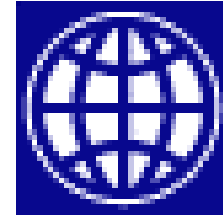


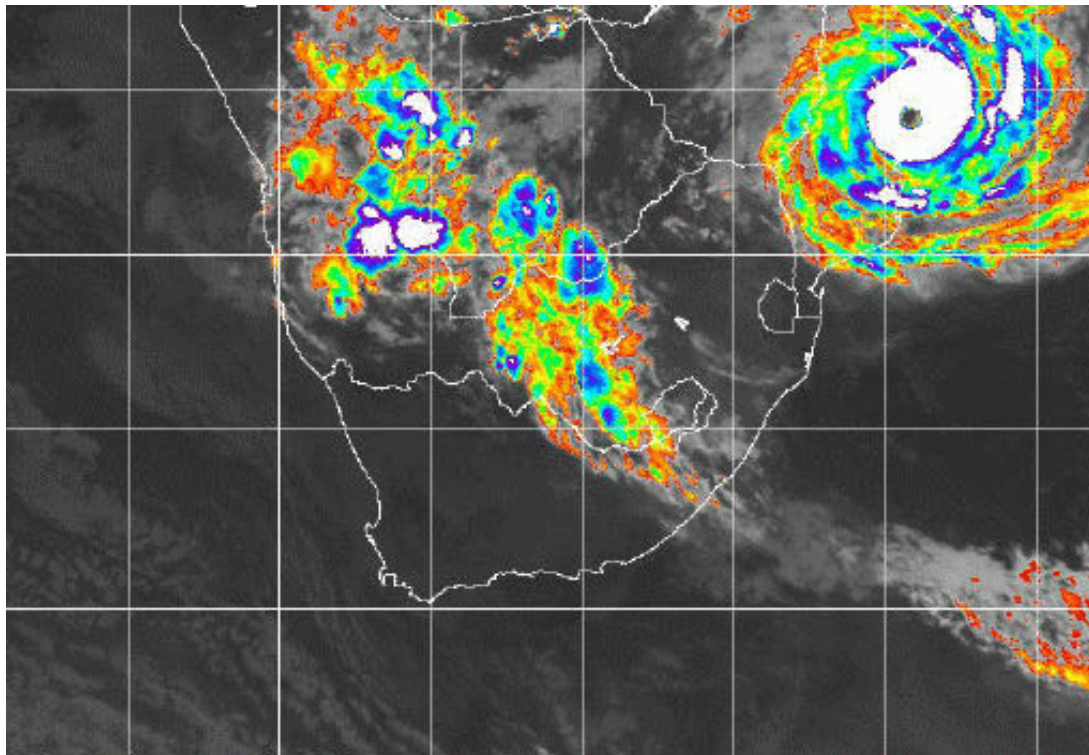
SADC Drought Monitoring Centre



Report of the

Climate Information and Prediction Products Dissemination Capacity Building Workshop for Media Organs in Southern Africa

*Maseru, Lesotho
18 –20 February 2002*



Sponsored by NOAA/OGP

	Page
Table of contents	1
<i>Acknowledgment</i>	2
EXECUTIVE SUMMARY	3
INTRODUCTION	5
BACKGROUND	6
OBJECTIVES	6
OFFICIAL OPENING	7
PRESENTATIONS:	
<i>WEATHER FORECAST FORMULATION AND DISSEMINATION PROCESS:</i>	
NATIONAL METEOROLOGICAL SERVICES	9
DROUGHT MONITORING CENTER	9
ROLE OF MEDIA AND PRESS ORGANS	11
WEATHER AND CLIMATE PRODUCTS FOR DISSEMINATION	11
PUBLIC WEATHER SERVICES	12
WORKING GROUP SESSIONS	13
CONCLUSIONS	13
RECOMMENDATIONS	13
WAY FORWARD	14
<i>Annexes</i>	
Annex I: Working Group Sessions	15
Annex II: Weather forecast terminology	18
Annex III: Interpretation of percentages	18
Annex IV: Some selected definitions	19
Annex V: List of participants	20

ACKNOWLEDGEMENT

The workshop has been a successful event due to a sterling contribution made by collaborative partners. In particular, the Lesotho Meteorological Services Department (LMSD) has played a pivotal role in hosting the workshop and making all the necessary local arrangements. An unreserved note of acknowledgement is thus extended to the Director of LMSD, Mr B.T. Sekoli for the Department's contribution. Further note of thanks is directed to the presenters from various regional institutions who assumed the role of resource persons and also participated actively in the workshop proceedings.

Special note of acknowledgement is extended to NOAA/OGP, which provided funding for the workshop. Indeed without their support the workshop could not have taken place. The DMC staff is also thanked for making all technical and administrative arrangements for the workshop. Last but not least all participants are being thanked for their active participation in the workshop.

