## Case Study 2: Regional Cooperation in Southern Africa

### Policy commitment to flood risk reduction

The Southern African Development Community (SADC) is comprised of 14 member states with a population of approximately 200 million: Angola, Botswana, Democratic Republic of the Congo, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, Tanzania, Zambia and Zimbabwe.

Since the devastating floods that affected much of the region in 2000-2001, particularly in Mozambique, a process of intense regional cooperation has been started at the highest political level. This process is focusing mainly on improved technical collaboration including anticipating, mitigating and responding to sudden-onset natural hazards, such as cyclone-triggered trans-boundary floods, and allocating more resources to risk reduction. For a long time, the water sector has focused on the development of cooperative agreements on shared river basins, but the floods of 2000 and 2001 underlined the need for paying greater attention to regional flood risk, in addition to recurrent drought. The need for inter-state cooperation associated with water-related hazards in Southern Africa is particularly acute, as there are more than ten shared watercourses in the region.



*Rain and flooding in February 2000 have left much of central Mozambique under water*

As a starting point, an Extraordinary Summit for SADC Heads of State and Government was convened in Maputo, Mozambique in March 2000 to review the impacts caused by the floods across the region. In May 2000, the SADC Sub-Sectoral Committee on Meteorology Meeting was convened and the Directors of National Meteorological and Hydrological Services (NMHS) in the SADC countries recommended a regional project to be formulated to address and strengthen the local capacities of national meteorological and hydrological services for early warning and disaster preparedness. In addition, the SADC Committee of Ministers for Water asked for a strategic and coordinated approach to be developed to manage floods and droughts within the region. By August 2000, the SADC Council of Ministers approved an overarching SADC Disaster Management Framework for an integrated regional approach to disaster management and established a full Technical Steering Committee on Disaster Management. By the end of 2001, SADC had developed and set in place a multi-sectoral disaster management strategy for the region.

The successful implementation of this disaster reduction strategy rests on interaction among different technical and administrative networks across Southern Africa. The SADC Water Sector Coordination Unit formulated an integrated Strategy for Floods and Drought

Management in the SADC Region that will be implemented over a four-year period. The strategy focuses on preparedness and contingency planning, early warning and vulnerability information systems, mitigation measures, response activities and recovery strategies. The process involves regular consultations through which the heads of disaster management, early warning, and meteorological units and water authorities from individual countries in Southern Africa will meet with SADC technical counterparts in order to monitor progress and address impediments to reduce drought and flood-related disasters. Fifty real-time and coordinated data collection stations are currently being installed in eleven Southern African countries under the EU funded SADC Hydrological Cycle Observing System (SADC-HYCOS). These stations are expected to make major improvements in the timely availability of data and to provide more real-time data transmission and the dissemination of essential transboundary hydrological information for flood forecasting. The project is being implemented by the SADC Water Sector Resources in association with the national hydrological services of the participating countries.

# Case Study 3: An Instructional Programme for the Local Level

## A disaster awareness and response instructional programme for people at the local level in Vietnam

Vietnam is one of the most disaster-prone countries in the world. The 1996 flood season was particularly devastating: typhoons, tropical storms, whirlwinds, landslides and floods affected almost every province in the country, causing $US 655 million in damages and taking more than 1,000 lives. In 1997, Typhoon Linda alone caused almost $US 600 million in damages to the southern provinces. More significantly, 2,900 people were either killed or reported missing. In 1998, Vietnam faced not only typhoons and floods, but also severe drought that spread nationwide and lasted until May 1999 Forest fires were also widespread. In response to such threats, the United Nations Development Programme (UNDP), the Ministry of Agriculture and Rural Development, and the Central Committee for Flood and Storm Control (CCFSC) are working together to establish strategies for disaster preparedness, prevention, and mitigation. Strengthening national capacities to plan for and respond to natural disasters is a further target.

The new Disaster Management project builds on the success of a previous UNDP project that established a nationwide water disaster information and monitoring system focused at the provincial level that extends training in disaster awareness and response right down to the district and commune levels. The new project is extending this water disaster management capability to other disasters, including drought, seawater intrusion, and forest fires.



