

Building Climate Resilience through Inclusive Social Protection Policies: A Case of Rajanpur

Dr. Imran Zahoor¹, Muhammad Anas Butt², Kulsoom Fayyaz³, Muhammad Adnan Saeed⁴

¹ Consultant & Resource Person (Climate Change and Water Governance Specialist), Institute for Educating Environmental Resilience & Governance, Lahore, Pakistan

Email: imran.zahoor@lsituo.edu.pk

² Assistant Director (Environment). Email: anaskhalidbutt@gmail.com

³ Lecturer, Department of International Relations, LCWU Email: kulsoom.fayyaz@lcwu.edu.pk

⁴ Lecturer Govt. Graduate College Muzaffargarh. Email: adnansaeed387@gmail.com

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Abstract

The paper explores how inclusive social protection can be used in increasing climate resilience in vulnerable populations in the Pakistani particularly district of Rajanpur, Punjab, which is prone to flooding and displays a high level of socio-economic strain and hardship. The paper will address gaps in the existing policy responses and evaluate the degree to which the equitable recovery and long-term survival can be promoted through adaptive social protection. The research involves the use of primary sources of secondary data such as the District Local Adaptation Plan of Action (LAPA) of Rajanpur, resilience reports of the Pakistan Poverty Alleviation Fund (PPAF), climate vulnerability reports, and a thematic qualitative analysis of current institutions and social safety nets. They triangulate the findings by using quantitative indicators, which include livelihood disruption, gender-specific vulnerability, and household levels as based on the governmental and NGO data. Considering that the research is based solely on secondary data, there are few possibilities to validate and verify the study in real-time and local participatory validation. Lack of regular, gender-disaggregated climate vulnerability data is also an added constraint to analysis. The findings reveal that despite the localized adaptation planning that is in place in Rajanpur, the current social protection programs are still disjointed and reactive. Absorptive and adaptive capacities can be improved by involving climate-risk management into social assistance especially cash and livelihood support to women. The emergence of institutional coordination and inclusive targeting has become a right of way in the resilience building practice. The policy frameworks are to move towards social protection responsive to climate changes, which includes flexible funding, digital inclusion, and gender equity. Enhancing inter-agency connections between the disaster management authorities, the local governments and the civil society will improve the climate adaptive governance in rural Pakistan.

Keywords: Climate Resilience; Inclusive Social Protection; Mixed-Method Study; Flood Vulnerability; Adaptive Governance; Rajanpur; Gender-Responsive Policy

1. Introduction/Background

Inclusive social protection systems play a pivotal role in enhancing climate resilience for marginalized populations in Pakistan's disaster-prone regions. Rajanpur district, situated at the confluence of the Indus River and Sulaiman mountain range in South Punjab, has long been recognized as one of the country's most climate-vulnerable areas, facing repeated floods and chronic socio-economic problems in the result of natural

disaster. Rajanpur's population exceeds 775,000, with nearly 36% directly affected by the catastrophic 2022 monsoon floods, which displaced over 280,000 residents and damaged over 45% of agricultural land entire district. Historical records from the National Disaster Management Authority (NDMA) and Provincial Disaster Management Authority (PDMA) detail severe infrastructure losses, including destroyed schools, health units, and irrigation infrastructure, resulting in long-term disturbance to livelihoods and public services. The economic sector of the district is extremely vulnerable to climatic shocks. According to the Pakistan Poverty Alleviation Fund (PPAF), about 70 percent of it is relying on subsistence farming and livestock, and the poverty ratio is gradually higher than the other part of the country in the result of natural calamities especially frequent flood. Rajanpur is one of the worst performers in literacy in Punjab with less than a third of the populace (thirty-seven percent) and access to formal jobs, and it lacks adequate coverage of traditional social safety nets, including the Benazir Income Support Programme (BISP) and the Ehsaas Cash Transfers, which in times of climate disasters reach out to less than half of the most affected communities. Weaknesses in the current social protection systems are further worsened by the fragmented governance structures, low fiscal ability at the district and tehsil levels and outbreak of the diseases after the disaster events.

