Forecasting number of dry days for the benefit of farmers and rice production in the Philippines: A Preliminary Analysis

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Abstract

Food security poses a great threat from unpredictable changes in climate. Based from the Intergovernmental Panel on Climate Change (IPCC, 2007), under the projected climate change scenarios, rice production in Asia could decline by 3.8% by the end of the 21st century. Climate variability, causing events such as dry spells, El Niño and extreme weather events such as typhoons, floods and drought, are already affecting the rice production and economy in the Philippines and any part of the world.

This study focuses on what type of seasonal climate information can be integrated and utilised for the benefit of farmers and rice production in the Philippines? Also, how can seasonal dry day forecast be introduced to and accepted by farmers of Western Visayas Region as a new tool for agricultural planning and decision-making to enhance their preparedness to climate variability?

Experimental dry day (a day with less than 1.0 mm of rain) forecast simulation was undertaken. The statistical model showed that the correlation is higher for number of dry days, 0.757 than rainfall amount with correlation of 0.423 during March-April-May season, an indication of more predictability. Thus, seasonal dry day forecast is more skilful than models that try to predict the seasonal rainfall amount. Thus, the result of such analyses lays an important outcome in the context of tailoring information for agricultural risk management applications and as a potential operational seasonal dry day forecast product by the national meteorological and hydrological centre of the Philippines (PAGASA) for the benefit of farmers and various stakeholders.

The emergence of the Climate Field School in the study area was identified as an instrument to introduce the new type of seasonal forecast information and continue its activities in incorporating weather and climate information in decision making for

agriculture by the national and local agricultural officers as well as enhancing the capacity of local farmers, extension workers and other stakeholders on the use, access and understanding of seasonal climate forecast.

Keywords: climate variability, seasonal forecast, agriculture