

**COMMUNICATION OF COLLECTIVE TACIT KNOWLEDGE ON CLIMATE  
BIOINDICATORS AMONG FARMING AND FISHING  
COMMUNITIES IN DUMANGAS, ILOILO**

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## Abstract

Agriculture remains highly vulnerable to the impacts of a changing climate. The impact of climate change has been widely felt by the farmers and fisher folk for years and they lack resources and technical knowledge in coping with climate variability and continue to be at grave risk. An important component that may address climate change risks is collective tacit knowledge on climate bioindicators. Thus, this study sought to determine the various modes on communicating or transmitting collective tacit knowledge on climate bioindicators among farming and fishing communities in Dumangas, Iloilo; to ascertain the level of knowledge of the farmers and fisher folk on climate bioindicators; to identify the climate bioindicators which form part of the collective tacit knowledge of farmers and fisher folk in Dumangas, Iloilo; to determine the various approaches on the framing of messages for sharing of climate bioindicators among farming and fishing communities; and, to identify the various channels used in sharing climate bioindicators among the farming and fishing communities. In answering the research questions, the study employed the descriptive cum causal/ relational method. For its research design, the Mixed Methods Research Design was used utilizing Document Analysis; Participatory Rural Appraisal; Key Informants' Interview; and, Focus Group Discussion methods. The respondents of the study were the farmers in Barangay Balabag, Dumangas, Iloilo, and the fisher folk in Barangay Dacutan, Dumangas, Iloilo. Purposive sampling was employed in this study. For analysis of data, the descriptive statistics utilized were mode, frequency counts, and rank. There were 77 climate bioindicators identified thru Document Analysis, 10 climate bioindicators shortlisted thru Participatory Rural Appraisal, and analyzed thru Key Informants' Interview and Focus Group Discussion. The shortlisted

climate bioindicators were the top 10 most frequently mentioned bioindicators during the conduct of the Participatory Rural Appraisal identified as follows: ants climbing the wall indicates rain; big earthworms (“adudulis”) coming out of soil indicates hot weather; wind blowing from the south (“habagat”) indicates rain; frogs croaking in a water body in the afternoon until sunset indicates that rain will be coming soon; hens crowing (instead of roosters) indicates rain; birds flying below their normal flight height indicates rain or bad weather; large number of winged termites (“raga-raga”) being attracted to light indicates rain; sound of crickets calling or chirping throughout the night indicates change in weather; big volume of morning dew in the grasses is considered to indicate hot weather; and, red sky in the morning indicates rain. These climate bioindicators may be said to have formed part of the collective tacit knowledge of the farmers and fisher folk in Dumangas, Iloilo. During the focus group discussion, participants have identified their preferences as to modes of communication in acquiring information on climate bioindicators. The preferred mode may be inferred as face-to-face mode consisting of storytelling; conversation; and experiential sharing. Storytelling may be said to be the major source of information. Relative to the framing of messages, collegial approach may be construed as the most effective approach in framing messages attributed to its participatory nature. Framing of messages is vital in getting the people into a desired action. In sharing collective tacit knowledge on climate bioindicators, face-to-face channel may be held as the most effective channel because of the direct interaction taking place between the communicator and the audience effecting a clear understanding of the matter. Collective tacit knowledge on climate bioindicators has to be documented so as not to be lost forever. However, it may be vitally necessary that collective tacit knowledge

has to be integrated with scientific knowledge for a more accurate weather prediction as basis for a sound agricultural-based decision making. With this integration, this may result to minimized risks and losses on crop, fishery and livestock production, damage to properties, livelihoods, and even loss of lives. On this basis, the need to document collective tacit knowledge on climate bioindicators and sharing these bioindicators among farming and fishing communities may be considered as essentially critical for disaster risk reduction, mitigation, preparedness and response. More research studies on climate bioindicators should be conducted to contribute to new knowledge. For areas which do not have easy access of scientific information on weather and climate, climate bioindicators may serve as their early warning signs in weather forecasting.

*Keywords: climate bioindicator, climate change, collective tacit knowledge communication, farming communities, fishing communities*