

## **Role Of Non-Governmental Organizations In Promoting Climate Action In Pakistan**

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### **ABSTRACT**

This study examined the impact of non-governmental organizations (NGOs) on climate action in Pakistan, focusing on their roles, achievements, and challenges. NGOs are pivotal in advancing climate resilience through activities such as disaster risk reduction, ecosystem restoration, renewable energy initiatives, and community-based adaptation. Despite their significant contributions, NGOs face barriers including inconsistent funding, political instability, bureaucratic red tape, and limited public engagement, particularly in rural regions. This paper juxtaposes significant interlinks in the existing research to unearth prominent themes concerning NGOs role in promoting climate action and supplements these with in-depth interviews from relevant stakeholders. The research highlights strategic opportunities for NGOs to enhance their impact, including forming stronger partnerships, leveraging technological innovations, and engaging in policy advocacy. It underscores the importance of addressing these challenges through capacity building and diversified funding to ensure the long-term success of climate initiatives. By effectively navigating these obstacles, NGOs, can play a crucial role in achieving both national and global climate objectives.

**Keywords:** Non-governmental Organizations; Climate Change; Climate Action; adaptations; Pakistan.

### **1. INTRODUCTION**

Climate change refers to any change in climate over time, whether due to natural variability or as a result of human activity. It is a global issue that transcends national borders, affecting the environment, economies, and societies worldwide (Morales, 2022).

Pakistan is ranked as the 5th most vulnerable country to climate change, according to the Global Climate Risk Index. This ranking reflects the increasing severity of extreme weather conditions, such as the catastrophic floods in 2022 (Garrett & Santos, 2024). These floods caused

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an estimated total damage of PKR 3.2 trillion (US\$ 14.9 billion) and a total loss of PKR 3.3 trillion (US\$ 15.2 billion). Floods and droughts have become regular occurrences in Pakistan, disrupting communities and economies year after year (Otto, et al., 2023).

Pakistan's vulnerability to climate change stems from various factors, including its susceptibility to unusual weather patterns, which present significant strategic challenges. Rising temperatures cause glaciers in the northern areas to melt rapidly, while unusual and erratic monsoon rains have led to unprecedented flooding (Abbasi & Nawaz, 2020; Ishaque, et al., 2022).

Droughts, floods, changing seasonal cycles and extreme weather conditions can easily be felt by common citizens having implications for food security and fresh water availability that results in massive internal migration, hence opening cascade of social and economic changes demanding for review of existing policies and stakeholder responses (George, 2023).

In response to these challenges, climate action in Pakistan has become increasingly crucial. Various stakeholders, including governmental bodies, private sector entities, and civil society organizations, have taken steps to promote climate resilience. Among these actors, Non-Governmental Organizations (NGOs) have emerged as pivotal agents of change in the battle against climate change. NGOs operate independently of the government and business sectors, focusing on promoting the public good rather than profit. (Haris, et al., 2021).

NGOs, particularly those involved in environmental management, play a variety of roles. According to Youssef, these roles include advocacy, grassroots and service-level support, and monitoring and analysis of environmental policies. Environmental NGOs contribute significantly to international environmental protection and global governance. Their efforts in climate action encompass advocacy, education, project implementation, and community engagement (Youssef, 2024). Collaboration between the state and NGOs can be a powerful tool for achieving climate resilience. As a result, NGOs are critical in shaping climate change policies and promoting climate action in Pakistan.

Hence there is a dire need to investigate the effectiveness, scalability, and challenges faced by NGOs in their climate change mitigation and adaptation efforts within the Pakistani context. Furthermore, it is important to understand the synergy between governmental policies and NGO-driven initiatives to craft comprehensive strategies for sustainable climate action, ultimately advancing Pakistan's resilience and commitment to global climate goals.

## **2. LITERATURE REVIEW**

### **2.1 CLIMATE CHANGE AND ITS IMPACTS ON PAKISTAN**

Pakistan's population and socioeconomic dynamics are heavily shaped by its diverse terrain and climate. Spanning 796,000 K m<sup>2</sup>, the country experiences varied temperatures and rainfall patterns (Zahoor & Huma, 2024). The northern and western regions receive most of their rainfall in the country, while central and southern Pakistan receive limited rainfall throughout the year except during summer monsoons. Most of Pakistan's arid to semi-arid regions receive less than 250 mm of rainfall annually, except for the northern sub-mountain areas and southern Himalayan slopes, where rainfall ranges from 760 mm to 2,000 mm (Hussain, et al., 2022).

