

Climate Services for Adaptation: Case Studies

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Agrometeorological services and early warning systems in North Macedonia – **Capacity developed to transition to Climate-Smart Agriculture measures and institutional coordination improved**

European forest fire information system – **Around € 390.5 million a year of estimated benefits in the EU**

Reducing risk from Glacial Lake Outburst Floods in Nepal & Pakistan – **Downstream communities protected**

Anticipatory action to protect from Dzuds & livestock loss in Mongolia – **every US\$ 1 spent had a return of US\$ 7 in added benefits and avoided losses for rural herders**

Climate Change Adaptation in Irrigated Agriculture in China – **Average per capita income of farmers increased by USD 326 per year, and crop production rose from 3.2 million tons to 4.2 million tons per year**

Flash Flood Guidance in Fiji – **Timely forecasts and early warnings based on impact models**

Early warning system in Bangladesh – **Average asset loss in target areas dropped from US\$ 78 to US\$ 57 after being affected by floods**

PRISM drought & flood prediction in Cambodia – **to estimate the impacts of extreme weather to inform preparedness and reduce impacts from climate-related disasters**

Effective heat alert system in Australia – **200+ lives saved in 2014 heat wave**

Lake Victoria River Basin nowcasting, near-cast systems for storms on the lake – **46% of the beneficiaries – estimated at around 400 000 people – saved more than US\$ 1 000, and 2.56% saved more than US\$ 10 000 from loss of property**

Preparing for Sand & Dust Storms in Burkina Faso – **Timely and quality sand and dust storm forecasts produced**

Providing training and seminars to improve decision-making at the local level in West Africa – **35% increase in crops yields reported and USD 45/ha savings achieved**

Learning from Cyclones & flooding in Mozambique – **accurate cyclone forecasting and collaboration at national level**

Desert locusts & drought warnings in the Greater Horn of Africa – **Climate- and drought-related products designed to reduce the impact of extreme climate events & 720 000 tons of cereal saved across 10 countries, worth around US\$ 220 million**

Integrating stakeholders from the agricultural sector to co-produce services for smallholder farmers in South America – **More than 500 000 receive climate services**

Timely and people-centered warnings in the Caribbean – **3 000+ people sheltered before Irma hit. EWS strengthened**

Key Messages

- ✓ Weather and climate services are vital for sustainable development and climate change adaptation. The benefits of investment greatly outweigh the cost.
- ✓ Climate services investments overall have a cost benefit ratio of one to 10. The evidence suggests that the benefits of investing systematically in strengthening the operational global regional-national hydro meteorological system needed for climate services outweigh the costs by about 80 to one.
- ✓ It is estimated that improved weather, climate, water observations and forecasting could lead to up to USD 30 billion per year in increased global productivity and up to USD 2 billion per year in reduced asset losses.

2019, 2020 State of Climate Services Report Contributing Partners:

Agence Française de Développement, Adaptation Fund, CGIAR Research Program on Climate Change Agriculture and Food Security, Climate Policy Initiative, Climate Risk & Early Warning Systems, Food and Agriculture Organization of the UN, Green Climate Fund, Global Environment Facility, Group on Earth Observations, Global Framework for Climate Services, International Federation of Red Cross and Red Crescent Societies, Risk-informed Early Action Partnership, United Nations Development Programme, United Nations Office for Disaster Risk Reduction, World Food Programme, World Bank Group and Global Facility for Disaster Reduction and Recovery, World Health Organization and WMO Climate and Health Office

Examples

- ✓ Operational Agro-met Advisory Services in **India** have decreased cultivation costs overall by up to 25% and, increased net returns to farmers up to 83%.
- ✓ **In Bangladesh:** The Forecast-based financing (FbF) approach, implemented by WFP and the Bangladesh Red Crescent Society (BRCS), has created many benefits for flood-affected households. The average asset loss for Bangladeshis affected by floods has dropped from US\$ 78 to US\$ 57 – a 27% decrease.
- ✓ **In East Africa,** early warnings are protecting those living and working in the Lake Victoria Basin, East Africa. 46% of the beneficiaries – estimated at around 400 000 people – saved more than US\$ 1 000, and 2.56% saved more than US\$ 10 000 from loss of property.
- ✓ **In China,** Climate Services served as a starting point for shaping a climate change adaptation strategy. Average per capita income among farmers rose by USD 326 per year, and high-value crop production rose from 3.2 million tons to 4.2 million tons per year.
- ✓ **In West Africa,** Roving Seminars increased crop production by building rural farmers' knowledge and access to information during the growing seasons. 35% increase in crops yields were reported in project evaluations for four countries and USD 45/ha savings achieved by not weeding.

For more detailed information Click on the links below