The issue of gender differences also increases the vulnerability of the Rajanpur district. Women are the largest informal agricultural labourers but they own less than one in ten land titles and are pointedly underrepresented in local government institutions (UN Women, 2023). According to the Rajanpur District Local Adaptation Plan of Action (LAPA) and further assessments of climate vulnerability, it invariably highlights the fact that out of every 57 per cent of flood affected people, they are women and children, whose adaptive capacities are compromised due to unequal access to cash, food security programmes and healthcare services.

Disaster response and recovery is an example of institutional fragmentation: local government, the Provincial Disaster Management Authority (PDMA), civil society, and non-governmental organisations in most cases work in silos, making targeting, duplication of relief provision, and ineffective information flows to be present. The lack of real time and gender disaggregated climate vulnerability statistics are also considered data barriers limiting the effectiveness of policy action. The international systems, such as the ones devised by the World Bank on adaptive social protection, emphasize the necessity to incorporate climate risk management in the regular social assistance systems and facilitate digital inclusion, adaptive funding schemes, and inclusive community activities.

Recent findings at Rajanpur have shown that interventions that involve climate-informed cash transfer, productive asset transfer and community-based early warning system may significantly improve adaptive household-level capacities. However, these promising practices are still scattered and need to be scaled systematically by increasing the level of coordination between disaster management authorities, local governments and the grassroots organisations. It has been highlighted in the literature that institutional reforms should focus on inclusive targeting, capacity building and underlying gender and livelihood inequalities to deliver robust resilience outcomes. This study focuses on Rajanpur as a policy learning and adaptive governance critical case study of rural Pakistan, based on secondary data of the LAPA, PPAF reports, and government/NGO datasets. The results will be used to guide policy suggestions to develop coordinated, gender-sensitive, and climate-responsive social protection mechanisms and, thus, help to create the equitable and sustainable recovery processes.

2. Objectives/Research Questions/Hypotheses

- Assess the effectiveness of current social protection programs in enhancing climate resilience and reducing vulnerability in Rajanpur district.
- Examine the role of gender-responsive social protection policies in targeting marginalized populations, particularly women and children, during climate-triggered disasters.
- Identify institutional and governance barriers to integrated, adaptive social protection and propose mechanisms for improving coordination among key stakeholders.

Research Questions

- To what extent do existing social protection programs address the specific needs of climate-vulnerable households in Rajanpur?
- How does the inclusion of gender-sensitive criteria influence the effectiveness and equity of social protection during climate emergencies?
- What institutional challenges limit the integration of climate risk management into social safety nets, and how can these be overcome in Rajanpur's context?

Hypothesis

Adaptive and inclusive social protection measures that incorporate climate risk management and gender-responsive targeting will significantly improve the resilience, recovery, and long-term survival of vulnerable populations in flood-affected Rajanpur district compared to approaches that are reactive and fragmented.

3. Literature Review

Social protection and climate resiliency thematic literature review has a few unified themes. First, it is highlighted on the multifunctional role of social protection, which includes both the immediate response to the disaster with relief and the long-term formation of the adaptive capacity with high emphasis on shock-responsive and anticipatory effects (Agrawal et al., 2019; O'Brien et al., 2018). Second, the literature emphasizes the need to incorporate climate risks management into social protection initiatives so that they can be more effective and scalable in prone situations like Pakistan (Costella et al., 2019; NDMA, 2023). Third, gender responsive and socially inclusive targeting is given importance in order to solve the unequal climate exposure of the disadvantaged mainly women and children (UN Women, 2023). Fourth, a set of difficulties related to governance and institutional coordination becomes one of the significant obstacles, and the need to enhance inter-agency coordination and local adaptive planning is promoted (IIED, 2023). Lastly, the aspect of social protection in fostering social unity and societal backing of climate action portrays the societal presence in terms of the indirect role of economic alleviation (Malerba, 2022; Moeti et al., 2023). These themes combine in presenting the changing discussion on how inclusive social protection may be used to achieve resilient, equitable, and sustainable development in climate-prone areas like Rajanpur district.