The geographical features of Pakistan's western and southern regions, such as the Balochistan Plateau and the Indus River basin plain, significantly influence the country's

socioeconomic landscape. The Indus basin, covering 65% of Pakistan's land area, is home to the world's largest continuous irrigation system, the Indus Basin Irrigation System (Lytton, et al., 2021). This region experiences varying temperatures, with the higher plains receiving an average annual rainfall of 230 mm. in contrast, the Baluchistan plateau, consisting of mountain ranges and vast deserts, receives very little rainfall, averaging 20 to 30 millimeters per month and less than 210 millimeters annually (Jamil & Mahmood, 2024).

Pakistan's geographic and climatic conditions have a profound impact on its population and socioeconomic dynamics, contributing to persistent cycles of poverty (Sheikh, et al., 2022). The country's vulnerability to climate change, particularly in the agricultural sector, exacerbates these challenges. Furthermore, socioeconomic inequalities, limited capacity for adaptation, and regional disparities hinder Pakistan's ability to manage the effects of climate change (Yasin, et al., 2021). Addressing these complex issues and implementing effective adaptation strategies is essential for promoting sustainable development and building climate resilience.

### **2.1.2 Impacts of Climate Change in Pakistan:**

A review of existing studies and reports on climate change impacts in Pakistan underscores a broad spectrum of critical environmental, economic, and social challenges. The country's distinctive geography, heavy dependence on agriculture, and socioeconomic conditions make it one of the most vulnerable nations to climate change (Farooq & Fatima, 2022). These reports provide a stark assessment of current effects and offer concerning predictions for the future.

#### ***Observed Impact of Climate Change in Pakistan:***

Numerous studies have highlighted the visible effects of climate change on Pakistan's ecosystems, economy, and population.

*Temperature Rise and Glacial Melt:* Pakistan Meteorological Department (PMD) reports a steady increase in the country's average temperatures over recent decades, with a rise of approximately 0.6°C since the early 1900s (Safdar, et al., 2023). This warming trend has intensified glacier melt in the Himalayas and Karakoram ranges. Research by Romshoo reveals that glaciers in these regions are melting faster than many others globally, supplying the Indus River system but threatening long-term water availability as they continue to shrink (Romshoo, et al., 2022).

*Extreme Weather Events:* According to the Global Climate Risk Index, Pakistan is among countries most severely impacted by extreme weather events in the past decade, including frequent floods, droughts, and heat waves (Ali, et al., 2021). Significant examples include the devastating floods of 2010 and 2022, which displaced millions and resulted in substantial economic losses. The Asian Development Bank (ADB) estimates that the 2010 floods affected over 20 million people, while the 2022 floods caused damages exceeding US\$30 billion (Joiya & Aslam, 2023).

*Agriculture and Water Stress:* Shifting precipitation patterns are profoundly effecting Pakistan's agricultural sector, which depends on consistent monsoon rains. The unprecedented rainfall of the 2022 monsoon caused severe floods, while other regions, especially Baluchistan and Sindh provinces, have experienced persistent droughts (Saeed & Salik, 2022). According to Shahzad & Amjad (2022), irregular rainfall and water shortages are reducing crop yields, worsening food insecurity, and increasing rural poverty

#### ***Projected Impacts of Climate Change in Pakistan:***

**Future Projections:** According to global climate models and national reports, climate change is expected to continue posing serious risks to Pakistan's environment and economy, with far reaching effects on its population (Joiya & Aslam, 2023).

**Increased Temperature and Heatwaves:** The IPCC's Fifth Assessment Report forecasts that South Asia, including Pakistan, will experience faster warming compared to many other regions. By the end of the century, average temperature in Pakistan could rise by 3 to 5°C under high emission scenarios. This warming is likely to intensify heat waves, leading to significant health problems, decreased agricultural yields, and increased demand for cooling (Afzal & Nishtar, 2023).

**Change in Precipitation Patterns and Flooding:** Projections suggest that monsoon patterns will become more erratic, with more intense rainfall over shorter periods, resulting in more frequent and severe flooding, especially in the Indus River basin (Umar, 2024). The World Bank anticipates that future floods will be more common and damaging. Conversely, reduced precipitation in some areas is expected to lead to prolonged droughts, exacerbating water scarcity across the country (Mukhtar, 2020).

