

# DRAFT REPORT

## Workshop in Reducing Climate-Related Vulnerability in Southern Africa

1-4 October 1996

Victoria Falls, Zimbabwe, Elephant Hills Hotel

### SPONSORED BY:

Southern African Development Community (SADC)  
U.S. National Oceanic and Atmospheric Administration (NOAA)  
U.S. National Aeronautics and Space Administration (NASA)  
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Research and Training (START) and the World Meteorological  
Organization (WMO)

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*Abstract of a Study*

**ASSESSING THE USE AND VALUE OF ENSO INFORMATION  
FOR FOOD SECURITY IN SOUTHERN AFRICA**

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Information about El Niño/Southern Oscillation (ENSO) events potentially has much to offer in alleviating the impacts of drought and improving food security in drought-prone countries. Advanced warning of ENSO and "teleconnected" drought allows for flexible agricultural production practices, strategic management of grain and water reserves, minimal budgetary impacts, and effective arrangement of donor relief. This study reviews the actual as well as potential use of ENSO information during the 1991-92 drought in Southern Africa and assesses the value of an earlier ENSO forecast than had been available at the time. We find, for example, that had Zimbabwe had a credible, accurate ENSO forecast in early 1991, *and seriously acted upon it*, it could have saved tens of millions of dollars during the 1991-92 drought. The region may not have had to experience the emergency conditions that threatened millions in the region with famine and stalled its progress toward economic development.

**Preliminary Findings**

After looking at what actually happened during the 1991-92 drought, and then postulating what might have transpired with availability of and response to a perfect forecast, we have concluded that, while an ENSO forecast was available in early 1991, it was not widely disseminated. Decision-makers in the SADC region did not have familiarity with the link between ENSO and regional drought. As a result, ENSO information did not play a significant role in the regional and national responses to that particular drought situation. The regional food security community issued warnings of an impending food security crisis throughout 1991. However, these warnings were based on concern over the poor 1991 harvest and low grain stocks, rather than concern about the prospects for an ENSO-related drought affecting the 1992 harvest.

Regional and national responses to the actual drought situation were initiated once the rains had failed, crop damage had been observed, and evidence that the rains were unlikely to return was presented. Regional famine was averted, but individual countries experienced significant adverse economic impacts as a result of the drought. Such economic impacts included, but were not limited to, the millions of dollars spent by Zimbabwe on grain imports, and millions more were spent throughout the region to transport food where it was needed.

With an accurate and reliable ENSO forecast that had received immediate attention within the SADC region, these and many other costs could have been

alleviated. However, such savings estimates assume that decision-makers would have believed an earlier forecast. In 1991, this would have been unlikely; ENSO was an unfamiliar topic, as was its connection to regional drought, by those decision-makers responsible for regional and national food security. The forecasts indeed were not seen as credible, so they often sat on people's desks. More pressing political and economic concerns likely would have still been given priority. In reality, an earlier forecast and response effort in 1991 would not have made a great deal of difference, because of existing political and economic constraints that existed at that time. To improve the value of such information, these constraints at the time of an ENSO forecast must be identified and overcome. Such constraints will likely vary from region to region and country to country. This would help to elevate the societal value of an ENSO forecast to a higher level.

**APPENDICES**

APPENDIX I

**WORKSHOP ON REDUCING CLIMATE-RELATED VULNERABILITY IN SOUTHERN AFRICA**

Victoria Falls, Zimbabwe  
1-4 October 1996

**AGENDA**

**Monday, 30 September**

13:00-18:00 Hotel and Workshop Registration

18:30 Opening Reception (*Welcome by R. Mugwara, SADC*) [

**Tuesday, 1 October**

08:30 Plenary Session: Opening (*R. Mugwara, SADC*)

08:35 Welcoming Remarks (*M.C. Zinyowera, Zimbabwe Meteorological Service*)

08:50 Keynote Address (*Zimbabwe Minister of Lands and Water Resources, K. M. Kangai*)

09:20 Remarks from Workshop Sponsors (*J. Buizer*)