3.1 Multifunctional Roles of Social Protection

The wide range of purposes that social protection fulfils comprises poverty, vulnerability, and climate risk management by acting along the preventive, protective, promotive, and transformative lines (Rana et al., 2022; Kuriakose et al., 2013). It does not just provide short-term shock absorbing arrangements, but also encourages the diversification of livelihoods and structural adjustments that aid resilience in the long run (Malerba, 2021). These functions take on particular importance in flood-prone, agriculture-reliant districts (like Rajanpur) because of climatic shocks, which worsen already existing, social, and economic imbalances (Ahmad et al., 2022).

3.2 Shock-responsive and Adaptive Social Protection.

The literature places shock responsive social protection (SRSP) as one of the main innovations in climate adaptation that combines social assistance programmes with hazard preparedness and risk management (O'Brien et al., 2018; Davies et al., 2009). These mechanisms encompass anticipatory cash transfers, insurance, and labour-market support which can be expanded swiftly to reduce the effect of livelihood in the event of unforeseen incidences like floods (Rutkowski & Bousquet, 2019). The social protection systems in Pakistan continue to undergo development, but they continue to have issues in their implementation to operationalise SRSP, especially at the local government level (World Bank, 2024).

3.3 Impact Evidence on Social Protection.

Empirical evidence shows that social protection interventions, including cash transfer, livelihood support, and micro-finance, have crucial roles to play in alleviating poverty and making people resilient. Cash transfers in the post-disaster period were proven to support livelihood restoration and psychological recovery, whereas community asset programmes allow adaptation to be long-term (Roberts and Pelling, 2018; Roelen et al., 2018). The success of such programmes however usually relies on the accuracy of the targeting and the compatibility with the local disaster management systems, where they are still disjointed in most parts of Pakistan (Siddiquei, 2011; PPAF, 2024).

3.4 Meeting Gender and Social Inequalities.

Gender responsiveness and social inclusion are some of the majors belongs to the existing social protection models in South Asia. Females and children are also more likely to be indirectly affected by the climate whereas, in most cases, they are less prone to social safety nets and decision-making opportunities (UN Women, 2023; Government of Punjab, 2023). These gaps are complicated by the lack of gender-disaggregated data, which prevents the assessment of vulnerabilities to an adequate level and the development of specific interventions. The incorporation of gender sensitive programming leads not only to increased equity, but also to the efficacy of the programme in general by empowering marginalised populations (Ahmad et al., 2022; IPCC, 2022).

3.5 Policy Integration and Reforms of Governance.

Coherent integration of policy and institutional coordination are needed to achieve an effective climate-resilient social protection. Several reports indicate a lack of unity when it comes to governance structure, inadequate fiscal decentralisation and the capacity gaps as obstacles to the scaling of adaptive social protection (Costella et al., 2021; IIED, 2023). The devolved federal system of Pakistan has contributed to fragmented policies in different provinces, which gives rise to an unequal delivery of services (IIED, 2023). The systematic climate risk integration, in turn, requires strengthening the coordination of disaster management authorities with the provincial governments and the civil society (NDMA, 2023).

3.6 Social Cohesion and Social Protection.

The new studies associate social protection and increased social cohesion, trust, and collective climate action preparedness (Malerba, 2022). Efficient social safety nets that can provide the benefits in a timely and equitable way are known to reduce the vulnerabilities and encourage the people to collaborate in the community and advocate the climate policies (Moeti et al., 2023). Such linkages are also unexploited, yet in Pakistan they have potential to amplify the effect of climate adaptation efforts, especially in the rural and marginalised regions, e.g. Rajanpur (IDS, 2024).

3.7 Pakistan-Specific Policy and Program Insights

The flagship poverty alleviation and social protection initiatives in Pakistan, such as Benazir Income Support Programme (BISP), Ehsaas Emergency Cash, and Pakistan Poverty Alleviation Fund (PPAF) have increased coverage rates of vulnerable populations but still have flaws in terms of integration into climate adaptation and gender inclusivity (IDS, 2024; Roberts and Pelling, 2018). The fact that the PPAF invested in climate-resilient infrastructure and social education is a commendable example but it needs to be scaled and better coordinated with social registries, like the National Socio-Economic Registry (NSER) (IIED, 2023). Fragmentation of data and lack of consistent targeting are still inherent issues that prevent the programmes to build resilience with regard to the district level (NDMA, 2023).

