

**SCIENCE IN THE LANGUAGE OF THE LAND: EXPLORING
INDIGENOUS MODES OF COMMUNICATING
SCIENTIFIC IDEAS IN AGRICULTURE
AND ENVIRONMENT**

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ABSTRACT

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This study examines how the Kalagan indigenous cultural community in Hagonoy, Davao del Sur, Philippines, communicates scientific ideas in agriculture and the environment. This research utilized qualitative ethnographic methods, employing key informant interviews, participant observation, and immersion from June to mid-August 2025, with six Kalagan cultural bearers, one chieftain, and five farmers as participants. Data were analyzed, and methodical triangulation was employed. Findings revealed that the Kalagan transmit scientific knowledge through oral traditions such as storytelling, chants, and proverbs; symbolic rituals that connect spiritual and ecological domains; intergenerational teaching embedded in family and community life; and practical demonstrations in daily agricultural tasks. These culturally rooted forms communicate scientific concepts related to weather forecasting, soil

fertility, biodiversity conservation, and climate adaptation. The study shows that Indigenous communication practices are dynamic pedagogies essential for sustainability and cultural continuity. This study underscores the need for culturally responsive education, curriculum revisiting, integration of (IKS) Indigenous Knowledge System, and policies that safeguard traditional knowledge. By bridging Indigenous communication modes with formal science, the study contributes to inclusive education, environmental stewardship, and sustainable development.

Keywords: Indigenous Knowledge Systems (IKS), Ethnography, Agriculture, Environmental Stewardship, Culturally Responsive Education

SDGs: 4 Quality Education, 15 Life on Land, 13 Climate Action