E.D. Dlamini
DMC Coordinator

EXECUTIVE SUMMARY

1. The workshop on climate information and prediction products dissemination for media organs in the SADC region was held in Maseru, Lesotho, from 18 to 20 February 2002. It was organized by the SADC Drought Monitoring Centre (DMC) in collaboration with the Lesotho Meteorological Services Department (LMSD). The funding for the workshop was sourced from the National Oceanic and Atmospheric Administration/ Organisation of Global Partnership (NOAA/OGP).
2. The primary objective of the workshop was to promote the dissemination and communication of weather forecasts and meteorological information in the SADC region. The efforts made through the SARCOF process has enhanced the regional capacity in the preparation and issuance of seasonal forecasts information. However, it has been realized that the countries are not fully benefiting from this information due to limited information dissemination capabilities of National Meteorological Service (NMS) in the region. Therefore the media workshop was convened to solicit support from media and press organs in the region for them to contribute in promoting a wider dissemination of weather and climate information to various audience groups and climate information users in the SADC countries.
3. Weather and climate have a significant bearing on the safety and sustainable socio-economic welfare of the SADC countries. Hence, provision of accurate and timely meteorological information in support of weather and climate sensitive economic sectors is indispensable for the region to attain sustainable socio-economic development. The SADC countries incur immense economic loss as a result of extreme climatic events such as droughts and floods. The lives of over 180 million human inhabitants are threatened by the vagaries of weather and climate. Increased awareness on meteorology and its application in the region can have a significant

contribution towards safety of life for the communities and can contribute in the reduction of losses emanating from the destruction to infrastructure brought about by hydrological and meteorological related natural disasters. As part of their activities NMS in the SADC region are consolidating efforts to improve the quality of weather and climate products for various user applications. Overall the last decade has seen a notable improvement in the availability and quality of climate products in the region thanks to WMO support. However, despite these successes institutional and operational weaknesses still exist on the part of NMS. One of the key weakness is weak collaboration with media and press organs which in turn result in poor dissemination of weather and climate information to users. There is need to improve operational linkages between NMS, media and press organs in order to enhance the publication of meteorological products and related information. This requires that efforts be made to motivate press and media organs in the region so that they would fully appreciate the usefulness of covering weather reports in their publications. The approach employed to improve the contribution of press and media organs was to identify weaknesses that hamper efficient dissemination of meteorological information and to formulate appropriate remedial actions to ensure that meteorological information is accorded priority in media and press reporting.

4. The workshop examined various types of products, weather warnings and meteorological information issued by NMS and the SADC DMC, and the terminology used in conveying weather and climate information. Particular focus was made on the role of DMC and NMS in generating weather and climate information and that of Press and Media organs in disseminating the information. The workshop expressed the need to enhance the collaboration between NMS and media organs in the respective SADC countries. It further identified weaknesses that are prohibitive in dissemination of the information and appropriate recommendations were formulated to enhance the contribution of media and press organs in meteorological information reporting.

5. The workshop also increased awareness amongst the media representatives on early warning information, weather forecasts and other meteorological information. This will contribute towards reducing the negative effects of meteorological and hydrological disasters in the region.

6. The workshop provided a forum for the participants to exchange experiences on the problems and challenges that are a hindrance for the efficient dissemination of the weather and climate information to users in the SADC region and how they can be tackled to improve the situation. The workshop conclusions singled out that in the SADC region media and press organs still lack understanding on meteorological information and products. Particular weaknesses that were cited included misunderstanding by the media and press organs of meteorology terminology, weak or non-existent working linkages between NMS, media and press organs, untimely and irregular issuance of weather reports by NMS, poor communication links among others.

7. The workshop formulated specific recommendations that are intended to promote the quality, availability, timeliness and efficient dissemination and communication of weather and climate information in the region. The recommendations are to be followed up by all stakeholders including NMS, media and press organs.

8. Journalists, media and press representatives from various organs including newspapers, radio, TV as well as news and information agencies from the thirteen SADC countries attended the workshop.

INTRODUCTION

9. Weather and climate affect every facet of life and in that respect related information on the status of current climate and forecast information is vital in the attainment of sustainable socio-economic development. Weather and climate information contributes in providing safety to life and property against the adverse weather conditions and extreme climate events. However, improved application and use of weather and climate information, to a large extent depends on its availability, access by users, timeliness and its quality. Although sustained efforts are being made in the SADC region to improve the quality and availability of weather and climate information through the SARCOF process, there is still limited access to this vital information by various users. One of the key challenges facing NMS in the SADC region is limitations in the dissemination of the products to various targeted audiences such as agriculture, early warning and food security, natural disaster management, industry, transport and the general public. In order to improve the application of weather and climate information by users it is vital that the information is widely disseminated on time and in a format that is understood by the users. Directors of NMSs in their various meetings have expressed the need to promote participation of Media and Press organs in the dissemination of weather and climate information to users in the region. This prompted a need to convene a regional workshop to sensitise media and press organs on the newsworthiness of weather and climate information.

10. SADC National Meteorological Services (NMSs) are mandated to prepare and issue various weather and climate information products for various user groups. In order for the information to reach the users, media and press organs have a crucial role to play in the dissemination of the information. This necessitate that efforts be made to forge close partnership and to improve collaboration and cooperation between NMS, media and press organs in the SADC region.

11. The SADC region is affected by vagaries of weather and extreme climate events mainly as a result of its geographical and topographic features. Therefore there is a critical need to provide accurate and timely weather and climate information in the region in order to optimise planning of socio-economic activities and to enable the formulation of

appropriate informed decisions on early warning and disaster preparedness. However, recent natural disasters that have affected the region such as the floods that occurred during the early part of the year 2000 brought about by tropical cyclones “*Eline*” and “*Gloria*” have demonstrated that weaknesses exist in the flow of information from NMS to users or vice versa. Although in some cases information is available within NMS it does not reach the intended audience on time and sometimes it is not presented in a format that is easily interpretable to users. In some countries information on weather and climate is given less priority by the media and press organs.