The literature reviewed provides a more subtle insight into the role of inclusive social protection in climate resilience and its transformation. Despite the effectiveness of social protection in poverty reduction and

recovery, flaws in gender responsiveness, data integration, and institutional coordination remain especially in the vulnerable districts in Pakistan like in Rajanpur. Sealing these gaps via anticipatory, gender-sensitive and integrated social protection models will be invaluable to the development of equitable and sustainable climate resilience, as well as will guide the policy and objectives set in the research presented in the study.

4. Methodology

The research design of the study consists in the interpretation of secondary sources of data, and aims at exploring how inclusive social protection systems play a role in climate resilience in the at-risk, flood-prone region of Rajanpur, Punjab. The first sources of primary data include the District Local Adaptation Plan of Action (LAPA), which is a resilience and vulnerability plan of Rajanpur, reports on climate vulnerability, and reviews of social protection programs by the government and non-governmental organizations. The study uses the thematic qualitative analysis to examine the institutional arrangements, social safety nets and their integration of climate risk management in these systems. It also triangulates quantitative data using indicators like livelihood disruption, gender-specific vulnerabilities and household-level impacts thus providing a full picture on resilience capacities and policy gaps.

The research is based solely on secondary data, there are weaknesses of lack of validation and direct, real-time fieldwork and the involvement of the community. Also, there is little available gender-disaggregated climate vulnerability data that reduces the richness of the gender-oriented analysis. However, the combination of several data streams increases the validity of the results. The given kind of approach can help to analyse whether the existing interventions are effective or not, highlighting the reactive nature of the modern interventions applied and their disorganized nature. The methodology also aims to establish avenues of improving the absorptive and adaptive capacity by enhancing institutional coordination, inclusive targeting especially to women, and development of policy recommendations that help in the development of flexible funding mechanisms, digital inclusion, and enhanced inter-agency collaboration in climate adaptive governance in rural Pakistan.

5. Findings

5.1 Declining Agricultural Productivity and Economic Impacts

Wheat yields in Rajanpur have declined significantly, falling from an average of about 2835 kilograms per hectare during the 1990s to nearly the same level in recent years. This stagnation reflects the adverse impacts of rising temperatures, irregular irrigation cycles, and recurrent floods (Local Adaptation Plan of Action [LAPA], 2023; Ahmad et al., 2022). Similar reductions have been reported in rice and cotton yields, primarily due to climatic stress and water scarcity. According to the Pakistan Bureau of Statistics (2023), rice production in the district decreased by over 15 percent between 2021 and 2023, threatening long-term agricultural sustainability. In 2022, 42 percent of cultivable land was flooded, which added to a decrease of 25 to 30 percent in the income of farming households and pushed many into poverty (Pakistan Poverty Alleviation Fund [PPAF], 2024; Siddiqi, 2021). Other tendencies of livestock losses worsen the livelihoods, highlighting the need to have resilient agricultural interventions (Khan and Malik, 2024).

5.2 Accessibility and Lacks in Social Protection's Excellence.

Although, social safety nets like the Benazir Income Support Programme (BISP) and the Ehsaas Emergency Cash are provided, less than fifty percent of households caught in the floods in Rajanpur received the necessary help within the required time during the 2022 floods (Institute of Development Studies [IDS], 2024). The beneficiary data is disproportionate to marginalize groups and especially to women headed families and landless labourers thus restricting resilience among the most vulnerable (UN Women, 2023; PPAF, 2024). Household economic distress and recovery were hindered in Rajanpur City by the slow enactment of emergency cash transfer, which led to the significant coordination problem between

governmental agencies and NGOs (World Bank, 2024).

5.3 Gender-Specific Vulnerabilities and Social Inclusion.

There are over 57 percent of women who are displaced by the climate events in Rajanpur yet less than 20 percent of livelihood assistance due to being trapped in gender inequalities and the absence of gender-specific social protection interventions (UN Women, 2023; Iqbal et al., 2025). The focus-group interviews in the Alipur tehsil of Rajanpur have found that they have limited participation in decision making that is adaptive, and also access to credit and agriculture extension services thus making them more vulnerable (PPAF, 2024). Insufficient gender-disaggregated data is an institutional issue, which adversely affects successful inclusion in social protection programming (Government of Punjab, 2023).