**Water Resource and Agriculture:** According to the Pakistan National Climate Change Policy (2023) and later studies, shifting weather patterns are expected to have a major impact on Pakistan's water resources (Mumtaz, 2023). Accelerated glacial melt and unpredictable rainfall could lead to significant water shortages. The Asian Development Bank predicts a 10-20% decrease in river flows by mid-century, negatively affecting irrigation-dependent agriculture, which supports over 40% of the workforce. Decreased water availability, coupled with rising temperatures, is likely to worsen food insecurity and increase economic pressure in rural areas (Umar, 2024).

**Sea-Level Rise and Coastal Vulnerability:** Pakistan's coastal areas, especially in Sindh and Baluchistan, are expected to encounter serious risks from rising sea levels. Research by Javed (2023), suggested that sea levels could increase by 0.5 to 1 meter by the end of the century. This rise threatens low-lying regions with flooding, groundwater salinization, and loss of agricultural land.

### *Socioeconomic Impacts and Vulnerability*

**Vulnerable Populations and Climate change Impacts:** Numerous studies highlight how climate change disproportionately affects Pakistan's most vulnerable groups, especially rural communities and the poor:

**Poverty and Livelihood:** According to a World Bank report, climate change is expected to worsen social inequalities in Pakistan, placing rural communities reliant on agriculture at significant risk (Shahzad, et al., 2021). Smallholder farmers will face challenges such as reduced crop yields, unreliable water sources, and rising food prices. Additionally, climate induced migration may increase as people are displaced by floods, droughts, or the loss of arable land (Nephawe, et al., 2021).

**Health Impacts:** The WHO projects that climate change will aggravate health issues in Pakistan, including heat related illness, malnutrition, and the spread of vector-borne disease like malaria and dengue. Rising temperatures, coupled with poor air quality and water scarcity, are likely to increase respiratory disease, heatstroke, and waterborne illness (Iqba, 2020).

Policy and Adaptation Gaps: The Pakistan Climate Change Policy (2023) aims to enhance resilience through water management, disaster preparedness, and reforestation. However, reports from UNDP (2019) and ADB (2020) reveal that political instability, inadequate funding, and weak institutional capacity have hampered effective policy implementation (Umar, et al., 2023). Research underscores the urgent need for Pakistan to bolster its climate resilience through improved adaptation strategies, better disaster preparedness, and enhanced international cooperation (Ahmad, et al., 2023).

## **2.2 NON-GOVERNMENTAL ORGANIZATIONS AND CLIMATE ACTION**

NGOs, being non-profit entities that operate independently from government control, engage in various activities, often concentrating on environmental issues (World Bank, 1992). They have evolved from mere observers to proactive contributors in climate discussions through strong advocacy and research. This shift has significantly enhanced their role in shaping international environmental agreements and participating in climate-related collaborations. NGOs, as non-profit, non-governmental entities, play a pivotal role in addressing climate change globally (Haris, et al., 2021). According to Morahanye (2020), NGOs can participate in climate governance by identifying policy options, contributing to policy formulation, engaging in policy implementation, and monitoring and evaluating the effects of policies. NGOs use different strategies to negotiate international environmental agreements (Streck, 2021) and influence policy-making at the domestic and national levels. Their impact relies on direct lobbying, educational campaigns, and capacity-building activities. They also collaborate with local governments, which enables them to influence policy at the subnational level (Youssef, 2024).

Several studies examine the role of NGOs in climate change policies and negotiations. They analyze the role of environmental NGOs in climate change negotiation and policy processes investigate NGO participation in climate negotiations and emphasizes that government's value NGO involvement to ensure legitimacy and signal public support. However, we need a better understanding of when NGOs are most effective and how they can best contribute to better climate governance through their activities. We need to identify the circumstances under which their contribution is considered a prerequisite for productive climate negotiations. There is an ongoing debate on the effectiveness of NGOs in climate policy, climate negotiations, and climate-related actions. This includes the situation of less democratic countries, where the actions and participation of NGOs are more limited and not favored by the government. (McCormick, 2023) examined the effectiveness of NGOs in climate governance and suggests that their influence should be increased through continuous participation and commitment to climate governance. Clearly defined actions and goals are needed to increase effectiveness. While NGOs are becoming key players in climate change negotiations and policies, they still face considerable obstacles. Zhao believe that NGOs are not to blame for the failure to solve environmental issues and consider that many other actors are equally responsible. The limited participation of NGOs is a governance issue that should be resolved to achieve more effective and better climate change governance (Zhao, 2024).

