

Climate Change Adaptation

Enabling people living in poverty to adapt

Summary

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Climate change is fast pushing the poorest and most marginalized communities beyond their capacity to respond. This report draws on case studies from around the world and on Oxfam's experience working with rural communities. It sets out what is needed to enable people living in poverty to adapt to climate change, and a range of interventions that are available. Oxfam's approach brings together experience in the areas of livelihoods, natural resource management, and Disaster Risk Reduction, with robust decision making in order to manage uncertainty and risk and to build adaptive capacity from household to national and global levels. The report identifies the combined need for bottom-up and top-down processes in order to create the enabling conditions needed for people living in poverty to adapt to climate change.

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Executive summary

Climate change is fast pushing communities, particularly the most poor and marginalized, beyond their capacity to respond. Across the world, staple subsistence crops are approaching their outer viable temperature ranges; erratic rainfall patterns and changing seasons are upsetting agricultural cycles and leaving many struggling to feed their families; and rising sea levels are causing the inundation of crops and the contamination of water supplies with salt water.

This report draws on case studies from around the world and Oxfam's experience working with rural communities to set out what is needed, and a range of interventions that are available, to enable people living in poverty to adapt to climate change. Nonetheless, there are limits to adaptation, and without rapid and significant global mitigation, these options will be quickly lost.

Who is vulnerable to climate change and why?

Poverty, more than any other factor, determines vulnerability to climate change and limits adaptive capacity. Access to and control over land, money, credit, information, health care, personal mobility, and education combine to determine the ability to survive and recover from disasters and to make long-term changes and investments to adapt. Existing gender inequalities combine with poverty to magnify women's vulnerability to climate change and undermine their ability to adapt.

Adapting to what?

Warming of the climate system is unequivocal; however at the local level the information required to make conventional planning decisions is lacking at the level of certainty required by those who need it. This demands an approach to adaptation that manages uncertainty and fosters adaptive capacity. Adaptation is therefore not a choice between reducing general vulnerability and preparing for specific hazards, such as floods. Adaptation requires both, in an ongoing change process whereby people can make informed decisions about their lives and livelihoods in a changing climate. *Learning* to adapt is as important as any specific adaptation intervention.

An approach to adaptation that works, even with uncertainty, combines activities that:

- address current hazards, increased variability, and emerging trends;
- manage risk and uncertainty; and
- build adaptive capacity.

What processes work for those most vulnerable?

The human security framework and Hyogo Framework for Action show that to empower communities to manage risk and uncertainty requires both bottom-up and top-down processes. Making a change at the local level requires community-based action supported by high-level political will and devolved resources and decision making.

Oxfam and Earth Net Foundation's adaptation project in Yasothorn Province, Thailand with organic rice farmers highlights the combined role

of bottom-up and top-down activities.¹ Firstly, individuals and communities developed effective solutions themselves. Second, access to information was key; while the farmers were well aware that the weather was changing, they needed external input about climate change to be able to make informed decisions about their future activities. Thirdly, these solutions could only be implemented in an enabling environment, which, in this case, involved NGO grants and technical support.

Climate change impacts, vulnerability, adaptive capacity, and barriers to adaptation are location-specific and will change over time, but the *processes* needed for adaptation that supports the most vulnerable will be similar. National adaptive capacity is one part of that puzzle. Community design and implementation of adaptation strategies suited to their location is another. A crucial element of both is the role of local level government and services. They must be empowered and resourced to act as intermediaries, linking the bottom-up and top-down processes.

Building solutions for climate change adaptation in rural livelihoods

Sustainable livelihoods in a changing climate: Populations dependent on agriculture are particularly vulnerable to climate change through the climate-sensitive nature of their activities and their economic and political marginalization, often compounded further for women due to gender inequality and the impacts of male out-migration in response to climate shocks and failing harvests. Communities need to have access to forecasts and appropriate technologies; wise management practices should be used and supported; and the existing conditions that limit adaptive capacity should be addressed. For example, in the project in Yasothorn Province, Thailand, key to the success were educating farmers about the impacts of climate change and linking them to sources of weather and climate information; the development of appropriate farm water-management systems; engagement with other communities to share experience and to advocate for change; and the opportunity to study the impacts of climate change on women.

Strengthening natural resources: Climate change demands the wise management of natural resources, firstly, because climate change increases resource scarcity. For example, in areas that are becoming drier and in coastal areas suffering from saline intrusion, there is a reduction in the availability of water for household and productive use. Second, the role that natural resources play in buffering communities against extremes of climate becomes more important as climates become more adverse. For example, increasing the soil's organic content improves water retention and drainage, which can help crops where rain becomes more concentrated into heavy downpours. Reforestation can reduce local temperatures; provides additional income; protects against soil erosion, landslides, and local flooding; and provides food and fodder in times of scarcity. In Maharashtra State, India, the Watershed Organisation Trust is assisting poor, rural communities with watershed restoration projects to combat the degrading effects of recurrent droughts and human pressures on the surrounding land. Measures undertaken include soil, land, and water management, such as trench building to control erosion, improve soil fertility, and enhance

