

## **BACKGROUND NOTES**

### **Session 2 – Approaches for risk reduction**

- **Early warning systems: A risk reduction strategy for local communities**

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Climate change adaptation is currently at the forefront of development discourse for the developing world, and especially on the African continent. Climate change is expected to aggravate the impacts of climate extremes, which currently account for over 70% of the natural disasters occurring in Africa. One strategy for adaptation is implementation of effective early warning systems that would reduce the risk to the vulnerable assets and lives. This strategy can only be successful if the system targets the most vulnerable. In Africa, this means the local communities.

Unfortunately most of the early warning strategies being tried in African countries often have no local context, are developed without input from the local communities, and hence not owned by the communities. The result is that implementation of the adaptation strategies are usually not sustainable after the end of the projects introducing them. Incorporating the local communities in the development of the strategies, and using their local/indigenous knowledge introduces local context to the problem and ensures ownership.

This paper presents an example of an early warning system for climate risk reduction that links the global, regional, national and local institutions. It presents two case studies on two communities in Kenya showing how a climate early warning system can help reduce the risks and enhance the resilience of communities to the impacts of climate extremes.

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- **Flood Risk Reduction and Management in Mozambique: National and sub-Regional Dimension**

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Mozambique lies on the eastern coast of southern Africa bordered on the east by the Indian Ocean (the Mozambique Channel), on the north by Tanzania, Malawi and Zambia, on the west by Zimbabwe and on the south by South Africa. The Country is highly vulnerable to climate related disasters, particularly drought and floods. High incidence of floods is the result of two major factors. First are tropical cyclones from eastern Indian Ocean. Though few get to landfall, on average 3-4 per year get near enough with high winds and heavy rains. The second is Mozambique's location downstream where nine river systems that drains vast areas south eastern Africa finds their way to the Indian Ocean through Mozambique.

Though considered to have one of the highest growth rates in Africa, Mozambique is a poor country with 50 per cent of its population living in poverty. 80% of the population of about 20 million depends on agriculture and fisheries which are high vulnerable to climate variability and extreme weather events.

Mozambique has policies and institutional mechanism at national regional and local levels for flood risk reduction and management, supported by regional mechanisms

Mozambique's flood risk management system is build around effective early warning and information management system facilitated by coordination and collaboration among a number of institutions that help in integrating hydrologic land climate information for forecasting and prediction of floods, early warning and information dissemination to ensure preparedness at central, regional and local levels.

Experience of previous floods had led the government to set up flood management structures at various levels, from central to local, and there is active collaboration between these structures. However competing development needs, limited resources and capacity are major constraints and poverty of majority of the people of Mozambique makes that vulnerable to high climate variable ad other disasters,

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### **Session 3 – Approaches for risk retention and risk transfer**

- **An example of risk transfer measures at the micro level**

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With climate change increasing risk, it is important for smallholder farmers in developing countries to adapt. For many, climate change means that bad years, previously rare, are becoming worse, or more common. Thus, the key to adaptation is to increase production in normal (and mediocre) years enough to outweigh losses from increased bad years. The unused productive strategies that were too risky must now be made safe. Index insurance is a new risk-transfer tool to unlock adaptation. By providing protection in bad years, index insurance could allow productive risk taking that would pay off in most years.

Because it is so young, much of the effort to date has been focused on making insurance possible. Although the motivation for insurance has been adaptation and development, most of the work has been focused on getting insurance in place, not developing a system that embeds insurance with complimentary tools to unlock adaptation. Many questions have arisen concerning the cost-effectiveness of microinsurance, resource requirements, enabling environments, lessons learned from partnerships, design challenges/successes, and links with other tools.

When we begin with the fundamental adaptation challenges and work forward, the answers to these questions fall out of the design process. Insurance is complimented by other tools that are used where they are more cost-effective. The enabling environment is one that supports the fundamental adaptation problem. Partnerships and design are products of the solution to the adaptation problem, and the links and synergies dictate the insurance product itself.

We need to rework our approach to index insurance. Exploratory technologies have been prototyped for small-scale pilots, but as insurance scales the science base must be made solid. All stakeholders, especially the farmers, must be much more deeply informed and involved in the process. They must understand the systems completely--not only to protect them from the limitations of insurance, but also to successfully make the choices that improve their livelihoods. Because a farmer is the only one who truly understands her situation, to successfully improve livelihoods, she must drive the process herself. Although sufficient progress has been made to justify optimism, there is much work to be done. Higher standards of science, communication, and empowerment are required. For answers to be relevant, we must keep our focus on the underlying adaptation challenges.