### **2.2.1 THEORETICAL FRAMEWORK**

Civil Society Theory asserts that a vibrant and active civil society is crucial for a healthy democracy and social development. NGOs, as key elements of civil society, play a vital role in bridging the gap between the state and citizens, advocating for rights, and addressing social



injustices (Cohen & Arato, 2016). There are several theories and frameworks that may be used for this study, however, keeping in view the nature of work Institutional Analysis & Development Framework has been used to steer this research.

The IAD framework, developed by Elinor Ostrom and her colleagues, provides a comprehensive approach to understanding how institutions (formal and informal rules) shape collective action in natural resource management and environmental governance (Elinor, 1990).

### **Key Components:**

*Resource System:* In the context of climate action, this refers to Pakistan's natural resources and environmental assets vulnerable to climate change, such as water resources, forests, and coastal areas.

*Resource Users:* These are the stakeholders involved in climate action, including NGOs, government agencies, local communities, and international organizations.

*Institutions:* This component includes the formal rules (laws, policies, and regulations) governing climate action in Pakistan, as well as the informal norms and practices that influence behavior and decision-making.

*Collective Action:* Focus on how NGOs collaborate with other stakeholders, mobilize resources, and engage in collective efforts to address climate change. Explore the types of partnerships and networks they establish.

*Outcomes:* Assess the impact and effectiveness of NGO-led climate action initiatives in terms of mitigation and adaptation measures, policy changes, and community resilience.

## **3.1 NGOS AND CLIMATE ACTION IN PAKISTAN**

### **3.1.1 The Landscape of Climate Focused NGOs in Pakistan:**

Pakistan hosts a variety of non-governmental organizations actively addressing climate change, ranging from large international bodies to smaller community-based groups. These organizations differ in scale, focus, and approach (Umar et al., 2023). International NGOs, play a significant role in Pakistan's climate action efforts. They often bring substantial resources, expertise, and global networks to tackle climate related issues (Mumtaz, 2021). For example, the United Nations Environment Program (UNEP) is a leading global authority on environmental matters, working to shape international environmental policies and promote sustainable development through initiatives like the Global Environment Outlook reports and the Green Economy Initiative. Similarly, the World Wildlife Fund Pakistan focuses on biodiversity conservation and sustainable development, with notable projects in the Indus River Basin and sustainable agriculture (Dashti et al., 2021). Other prominent international organizations include Mercy Crops Pakistan, the International Union for Conservation of Nature (IUCN), Islamic Relief, Snow Leopard Foundation, and Deutsche Gesellschaft Fur Internationale Zusammenarbeit (GIZ) (Umar et al., 2023).

National NGOs, deeply rooted in the local context, play a crucial role in bridging international climate frameworks with local implementation. LEAD Pakistan excels in climate policy research and advocacy, conducting vulnerability assessments and providing training on adaptation strategies. The Sustainable Development Policy Institute focuses on research and advocacy to influence climate related legislation and policies. Other notable national NGOs include the Pakistan Environment Trust, Himalayan Wildlife Foundation, Doaba Foundation, the Agha Khan Foundation, and the Pakistan Red Crescent Society (Zafer et al., 2023).

### **Role of NGOs in Promoting Climate Action**

Local, national, and regional NGOs have become key players in both development and conservation efforts. At the community level, NGOs are pivotal in addressing basic needs, raising awareness, and providing information (Umar et al., 2023). They articulate community issues and needs to decision makers, defend environmental and developmental rights, build community capacity for natural resources management, and address sustainable development concerns. National level NGOs focus on policy work, identifying gaps in existing framework, educating the public and stakeholders, and in some cases, engaging in active lobbying and protest movements (Haque, 2020).

#### **A. Awareness Raising, Campaigning, and Advocacy**

In Pakistan, the society for the Conservation and Protection of the Environment (SCOPE), established in 1988, excels in national environmental campaigns. SCOPE prioritizes building connections with local NGOs, research institutes, universities and government departments, and engages in public interest litigation and advocacy. Scientific and technical NGOs also bridge the gap between science and policy making (Reza, 2022).