12. The DMC in collaboration with WMO solicited funding from NOAA/OGP to provide financial support for the workshop. The workshop took place in Maseru, Lesotho from 18 to 20 February 2002. It was attended by representatives of media and press organs from all the SADC countries, except Angola. Organizers of the workshop were the Drought Monitoring Centre and the Lesotho Meteorological Services Department.

Background

13. The generation of seasonal climate forecast in the SADC region through the SARCOF Process that began in 1997/98 has provided a good base for regional capacity building on seasonal forecast. The SARCOF process normally starts with a training workshop, which is followed by a forum to formulate a consensus seasonal outlook. The process has become a regional procedure for the SADC NMS for the development and issuance of the pre-season seasonal forecast and their related updates. Despite the improvement in seasonal forecasts resulting from the SARCOF process most SADC countries have not yet derived full benefit from the products generated through the process. One of the key limiting factors is the inability to disseminate the forecast widely and timeously to the various targeted audiences and user groups such as in agriculture, early warning and food security, natural disaster management, industry, transport and the general public. In order to promote a wider coverage and dissemination of the forecasts information in the SADC region, NMS expressed the need to convene a dedicated regional workshop for the media and press organs.

14. The workshop was intended to provide a platform for increased access to early warning advisories, weather forecasts and meteorological information by various audience groups in the SADC region. It is intended to assist in reducing the negative impacts of meteorological and hydrological disasters and to promote sustainable socio-economic development in the SADC countries through the application of meteorology in various economic sectors.

OBJECTIVES

15. The overall objective of the workshop was to promote the appreciation, dissemination and communication of weather and climate information in the SADC region by the press and media organs. Specifically the workshop was intended to:

- (a) formulate a common regional approach in optimising the dissemination of weather and climate information in the SADC region;
- (b) sensitise media and press organs on the newsworthiness of meteorological information

- (c) stimulate media and press organs to publish weather and climate information;
- (d) solicit inputs from media and press organs on how best to present weather forecast and meteorological information for understanding by the general public;
- (e) promote public awareness in the SADC region on meteorological services information, warnings and advisories;
- (f) promote understanding of meteorological terminology by the media and press organs.

OFFICIAL OPENING

16. The workshop was officially opened by Ms D. Guni, on behalf of the Honourable Minister for Natural Resources. In her opening address Ms Guni remarked that revolutionary advancement in communication technology which have taken place globally in the last thirty years have provided opportunities for news reporting on real time basis around the world. She observes that this has improved the availability of information and has also promoted competition among media organs in attracting the audience. She noted that media reporting on science issues particularly on weather and climate has in the past been ineffective and has been accorded low priority by media organs. In her remarks, she mentioned that it is for this reason that the Earth Summit held in Rio de Janeiro in 1992 advocated a need to promote awareness of mankind for the application of science in all spheres of life for the attainment of safety of life and sustainable socio-economic development. She further remarked that media reporting has traditionally been focussing primarily on weather events while overlooking important issues such as climate change and its impacts on various socio-economic sectors and the application of meteorological information in agriculture, water resource development and management of physical environment. She then urged participants to use the workshop as an opportunity to examine the various types of products that emanate from NMS, assess new dissemination mechanisms and related media and information technologies as well as the roles of the collaborating institutions. She further emphasised the need to review capacity of meteorologists and journalists in the SADC region in their various related tasks such as conducting interviews and newsgathering. This, she said, should encompass identification of newsworthiness of climate stories and marketing of related news to the public. For this, she said emphasis should be put on the role of the media as an intermediary with the users of meteorological products and as machinery for forging public awareness on meteorology.

17. She conveyed to the workshop participants a note of appreciation from the Hon. Minister, mentioning that the contribution of journalists and media in bringing peace and good relationship regionally, nationally and internationally is accorded high regard by the nations. She concluded by commenting the workshop for its highly commendable dimension on promoting media reporting on meteorology in the region. She wished participants fruitful deliberations and a pleasant stay in Lesotho during the course of the workshop.

18. On behalf of SADC DMC, the Coordinator, Mr. E.D. Dlamini, thanked the Government of the Kingdom of Lesotho for hosting the workshop. He also acknowledged the financial support provided by NOAA/OGP, which made it possible for the workshop to be convened. He further mentioned that access to information forms a basis for the attainment of sustainable socio-economic goals and one important information which has a strong bearing on people's lives is weather related information. In his remarks he mentioned that the primary objective of the workshop was to deliberate on how communities in the SADC region can access weather and climate information to safeguard their livelihood against the vagaries of weather and to optimise economic activities taking into account weather and its effects on various socio-economic sectors. He mentioned that NMS have a task to improve the quality of weather and climate products and further efforts should be made with participation of the media to improve the publicity of the products.

