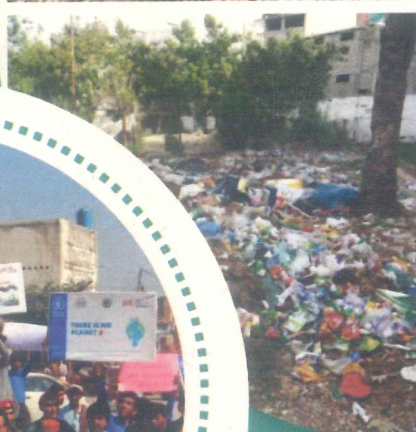




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CLIMATE CHANGE ADAPTATION AND MITIGATION ACTION PLAN FOR DISTRICT RAJANPUR

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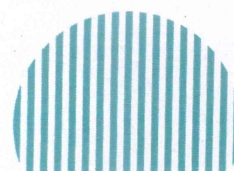


Table of Contents

Executive Summary:.....	2
Geographical Context of Rajanpur	2
Rajanpur District in the Grip of Climate Crisis.....	2
Local Risks and Vulnerabilities:	2
Goals of Policy Dialogue:.....	3
Analyzing Key Priority Areas (Agriculture, Waste, Water, Forest, Vehicular Transport)	3
Waste	3
Agriculture.....	3
Water	4
Forests:.....	4
Vehicular Transport:.....	4
Climate Friendly Initiatives:.....	4
A Comprehensive Approach Across Various Sectors	4
1. Waste Management:.....	4
Land Use Planning:.....	4
2. Agriculture:.....	5
3. Forestry	5
4. Disaster Management and Community Engagement:.....	5
5. Environment Protection Department	5
6. Range management:	6
7. Health Department	6
8. Education Department	6
9. Traffic Police	6
Agreed Plan of Action (Jan-Dec 2024).....	6



Executive Summary:

Climate change poses a significant threat to the well-being of communities and ecosystems in the district of Rajanpur. To address this challenge, the formulation and execution of a comprehensive one-year climate change adaptation and mitigation action plan that integrates policy measures from the National Climate Change Policy, Punjab Agriculture Policy, National Environmental Policy and Smog Prevention and Control Rules, 2023 stand as imperative pillars for tackling climate change and achieving ecological resilience. The consultation of relevant government line departments are also taken into account. Recognizing the unique environmental challenges faced by this district, the significance of this plan cannot be overstated. Through strategic interventions and collaborative efforts, the action plan aims to safeguard the district's vulnerable ecosystems, promote climate-resilient practices, and mitigate the adverse impacts of climate change by educating the public. The plan delineates clear responsibilities for each concerned department, ensuring a synchronized and efficient approach. The Department of Forests is tasked with enforcing sustainable forestry practices, the Agriculture Department is responsible for promoting climate-smart agricultural techniques, and the Environmental Protection Agency is entrusted with monitoring, compliance and conducting awareness campaigns. This collective effort underscores the commitment to fostering a climate-resilient future for the residents of District Rajanpur, where the harmonious coexistence of communities and nature is prioritized.

Geographical Context of Rajanpur

Rajanpur is situated in the South of the Punjab Province. To its South-west is Baluchistan and in the South is Sindh. The Foothills of Suleiman Range cover almost the entire Western boundary of the district. To the East of the district flows River Indus and is most affected by flash as well as riverine floods.

Rajanpur District in the Grip of Climate Crisis

Local Risks and Vulnerabilities:

Climate change is inherently global in nature with far-reaching implications, and district Rajanpur in Pakistan is no exception to its adverse consequences. It is a state of emergency already in place. Due to anthropogenic activities, the atmospheric concentration of carbon dioxide, methane, and other greenhouse gasses are accelerating at an alarming rate, contributing to the energy imbalance of the Earth, and ultimately our climate system has altered. According to the Climate Change 2023 Synthesis Report by ¹IPCC, the global surface temperature has increased by 1.1°C by 2011-2020 compared to 1850-1900. Due to global warming and altered precipitation patterns food security has reduced and water scarcity has increased globally. IPCC, being the global climate science leader emphasizes the crucial need to conduct risk assessments to assess the local context of the climate-related risks and vulnerabilities. Through a comprehensive methodology involving key person

¹ Intergovernmental Panel on Climate Change

interviews, key informant interviews, and focus group discussions we have examined multiple risks and vulnerabilities associated with climate change, each adversely impacting different communities and sectors in new and unexpected ways.