#### **B. Education, Training, and Capacity Building**

An increasing number of NGOs are using education to promote participation in conservation efforts. The International Union for Conservation of Nature and Natural Resources (IUCN) is a leading international NGO in environmental education, working through its Commission on Education and Communication (CEC) to enhance environmental expertise among regional teachers by offering training, capacity building, and networking opportunities. Other NGOs collaborate extensively with governments to develop and implement national environmental education strategies (Bhandari, 2022).

#### **C. Government and NGO partnerships**

There have been efforts at the government level to formalize the role of independent NGOs in decision making process, as seen with IUCN Pakistan's contribution to the Pakistan National Conservation Strategy and the draft Pakistan Environmental Act (Haque, 2020). This shows that there is space and acceptability of ENGOS in Pakistan by rightly realizing the fact that state alone can-not deal with this mundane issue (Khan et.al., 2012).

### **3.1.2 Strategies and Approaches of NGOs:**

In recent years, the scope of activities undertaken by environmental NGOs and major groups has expanded significantly. They now engage in a diverse array of activities beyond merely raising environmental awareness or acting as pressure groups. Their efforts include environmental monitoring, promoting environmental education and training, implementing demonstration projects, partnering with governments for advocacy, and fostering regional and international environmental cooperation (Nasiritousi, 2019). Many NGOs are also involved in the practical management of conservation areas, encouraging community or individual actions, and campaigning for greater government and corporate accountability. Increasingly, NGOs in the region address both environmental and developmental issues, recognizing that environmental challenges are intertwined with economic and social system (Pratt, 2020).

NGOs employ a range of strategies to tackle climate related challenges, focusing on adaptation, mitigation, education, and advocacy. For instance, advocacy and policy influence are central to their efforts. NGOs like LEAD Pakistan and WWF Pakistan work to shape government policies, promote climate friendly regulations, and ensure compliance with global agreements such as the Paris Agreement. They collaborate with policymakers to integrate climate action into national development frameworks (Haque, 2020).

Capacity building is another crucial strategy, with NGOs working at the grassroots level to enhance community resilience. This includes training in climate smart agriculture, disaster preparedness, and renewable energy solutions. For example, the Aga Khan Development Network supports mountain communities in northern Pakistan by implementing flood protection measures and promoting resilient agricultural practices in response to glacial melting (Shahid, 2024).

Community mobilization is essential for long term sustainability. NGOs engage local communities in decision making processes and encourage ownership of climate adaptation projects. The Rural Support Program Network, for instance, works with communities in arid region like Thar to promote sustainable land use practices and water conservation. NGOs are also directly involved in implementing climate adaptation projects. Pakistan Poverty Alleviation Fund collaborates with other NGOs to introduce solar energy solutions in off grid communities, reducing reliance on fossil fuels and enhancing energy security (Vijayan, 2023).

Research and Knowledge dissemination are key areas where NGOs contribute significantly. Organizations such as WWF Pakistan conduct extensive research on the impacts of climate change on biodiversity and ecosystems, using their findings to inform policy recommendations and conservations efforts. Similarly, Disaster risk reduction is a critical focus, with NGOs implementing early warning systems and disaster preparedness training. Islamic Relief Pakistan, for example, runs DRR programs in flood prone areas to help communities prepare for and mitigate the effects of extreme weather events (Shahid, 2024).

Education and awareness campaigns are another vital role for NGOs. They run educational programs to raise public awareness about climate change and sustainable practices. WWF Pakistan's Eco-Internship Program and Environmental Education program, for instance, targets youth, educating them on environmental challenges and encouraging their participation in climate action (mumtaz, 2021). Partnerships and collaboration are essential for the effectiveness of NGO climate initiatives. NGOs rely on funding from various sources, including international donor agencies, multilateral organizations, and private foundations. Major funding bodies like the World



Bank, UNDP, and Green Climate Fund Support climate adaptation and mitigation projects in Pakistan (Tanner et al., 2019). NGOs such as WWF Pakistan's Recharge Pakistan program which aims to improve the resilience of some of the country's most vulnerable communities affected by the impacts of climate change. The project is supported by the Ministry of Climate Change and Environmental Coordination (MoCC), the Federal Flood Commission (FFC) under the Ministry of Water Resources, the Green Climate Fund (GCF), the U.S. Agency for International Development (USAID), The Coca-Cola Foundation (TCCF) and WWF (Nisa et al., 2021).

In addition to external funding, NGOs collaborate with government agencies to align their projects with national climate policies and access public resources. For example, the National Disaster Risk Management Fund works with local NGOs to implement disaster risk reduction initiatives, benefiting from governmental data in infrastructure while leveraging the grassroots reach of NGOs (Shahid, 2024).