19. He made particular reference to the role of the DMC in enhancing capacity building of meteorologists from the SADC NMS in the generation of seasonal forecasts. He further noted that while efforts are being made to develop the NMS capacity on seasonal forecast, there is also a need to address challenges related to the dissemination of the information to users. The combined efforts of meteorology and media are crucial in improving dissemination of weather and climate information to the users. He mentioned that with the recurring of meteorological and hydrological disasters in the region demands for meteorological information are increasing more and more noting that meteorological information plays pivotal role in the planning of various socio-economic activities. He then briefed participants on the historic importance and role of meteorology from ancient times.

20. He underscored the support from the World Meteorological Organization (WMO) to the DMC and to the SADC NMS. He concluded by informing the workshop participants about institutional changes and the restructuring processes taking place within the DMC. He said that the new changes should enable the DMC to discharge its functions efficiently to address the needs of the region.

PRESENTATIONS:

Public Weather Forecast Formulation and Dissemination Processes

National Meteorological Services (NMS)

19. The primary role of NMSs is the provision of meteorological services that contribute towards sustainable socio-economic benefit and welfare of communities. Meteorology plays a pivotal role in the reduction of the impacts of weather related natural disasters as well as securing safety of life and property. It also contributes in the preservation of and enhancement of the quality of environment as well as promoting knowledge and understanding of the natural system of the Earth. Of particular importance also is the application of meteorology in planning and management of Government and community affairs. Meteorology also finds wide application in community health and recreation activities.

20. On the daily basis NMSs are tasked with the provision of climate information, weather forecasts and warnings on severe meteorological events. In addition they also develop and manage national network of meteorological observational network, which constitute part of the global climate observational network.

21. NMS are mandated to observe and predict weather in support of national needs, and to meet international obligations and related Conventions such as the World Meteorological Organization and International Civil Aviation charters. The functions of NMS encompass weather and climate monitoring, research, modelling, service provision and international cooperation. NMS also maintains a system for data collection, quality control and data archiving. In addition, NMS provide specialized services for application in various weather and climate sensitive economic sectors. Among specialized services are agriculture, aviation, marine, environment and public weather services.

Drought Monitoring Center (DMC)

22. The SADC DMC is the regional institution for the provision of information on extreme weather and climate events and their associated impacts. The centre is responsible for

monitoring and prediction of climatic extremes such as floods and droughts in a timely manner with respect to their intensity, geographic extent, duration and impact upon various socio-economic sectors. It also provides early warning services for the formulation of appropriate strategies to combat the adverse effects of weather and climate extremes.

23. In executing its functions the DMC collaborates with Global Climate Centres to generate its products. Other, functions of the centre include regional data processing and archives, development of seasonal forecasting techniques, environment monitoring, organization and conducting the SARCOF process and the attachment programmes for seconded meteorologists from the SADC countries. In addition, DMC generates various regional weather and climate products, which are disseminated to NMS and users among others. Other activities carried out by the centre include coordination of a regional network of contact persons from SADC NMS and development of regional climatological and semi-processed global ocean-atmosphere data bank. The centre is also mandated to provide basic regional climate data, generates various regional forecasts products and participates in joint research activities on extreme climatic events such as droughts and floods.

Role of the Media and Press Organs

24. Media and organs have a crucial role to play in collecting and disseminating weather and climate information to various audiences groups and users. Recent meteorological and hydrological disasters that affected the southern Africa region have demonstrated that the role of the media is ever more crucial in executing an intermediary role of linking NMS and users of meteorological information.

25. The primary role played by media in weather reporting includes collection and publication of weather advisories to reach users on time. Media is also expected to work together with NMS, civil protection units and NGOs involved in disasters in order to obtain

first hand information related to weather and its impacts. In carrying out their task of information gathering on weather and its dissemination media organs are expected to work closely with NMS in order to improve newsworthiness of weather reports, their quality, format, timing and content. Meteorological information collected by the media from NMS can be in form of press release statements, special warnings, maps, tables and interviews.

26. NMS through their public weather services units should make weather and climate information readily available for reporting by the media. The media therefore has a crucial role to play in raising public awareness on weather and climate and in communicating meteorological information to users.

27. In carrying out their role Media organs are expected to ensure that the public receive the forecast once it is issued, report without bias for the user to make his/her own decision and explain terminology used in the public weather forecast.

Weather and Climate Products for Dissemination

28. NMS issue various types of weather forecasts to meet the needs of various user groups. These forecasts differ in geographic coverage and duration. There are regional and national forecasts. On a regional scale forecast cover the entire SADC region or a greater part of it. On the other hand national forecasts cover expected weather within national boundaries of a country. The forecast vary in their duration and range. They include; now casting (0-2 hours), very short-range weather forecast (2-12 hours), short range weather forecasts (12 hours to 3 days), medium range weather forecast (3-10 days), extended range weather forecast (10 to 30 days), long range weather forecast (month to season) and climate prediction (beyond 2 years). These forecasts are regularly updated by NMS and disseminated to various users. The forecast contain information on the expected conditions or rainfall situation over the region for the coming period.

29. NMS usually provide public advisories in the form of lead statement that highlights significant aspects of weather conditions. The local lead statement contain expected weather, detailing areas likely to be at risk, summary of watches and warnings, precautionary actions, winds and onset of strong winds, flash floods, information on probabilities and time of next

statement. Weather forecast contain information on the expected conditions of meteorological elements and weather conditions ahead of the lead time.

