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## Current limitations to the portfolio screening process

For several of the adaptation options it was shown that cost benefit analysis is a replicable method for testing their economic feasibility across a range of scenarios. However, there are major data constraints in analysing non-structural measures – economic analysis should not be regarded as justification for prioritising infrastructural measures over non-structural measures.

The long-term and uncertain nature of climate change projections makes them more suitable for horizon scanning and long-term planning than for guiding adaptation priorities for specific projects. Nevertheless, tackling current climate-related disaster risks should provide a firm foundation for building future resilience in many cases.

There is limited documentation on hazard burdens and the vulnerability of human populations to climate change at the regional scale. Improved analysis is urgently required to help inform the portfolio screening process and influence decision-makers.

## Lessons for DFID-India

Disaster risk reduction activities must be a high priority. They are the first line of defence against future climate change and can ensure that other development investments reduce the sensitivity of livelihoods to climate shocks and stresses.

Climate risk screening must become a regular part of the programme cycle, from design, to implementation and evaluation. While this could feasibly be built into existing environment screening procedures, the risk-based approach applied here may be better suited to integration within the project risk assessment process.



Teacher Jai Prakash helps a pupil at a temporary school run by the Muzaffarpur Development Agency, set up to help those affected by the 2007 South Asian floods

While necessary, screening of individual interventions supported by DFID is unlikely to be sufficient. Adaptation processes and options must be assessed in strategic planning at country and programme level. To do this, there is a clear need for climate risk screening and management to be embedded within Indian institutions, supported by technical and financial assistance. This can help to ensure that assistance for adaptation processes targets vulnerable people in appropriate ways. For example, different approaches will be necessary for different target groups identified by DFID's post-2008 Country Assistance Plan: India's poorest people; those making progress out of poverty; and those benefiting from an increasingly globalised India.

This work was commissioned by the UK Department for International Development (DFID) and undertaken by a team led by the Institute of Development Studies, UK and TERI, India.

For more information: [www.ids.ac.uk/climatechange](http://www.ids.ac.uk/climatechange) or email: [climatechange@ids.ac.uk](mailto:climatechange@ids.ac.uk)

# IDS RESEARCH SUMMARY

Research findings at a glance from the Institute of Development Studies



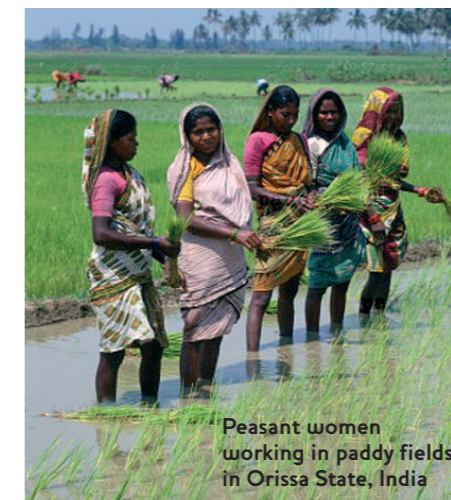
## DFID India Climate Risk Screening: Securing Poverty Reduction in the Face of Climate Change

The poorest people are likely to be hit hardest by the impacts of climate variability and change. The ORCHID climate risk management approach, developed for screening development cooperation, helps identify both risks and opportunities for tackling climate change impacts on poverty reduction programmes. Development agencies can apply this methodology to ensure their efforts work to reduce the vulnerability of those most at risk to climate shocks and stresses. This briefing presents the results of an ORCHID-approach to climate risk screening of the programme portfolio of the UK Department for International Development (DFID) in India, including support to national and state government programmes. It details the potential adaptation options identified for individual programmes and highlights lessons for embedding the approach in development cooperation more broadly by implementing ORCHID at the country strategy level and across other development organisations and governments.

### Climate Risk Screening: The ORCHID approach

Climate risk screening tackles the actual and potential impacts of climate-related events on poverty and poverty reduction programmes. It addresses the need for adaptation to reduce the risks posed by climate change to people's lives and livelihoods. ORCHID (Opportunities and Risks of Climate Change and Disasters) is a risk management approach to portfolio screening that stresses both the risks and opportunities of climate change. It identifies how climate change concerns can be combined with ongoing programmes, in particular through strengthening components related to disaster risk reduction and climate change adaptation. The ORCHID approach frames adaptation to climate change as an ongoing process of learning rather than a discrete end point. The process raises awareness of the importance of managing present-day climate risks in the context of future change.