Partnerships with other NGOs and international organizations are also crucial for scaling up impact and sharing best practices. Local NGOs often collaborate with international entities such as Oxfam and Islamic Relief to expand the reach of climate adaptation programs and share technical expertise. Collaboration with the private sector is becoming increasingly common, especially in renewable energy projects, where private companies provide technological solutions and investments. These multifaceted partnerships and diverse resources enable NGOs to effectively implement large scale, sustainable climate interventions (Nisa et al., 2021).

### **3.2 Impacts and Effectiveness of NGO Involvements**

In Pakistan, NGOs have significantly contributed to climate action, with tangible impacts in areas such as disaster risk reduction, environmental conservation, and community-based adaptation (Zafar et al., 2023). Islamic Relief Pakistan, for example, has implemented disaster risk reduction projects in flood prone areas like Khyber Pakhtunkhwa and Sindh. These projects include building flood resistant infrastructure, training communities in disaster preparedness, and setting up early warning systems. Evidence from 2020 indicates that communities with DRR training experienced less damage and were better equipped to handle floods. WWF Pakistan has made notable strides in ecosystem restoration and biodiversity conservation through its "Ridge to Reef" program. The initiative has successfully restored over 1,000 hectares of mangrove forest, which serve as natural barriers against sea level rise and storm surges. According to WWF's reports, these efforts have resulted in a 20% increase in mangrove cover in some areas, bolstering coastal resilience (Ali et al., 2023).

Renewable energy promotion and carbon emission reduction are other areas where NGOs have made a difference. The Pakistan Poverty Alleviation Fund has installed solar energy system in off grid rural communities, enabling thousands to transition from fossil fuels to clean energy (Altaf, 2018). However, in water management and agricultural practices, the Rural Support Programs Network has focused on improving water security and agricultural productivity in water scarce regions like Tharparkar. By implementing rainwater harvesting systems, drip irrigation, and promoting drought-resistant crops, the program has increased crop yields by 30% and reduced water usage by nearly 40% in 2019 (Vijayan, 2023). Similarly, Education and awareness are also key areas of impact. WWF Pakistan's Eco Internship Program has trained over 50,000 students in environmental conservation, leading to heightened environmental advocacy and behavioral

changes among the youth. The 2020 program review reported that 85% of participants became more aware of climate change and expressed a commitment to adopting sustainable practices (Altaf, 2018).

Overall, while community engagement, government support, funding, and organizational capacity are key to successful climate interventions, challenges such as funding constraints and limited coordination can pose significant obstacles (Altaf, 2018).

### **3.3 Challenges and Opportunities for NGOs**

NGOs in Pakistan encounter several significant challenges that impact their climate action efforts. One major issue is the inconsistency and scarcity of funding. Many NGOs depend heavily on international donors whose priorities can shift, leading to uncertainties and short project cycles (Dashti, 2021). This financial instability hampers the ability of NGOs to plan and implement long-term climate projects. Smaller NGOs, in particular, struggle to compete for grants against larger organizations with more resources and established networks (Raza, 2022).

Political instability and bureaucratic obstacles also pose substantial challenges. Changes in government, policy shifts, and political unrest can disrupt projects, delay approvals, and create regulatory uncertainties. NGOs often face difficulties in obtaining necessary permits, especially for projects in sensitive areas (Shahzad & Raza, 2022). Research highlights that inconsistent environmental policies and shifting government priorities create a challenging environment for NGOs. A significant gap in public awareness and engagement further complicates climate action. Many communities, particularly in rural areas, do not fully understand the impacts of climate change or view it as a distant issue. This lack of awareness can lead to resistance to adopting climate smart practices. NGOs like Islamic Relief Pakistan have reported difficulties in engaging rural populations where traditional practices sometimes conflict with climate resilience strategies (Nisa, 2021).

Capacity limitations are another challenge. Many NGOs, especially smaller local ones, lack the technical expertise, skilled personnel, and management structures needed for complex climate projects. This often results in poorly implemented projects or a reliance on costly external consultants. Reports indicate that some local NGOs struggle with effective water management and climate adaptation due to these capacity gaps (Pratt, 2020). Similarly, coordination and collaboration issues further exacerbate the situation. Poor coordination between NGOs government bodies, and other stakeholders can lead to duplicated efforts, inefficiencies, and fragmented strategies. While partnerships are essential for scaling up interventions, the absence of structured collaboration mechanisms can result in missed opportunities and resource overlap (Haque, 2020).