30. The forecasts are regularly updated to improve their accuracy. It is thus vital that media and press organs have a close link with NMS to obtain weather-briefing and subsequent updates for dissemination to the public.

Public Weather Services

31. The session on public weather services and the role of the media was structured to provide information on dissemination strategies that are used in the provision of public weather services. The information covered the immediate and long-term dissemination strategies. The immediate dissemination refers to fast breaking of current news while the long-term dissemination refers to building public awareness and conducting public education on issues of weather services. The presentations were aimed at providing background information related to public weather services practices and management, application of seasonal forecast as well as the role of the media in providing weather information to the users.

32. The presentation demonstrated the user requirement on real time basis focussing on critical needs of disaster prevention and emergency management agencies to those of a city dweller who listens to the weather forecast to decide whether or not to carry an umbrella. They also included information on the needs of the farmers and the application of meteorological information on farm management practices. Meteorological user requirements for special needs of National Governments, state councils, and local Government at various levels were also highlighted. Particular mention was made on the need of meteorological information by Governments to assist in preparing development strategies, organizing economic activities including agricultural and industrial production, urban construction, disaster reduction and preparedness and in conducting large-scale scientific experiments.

33. The workshop emphasized the need for public weather services to incorporate information on significant climatological and hydrological requirements on droughts and floods.

Contribution of seasonal forecast to early warning and disaster preparedness

34. Over 70% of all natural disasters occurring globally are hydro-meteorological in nature. The Southern Africa region is prone to hydro-meteorologically related natural disasters, such as droughts, floods, storms, tropical cyclones, strong winds, extreme temperatures and heavy snowfall over marginalized parts of the region. These disasters bring about unbearable hardships to the region and often result in human death, destruction to property and infrastructure, food insecurity and exacerbating poverty among others.

35. The DMC in collaboration of NMS provide vital seasonal forecast information to support early warning and disaster preparedness activities in order to minimize the negative impacts of the disasters.

WORKING GROUP SESSIONS

37. Following presentations and general discussions, two Working Groups were established to discuss and recommendations on the actions to taken to improve the dissemination of meteorological information to the public. Feedback from the working groups are attached as Annex I of this report.

CONCLUSIONS

38. The workshop made the following observations:

- i. Weather and climate information is very vital for planning of activities by various users and is also crucial to safe life and for the protection of property as well as to contribute in pursuing sustainable socio-economic development.

- ii. Improvement of reporting on weather and climate require joint efforts by both NMS, media and press organs.
- iii. NMS should put more effort to improve the quality of meteorological information and products to attract audience.
- iv. Media and press organs are aware of the crucial role they are expected to play in disseminating meteorological information and hence they are willing to forge closer partnership between themselves, NMS and the users of the information.
- v. Institutional and operational weaknesses within and between NMS, Media and press organs are a hindrance towards efficient reporting on weather and climate and hence appropriate measures have to be taken to remove the barriers in order to improve the dissemination of the information.

RECOMMENDATIONS

39. The workshop formulated recommendations for improving the quality, availability and timeliness of weather and climate information by NMS the dissemination and communication of the information by the media and press organs in the SADC region. Specific recommendations that arose from discussions are outlined as follows:

- a) There is a need to increase awareness on weather and climate information in the region.
- b) Timeliness in the preparation, communication and dissemination of

- c) meteorological information should be improved so that the information reaches the intended audience on time.
- d) There is need for NMS to improve the availability of weather information and related weather updates for dissemination to the public.
- e) Collaboration between NMS, Press and Media organs have to be improved.
- f) The format used to present weather information should be simplified for understanding by the general public.
- g) There is need for NMS to generate more user-tailored meteorological information and products in order for it to attract the audience.
- h) Media and press organs should accord high priority to reporting on meteorology issues.
- i) Meteorological personnel should undergo basic training in media reporting and journalists should acquire basic knowledge in meteorology.
- j) Joint regional and national workshops for meteorologists, journalists/ media and meteorological information users should be convened to encourage all stakeholders to be fully involved in the climate and weather information appreciation.
- k) There is a need to offer training for print and electronic media journalists for them to accurately and effectively communicate climate information. The training could amongst others include information on:
 - i) How to conduct an interview and to gather information for press release and reports.

- ii) needs of media and press organs and they can collaborate with other stakeholders.
- iii) Development of skills and the identification of news worthiness of climate stories and how to make them attractive to the media and press organs.

WAYFORWARD

40. As a way forward participants were encouraged to contact NMS in their respective countries to seek a common understanding on future cooperation. They are also expected to share the information obtained from the workshop and to brief fellow journalists and other media and press organs in their home countries about the workshop. They are further expected to become more vigilant and proactive in disseminating and communicating weather and climate information to the users.

41. The report of the workshop will be circulated to the participants and NMS in the SADC region for information and follow-up.

42. The DMC with the assistance of the Directors of NMS will make efforts to secure technical or financial support to support implementation of the recommendations.

Annex I

WORKING GROUP SESSIONS

PROBLEMS RELATED TO DATA COLLECTION:

43. Question 1: What is it that needs to be done to improve communication and collaboration between meteorological services, the media and meteorological information end users?