5.4 Constraints of Institutional Coordination and Governance.

Different governance of local and provincial authorities to govern disaster management complicates integrated social protection response. The institutions of provincial governments act in silos with the Provincial Disaster Management Authority (PDMA) and district governments creating duplication and exclusion mistake (International Institute for Environment and Development [IIED], 2023). Transfers of funds and bureaucracy slowed the speed of relief and livelihood recovery programs in the Jampur tehsil in case of floods (NDMA, 2023). The inefficiencies in the digital infrastructure also hinder the real-time vulnerability monitoring and adaptive planning (Costella et al., 2021).

5.5 Social protection and Climate Risk Management Integration.

The social protection system in Rajanpur remains largely reactive, offering short-term relief measures that fail to address the root causes of climate vulnerability. This reactive approach undermines the district's adaptive capacity, leaving communities unprepared for recurring floods, droughts, and heatwaves. Weak institutional coordination and limited financial integration between disaster management and social welfare departments exacerbate response delays, resulting in loss of livelihoods and prolonged recovery periods (LAPA, 2023). The absence of anticipatory mechanisms such as climate risk profiling, localized early warning systems, and adaptive social transfers restricts the resilience of smallholder farmers and marginalized groups. In flood-prone areas like Jampur, inadequately targeted cash assistance and limited access to resilient seeds or infrastructure deepen poverty cycles and food insecurity (Siddique, 2021). The persistent lack of institutional integration and long-term climate planning thus perpetuates structural vulnerability, constraining socioeconomic stability and sustainable rural development (Pakseer & Khan, 2023).

5.6 Implications of the Policy and Future Resilience Pathways.

The policy analysts believe that the social protection systems should be reorganized to enable the realization of climate resilience by implementing the flexible financing models, gender-sensitive frameworks, and the strengthened multisectoral coordination (NDMA, 2023; PPAF, 2024). Enhanced targeting and disclosure, in turn, can be achieved through establishing effective digital data governance, which should include regular monitoring, targeting particular gender and vulnerability groups (IDS, 2024). Inclusion of women and marginalised groups in the decision-making processes enhances social solidarity and increases the validity of resilience efforts (Malerba, 2022). These strategies can be used to drive sustainable and inclusive response to climate change in Rajanpur.

6. Discussion

The results at Rajanpur explain the multi-dimensional weaknesses faced by the district that has to face two burdens, climatic variability and established socio-economic inequalities. The drastic decrease in the agricultural yields, namely, the reduction of wheat yields by almost half compared to the past levels,

demonstrates the direct material impact of the climatic hazards, which is magnified by the lack of irrigation facilities and damage caused by the floods (Local Adaptation Plan of Action 2023). The agricultural crisis is not just an economic statistic because it places food insecurity in many households and extends poverty circles in many tehsils such as Rajanpur City and Alipur, where smallholder farmers are the majority. Unless significant amounts of funds are allocated towards climate-sensitive agriculture, including the use of drought-resistant varieties, the optimization of irrigation, and livelihood diversification, there are high chances that these rural communities will become progressively poor and displaced (PPAF, 2024).

Covering of social protection programmes with partiality and fragmentation reveals gaps in system governance and targeting. Even though other policies like the Benazir Income Support Programme and the Ehsaas Emergency Cash provide women-head households and resident farmers with the much-needed relief, their insufficient prioritization of these groups emphasizes the systematic gender and class biases of the institutional structures (Iqbal et al., 2025). This marginalization is especially disturbing because women constitute the largest groups of climate-vulcanized masses but they face an added difficulty in accessing cash aid, farm inputs, and extension services. The same community discussions in flood prone Rojhan Tehsil provide qualitative evidence that compensation systems are still biased in favour of land-owning elites thus further marginalizing the vulnerable tenant cultivators. These inequalities are not only the injustices but also the lack of climate resilience as the weakest are not able to respond or adapt to changes therefore, creating the generational vulnerability (Transparency International Pakistan, 2024).

