promote the use of nature-based solutions (e.g., reforestation, riverbank restoration) to reduce vulnerability to floods and landslides. These solutions should be integrated into sectoral planning, particularly in water, agriculture and infrastructure development, to enhance long-term resilience.

Conclusion

By addressing the critical gaps identified and applying these recommendations, Swat district can strengthen its enabling environment for the application of risk-informed development. This approach will help ensure that systemic risks are accounted for in both sector- and territory-based planning processes, leading to more resilient and sustainable outcomes for the district.

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