- i. Journalists do not know the services and products provided by NMS.
- ii. Provision of meteorological information is in some cases subjected to bureaucratic control by NMS making information accessibility difficult.
- iii. Poor communication facilities.
- iv. Irregular provision of information by NMS.
- v. Technical language used in weather reports is sometimes not understood.
- vi. Weather information is given limited time on TV.
- vii. Lack of resources for packaging of meteorological data.
- viii. Weak interaction between NMS, media and press organs and users.

44. POSSIBLE REMEDIAL ACTIONS:

- i. Technical language used in conveying meteorological information should be simplified.
- ii. Weather presentation should be given adequate time on TV.
- iii. Resources should be made available for packaging of meteorological data.
- iv. Communication infrastructure should be improved for both NMS, Media and press organs.

- v. Weather updates should be issued frequently.
- vi. Joint public awareness campaigns and forums should be held for end users the media and press organs.
- vii. Credible persons should be appointed to discharge weather information.
- viii. Meteorological data should be translated into vernacular.
- ix. Meteorological personnel should be encouraged to pursue courses in media production.

45. **NECESSARY MEASURES TO INCREASE PUBLICATION:**

- i. Journalists should be encouraged to pursue courses in meteorology.
- ii. There is need to organize press conference workshops and seminars on meteorology.
- iii. National authorities should motivate media and press organs by providing token incentives on reporting about meteorological information.
- iv. Media and Press organs should be encouraged to institute meteorological desks.
- v. Meteorological day celebrations should be well organized with participation of all stakeholders.

46. **NECESSARY ACTIONS TO IMPROVE PACKAGING OF INFORMATION:**

- i. Meteorological information should be translated into vernacular.
- ii. Meteorological language should be simplified.
- iii. Weather information should also be presented graphically.
- iv. Meteorological information has to be presented in a manner that also informs people on how they should prepare themselves in embracing the weather.
- v. There is need to provide advance information on seasonal outlook/forecasts.

47. PROBLEMS RELATED TO DISSEMINATION OF WEATHER INFORMATION

- i. Bureaucratic practices by meteorological services.
- ii. Indifferent attitude from Meteorological Services.
- iii. Language barrier.
- iv. Delays in communication meteorological information (Non-compliance with media dead lines.
- v. The questionnaire syndrome.
- vi. Non-availability of meteorological direction/plans.
- vii. Too much mistrust between public (government services) and private sector.
- viii. Absence of PRO

POSSIBLE REMEDIAL ACTIONS

- i. Mutual understanding between Media and meteorological personnel.
- ii. Simplification of the terminology.
- iii. Necessity of a PRO.
- iv. Need for regional and local conferences
- v. institution of award competition on weather bulletins.
- vi. Meteorological services must learn to stick to dead lines, especially for written press.
- vii. New bulletins should be of human interest.
- viii. Need for a public campaign awareness on weather issues.
- ix. Need for follow-up with some journalists through conferences both local and regional.
- x. Language should be clear and figures for temperature should be qualified, e.g. hot/cold/mild and not normal and so on.
- xi. Elementary education in weather and climate from the primary level should be encouraged.

Annex II: Weather Forecast Terminology

Term	Meaning
Shower	Brief precipitation with more or less definite clearances between the falls.
Occasional	Not continuous.
Intermittent	Not continuous over a considerable period.
Thunder rain	Occasional or intermittent rain of varying intensity, but heavy at times.
Thunder showers	Showers of rain, hail, sleet or snow, usually heavy and accompanied by thunder.
Thunderstorm	Thunder and lightning with or without precipitation, which may be continuous over a considerable period, and heavy at times.
Fine	No precipitation or thick fog. Some sunshine.
Dry	No precipitation or thick fog.
Sunny	Sunshine most of the time.
Sunny periods	Fairly continuous sunshine for an hour or two at a time, and in all more sunshine than cloud.
Sunny intervals	Intermittent sunshine for rather less than half the period.
Bright	Considerable diffuse sunshine and perhaps some direct sunshine.
Bright periods	Bright sky for more than half the time.
Bright intervals	Intermittent occurrences of a bright sky which are too brief to be termed bright periods.
Cloudy	Clouds nearly or completely covering the sky and as such to reduce daylight.
Dull	Complete clouds cover so dark as to justify a stronger term than cloud.
Fine and dry at night	No precipitation or thick fog.
Clear at night	No fog, little or no cloud.
Cloudy at night	Cloud nearly or completely covering the sky.
Various cloud	

Annex III: Interpretation of percentages

Percentage	Expressions of uncertainty	Arial qualifiers
10 %		Isolated or few
20 %	Slight chance	Widely scattered
30-40-50 %	chance	Scattered
60-70 %	likely	Numerous (or not used)
80-90-100 %	Not used	Not used

Annex IV: Some selected definitions

Term	Meaning
Meteorological communication	Communication transaction in which meteorological information is transmitted and interpreted with a view of sharing the meaning thereof.
Forecast	An estimation of events that are likely to occur in future.
Probability	A measure of how likely an event is to occur. Probability of an event happening can be given a percentage rating. A probability of 30% means that there is a 3 in 10 chance (30 in 100) of the event happening. Probability categories: above normal > 66% Near normal = 33-66% Below normal < 33%
Drought	Drought can be defined from meteorological, hydrological, agricultural and socio-economic perspective. Meteorological drought: rainless situation for an extended period during which some precipitation should normally have been received depending on location and season. Hydrological drought: depression of surface or underground water levels or diminishing of stream flow. Agricultural drought: shortage or moisture for crops. Socio-economic drought: exogenous supply side shock which invariably causes sharp decline in all facets of economic output such as employment, income levels, etc.
Tropical cyclone	Intense low-pressure systems, which form over warm tropical oceans at temperatures above 25 degree C and threaten lives and property.
Food security	Sufficient balanced food for all the people all the time from one harvest to the next
Seasonal climate outlooks	Information on chance of rainfall in specific area issued before season.
Meteorology	Science of atmosphere dealing with the atmospheric structure and composition, interactions of the oceans and land, movements (including weather forming processes), weather forecasting, climate variability and climate change.