More than 80% of the people are linked to agriculture for their livelihood and they are most vulnerable to the impacts of climate change. Rajanpur faces significant water scarcity, in most of the areas the groundwater is brackish, so the water resources are under pressure due to population growth, climate change, inefficient irrigation practices, and pollution. This scarcity affects agriculture, food security, and the livelihoods of the local population. Marginalized and low-income communities face dramatic mental stress and anxiety due to altered precipitation patterns and lack of timely availability of water for irrigating their lands. Elderly people and children are most susceptible to heat waves which leads to reduced performance in their daily commitments.

The greatest challenge is that the local community is rigid in their actions and behaviors so they must be educated logically to create a positive change that will ultimately contribute towards climate change mitigation and adaptation.

Goals of Policy Dialogue:

The goal of policy dialogue is to develop a comprehensive Climate Change Adaptation and Mitigation Action Plan incorporating various policy measures that are crucial in addressing climate change.

- Increased Awareness and Education
- Improved Disaster Preparedness and Response
- Strengthened Agricultural Resilience
- Enhanced Water Resource Management
- Adopt environment friendly practices.
- Reduced carbon footprint

Analyzing Key Priority Areas (Agriculture, Waste, Water, Forest, Vehicular Transport)

Waste:

Waste management is integral to climate action. Effective waste reduction, recycling, composting, and energy recovery from waste contribute to greenhouse gas mitigation. Proper waste management also reduces vulnerabilities to climate impacts by preventing pollution and protecting ecosystems.

Agriculture:

Agriculture is both a contributor to and a victim of climate change. Agriculture is intricately linked to climate conditions, relying on specific temperature ranges, precipitation patterns, and predictable growing seasons. Climate change disrupts these parameters, leading to shifts in crop suitability, increased prevalence of pests and diseases, and altered water availability. Sustainable agricultural practices, such as precision farming and agroforestry, can sequester carbon, reduce emissions, and enhance soil resilience. Adaptation strategies involve using climate-resilient crop varieties and improving water management practices most importantly avoiding flood irrigation.

Water:

Changes in precipitation patterns, increased evaporation, and altered runoff contribute to water scarcity and affect the availability of freshwater resources. Rising global temperatures intensify the frequency and severity of extreme weather events, leading to droughts and floods. Robust water management strategies, including conservation measures, sustainable usage, and infrastructure development, are imperative for climate change adaptation. Furthermore, efficient water use in agriculture, industry, and households helps to ensure water availability for future generations and reduces the overall environmental impact.

Forests:

Forests play a pivotal role in carbon sequestration, biodiversity conservation, and climate regulation. Deforestation, driven by factors such as agricultural expansion and logging, releases stored carbon into the atmosphere and diminishes the capacity of ecosystems to absorb greenhouse gases. Implementing sustainable forestry practices, afforestation initiatives, and preserving natural habitats are crucial components of climate change adaptation and mitigation.

Vehicular Transport:

The transport sector, primarily reliant on fossil fuels, significantly contributes to greenhouse gas emissions. The combustion of fossil fuels releases carbon dioxide and other pollutants, contributing to global warming and air quality degradation. Transitioning to low emissions by issuing vehicle fitness certificates, enhancing public transportation, and educating the communities are imperative strategies for mitigating the impact of vehicular transport on climate change.

Climate Friendly Initiatives:

A Comprehensive Approach Across Various Sectors

1. Waste Management:

a. Adopting Sustainable Practices:

Implement separate collection, disposal, and re-use of recyclable, composite, and biodegradable waste at the source.

Develop community-based waste management initiatives.

b. Plastic Waste Management:

Implement tools for plastic waste reduction, reuse, and recycling.

Promote eco-friendly packaging and substitutes for plastic.

Conduct awareness campaigns on the hazards of single-use plastic to drive behavior change.

Land Use Planning:

Ensure proper land use planning, discouraging horizontal expansion of urban projects.

Ensure protection and preservation of prime agricultural land through land use planning and zoning.

a. Modern Irrigation Practices:

Improve irrigation methods by adopting modern techniques like sprinklers and trickle irrigation.

Encourage no-tillage farming practice to conserve soil moisture, reduce erosion, and improve soil health by preserving the natural structure and organic matter.

Increase farmers' access to information and advisory services for efficient water use.

b. Farmers' Support:

Improve farmers' access to information and advisory services through public and private agriculture extension services.

Provide knowledge and technical skills to farmers for sustainable agricultural practices.

c. Pest Management:

Promote integrated pest management practices and discourage indiscriminate use of agrochemicals.

d. Crop Residue Burning:

Enforce the ban on crop residue burning through strict implementation of Section 144.

Introduce alternative methods for crop residue management.

