



FACTSHEET

PK

2014

Climate Change Adaptation and Food Security in Pakistan

The Determinants, Impact and Cost Effectiveness of Climate Change Adaptation in Pakistan



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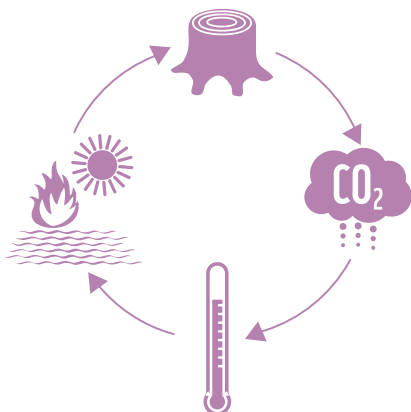
Donor: International Development Research Centre (IDRC)

Duration: March 2012 – February 2015

Project Title: The Determinants, Impact and Cost Effectiveness of Climate Change Adaptation in Pakistan

Climate change is impacting Pakistan in various ways. Drastic changes in weather patterns have serious implications for agriculture, forests, food security and the economy of the country. The agriculture sector is considered most vulnerable to extreme weather patterns as higher temperatures, altered precipitation and seasonal variations are affecting, among others, wheat, rice and cotton yields. Consequently, reduced yields deprive farmers of their livelihood and income generation sources. The quality and quantity of agriculture outputs is also diminishing, a serious food security issue, not only for farmlevel households but also consumers at large. As domestic supplies of essential foods is reduced, hard earned foreign exchange savings are depleted in efforts to import these items, thereby creating pressures to curb Pakistan's overall consumption or borrow more heavily.

In this context, WWF-Pakistan and the Lahore University Management Science (LUMS) have partnered on a three-year project (March 2012 to February 2015) that is funded by the International Development Research Centre (IRDC). The project intends to enable the government and other stakeholders to take informed decisions with regard to cost-effective and politically feasible climate change adaptation interventions in the Indus Ecoregion. It also focuses on disseminating the findings and recommendations of micro-econometric and political economy studies addressing the costs of climate change to agricultural productivity and food security implications to relevant government ministries and donors.



Project Updates:

The project aims to benefit the agricultural class of Pakistan by creating awareness of climate change adaptation that ensures food security. The micro-econometric

study *Estimation, Determinants and Impacts of Adaptation* was conducted by WWF-Pakistan and the London School of Economics. Research findings are based on data collected from about 1,500 households, which gives a good estimate on the impacts of adaptation. The findings of this micro-econometric study suggest that adaptation is proportional to highly educated households, households with higher proportions of females, households with large land holdings and households that are share-cropping. In addition, it predicts the cost of climate change as a 10 to 13 per cent productivity loss across such crops as wheat over the coming 35 years, a period in which temperatures are predicted to rise by 4 degrees Celsius while rainfall is expected to increase by 3 per cent. It also predicts that adaptation activities, once executed, will ensure food security. Non-adaptors are also expected to benefit more than adaptors by executing adaptation strategies. The determinants of adaptation are concluded to be strongly affected by households' composition in terms of gender, education, farming experience and scale.

Another outcome of this project is a political economy study conducted by LUMS and titled *The Political Economy of Climate Change Adaptation in Pakistan: Overview and Analysis of Coastal and Inland Agriculture in the Indus Ecoregion*. The report discusses the political, historical and economic aspect of climate change policy and adaptation and has been compiled after consultations with planners, policymakers, public office holders, experts and farmers. The purpose of the report is to help policymakers improve policy frameworks on climate change adaptation and food security.

Farmer field schools have successfully been conducted in selected areas of Punjab. About eight schools (two to three days each) have been organized which included a thorough teaching of farmers by master trainers on lowering input costs by adopting climate change adaptation strategies, an exposure visit to Bahawalpur for both master trainers and farmers in order to exchange best practices crop production and meetings with staff of the agriculture extension department to communicate problems of farmers with concerned authorities. Additionally, the curriculum has been revised to include sections from the IDRC manual discussing climate change adaptation strategies. This manual has been translated in Urdu and Sindhi.



Recommendations:

- With expected productivity loss expected from climate change, WWF-Pakistan should widely disseminate its findings and help farmers and planners to utilize study results, study databases, and new climate change oriented farmer field curriculum and farm manuals.
- As the study was carried out in Sindh and Punjab only, similar productivity estimates can be facilitated in other provinces; also, as such resources permit an in-depth analysis of wheat, rice, and cotton crops only, future studies focusing on water-thirsty or other classes of food security and footprint relevant crops should be encouraged or carried out by WWF-Pakistan itself; and,
- Policy mainstreaming requires more than engagement of the environment and planning divisions of the Planning Commission only. Mainstreaming requires other sets of activities that allow evidence-based planning in the roll out of adaptation and adaptation-related investments in the agriculture section, e.g. training of statistical staff so they may query the WWF-Pakistan database; identification of innovative and low-cost interventions; and, identification of training needs of public office holders for long-term adaptation planning.



WWF-Pakistan Climate Change Goal

To enable a nationwide climate change adaptation programme to reduce the consequence of climate change on ecosystems and biodiversity of Pakistan, and to promote sustainable development in the country.

	<p>Why we are here: To stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature.</p>
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