More information on the ORCHID methodology can be found in issue 2.5 of IDS In Focus at [www.ids.ac.uk/climatechangeadaptation](http://www.ids.ac.uk/climatechangeadaptation).



Peasant women working in paddy fields in Orissa State, India

### Climate Risk Screening in DFID India (DFID-I)

Large numbers of poor people in India depend on climate sensitive sectors for their livelihoods. They are already vulnerable to climate shocks and stresses and the impacts of climate change are increasing the burden of hazards they face. DFID-I already contributes to vulnerability reduction

and building adaptive capacity through supporting good development practice, targeted climate related efforts and active consideration of climate risks in some DFID-I funded programmes. However with up to half of the DFID-I portfolio of development programmes exposed to climate risk, disaster events on the rise and new climate hazards emerging, risk management needs to be accelerated urgently.

The ORCHID screening process conducted by DFID-I staff and partners assessed how climate risk management can be combined with ongoing priorities and programmes, using a detailed profile of current and future climate impacts.

The process enabled DFID-I staff and partners to:

- think through and act on potential climate risks and opportunities;
- highlight vulnerable sectors and regions, key risks, and opportunities for addressing risks;
- develop a basis for strengthening existing adaptation processes and for developing and selecting new adaptation options relevant to the DFID-I portfolio.



## Potential Adaptation Options

For each of the ten programmes flagged by the process for further assessment, a suite of potential risk management and adaptation options were identified. The table below illustrates the additional

benefits of the suggested adaptation options by comparing the prevailing climate risks, how the existing programme improves climate risk management, and how adding adaptation components enable the programme to address risks more comprehensively.

