

Capacities of 4 National Meteorological Services in Africa to Provide Climate Information Services

Côte d'Ivoire, Malawi, Mali, Niger

Key findings from a survey implemented by :

**AGRHYMET Regional Center,
Niamey, Niger**

CSAG, University of Cape Town

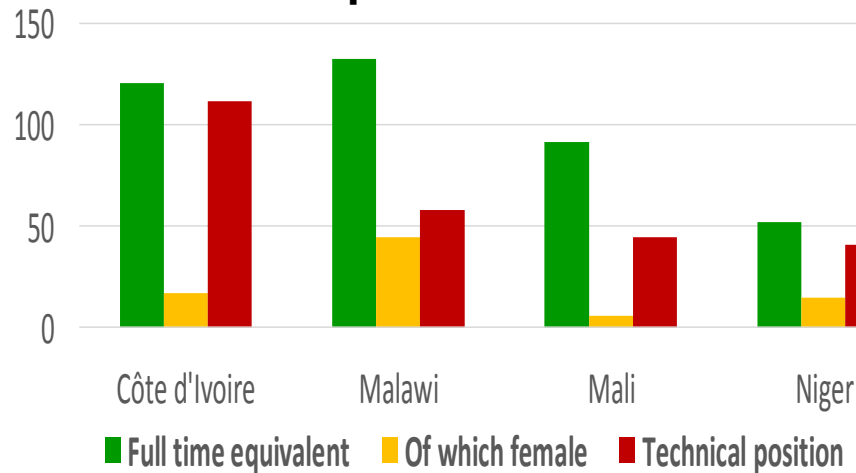
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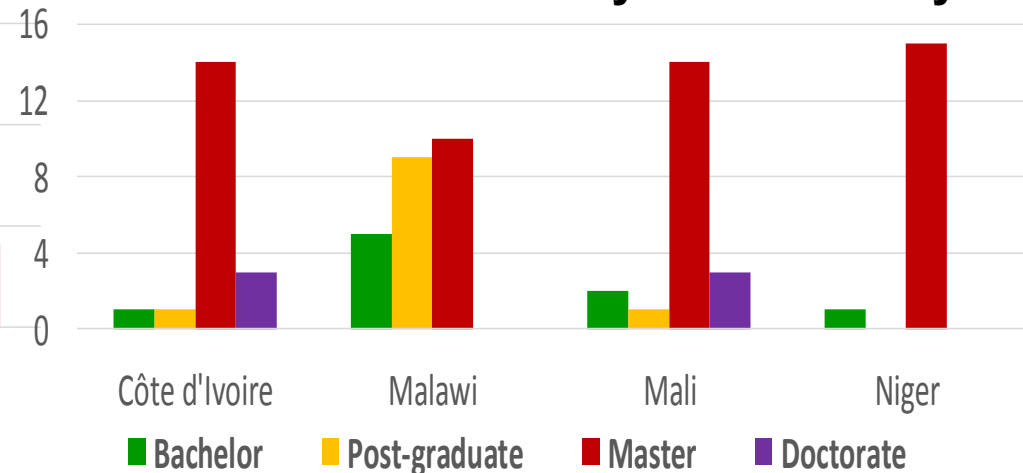


Staff

Women representation



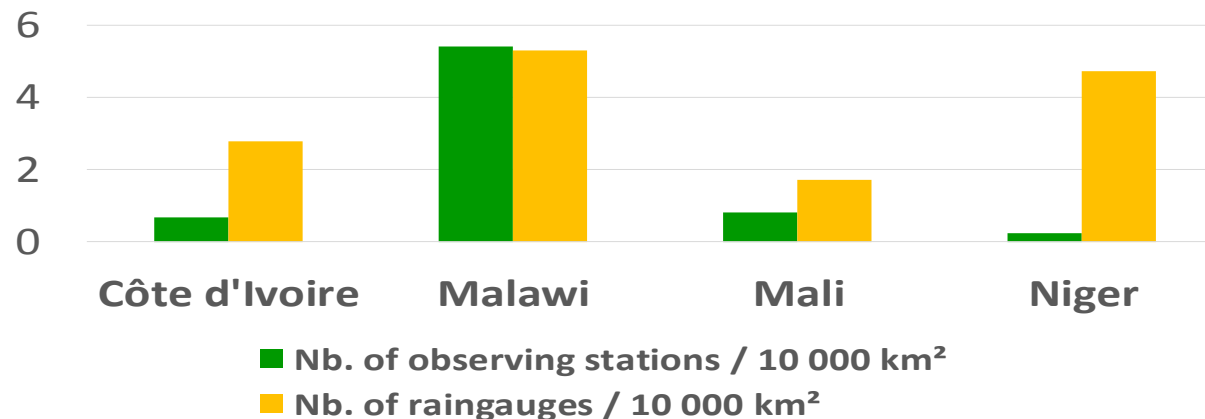
Distribution of staff by level of study



- **Women under-represented** in all surveyed NMS, with greater proportion in Malawi, but at high positions in Mali and Niger
- Need to recruit more staff, taking into account future retirements
- **More staff at PhD level** is needed in all NMS