Considering the present governance arrangement, it goes without saying that the shortages of capacity are manifested in a fragmented institutional environment. Local councils, the Provincial Disaster Management Authority (PDMA) and NGOs mostly work independently, balancing various priorities. This lack of coordination slows emergency responses, creates inefficiencies and leaves gaps - especially in places like Jampur - where bureaucratic holdups and weak data sharing chokes adaptive efforts (International Institute for Environment and Development [IIED], 2023; National Disaster Management Authority [NDMA], 2023). There is no digital infrastructure yet and this simply makes access to real-time climate risks data or allocating resources flexible. In their absence we miss the opportunity to identify vulnerable households within a short time and are unable to adapt the programs according to evidence, which is essential since the climate is continually changing (Costella et al., 2021; World Bank, 2024).

Combination initiatives of integrating social protection and management of climate risk are still young but helpful. Such pilot interventions as the combination of anticipatory cash transfer with flood-resistant seed supply and technical assistance have shown a quantifiable decrease in the time of livelihood restoration and a decrease in distress migration (Siddique, 2021; Pakseer and Khan, 2023). Such proactive practices are in sharp contrast to conventional reactive paradigms and represent the possibility of adaptive social protection systems developing proactive resilience. Moreover, these new programs highlight the need of localization, i.e. the interventions must be tailored to the particular local subdistricts environmental and socioeconomic conditions in order to make them relevant and effective.

These analyses have policy implications that highlight the need to shift towards flexible, gender-responsive, and coordinated social-protection frameworks. Incorporating gender equity should not be a mere rhetoric, but a tangible fact that involves participatory processes that will empower the marginalised women in decision-making and tackle the structural inequalities that limit their access to resources (Malerba, 2022; UN Women, 2023). The increased fiscal flexibility will support quick scaling and target changes that would be in line with changing climate conditions. More importantly, it will be supported by the creation of strong digital data infrastructures that will be able to map vulnerabilities and monitor gender-disaggregated data regularly and base the evolution of policies on transparency, accountability, and evidence (Institute of Development Studies, 2024). Challenges in institutional silos can be broken by fostering collaborative governance, through connecting PDMA, local bodies, NGOs and community committees to establish integrated resilience pathways that comprehensively address both climatic and social vulnerabilities.

In general, the experience of Rajanpur summarizes the complexity of nexus of climate risk, social protection, and governance limitations that are at the foundation of vulnerability in most of rural Pakistan. The issues and new adaptive efforts of the district all indicate that inclusive, proactive, and highly-coordinated social-protection systems are essential to sustainable climate resilience. To improve on these systems, policymaking should be subtle and contextually based and focus on equity, agility, and empowerment of the community, which will allow the people of Rajanpur to move beyond reactive reactions and resilience as climatic crises escalate.

7. Conclusion

This paper concludes that inclusive social protection is the key to climate resilience among vulnerable groups in the district of Rajanpur, which tends to have frequent floods and socio-economic difficulties. The agricultural productivity in the district has reduced drastically. The primary causes are climate-related stresses such as erratic rainfall, heatwaves, and floods. Such circumstances increase livelihood shocks and enhance poverty and food insecurity. Existing social protection initiatives assist a large number of households. Nevertheless, their coverage is low, they are also fragmented and do not pay enough attention to marginalized populations in particular to women and landless workers. Such inadequacies bring imbalanced advantages. Consequently, there are a number of individuals who are susceptible to recurrent shocks. The case highlights the necessity to reorganize social protection. We need to deal with injustices and make sure that the most vulnerable groups get necessary help in time.

Climate response and long-term adaptation is more difficult due to institutional inefficiencies and issues with governance. The inability to absorb and adapt by communities is weakened by delayed relief and lack of coordination between government agencies, local authorities and civil society. The existing systems are reactive and not proactive hence are incapable of preparing against future climate events. In order to create the sustainable resilience, the social protection of Rajanpur needs to be anticipatory, flexible, and gender-responsive. Close interconnection of these systems with climate-risk management and more robust local governance will enable communities to recuperate more rapidly after the disaster and develop adaptive capacities that reduce future vulnerability to the climate. This holistic change is central in developing resilient rural livelihoods and equitable development in flood prone regions like Rajanpur.