*Training of school children, Vietnam*

The major purpose of this EU-UNDP funded pilot training project was to introduce disaster awareness and preparedness to the elementary school system in Vietnam. School children in selected communes are being taught how to mitigate disaster damage in their households and families. In addition to educating school children, this "grassroots" approach is also aimed at developing synergetic effects, such as fostering a greater awareness of natural disasters within families and their communities. Three provinces in Vietnam (Thanh Hoa, Quang Tri, and Long An Provinces) were selected. The three main objectives being pursued were: (1) to develop a community-based disaster awareness and preparedness training programme that, if successful, could be replicated nationwide; (2) to establish a nucleus of Master Trainers; and (3) to strengthen the institutions that deal with disaster

management in Vietnam. Implementation steps of this training programme included: setting up a Steering Committee and a Working Group; drafting and signing a contract with the local Vietnam Red Cross Society; creation, design, and constant revision of training material; training of Master Trainers; and training of teachers and children in selected provinces.

Based on the review of books and student knowledge at the grade 4 and 5 levels, a children's book and a teacher's book were prepared and distributed to schools. "Disaster bags" were described and explained in the training materials: they are to be used by the pupils' families to store, and thus preserve, important documents. In addition, a videotape for educational purposes was produced by a television station in Hanoi, dealing specifically with disasters in Vietnam and incorporating many of the lessons contained in the training materials.

The Vietnamese Red Cross was responsible for organizing and conducting the training of schoolteachers. A total of 288 schoolteachers in all three provinces received the training Following the training of teachers, the provincial Red Cross worked with the districts and schools to organize the teaching of fourth and fifth graders from selected schools A total of 18,755 pupils were taught. The teaching was spread over a four-week period. The training programmes were not integrated into the existing curriculum; rather they were presented as extra courses added to the regular curriculum. These courses were taught over a weekend, when the pupils would not ordinarily be in school.

# Case Study 4: Access to Information - The RANET Project

RANET is a project of several partners aimed at making climate and weather related information more accessible to rural populations and communities in Africa. RANET provides a radio-internet pathway between scientific results and individuals in remote locations for whom "early warning" information might matter greatly. The programme currently operates in Africa and is exploring appropriate roles in Asia and the Pacific The goal is to improve access to climate and weather related material through a variety of activities, while also developing a system through which meteorological services can disseminate their own information to rural communities.

RANET endeavours to make available to national, regional, and local levels the tools and information required for decision-making. All activities of RANET are based on a participatory approach and are done in conjunction with, and with the approval of, the communities themselves and the national meteorological and associated services.

Technological and scientific advances in recent decades have provided not only a good understanding of climate and weather conditions, but also a wide variety of observations and forecasts that can be used in efforts to manage systems sensitive to meteorological events. At present, many rural populations most in need of hydro-meteorological and environmental information are not able to access the information already produced by national, regional, and various international organizations. The RANET Programme was created and designed specifically to address the problem of information access and interpretation at the level of rural communities.

RANET identifies and trains partners in the use of various technologies that are most appropriate for their information needs and are serviceable in their area. Aside from identifying a variety of techniques, RANET works to gain access for rural populations to "common networks"- large systems likely inaccessible by any one group, but usable by RANET and its partners when used together. Additionally, RANET focuses on integrating
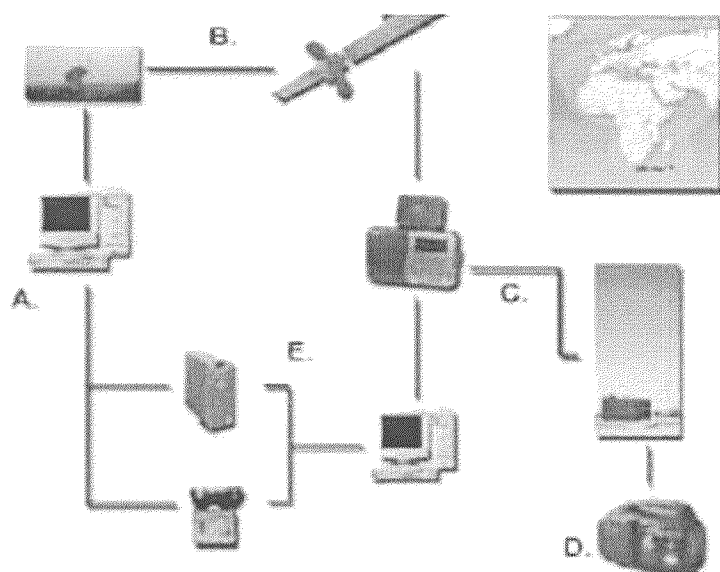