Observing stations & remote sensing

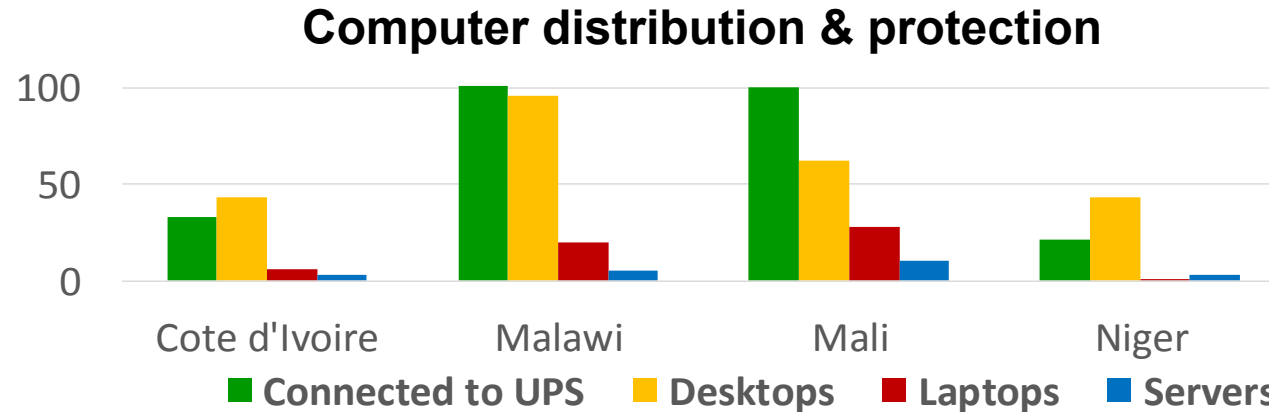
Density of national observation networks



Challenges / Needs

- Expand the network of observing stations
- Adopt ENACTS and WIGOS (WMO Integrated Global Observing System) approaches
- Develop weather radars networks (as in Mali), and pilot lightning detection networks (as in Malawi)

Computing infrastructure & data



All surveyed NMS collect / archive station metadata and to some extent integrate observations from other national sources

Challenges / Needs

- Invest in **UPS & backup power generators** of sufficient capacity
- **Improve available internet bandwidth** in Malawi, Mali and Niger.
- Make regular **backup copies** of climate data in CI, Malawi & Niger.
- Develop capacity to manage regional/global databases



Governance, research & financial management

Challenges / Needs

- Allocate more financial resources to **technical activities**,
- Generalize analytical financial procedures, and allow more flexible management of the budget
- **Increase office space** in all countries except Mali, and office equipment in Malawi
- Give more incentives for staff to **engage in research**
- Provide access to online research literature sources
- Develop more research projects & publish peer-reviewed papers



Communication

All surveyed NMS:

- are members of national **Disaster Risk Reduction** platforms and contribute to **Early Warning Systems**,
- produce and disseminate **seasonal forecasts**
- use numerical weather prediction to produce **24 hours and 72 hours lead time forecasts** that are disseminated to the media every day

Challenges / Needs

- Perform quantitative verification of seasonal forecast
- Make effort to provide free access to some weather data for non-state actors
- Use a dedicated website to provide weather forecasts to the public (as in Malawi)
- Develop the use of mobile platforms and social media in Niger to disseminate information



Engaging with users of climate services

All surveyed NMS are aware of the importance of engaging with users

Challenges / Needs

- Produce monthly weather predictions and national climate atlases
- Undertake an assessment of users needs in CI & Malawi
- Develop more tailored information products : more localized forecasts, sowing calendars, etc.
- Upscale pilot experiences by organizing roving seminars
- Make more use of mobile platforms and social media to disseminate climate information and get user feedback



Summary

Strengths

- Experienced staff in most NMS
- Ongoing efforts to acquire automatic weather stations
- Ongoing efforts to develop radar and lightning detection networks
- Significant computing infrastructures
- Weather forecasts issued and disseminated on a daily basis
- Seasonal forecasts produced and disseminated to users
- Involvement in national DRR platforms, development of NAPs, NDCs and contribution to EWS

Challenges / Needs

- Allocate more financial resources and office space
- Increase staff number and capacity
- Increase the representation of women
- Expand the network of observing stations
- Invest more in backup power generators, UPSs, and improve access to Internet
- Do regular backup copies of climate data
- Increase the use of ICTs to communicate with users
- Give more incentives to staff to engage in research
- Assess users needs and develop more tailored products



**Thank you for
your attention**