Communicating Seasonal Weather Forecast Information on Public Radio Stations

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BACKGROUND

The skill of seasonal weather prediction has improved substantially in South Africa over the past two decades. However, the lack of understanding of the complexities of weather and climate change phenomena plays a major role in the acceptability of this information. Developing effective weather forecast information dissemination and capacity development methods is a vital component in preparing farmers to cope with weather variability related disasters.

AIM

- To identify current methods of weather forecast information communication
- To evaluate different methods of weather forecast information dissemination

MATERIALS AND METHODS

Two radio stations were selected because of the nature of their listenership: Thobela FM broadcasts in Sepedi in Limpopo Province and Motsweding FM broadcasts in Setswana in North West Province (Figure 1). Broadcasting slots were selected at the same hour to minimise duplication of listenership and sampled respondents during questionnaire data collection since minimal provincial broadcasting overlap is very important for sampling and data quality in the study.

A web-based questionnaire was developed to evaluate the impact of information discussed on the talk shows on the respective radio stations. The questionnaire was hosted on the Agricultural Research Council's website and the seasonal weather forecast discussed during the talk show was uploaded before the broadcast.

Figure 1: Map of South Africa showing the location of the two provincial radio stations

RESULTS

Table 1 and Figure 2 indicate the number of questionnaires completed during the 3-month radio talk show trial period (April to June 2015). Talk shows were held on both Motsweding and Thobela FM where the current seasonal forecast was discussed (see Figures 3 and 4). A total of 35 questionnaires were completed; 18 males and 17 females participated in the trial.

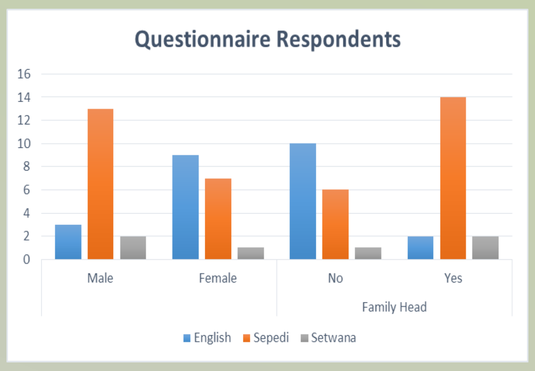

Figure 2: Respondents to the web-based questionnaires

The seasonal forecast in Figure 3 indicates a high probability of below-normal rainfall for both North West and Limpopo provinces. The forecast did not show any relief to the prevailing dry conditions in April 2015 during early winter season. Because of the radio talk shows on Motsweding FM in the North West Province, the outlined weather forecast information was used by the North West Department of Agriculture to initiate the process of drought relief in the province.

Table 1: Respondents to the web-based questionnaires

Questionnaire Respondents		
Language	Male	Female
English	3	9
Sepedi	13	7
Setwana	2	1
Total	18	17

Currently in South Africa different organisations and government institutions publish weather forecasts on different platforms including public television and radio stations. The question is, does this information reach the public on time and is the information used accordingly? Figure 5 indicates that of the number of respondents that received any weather information, a high percentage received the information in both Sepedi and English. However, the respondents in Setswana did not receive any weather forecast information.

The forecasting system indicates mostly uncertainty for minimum and maximum temperatures for autumn and early winter, with below-normal minimum and maximum temperatures forecast for most of the country during winter 2015 (Figure 4).

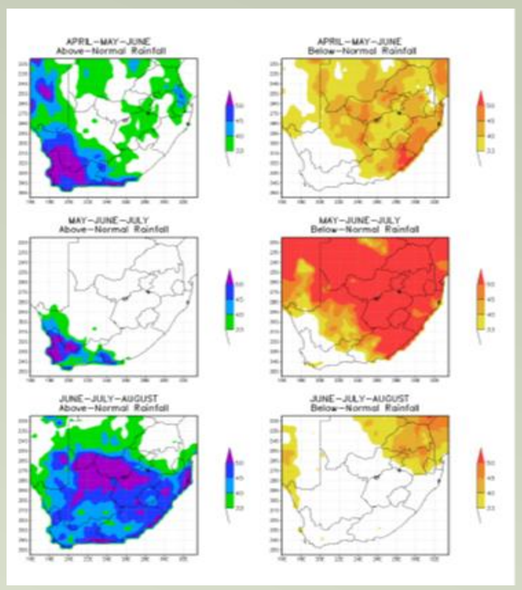

Figure 3: Seasonal rainfall forecast from April to August 2015 (Source: SAWS Seasonal Climate Watch April to August 2015)

