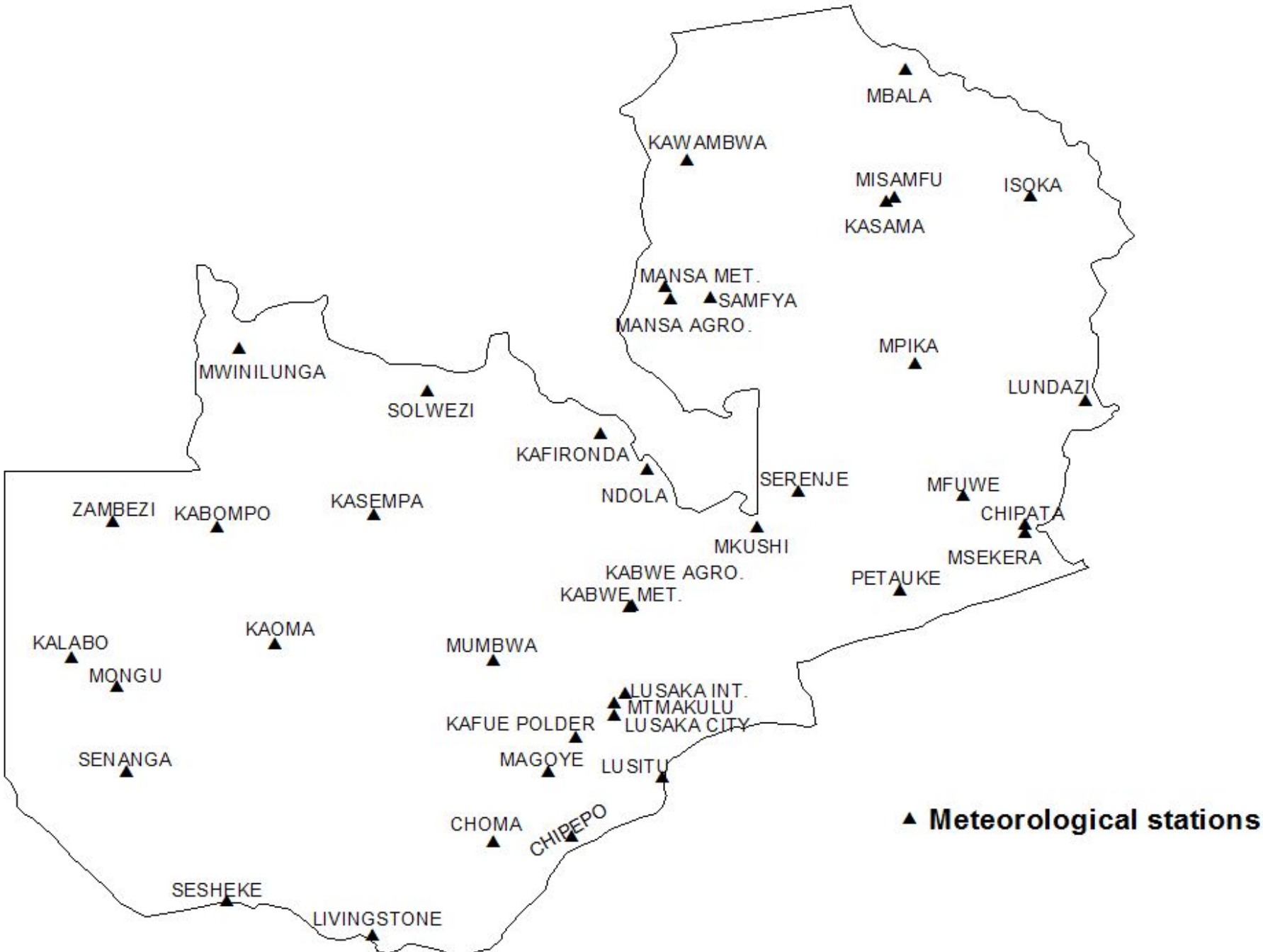
EARLY WARNING SYSTEMS IN ZAMBIA

Co-ordinating the delivery of early warning systems to communities in a decentralized system

Introduction

- Various parts of Zambia are prone to floods and droughts, which are expected to increase in frequency and severity as a result of climate change.
- Rural Zambian communities including those in the pilot Programme for Climate Resilience (PPCR), majority of which are small – scale farmers are particularly at risk because of their dependence on rain fed agriculture and natural recourse based livelihoods such as fishing , forestry and livestock rearing.
- At present, the meteorological observation net work in Zambia is limited in its capacity to produce the required climate information to support the risk management in short or long term.