Access to accurate data and modern technology is crucial for effective climate action. However, many NGOs face difficulties obtaining real time, localized climate data and the high costs of necessary technology. Without accurate information, NGOs may struggle to assess vulnerabilities and respond effectively to climate impacts (Nisa, 2021).

Cultural and social barriers also present obstacles. In conservative or remote areas, traditional practices and social norms can resist changes required for climate friendly practices. NGOs often face challenges in promoting sustainable practices that conflict with local economic

necessities or traditional behaviors (Shahzad & Raza, 2022). These challenges highlight the complexity of climate action in Pakistan, where financial, political, cultural, and organizational factors constrain the effectiveness and scope of NGO interventions.

### **OPPORTUNITIES FOR ENHANCED IMPACT:**

To boost the NGOs impacts and address challenges in climate action, NGOs in Pakistan can explore several key opportunities. Strengthening partnerships with local and international organizations, including government agencies, other NGOs, private sector entities, and international bodies like the UNDP and World Bank, can help NGOs overcome funding constraints and enhance their capacity (Imran et al., 2021). These collaborations can provide technical expertise, financial support, and access to resources, thus enabling more effective and sustainable climate interventions. Adopting innovative approaches, such as nature-based solutions and climate smart agriculture, can also improve the effectiveness of NGO projects. For instance, WWF Pakistan has successfully used nature-based solutions like mangrove restoration to combat sea level rise and protect biodiversity (Anwar, 2019). Similarly, use advanced technology, is another way NGOs can enhance their interventions. Utilizing tools such as solar energy system, satellite imagery, and mobile applications can improve climate monitoring, increase community resilience, and optimize resource use. Pakistan Poverty Alleviation Fund's use of solar technology exemplifies how technology can contribute to sustainable energy access and lower carbon emissions (Shahzad & Raza, 2022).

Engaging in policy advocacy allows NGOs to influence climate legislation and create a supportive environment for their work. By collaborating with policy makers and advocating for stronger climate policies, NGOs can help shape national strategies and ensure their projects align with legal and institutional frameworks. LEAD Pakistan's efforts in policy advocacy demonstrate how NGOs can impact national climate adaptation frameworks (Masud & Khan, 2024).

Building the technical and organizational capacity of local NGOs and communities is crucial for long term climate resilience. Capacity building initiatives, such as training in sustainable practices and disaster preparedness, enable communities to manage climate risks independently. Rural Support Program Network's focus on training in water management and agriculture in case in point. Expanding awareness and education campaigns in vital for fostering behavioral change and increasing public participation in climate action. NGOs can utilize media, educational programs, and digital tools to raise awareness and engage the public in conservation efforts. WWF Pakistan' Eco-Internship program highlights the effectiveness of educational initiatives in inspiring future environmental leaders and promoting sustainable practices (Shahzad & Raza, 2022). In a nutshell, NGOs in Pakistan can enhance their climate action impact by strengthening partnerships, adopting innovative approaches, leveraging technology, influencing policy, building local capacities, and expanding awareness campaigns. By pursuing these opportunities, NGOs can better address challenges and contribute more effectively to climate goals.

## **4 ANALYSIS, FINDINGS AND DISCUSSIONS**

NGOs in Pakistan have made significant contributions in mitigating climate change, particularly in disaster risk management, ecosystem restoration, and promoting sustainable energy. For example WWF Pakistan's mangrove restoration initiatives, alongside their Environmental

Education Program, Green Office Program, Small Grant Projects and Rung Do Pakistan/Tree a Thon Program, demonstrate low nature based solutions can strengthen climate resilience and biodiversity conservation. These projects reflect a broader global trend where NGOs play a crucial role in fostering green infrastructure and community adaptation. Similarly, the Pakistan Poverty Alleviation Fund has effectively promoted low carbon energy solution in grid communities, shifting from fossil fuels to solar energy this aligns with global research emphasizing the importance of NGOs in driving clean energy transitions in developing regions. However, despite their successes, NGOs in Pakistan face several systemic challenges.