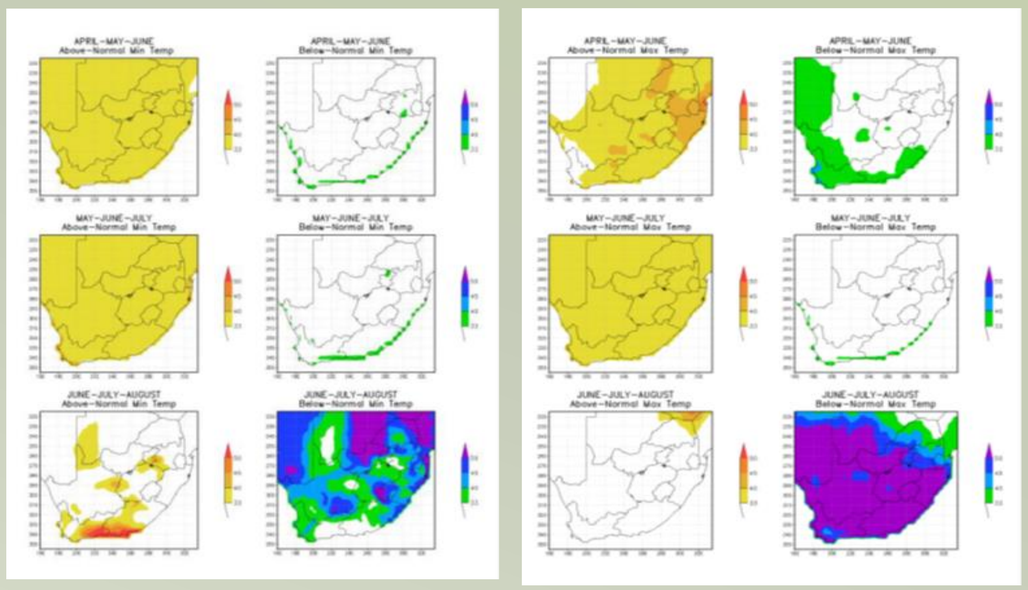

Figure 4: Seasonal temperature forecast from April to August 2015 (Source: SAWS Seasonal Climate Watch April to August 2015)

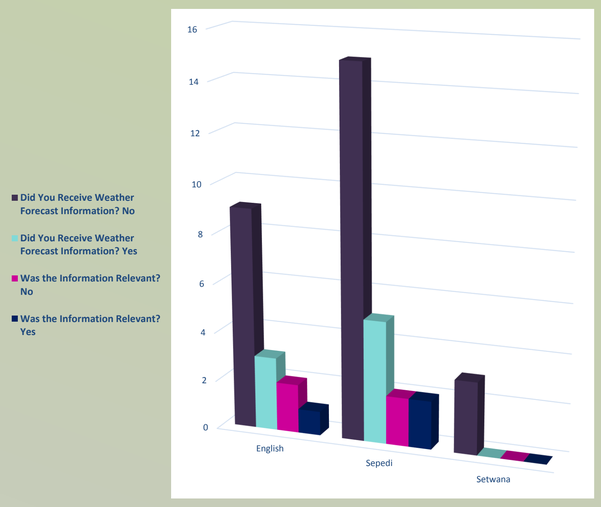

Figure 5: Weather forecast information received during the 2014/2015 summer season

The understanding of meteorological phenomena like above-normal scenarios was evaluated to determine whether it is a limiting factor to the acceptability of weather forecast information. A high percentage of respondents in English did not understand "Normal Rainfall" (Figure 6); this suggests that language can be a limiting factor in accepting and understanding weather forecast information.

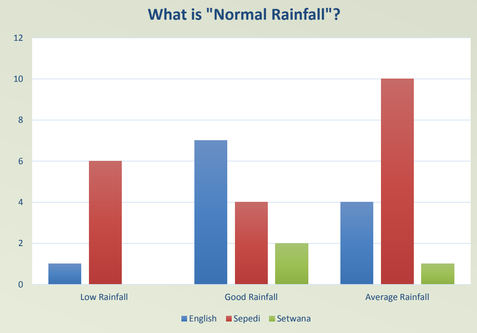

Figure 6: Respondents understanding of the meteorological term "Normal Rainfall"

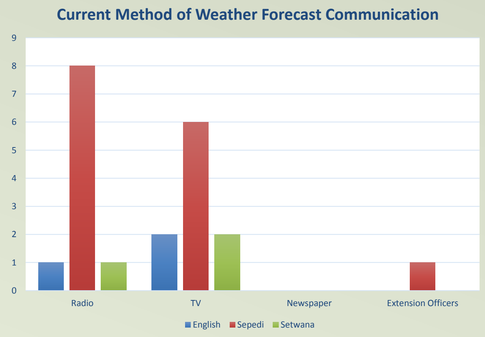

Figure 7: Respondents current method of weather forecast communication

Currently a high percentage of respondents receive weather information from radio, followed by television (Figure 7). A small percentage receive weather information through their local agricultural extension officers. None of the respondents indicated that they receive any information from the newspaper.

A high percentage of Sepedi and English respondents indicated that they would prefer to receive weather forecast information through radio and television (Figure 8). English and Setswana respondents prefer to receive the weather forecast information through radio, television and agricultural extension officers.

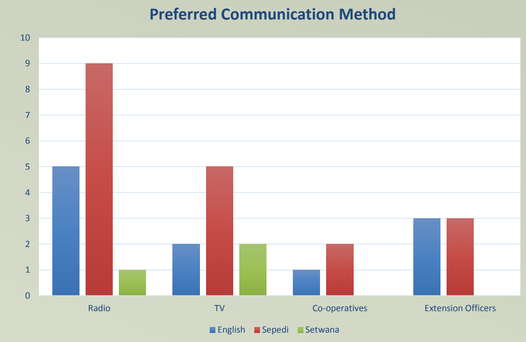

Figure 8: Respondents preferred method of weather forecast communication

CONCLUSION

The web-based survey indicates that language plays a significant role in acceptability and understanding of current published seasonal weather forecast information. There is a need to increase the number of weather forecast publication on both radio and television. The current agricultural extension service system can still be a useful tool in weather forecast dissemination. Knowledge of the manner of information packaging can aid weather forecast developers on how to package the information to maximise weather forecast information application impact.

RECOMMENDATION

- Allocate more resources to improve radio and television as weather forecast dissemination tools and create public awareness campaigns during radio and television programmes.
- Propose continuous radio talk shows whereby the Department of Agriculture and the South African Broadcasting Corporation enter into an agreement to improve community weather forecast information knowledge.
- Need to conduct more research in the use of radio, television and the agricultural extension service system.

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