Annex V:

LIST OF PARTICIPANTS TO THE MEDIA WORKSHOP: LESOTHO, MASERU 18-20 FEBRUARY 2002

<p>Genevieve Inagosi RTNC(Congo National Television) Kinshasa, Lingwala Democratic Republic of Congo Cell: 243-9956864 e-mail: geneinagosi@yahoo.fr</p>	<p>Ms Morwalela Modukanele, BOPA (Botswana Press Agency) P. Bag 0060, BOPA, Gaborone, Botswana Tel: 267-3653093 Fax: 267-357792/313601 mmodukanele@gov.bw or skhube@yahoo.com</p>
<p>Mr. Lawrence Keketso Mopheme, The Service News Paper P.O. Box 14184, Maseru 100, LESOTHO Tel: Lawrence@mopheme.co.ls</p>	<p>Mr. B.T. Sekoli Lesotho Meteorological Service P.O. Box 772, Maseru Tel: 266-325057 e-mail: bulane@lesoff.co.za</p>
<p>Mr. L. Bulane Lesotho Meteorological Service P.O. Box 772, Maseru Tel: 266-325057 e-mail: bulane@lesoff.co.za</p>	<p>Ms. J. Mphethi Lesotho Meteorological Service P.O. Box 772, Maseru Tel: 266-325057 e-mail: bulane@lesoff.co.za</p>
<p>Mrs. M. Mahahabisa Lesotho Meteorological Service P.O. Box 772, Maseru Tel: 266-325057 e-mail: bulane@lesoff.co.za</p>	<p>Ms. V. Maraisane Lesotho News Agency Box 36., Maseru Tel:+266 325317 Fax: +266 326408 Email: vmaraisane@yahoo.com</p>
<p>Mrs. M. Falatsa Lesotho Television</p>	<p>Charles William Chikapa Malawi Broadcasting Corporation</p>

<p>P.O. Box 36, Maseru Tel: +266 324735 / 877010 e-mail: mfalatsa@yahoo.com</p>	<p>P.O. Box 30133, Chichiri, Blantyre 3, Malawi Tel: 265-671222 Fax: 265-671257 e-mail: dgmbc@malawi.net or chikapa@hotmail.com</p>
<p>Joseph Serge Henri Marimootoo C/o Week-end, St. Georges Street Port Louis, Mauritius Tel: 230-251-7984 Fax: 230-20807059 e-mail: hmarimootoo@intnet.mu</p>	<p>Chico Elias Alberto Pita SNJ Av 24 Julho No. 231 Maputo, Mozambique Tel: 258-1-492500 Fax: 258-1-492031 snjmoz@tvcabo.co.mz</p>
<p>Katamila Tommy Mr NAMPA, P.O. Box 20217, Windhoek, NAMIBIA Tel: 264-61-221711/2 Cell: 081-1274332 Fax: 264-61-221713/3 Email: katamila@yahoo.co.uk</p>	<p>Francois Albert National Meteorological Service P.O. Box 1145, Mahe, Seychelles Tel: 248-384066 Fax: 248-384079 e-mail: wagricole@pps.gov.sc or nms@pps.gov.sc</p>
<p>Rozzane K.K. Motshwane South African Weather Service Private Bag X097, Pretoria Tel: 27-12-3093009 Fax: 27-12-3093127 e-mail: rozzane@weathersa.co.za</p>	<p>Prof. Sue Walker University of Orange Free State P.O Box 339 Bloemfontein 9300 Tel: +27-(0)51-401-2222 Fax: +27-(0)51-448-0692 Cell: +27-(0)82-806-4858 e-mail: walkers@sci.uovs.ac.za</p>
<p>Melanie-Ann Feris The Star Newspaper 47 Sauer Street Johannesburg, 2001 Tel.: 27 12 6339111 Fax: 27 12 8366186 Email: ghe@star.independent.co.za</p>	<p>Zanele Faith Dlamini Times of Swaziland P.O. Box 156, Mbabane, Swaziland Tel: 268-4042211 Fax: 268-4042438 e-mail: lagija2@yahoo.com</p>
<p>Mr. Samuel S. Shongwe National Met. Service Ministry of Public Works and Transport P.O. Box 58, Mbabane, SWAZILAND Tel: 268-40-48859 Fax: 268-40-41530 e-mail: sam.shongw@swazimet.gov.sz</p>	<p>Ms Tuma Abdallah Tanzania Standard (News Papers) Ltd P.O. Box 9033, Dar-Es-Salaam Tanzania Tel: 255-22-2116072 Fax: 255-22-2112881 e-mail: zaysu@yahoo.com</p>