09:40 Statement from Workshop Chairman (*F. Semazzi*)

10:00 Break

10:45 Plenary Session: Chairman's Introduction to Panel on Seasonal-to-Interannual Climate Variability, Regional Manifestations, and Forecasting Capabilities (*F. Semazzi*)

11:00 Regional Manifestations of Climate Variability in Southern Africa (*S. Mason*)

11:30 Prediction of Seasonal-to-Interannual Climate Variability and its Regional Manifestations: Regional Predictability (*N. Graham*)

- 12:00 Long-Range Climate Forecasting and User Needs in Southern Africa  
(*M. Jury*)
- 12:30 Lessons Learned from Climate Prediction for Southern Africa, 1992-1995  
(*W. Thiao*)
- 13:00 Lunch
- 14:30 Plenary Session: Workshop preparatory studies  
Summary Report of Preparatory Study Results (*G. Farmer*)
- 14:55 Malaria Forecasting Project (*D. le Sueur*)
- 15:10 Water Resources Hindcast: A Spatial Study Over South Africa of  
Hydrological Responses in El Niño, La Niña and "Average" Years.  
Seasonal Forecast Weather Builder for Generating Agricultural And  
Hydrological Forecasts From Rainfall Forecasts (*R. Schulze*)
- 15:25 Impacts of Climate Variability and Forecasting on Agriculture:  
Zimbabwe Experience (*W. Zhakata*)
- 15:40 Usefulness of Climate Forecasting Information to Funding and Donor  
Institutions (*M. Dilley*)
- 15:55 Assessment of Institutional Capabilities in Southern Africa (*H. Eakin*)
- 16:10 Status of Regional Information Networks for Dissemination of Climate  
Information (*G. Farmer*)
- 16:25 Break
- 16:45 Plenary Session: An international context for experimental climate  
prediction and its applications in Southern Africa: The International  
Research Institute for Seasonal-to-Interannual Climate Prediction (*M.  
Cane — J. Buizer*)
- 17:15 Plenary Session: Introduction to Working Group sessions on sectoral  
research requirements, predictive capabilities and information needs (*F.  
Semazzi*)
- 18:00 Adjourn
- 18:30 Dinner (*Dinner Keynote Address R. Watson , World Bank*)



### Wednesday, 2 October

- 09:00 Working Group Sessions (concurrent): Sectoral Research Requirements, Predictive Capabilities and Information Needs
- |                   |                           |
|-------------------|---------------------------|
| Working Group I   | Agriculture/Food Security |
| Working Group II  | Water Resources           |
| Working Group III | Health                    |
| Working Group IV  | Forestry                  |
- 10:30 Break
- 11:00 Working Group Session (continued)
- 12:30 Lunch
- 13:30 Working Group Session (continued)
- 16:00 Adjourn.

### Thursday, 3 October

- 09:00 Working Group Session (continued): Drafting of working group reports
- 10:30 Break
- 11:00 Plenary Session: Sectoral Working Group Findings -- Synthesis of individual sectoral information needs and assessment of current and potential applications of emerging forecasting capabilities.
- |       |                   |                           |
|-------|-------------------|---------------------------|
| 11:10 | Working Group I   | Agriculture/Food Security |
| 11:30 | Working Group II  | Water Resources           |
| 11:50 | Working Group III | Health                    |
| 12:10 | Working Group IV  | Forestry                  |
- 12:30 Lunch
- 14:00 Plenary Session: Overview of Regional Institutional Capacity
- Institutional briefs addressing sectoral needs
- 15:30 Break

- 16:00 Plenary Session: Round table discussion of scientific and institutional capabilities in the context of sectoral needs
- 18:00 Adjourn

**Friday, 4 October**

- 09:00 Plenary Session: Options and schedule for implementation — taking the next steps
- Plenary discussion
- 10:30 Break
- 11:30 Plenary Session: Presentation and discussion of draft Workshop findings and recommendations
- 12:00 Closing Luncheon: Next Steps and Closing Remarks