Effectiveness of WhatsApp-Based Weather Information Dissemination - A Case Study Based on Two Cascade Systems under CRIWMP in the Dry Zone, Sri Lanka

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Changing climatic conditions are serious challenges to agricultural productivity, especially in the Dry Zone in Sri Lanka. In such contexts, timely, accurate weather information is critical for enabling climate-resilient agricultural decisions. The Climate Resilient Integrated Water Management Project (CRIWMP) has introduced WhatsApp-based weather information dissemination to support farmers. Despite the availability of WhatsApp-based weather information, its effectiveness in supporting farmers' decisions remains unclear. This study examines the effectiveness of this approach, considering two cascades that benefited from CRIWMP; the Thuduwakkaikulam cascade and the Sivalakulama Cascade. Rogers's Diffusion of Innovations theory, which highlights factors influencing adoption, including relative advantage, compatibility, complexity, trialability, and observability, was used as the framework guiding the study. A qualitative case study design was adopted, employing purposive sampling to select farmers in WhatsApp groups. Data were collected through Focus Group Discussions conducted in Sinhala and translated into English. Thematic analysis generated five key themes: Establishment and Institutional Support, Information Type, Comprehension, Accuracy and Information Use, and Limitations and Unmet Needs. Findings indicate that WhatsApp groups provide localized, timely, and actionable weather information, enhancing decisions related to irrigation, fertilizer and pesticide application, harvesting, and tank management. Challenges included comprehension difficulties, message overload, limited digital literacy, and insufficient awareness of group existence. Addressing language barriers, simplifying messages, and raising awareness of group availability can improve adoption and impact. These findings show the potential of WhatsApp as an information source to strengthen climate adaptation strategies for farmers in Sri Lanka's Dry Zone.

Keywords: Climate-resilience, Weather information dissemination, WhatsApp groups