



ACTION ON CLIMATE TODAY

on Impact

Voices from Punjab: Connecting people with policy



Photo: Action on Climate Today

Janat Mai, tenant farmer and labourer in Layyah.

UK AID is supporting the Government of Punjab in identifying gaps and strengthening policy interventions to develop the climate change resilience of farming communities in the region.

"I was living a prosperous life as a tenant farmer and sugarcane grower. I had my own tractor and tillage implements. Due to floods of 2015, I lost everything and I had to sell all my assets to pay debts. Now, I am working as a labourer to fulfil my family's needs," said Muhammad Zaman, a labourer from the riverine area of Layyah in Pakistan.

The same year witnessed a highly unusual pink bollworm – a pest that damaged crop yields by 40%. Janat Manzoor, a farmer and social worker, is worried about the sustainability of her income obtained by selling her cotton crop. The question troubling her is whether pink bollworm attack would recur. "We grow wheat during winter and cotton during summer season. Wheat is important for our food security and cotton is a cash crop for us. We earn by selling cotton and use that money to fulfil our requirements."

Pakistan missed the crop production target by around 30% in 2015 with total output at 10 million bales, which, according to Finance Minister, Mr. Ishaq Dar, accounted for a 0.5% lower GDP growth.

These concerns emerged from an agricultural survey conducted in Layyah by Action on Climate Today, a UK Department for International Development (DFID) -supported regional initiative on climate-proofing growth and development in South Asia, to help understand the vulnerability and climate sensitivity of Punjab Agriculture Department's (AD) project "Establishment of High-tech Mechanisation Service Centres".¹

¹ Project objectives are: provide rent of state of the art farm machinery/equipment to farmers; provide capacity and skills building training to service providers and rural youth; and to overcome farm labour shortage. Farm mechanisation is seen as vital for modernising farming and enhancing productivity. The cost is USD 20.63 million (government share) and USD 17.17 million (farmer/service provider share).



Photo: Action on Climate Today

Labourers and farmers of the riverine area Layyah.

Punjab's farmers are vulnerable

Poor seed quality, low plant population, weed infestation, inefficient farming practices and inadequate water provision have traditionally been among the main reasons for low cotton productivity in Punjab. Of late, however, climatic changes have formed a pattern of inconsistency often leading to catastrophic events like heavy rainfall and floods. This has resulted in further damage to cotton crops and the exacerbation of existing constraints.

All respondents said that climatic changes were occurring, notably longer and hotter summers, shorter and less severe winters, and unpredictable rain patterns. The farming systems and livelihoods of even the relatively less vulnerable farmers are crucially linked to the vagaries of weather, and crop failure results in a collapse of their business plans as was seen in 2015 when the cotton crop was damaged due to pink bollworm attack.

Heavy monsoon rains in 2015 adversely affected cotton crops in several ways: Pink bollworm found a favourable

In July 2015, 378,172 acres of agricultural land were destroyed by flooding

environment to thrive, as did the usual pests such a white fly, army worm and jassid due to increased humidity, a reduced number of pesticide sprays and sprayed pesticides being washed away. Cotton grows well in well-drained soils, which became water logged; also, weed infestation increased and sowing times got delayed.²

Floods in riverine areas are common but now the frequency of floods is increasing. Monsoon patterns tend to be relatively more unpredictable now compared to the past and glaciers are melting due to high temperatures. Heavy monsoon rains, the rapid melting of snow and outbursts from glacial lakes from 16 to 22 July 2015 led to flash floods and the flooding of the Indus River in various locations across Pakistan.³ Agricultural land spread across 378,172 acres was destroyed.

² <http://uaf.edu.pk/oubm/Files/Reports/Report%206/6.%20CAUSES%20OF%20LOW%20YIELD%20OF%20COTTON.pdf>

³ OCHA-Pakistan. 2015. http://reliefweb.int/sites/reliefweb.int/files/resources/20150722_monsoon_flood_update_no.1.pdf

Government's response

The Agriculture Department has taken the lead in responding to these challenges. The draft Punjab Agriculture Policy includes climate change as a major challenge and a climate change research centre has been established in Ayub Agricultural Research Institute Faisalabad. ACT is providing technical assistance at the request of the Government to:

- Review AD's efforts to comply with the Framework for Implementation of Climate Change Policy
- Assess vulnerability and climate sensitivity of selected on-going and pipeline projects of the AD forming part of the annual development programme
- Provide inputs on the agriculture portion of the draft Punjab climate change policy.

ACT has identified vulnerabilities and shared them with policy makers. For instance, the farmers, in planning activities, are divided into three distinct categories:

1. 0–12.5 acres (small)
2. 12.5–25 acres (medium)
3. 25 acres and above (large)

Project interventions and subsidies based on these divisions are inadequate as they fail to capture the diversity of the farming community and don't take climate change into account. For instance, a single intervention such as advice on the basis of soil analysis or the introduction of a machine

"Under the new agriculture policy, all prioritised areas including seed issue, cropping zones and climate change will be addressed,"

said Agriculture Secretary, Muhammad Mahmood in a meeting held at University of Agriculture Faisalabad

would have different impacts on each farm depending upon various factors other than farm size such as quality/availability of water, microfinance and farming practices. More specific advice is needed to address the impacts of climate change and to help enable farmers to adapt. Fostering accountability and feedback from clients is crucial for extension work to be meaningful and successful in the context of climate change. It helps extension workers keep pace with the range, scale and speed of climate-induced changes so that advice can be sought from experts and transmitted back to farmers.

Connecting people with policy

ACT raised these points during a knowledge-sharing workshop after the completion of their vulnerability and climate sensitivity assessments of two Punjab AD projects.⁴ These insights were shared with the Minister for Agriculture, Mr. Muhammad Naeem Akhtar Bhabha, and a diverse group of stakeholders comprising of government members, civil society, academia, and students.



Photo: Action on Climate Today

Mr. Muhammad Naeem Akhtar Bhabha, Minister for Agriculture Punjab and workshop participants.

⁴ 'Establishment of High-tech Mechanisation Service Centres' and 'Extension Service 2.0-Farmer Facilitation through Modernised Extension'.

The assessment of the mechanisation project revealed that unusual weather patterns and associated effects like pests/insect attacks were taking a toll on agriculture, making seasonal predictability and farming operations a challenge. To increase efficiency, mechanisation needed to take climate change factors into account. This would make farming operations more efficient in terms of time and resource management, enhance productivity and reduce post-harvest losses.

A more time-efficient harvesting operation will help cope with the impacts of unpredictable weather patterns; post-harvest practices such as machine drying rice and maize will help protect yields from the impacts of humidity. Mechanisation that helps in achieving increased agriculture productivity while at the same time preserving and improving natural capital needed for the long term leads to climate change adaptation. This project had not explicitly considered this aspect.

Mr. Rana Mehmood, Chief, Planning and Evaluation Cell, AD said, "These are very good studies that have been conducted by ACT. Feedback from ACT on both these projects will help in reshaping our programmes."

As a result, AD is seeking ACT's involvement in providing input for the draft Punjab Climate Change Policy. The Planning and Development Department Punjab has also engaged ACT in supporting the development of its Climate Change Policy and the Sustainable Land Management Programme.

Building bridges

The inclusion of this research will help mainstream climate change at the planning and policy level, and improve understanding of climate vulnerability and approaches to adapt to its impact. ACT will also continue to carry forward the concerns of the vulnerable communities struggling with the impacts of climate change to those who plan, allocate resources and formulate policies. This two-pronged approach will ensure that the livelihoods of communities are protected from climate change and that government systems are capable of dealing with future challenges.



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