<p>Joe Kaunda Post News Papers Ltd, P/B E35, 36 Bwinjimfumu Rd, Rhodespark, Lusaka, Zambia Tel: 260-97-793031 Fax: 260-1- 229271 e-mail: post@zamnet.zm</p>	<p>Masimba Karikoga The Herald, P.O. Box 396, Harare Tel: 263-4-795771 Fax: 263-4-791311 masimba.karikoga@zimpapers.co.zw</p>
<p>Mercy Chatambudza Ziana, P.O. Box CY 511, Causeway, Harare Tel: 263-4-251750/4 Fax: 263-4- 727146 e-mail: mercy@ziana.co.zw</p>	<p>Emmanuel D. Dlamini Drought Monitoring Centre P.O. Box BE 150, Belvedere, Harare Tel: 263-4-778172 Fax: 263-4-778172 e-mail: dmcgen@dmc.co.zw</p>
<p>Samuel Raboqha Drought Monitoring Centre P.O. Box BE 150, Belvedere, Harare, Tel: 263-4-778172 Fax: 263-4-778172 e-mail: dmcgen@dmc.co.zw</p>	<p>Mr. Washington Zhakata Bindura University of Science Education C/o Zimbabwe Meteorological Services P.O. Box BE 150, Belvedere, Harare ZIMBABWE Tel: 011407256; 27-723120133 Fax: 263-4-778176 e-mail: washingtonzhakata@hotmail.com</p>
<p>Dr. E. Mukhala Regional Remote Sensing Unit P.O. Box 4046, Harare, ZIMBABWE Email: emukhala@fanr-sadc.co.zw</p>	<p>S. Rasehloho Khotso FM Tel: +266-8772540 E-mail: Rasehloho@email.com</p>
<p>R. Phangwa Lesotho News Agency (LENA) Tel: 325317</p>	<p>P. Machai Khotso FM Tel: 313585 / 8740011 Fax: 310433 E-mail: Pasc@mail.co.za</p>
<p>R. Ntene Joy FM Tel: 310920 Lesotho</p>	<p>J. Kanyanga WITS University Tel: 27-11-717-6548 Fax: 27-11-403-7555 E-mail: jk_kanyanga@yahoo.com</p>
<p>P.M. Bundi Wits University, S.A. Tel: 24-11-717-6548 Fax: 24-11-717-6555 E-mail: pbundi_2000@yahoo.com</p>	<p>L. Keketso Mopheme News Paper Tel: 311670 E-mail: lawrence@mopheme.co.ls Lesotho</p>

<p>M. Guni Ministry of Natural Resources Tel: +266 323163 Fax: +266 313520</p>	<p>T. Mohobane Water Affairs Tel: +266 313602/3 Fax: 313603 e-mail: GWD@iLesotho.com / Tmohobane@yahoo.com</p>
<p>M. Motebang Department of Energy Tel: +266 322353 Fax: +266 310360 E-mail: solawind@lesoff.co.za</p>	<p>P. Khali Tel: +266 323864 Fax: +266-310264 E-mail: editor@lesotho.gov.ls / pmkhali@hotmail.com</p>
<p>F. Lisanyane People's Choice FM Tel: +266 322122 Fax: +266 310888 e-mail: mkhauta@hotmail.com (attn. Falla)</p>	<p>T. Tefo Tel: +266 325317 Fax: +266 326408</p>
<p>Tsepiso Mncina Mopheme Newspaper Tel: +266 311670 / 8779035</p>	<p>Tsepang Mncina Mirror Newspaper Tel: +266 8735544</p>
<p>Mr M. Maletjane Lesotho Meteorological Services Box 14515 Tel: +266 324376 Fax: +266 325057 E-mail: bulane@lesoff.co.za</p>	<p>Mrs. M Maboloka Lesotho Meteorological Services Box 14515 Tel: +266 324425 Fax: +266 325057 E-mail: bulane@lesoff.co.za</p>
<p>Mrs M. Chapi Lesotho Meteorological Services Box 14515 Tel: +266 324374 Fax: +266 325057 E-mail: bulane@lesoff.co.za</p>	<p>Mr S. Tsukulu Lesotho Meteorological Services Box 14515 Tel: +266 324376 Fax: +266 325057 E-mail: bulane@lesoff.co.za</p>
<p>Mr L Peshoane Lesotho Meteorological Services Box 14515 Tel: +266 350732 Fax: +266 350325 E-mail: bulane@lesoff.co.za</p>	<p>Ms K Morebotsane Lesotho Meteorological Services Box 14515 Tel: +266 350732 Fax: +266 350325 E-mail: bulane@lesoff.co.za</p>

<p>R. Mabote Lesotho Television Tel: +266 323547</p>	<p>L. Kabi Lesotho Television Tel: +266 323547</p>
<p>R. Derby Southern Star Newspaper Tel: +266 312269</p>	<p>T.Theko Lesotho Television Tel: +266 323547</p>
<p>K. Michael Catholic Radio Tel: +266 323247 /+266 8853455 Email: kolobe5star@yahoo.com</p>	<p>Mrs V.M Qheku Lesotho Highlands Development Authority Tel: +266 313830 / 853128 Fax: +266 325245 Email: qhekuv@lhda.org / lhwp@lhda.org.ls</p>