*RANET information cycle:*
*Global, regional, national*
*and local information is*
*gathered from various*
*technologies through*
*different methods and then*
*blended in a single*
*broadcasting via Radio*

existing networks thereby reinforcing local, existing capabilities rather than developing new, resource intensive and unsustainable networks.

Many development projects with a component of telecommunications technology are vulnerable unless appropriate and sustainable solutions are identified and deployed. In Africa one of the more successful systems has been an integration of new and existing analogue (FM/AM) radio stations with new digital radio satellite technologies, as provided through the World Space Foundation. Taken together, these technologies allow for both local knowledge and new information to be used in support of rural populations. Radio is one of the most pervasive technologies in use throughout the globe, and RANET's inclusion of radio in its network design helps to ensure the programme builds upon existing capabilities, is community owned and operated, locally relevant, and therefore more sustainable

The lessons learned by RANET underscore the need for a period of consistent follow-up and technical support until the introduced systems, or newly integrated networks, can be fully supported locally (or within a region), and therefore considered sustainable. Such a transition period means identifying serviceable technologies, identifying existing networks and capabilities, training, and the development of a support community For this reason RANET is embarking on new education and training programmes, which allow participants to solve problems that arose during implementation (including revenue generation and sustainability), learn from each other's experiences, and build upon the basic knowledge gained in the initial training sessions and project development.

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# Acronyms

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| ACMAD | African Centre of Meteorological Application for Development |
| ADRC | Asian Disaster Reduction Center |
| AHPS | Advanced Hydrologic Prediction Services project of the U.S. National Oceanic and Atmospheric Administration National Weather Service |
| CCFSC | Central Committee for Flood and Storm Control in Vietnam |
| CRASH | Comprehensive Risk Assessment for Natural Hazards |
| CRED | Centre for Research on the Epidemiology of Disasters |
| DCCs | Disaster Coordinating Councils/Committees |
| DEM | Digital Elevation Model |
| DTM | Digital Terrain Model |
| ENSO | El Niño Southern Oscillation |
| ECLAC | United Nations Economic Commission for Latin America and the Caribbean |
| ESCAP | United Nations Economic and Social Commission for Asia and the Pacific |
| EM-DAT | Emergency Events Database administrated by CRED, University of Louvain, Belgium |
| EU | European Union |
| GDP | Gross Domestic Product |
| GIS | Geographical Information Systems |
| GTS | Global Telecommunication System |
| HYCOS | Hydrological Cycle Observing System |
| IATF/DR | Inter-Agency Task Force on Disaster Reduction |
| IMF | International Monetary Fund |
| IPCC | Intergovernmental Panel on Climate Change |
| ISDR | International Strategy for Disaster Reduction |
| IWRM | Integrated Water Resources Management |
| NGO | Non-governmental Organization |
| NMHS | National Meteorological and Hydrological Services |
| OFDA | Office of U S. Foreign Disaster Assistance |
| QPE | Quantitative Precipitation Estimation |
| QPF | Quantitative Precipitation Forecasting |
| SADC | Southern African Development Community |
| UNDESA | United Nations Department of Economic and Social Affairs |
| UNESCO | United Nations Educational, Scientific and Cultural Organization |
| UNDP | United Nations Development Programme |
| UN/ISDR | Inter-Agency Secretariat of the International Strategy for Disaster Reduction |
| USAID | United States Agency for International Development |
| WEO | World Economic Outlook |
| WMO | World Meteorological Organization |