DFID-supported programme	Key climate risks identified	Existing risk management and adaptation processes	Additional adaptation options (ongoing or suggested)	DFID-supported programme	Key climate risks identified	Existing risk management and adaptation processes	Additional adaptation options (ongoing or suggested)
<b>Water and Sanitation Programme, South Asia</b>	<ul style="list-style-type: none"> <li>• Damage to drinking water pipelines and sewerage lines</li> <li>• Changes in water demand and supply</li> <li>• Occurrence and spread of waterborne diseases</li> </ul>	<ul style="list-style-type: none"> <li>• Helping central government with management of technical and financial frameworks for maintenance of WSP services</li> <li>• Helping central government with development of best-practices for water resources management</li> <li>• State-level water quality monitoring and surveillance to check the secondary order impacts of climatic events</li> </ul>	<ul style="list-style-type: none"> <li>• Improve compliance and awareness of planners on building codes and best practices</li> <li>• Vulnerability and risk assessment exercises before infrastructure construction</li> <li>• Incorporate analysis of projected changes in drinking water supply in contracts of service providers</li> <li>• Integrate flood and disease warning and evacuation plans</li> </ul>	<b>West Bengal Programme on Strengthening of Rural Decentralisation</b>	<ul style="list-style-type: none"> <li>• Risks to livelihoods in sectors directly dependent on natural resources</li> </ul>	<ul style="list-style-type: none"> <li>• Enabling communities to build resilience to climatic shocks by income diversification</li> </ul>	<ul style="list-style-type: none"> <li>• Include climate sensitivity in programme targeting</li> <li>• Integrate climate risk management into training modules</li> <li>• Create guidance for exploring vulnerability reduction mechanisms for climate-sensitive livelihood sectors in preparation of local development plans</li> <li>• Integrate disaster management within local developmental plans of action</li> <li>• Develop state- and district-level climate vulnerability atlas to target interventions</li> </ul>
<b>Sarva Shiksha Abhiyan – National Elementary Education Programme</b>	<ul style="list-style-type: none"> <li>• Damage to school infrastructure</li> <li>• Indirect impacts on absenteeism</li> </ul>	<ul style="list-style-type: none"> <li>• Synergies with other programmes on livelihood-based initiatives</li> <li>• Rainwater harvesting and water purification techniques to assure quantity and quality of water supply</li> <li>• Environmental standards exist for school buildings covering extreme events (pre-fabricated structures, cyclone shelters as schools, building codes)</li> </ul>	<ul style="list-style-type: none"> <li>• Replicate need-based and region-specific initiatives for school infrastructure across the country</li> <li>• Improve linkages with disaster mitigation and management programmes, especially for school infrastructure</li> </ul>	<b>West Bengal Health Systems Development Initiative</b>	<ul style="list-style-type: none"> <li>• Damage to health infrastructure</li> <li>• Damage to health service provision</li> <li>• Health risks due to spread of diseases</li> <li>• Impacts on management of resources</li> </ul>	<ul style="list-style-type: none"> <li>• Lacks specific attention to climatic shocks, but provides overall support to West Bengal Health Sector Strategy in improving health coverage, management and service delivery</li> </ul>	<ul style="list-style-type: none"> <li>• Ensure development of, and compliance with, building codes and standards</li> <li>• Improve disaster response role of health centres through better integrating state and district level disaster management agencies, additional resources and rapid action teams</li> <li>• Ensure sanitation within the health facility premises</li> </ul>
<b>Reproductive and Child Health Programme Phase II</b>	<ul style="list-style-type: none"> <li>• Damage to healthcare infrastructure</li> <li>• Damage to drinking water supplies</li> <li>• Damage to communication networks and power supply</li> <li>• Spread of diseases and risk of epidemic outbreaks</li> </ul>	<ul style="list-style-type: none"> <li>• Bolstering national health care programme, targeting at reducing maternal and infant mortality rates</li> </ul>	<ul style="list-style-type: none"> <li>• Health facility mapping in vulnerable areas</li> <li>• Sensitise policy makers to climate-related health impacts</li> <li>• Convergence with other programmes, including sanitation and provision of quality drinking water</li> </ul>	<b>Rural Livelihoods Programmes (RLPs)</b>	<ul style="list-style-type: none"> <li>• Drought and extreme weather damages to agricultural and forest production</li> <li>• Extreme weather damages to assets, housing and infrastructure</li> <li>• Health risks through changes in malaria and waterborne disease distribution</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Andhra Pradesh RLP</b> <ul style="list-style-type: none"> <li>• Water and soil conservation</li> <li>• Supporting district-level institutions to support livelihood resilience against extreme events</li> </ul> </li> <li>• <b>Madhya Pradesh RLP</b> <ul style="list-style-type: none"> <li>• Enabling access of forest-based communities to revenues from carbon markets</li> <li>• Capacity building of rural communities by vocational training</li> <li>• Supporting development of agri-technologies and livestock management</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Facilitate use of IT in watershed planning and implementation</li> <li>• Locally appropriate climate-hardy cultivars and agro-forestry practices</li> <li>• Enhance water conservation and irrigation measures, focusing on small scale and marginal farmers</li> <li>• Locally appropriate climate-hardy cultivars and agro-forestry practices</li> <li>• Bolster existing climate risk measures inc. land, water and soil conservation</li> <li>• Enhance non-structural measures including non-farm opportunities and social protection measures</li> <li>• Explore joint development / adaptation benefits of low carbon energy sources</li> </ul>
<b>Kolkata Urban Services for the Poor Programme</b> <b>Madhya Pradesh Urban Services for the Poor Programme</b>	<ul style="list-style-type: none"> <li>• Urban flooding</li> <li>• Health risks due to contamination of water supplies</li> </ul>	<ul style="list-style-type: none"> <li>• In- situ slum upgrading</li> <li>• Operation and Maintenance of existing water supplies and drainage system</li> <li>• Enabling Urban Local Bodies to develop and follow environmental standards for sanitation and drinking water</li> </ul>	<ul style="list-style-type: none"> <li>• Strengthen Operation and Maintenance activities with periodic monitoring and evaluation</li> <li>• Integrate climate risk management in urban planning systems</li> <li>• Develop a spatial and temporal database for water quality surveillance</li> <li>• Tackle flood impacts through raising plinth levels and better insulation of toilet pits</li> </ul>	<b>Western Orissa RLP</b>	<ul style="list-style-type: none"> <li>• Supporting climate-resilient livelihood opportunities</li> <li>• Soil and water conservation</li> <li>• Supporting development of climate-hardy agricultural practices and crop varieties</li> <li>• Targeting off-farm activities for income generation</li> <li>• Enabling convergence with other state programmes such as Rural Employment Guarantee Scheme</li> </ul>	<ul style="list-style-type: none"> <li>• Replicate and scale up successful approaches to other areas</li> <li>• Investigate potential to tap into carbon market for adaptation and monetary benefits</li> <li>• Enhance water conservation and irrigation measures, focusing on small scale and marginal farmers</li> <li>• Locally appropriate climate-hardy cultivars and agro-forestry practices</li> <li>• Explore joint development / adaptation benefits of low carbon energy sources</li> </ul>	