RCMAS Climate+: Enhanced farm level advisory for better decision-making under dynamic weather conditions

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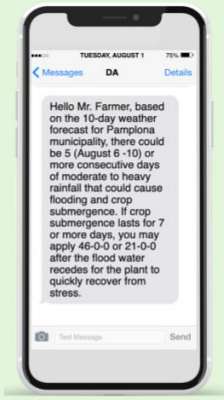
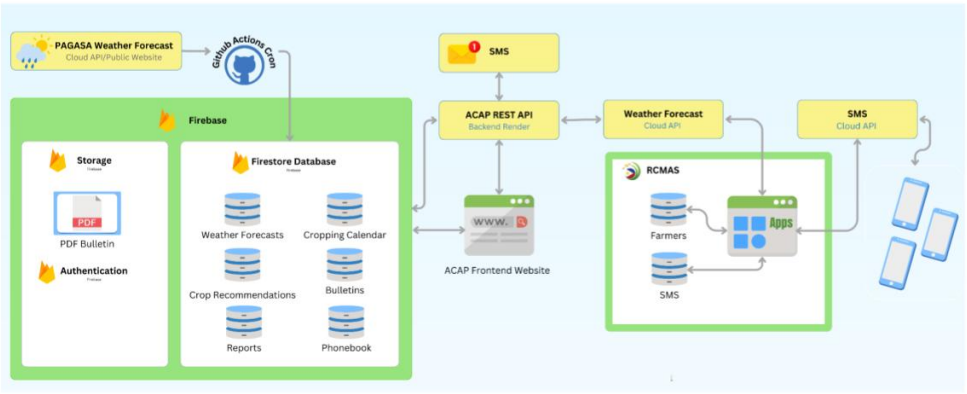
Rice Crop Manager Advisory Service (RCMAS) Climate +

The Rice Crop Manager Advisory Service or RCMAS (https://rcm.da.gov.ph) is a digital tool used by the Philippine Department of Agriculture to provide individual rice farmers with field-specific crop and nutrient management recommendations. Farmers who follow RCMAS recommendations gain an average increase in yield of 10% and in income of about USD100 per hectare per crop, under normal weather conditions based on the 1,824 on-farm RCM evaluation trials from 2014 to 2021 (RCMAS project report to the Department of Agriculture). RCMAS needs, however, to address dynamic weather conditions and potential climate-related risks during the cropping season to provide better agro-advisories and reduce climate risks. The CGIAR initiative on Climate Resilience (ClimBeR), which aims to transform the climate adaptation capacity and increase the resilience of smallholder production systems to severe climate change effects, enhances RCMAS through bundling with climate information service (CIS). The enhanced RCMAS with CIS is called RCMAS Climate+.

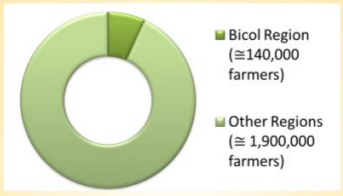
Example of decision logic and message to farmers





Link of RCMAS with Agro-climatic Advisory Portal or ACAP (https://amia-cis.github.io) via Applications Programming Interface or API.

Potential scale of RCMAS Climate+



Estimates are based on the RCMAS-registered farmers with a household member who has mobile phone(s) and are willing to receive text message advisories (Source: https://rcm.da.gov.ph/dashboard/statistic/registered-farmers)

Development of RCMAS Climate+

Link between RCMAS and ACAP via API. ACAP is a digital CIS platform first developed for the Bicol Region. It obtains weather forecasts from the Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA).

Leverage the RCMAS farmer and field database and text messaging functionality to reach farmers with CIS quickly and effectively.

Focus on flood and drought risks determined from the provincial-level seasonal (6-month) and municipal-level 10-day rainfall forecasts.

Utilize the previous monitoring by the Philippine Rice Information System (PRISM, https://prism.philrice.gov.ph) for flagging the village-level flood-prone areas and the RCMAS data for drought-prone rainfed areas

Flood or drought risk alerts and corresponding adaptive recommendations are provided as auto-generated text messages to RCMAS-registered farmers, triggered when risks coincide with critical growth stages as determined through the crop calendar.

RCMAS Climate+ is expected to provide more value to farmers to adapt climate change through:

- pre-season climate-related recommendations, such as adjustments to fertilizer application timing in response to floods or droughts during the crop growth period
- real-time or near-real-time climate information dissemination to farmers, which could enable better decision-making under dynamic climate conditions.

Next steps

- Testing of the texting service with farmers in Camarines Sur (Q4, 2023)
- Baseline and endline survey with farmers (Q4, 2023-2024)
- Refinement and implementation into the institutionalized and publicly available RCMAS (2024)

Acknowledgement
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