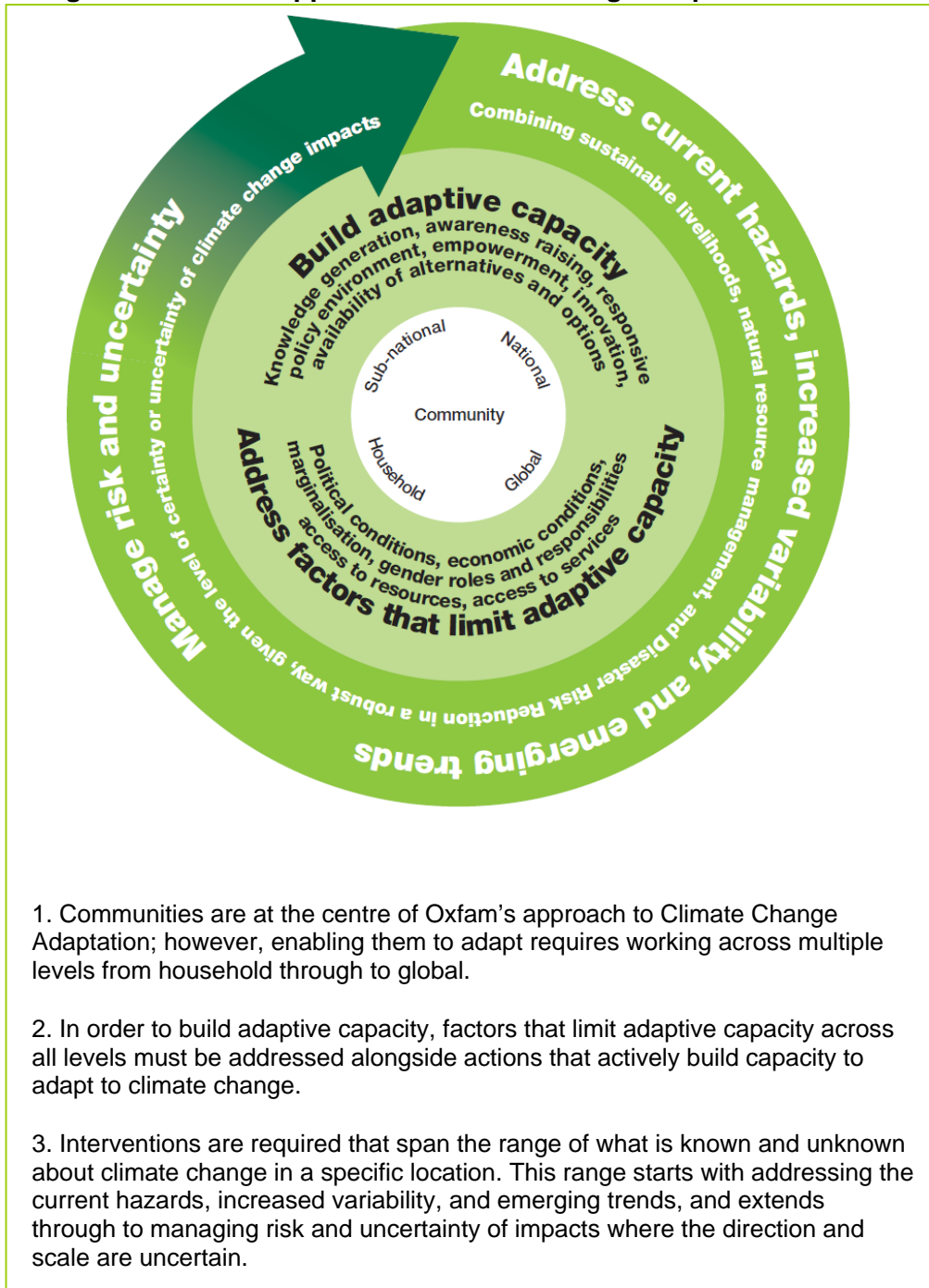
¹ See Oxfam GB (2009) Disaster Risk Reduction and Climate Change Adaptation case studies: http://www.oxfam.org.uk/resources/policy/climate_change/climate-change-adaptation.html

groundwater recharge; afforestation and rural energy management, such as by banning tree-felling and promoting the planting of shrubs and grass to meet household fuel needs; and livestock management and pasture development. Alongside these interventions, measures to increase adaptive capacity include micro-lending, training in new techniques, and the formation of community groups seeking to diversify livelihoods.

Reducing the risk of climate-related disasters: Climate-related disasters have increased in frequency and/or intensity as a result of climate change. The trend is already noticeable, with a dramatic and continuing rise in the number of small- and medium-scale climate-related disasters; since the 1980s, the average number of people reported as affected by climate-related disasters has doubled from 121 to 243 million a year.¹ As a result, Disaster Risk Reduction (DRR) needs to incorporate climate change analysis, and is an important component of adapting to climate change.

Decades of development theory and practice prove that a holistic, people-centred approach is the best path to effective and sustained poverty reduction. The challenges presented by climate change mean that it is also the only way to adapt. To go beyond resilience, which deteriorates as conditions change, to transformational changes in the lives of people living in poverty in a changing climate demands enormous political will and investment. It demands flexibility and learning through every institution, from household to government. It demands an approach that combines bottom-up with top-down processes; local knowledge and scientific knowledge; reducing vulnerability and addressing impacts; specific responses and managing uncertainty; sustainable livelihoods, natural resource management and DRR approaches; change, and learning how to change. Climate change forces us to draw the strands together, not only to lift people out of poverty, but also to enable them to manage risk and uncertainty as well as shape, create, and respond to changes throughout their lives.

Figure 1: Oxfam's approach to climate change adaptation



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