3. Forestry

a. Afforestation and Reforestation:

Launch afforestation and reforestation programs using climate-resilient plant species.

Promote afforestation of indigenous species and proven exotic species.

Implement urban forestation drives using techniques like Miyawaki.

4. Disaster Management and Community Engagement:

a. Institutional Capacity Building:

Develop disaster management institutions and mechanisms aligned with the National DRR Policy-2013.

Strengthen capacities to address multiple hazards and enhance overall resilience.

b. Community Participation:

Engage communities in early warning dissemination and disaster risk reduction activities.

Develop and communicate evacuation plans with active community involvement.

Develop linkages between community and respective line departments to ensure affective and early emergency response.

5. Environment Protection Department

a. Conduct meetings fortnightly with stakeholders and brick kiln owners for sensitization.

b. Conduct effective monthly awareness campaign via distribution of pamphlets, print and electronic media to educate public about significance of protecting environment.

c. Conduct comprehensive climate risk and vulnerability assessments at the district level.

6. Range management:

Implement structured grazing plans, designating specific areas for grazing at different times of the year.

7. Health Department

Inform, sensitize, educate and train public about climate change related health issues by conducting monthly awareness campaigns.

8. Education Department

Include in the daily morning assembly a brief speech on the eco-friendly practices to reduce carbon footprint at individual level.

Below mentioned are the eco-friendly practices:

- Use reusable water bottles and lunch containers to reduce single-use plastic waste.
- Walk or cycle to school to minimize carbon emissions.
- Turn off lights and electronic devices when not in use to save energy.
- Be mindful about paper usage since its source is trees.
- Plant trees or participate in tree-planting events to offset carbon emissions.
- Conserve water by turning off taps tightly and reporting any leaks.
- Practice mindful consumption by avoiding unnecessary packaging and single-use items.
- Educate peers about the importance of sustainability and encourage eco-friendly habits.
- Participate in school-led environmental initiatives or clubs to make a collective impact.

9. Traffic Police

- Awareness sessions on timely maintenance of vehicles to reduce excessive emissions.
- Organize regular vehicles fitness checking campaigns to ensure vehicles are properly maintained and have no adverse impact on air quality.
- Ensure strict monitoring system to issue fitness certificate to vehicles
- Ensure Challenging of vehicle emitting visible smoke

Agreed Plan of Action (Jan-Dec 2024)

This Climate Change Action Plan for Rajanpur integrates key policy measures to address environmental challenges comprehensively. Individual meetings were conducted with each relevant department to formulate the activities outlined in the action plan. Their suggestions have been integrated to enhance the plan's feasibility and successful implementation.

The unwavering endorsement of this action plan by the district government stands as a pivotal assurance, guaranteeing its implementation. The vigilance and scrutiny of these initiatives by the pertinent departments further underscore the commitment to erecting a resilient and sustainable future for the district. By fostering community engagement and environment friendly practices, we can mitigate the adverse impact of climate change and ensure a better quality of life for the people of Rajanpur. The activities are as follows:

S.NO	Actions	Responsibility
1	Municipal Committee Rajanpur	
	1.1 Creation of awareness among targeted communities on the importance of Integrated Solid Waste Management	
	1.1.1 Initiate a monthly community-driven cleanup endeavor targeting public spaces.	Municipal Committee
	1.1.2 Instigate a monthly awareness walk aimed at enlightening the community about the adverse effects of single-use plastics, fostering a transformative shift in behavior.	Municipal Committee
	1.1.3 Awareness campaigns to sensitize communities in 3 Tehsils through IEC Material and awareness sessions and mobilize them to ensure waste segregation at its source (household level), 12 events in each Tehsil.	Municipal Committee
	1.1.4 Monthly practical demonstration session on home composting and community composting initiatives to reduce the organic waste that goes to landfills.	Municipal Committee
	1.2.1 Regular monitoring for compliance of policies and practices adopted by the MC to stop solid waste/trash burning.	Municipal Committee
	1.2.2 Regular monitoring to minimize un-collected solid waste to avoid health issues.	Municipal Committee
	Sustainable Land Use Planning:	<input type="checkbox"/>
	1.2.3 Quarterly coordination and planning meetings with district administration and other relevant stakeholder to discourage the horizontal expansion of urban projects.	Municipal Committee
2	1.2.4 Create zoning regulations that prioritize green spaces, parks, and nature reserves within urban areas	Municipal Committee
	Department of Agriculture Extension	
	2.1 Awareness raising	