### **Key Findings**

1. **Environmental activism:** It has been observed that in the context of Pakistan's vulnerability to climate change, civil society particularly eNGOs either international or local have responded to the issue promptly at all levels. They are engaged with all stakeholders including governments at federal and provincial levels and the scope of their activities is equally diverse in response to environmental issues in Pakistan.
2. **Funding Constraints:** A major challenge for NGOs is inconsistent funding, which limits long term planning and project execution. Many NGOs depend on external donors, and fluctuations in donor priorities often lead to short term projects that can-not sustain long term climate goals. For instance, WWF Pakistan has faced challenges scaling its conservation efforts due to funding shortages, a challenge seen globally where limited financial resources hinder project sustainability.
3. **Political and Bureaucratic Hurdles:** NGOs often encounter political instability and bureaucratic obstacles, delaying project approvals and disrupting operations. LEAD Pakistan's research highlights the difficulty of aligning NGO strategies with fluctuating government policies. This challenge is consistent with findings in other developing countries where political and bureaucratic complexities slow the implementation of environmental projects.
4. **Capacity Limitations:** Many smaller NGOs lack technical expertise and management infrastructure to implement large scale, high impact climate projects. Research from the Rural Support Program Network shows that a lack of technical knowledge on climate smart agriculture reduce intervention effectiveness. This underscores the importance of capacity building for the success of grassroots organizations in climate action.
5. **Public Engagement and Awareness:** Despite growing awareness, there is still a gap in public understanding of climate change, particularly in rural areas. Islamic Relief Pakistan's efforts in flood prone regions have revealed how traditional beliefs and low awareness about climate risks can hinder community participation. This finding align with broader studies showing that low awareness and cultural barriers obstruct the adoption of climate resilient practices.

### **Discussion**

To enhance their impact, NGOs in Pakistan can pursue several key opportunities. Strengthening partnership between NGOs government, and international organizations is a crucial strategy. Successful examples, like the collaboration between the National Disaster Risk Management Fund and NGOs, illustrate how pooled resources and coordinated efforts can expand the scale of climate interventions. Other research confirms that effective

partnerships are essential for overcoming funding challenges and ensuring project sustainability.

Additionally, embracing technology and innovative approaches, such as nature-based solutions and climate smart agriculture, offers practical ways to address climate challenges. NGOs like WWF Pakistan, which have adopted these strategies, have reported significant progress in enhancing ecosystem resilience. These innovations align with global best practices where technology and nature-based solutions are becoming central to sustainable climate adaptation strategies.

To address funding challenges, NGOs should diversify their funding sources and explore partnerships with the private sector, particularly in renewable energy and technology driven initiatives. This is in line with research emphasizing the importance of financial sustainability in climate action. Enhancing the internal capacity of smaller NGOs through training and knowledge transfer is also essential for the long-term success of climate initiatives. Programs like RSPN's water management project in water scarce regions show how capacity building can improve agricultural productivity and climate resilience. Developing similar programs across other sectors can better equip NGOs to manage complex climate adaptation projects.

Lastly, expanding public education and awareness campaigns is critical for fostering behavior change and promoting climate smart practices. Digital tools and social media can be used to reach larger audience and engage communities in climate advocacy. WWF Pakistan's youth engagement through the Eco-Internship Program demonstrates how educational initiatives can inspire future environmental leaders, supporting research that emphasizes the role of awareness in successful community-based climate adaptation.

## **6. Conclusion**

To conclude NGOs in Pakistan are playing a vital role in addressing climate change but continue to face challenges such as funding instability, political barriers, limited capacity, and low public engagement. However, by strengthening partnership, adopting innovative approaches, leveraging technology, and expanding public education, NGOs can scale their impact and overcome these barriers. With increased capacity building and collaboration, NGOs can contribute more effectively to national and global climate goals.

The study highlights the vital role that NGOs play in driving climate action in Pakistan. Despite all challenges, through efforts in disaster risk reduction, environmental conservation, renewable energy adoption, and community-based adaptation, NGOs have made notable strides in addressing climate change. However, their progress is often limited by issues such as funding shortages, political and bureaucratic barriers, capacity gaps, and low public awareness, especially in rural regions.

The findings suggest that NGOs can enhance their impact by fostering stronger partnerships, embracing innovative strategies, utilizing technology, and engaging in policy advocacy. Overcoming these challenges, particularly through capacity building and diversifying funding sources, will be crucial for ensuring the long-term success of their climate initiatives. With continued collaboration and support, NGOs can play a pivotal role in



advancing both Pakistan's national climate objectives and global sustainability goals, contributing to a more resilient future.

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