Future studies ought to enhance our empirical knowledge of the functioning of adaptive social protection across the diverse tehsils of Rajanpur with preference to gender sensitive and intersectional perspectives. The gathering of participatory and real-time data and involvement of the community will be more effective in validating the policy impacts. The studies of digital inclusion programs and interventions based on multi-stakeholder governance models can assist in developing scalable, context-specific resilience interventions. In addition, the discussion of the fiscal viability and institutional capacity of decentralized climate adaptation plans will help to match the national policy objectives with the implementation at the district level. This research agenda will be necessary to develop equitable and effective climate governance that will promote the long-term survival and recovery of the vulnerable residents in Rajanpur.

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Appendix

Appendix A: Summary of Secondary Data Sources

Source Type	Document/Organization	Relevance to Study
District Climate Plan	Local Adaptation Plan of Action (LAPA), Rajanpur	Provides localized climate vulnerability data and adaptation strategies for Rajanpur
Government Report	<i>Punjab Flood Vulnerability and Gender Assessment Report</i> – Government of Punjab	Gender-disaggregated analysis of flood impacts and vulnerabilities.
NGO Report	Pakistan Poverty Alleviation Fund (PPAF) Resilience and Vulnerability Reports	Data on social protection interventions, livelihood recovery, and resilience outcomes.
Institutional Assessment	International Institute for Environment and Development: Adaptive Social Protection & Governance Challenges in Pakistan	Governance analysis and coordination barriers in adaptive social protection.
National Statistics	Pakistan Bureau of Statistics – District Crop Production Data	Quantitative indicators for agricultural productivity and economic losses.
Policy Analysis	World Bank – Improving Adaptive Social Protection Systems in Pakistan	Policy framework for integrating climate risk management in social protection.
Gender Study	UN Women – Gender and Climate Vulnerability in South Punjab	Data on women’s access to resources, decision-making, and climate resilience.

Appendix B: Gender-Disaggregated Indicators

Indicator	Male	Female	Source
Flood-affected population (%)	43%	57%	Government of Punjab (2023)
Access to cash assistance (%)	65%	35%	UN Women (2023)
Ownership of agricultural land (%)	90%	10%	PPAF (2024)
Participation in community decision-making bodies (%)	78%	22%	IIED (2023)
Access to microcredit or livelihood grants (%)	60%	40%	IDS (2024)

Appendix C: Policy Matrix — Adaptive Social Protection in Rajanpur

Program	Implementing Body	Coverage in Rajanpur	Adaptive Components	Identified Gap
NDMA/PDMA Relief Operations	National & Provincial Disaster Authorities	Emergency response zones	Rapid relief deployment	Overlaps with NGO programs; limited data integration
Benazir Income Support Programme (BISP)	Federal Government	Moderate (urban & peri-urban households)	Provides emergency cash support	Limited integration with climate risk management; weak gender targeting
Ehsaas Emergency Cash	Federal Government	High during 2022 floods	Short-term relief via digital transfers	Temporary coverage; lacks livelihood linkage
Pakistan Poverty Alleviation Fund (PPAF)	NGO	Rural and remote tehsils	Livelihood restoration, community resilience	Limited scalability; coordination with PDMA insufficient
District Local Adaptation Plan of Action (LAPA)	Local Government	Entire district (policy framework)	Climate risk assessment, adaptation planning	Weak implementation; resource constraints

Appendix D: List of Acronyms and Abbreviations

Acronym Full Form

BISP	Benazir Income Support Programme
PPAF	Pakistan Poverty Alleviation Fund
LAPA	Local Adaptation Plan of Action
PDMA	Provincial Disaster Management Authority
NDMA	National Disaster Management Authority
IIED	International Institute for Environment and Development
IDS	Institute of Development Studies
UNDP	United Nations Development Programme
WFP	World Food Programme
GIZ	Deutsche Gesellschaft für International Zusammenarbeit
SRSP	Shock-Responsive Social Protection
ASP	Adaptive Social Protection