ZAMBIA METEOROLOGICAL STATION NETWORK



COODINATION OF EARLY WARNING

- **Zambia meteorological department at district level provides climatic information to the following;**
- **ministry of agriculture uses the information when making yield estimations before the crop is harvested especially maize which the staple crop.**
- **the climate information is also used to determine out breaks of crop and animal diseases.**
- **ministry of health uses the information in the prevention of malaria , cholera and other water borne diseases**
- **ministry of water affairs useful for monitoring water levels in dams, rivers, lakes and boreholes.**
- **disaster management and mitigation unit under the office of the vice president the information is used for the vulnerability assessment in areas where disasters occur.**
- **ministry of finance, central statistics office use the information for general socio-economic activities affecting the economy.**
- **the above ministries at district level are members in the district disaster management committee which further serves at community level to satellite depots.**

DISSEMINATION OF CLIMATE IFORMATION

- **the early warning information is disseminated using the following mediums.**
- **newspapers, television, emails, ranet (radio and internet) and radio telephones.**
- **the challenge is that the remote areas in the Zambezi and Kafue basin where there is PPCR most of these facilities mentioned above are not there.**
- **at the present volunteer rainguage observers at districts are limited.**
- **the most useful information in these areas are rainfall figures from which the daily, dekadal and 10 day crop weather bulletin are produced.**
- **10 days crop weather bulletin is done at provincial and sent to districts and finally at community level (farmer)it is translated in to local languages.**
- **seasonal rainfall forecast is done at national level, in September transmitted to provinces then to districts then finally in translated version to farmers.**

10- Day Crop Weather Review

- This bulletin is Published every 10 days
- It describes the weather in the past 10-days period
- The seasonal performance in terms of cumulative and departure from normal
- also gives the weather outlook for the coming 7 or 10 days
- Satellite information on rainfall
- Impact on crop performance and expected impacts to agriculture and Livestock production.

Data to be observed on crops

- **Variety of the grown crop;**
- **Planting dates**
- **Stage of development attained by the crop;**
- **General assessment of crop performance;**
- **Damage by pests, diseases and adverse weather;**
- **State of weeding , fertilizer application in the farm;**
- **Soil moisture**

OPPORTUNITIES

- The Zambezi sub-basin which is in the Western Province of Zambia has fourteen PPCR pilot districts, only four districts have meteorological stations that can provide climate information in rainfall to facilitate the early warning system.
- The early warning system at district level where the climate information on rainfall can be obtained from at meteorological stations are; Mongu met, Senanga met, Sesheke met, and Kalabo met.
- The Kafue basin which is in the Southern province of Zambia and partly the central province the PPCR has 11 PPCR pilot districts, however implementation of investment projects has not commenced.
- Of all the 11 PPCR pilot districts in the Kafue districts, only two districts Choma and Mazabuka have meteorological stations, the other 9 are dependent on rain gauge volunteer observers which are not very effective.

Zambia PPCR – Climate Information Component

This component will strengthen climate information by providing more reliable, accessible and timely early warning and climate information to users. The project will support;

- ***Social marketing campaigns*** to promote the importance of addressing climate change risks from the national to the local level.
- ***Strengthen early warning systems*** through the application of rapid communication systems between line agencies and communities in the pilot sub-basins
- Establish a ***pilot open data platform*** to facilitate sharing climate risk data among decision makers.

CONCLUSION

- Zambia's National Climate Change Secretariat which is the coordinating body for all climate change activities has signed a MoU with the Disaster Management and Mitigation Unit to manage the PPCRs Climate Information component.
- The DMMU is working in collaboration with the Zambia Met Dept, Dept of Water Affairs and Min of Agriculture in implementing this component.
- A consultancy firm is currently being recruited to undertake a Social Marketing campaign in all pilot areas of the PPCR to increase awareness and encourage active involvement in implementing climate resilient options and promote two-way-early-warning systems.
- All efforts to improve climate information are in initial stages, no results have been seen yet.