	2.1.1	Organize monthly awareness raising sessions to disseminate knowledge to farmers, advocating for the adoption of no-tillage farming practices to preserve soil moisture, mitigate erosion, and enhance soil health by preserving its natural structure and organic content.	Department of Agriculture Extension
	2.1.2	Host quarterly seminars to enlighten and inspire farmers to embrace sustainable agroforestry technique and adopt heat tolerant and insect pests' resistant varieties especially cotton.	Department of Agriculture Extension
	2.1.3	Conduct quarterly educational campaigns to encourage farmers to adopt alternative methods for managing crop residues.	Department of Agriculture Extension
	2.1.4	Provide comprehensive training to farmers on pest identification, biological control methods, pesticide usage and timely sowing of crops especially wheat to avoid frost effect.	Department of Agriculture Extension
	2.1.5	Farmer engagements session for agricultural extension services to ensure the provision of essential information and advisory services to farmers on weekly basis.	Department of Agriculture Extension
	2.1.6	Enforce strict measures by imposing fine, FIR against crop residue burning through the rigorous implementation of Section 144.	Department of Agriculture Extension
3	Forestry, Wildlife and Fisheries Department		
	3.1	Biodiversity enhancement and increased green cover	
	3.1.1	Raising at least three plant nurseries to encourage afforestation and reforestation	Forestry, Wildlife and Fisheries Department
	3.1.2	Organize community meetings monthly to raise awareness about the environmental impact of burning leaves/firewood.	Forestry, Wildlife and Fisheries Department
	3.1.3	Two plantation campaigns in collaboration with local schools and community organizations, mobilizing volunteers to take ownership and ensure the sustainability of the planted trees	Forestry, Wildlife and Fisheries Department
	3.1.4	Ensure regular monitoring to track the survival and growth of newly planted trees for long-term sustainability.	Forestry, Wildlife and Fisheries Department
4	District Disaster Management Authority		
	4.1	Community Preparedness for Disasters and Emergencies	

	4.1.1	Organize community workshops/training sessions on disaster preparedness and response on monthly basis.	District Disaster Management Authority
	4.1.2	Conduct quarterly mock evacuation exercises to familiarize community members with evacuation routes and procedures at tehsil level.	District Disaster Management Authority
	4.1.3	Establish a communication mechanism at tehsil level for disseminating early warnings through local leaders, schools, and community organizations.	District Disaster Management Authority
	4.1.4	Develop linkages between community and respective line departments to ensure effective and early emergency response (Development of Contact Catalog and sharing with community and relevant line departments)	District Disaster Management Authority
	Environment Protection Department		
	5.1	Environment and Air quality Improvement:	
	5.1.1	Conduct monthly meetings with stakeholders and brick kiln owners to sensitize them for adopting environment friendly technology i.e. Zig-Zag method.	Environment Protection Department
	5.1.2	Organize seminars to create awareness among community on the significance of protecting environment.	Environment Protection Department
5	5.1.3	Organize awareness raising walks to sensitize the general public about the burning issue of climate change.	Environment Protection Department
	5.1.4	Develop and disseminate IEC material to educate public to adopt eco-friendly practices	Environment Protection Department
	5.1.5	Mass awareness campaigns using social media platforms (Facebook page, WhatsApp group etc.) to educate them to reduce their carbon footprint at the individual level.	Environment Protection Department
	5.1.6	Advocacy for imposing ban on single-use plastic bags and disposable cups, in the district by the district administration, while actively promoting the use of eco-friendly alternatives.	Environment Protection Department
	5.1.7	Conduct annually the comprehensive climate risk and vulnerability assessments at the district level.	Environment Protection Department
6	Range Management		
	6.1	Improve pasture health	

	6.1.1	Implement structured grazing plans, designating specific areas for grazing at different times of the year.	Range Management
	Health Department		
7	7.1	Inform, sensitize, educate and train public about climate change related health issues (Heat Stroke, Skin diseases, respiratory issues waterborne diseases, etc.) by conducting monthly awareness campaigns.	Health Department
	Education Department		
8	8.1	Include in the daily morning assembly a brief speech on the eco-friendly practices to reduce carbon footprint at individual level.	Education Department
	Traffic Police		
	9.1	Awareness sessions on timely maintenance of vehicles to reduce excessive emissions.	Traffic police Education Unit
9	9.2	Organize regular vehicles fitness checking campaigns to ensure vehicles are properly maintained and have no adverse impact on air quality.	Traffic police/ Vehicle Inspection and Certification System (VICS)
	9.3	Ensure strict monitoring system to issue fitness certificate to vehicles	Vehicle Inspection and Certification System (VICS)
	9.4	Ensure Challenging of vehicle emitting visible smoke	Traffic police



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