



Mind the Gap: Unlocking Information Access and Inequity, Digital and Knowledge Barriers among Rural Communities



S&T in Behavioral & Social Sciences

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Key Findings and Policy Implications

- Fishers and farmers exhibit diverse and evolving information needs critical in sustaining the socio-economic cycle, regardless of demographic profile.
- Key information on weather updates, fishing and farming methods, and management practices relevant to their livelihoods as emerged essential requirements.
- Access to information on technological advancements and innovations shall be promoted to support fishers and farmers in improving their productivity.
- The Local Government Unit (LGU) and Municipal Agriculture Office shall enhance access to fishing and farming information through improved approaches and technical training, advancing policies and programs.
- CSU and partner agencies shall collaborate with relevant government institutions to implement science-based information dissemination programs that strengthen fishing and farming competencies.
- Emerging technologies, including platforms like MangngalApp, shall be maximized for the development and dissemination of Information, Education, and Communication (IEC) materials.

Background

In today's information-driven era, access to accurate and timely information is a cornerstone of development. As global economies shift from industrial to knowledge-based systems, information has become a key driver in improving productivity, innovation, and sustainability. For developing communities, particularly in rural areas, this shift presents both challenges and opportunities.

In Aparri, Cagayan, Philippines, the agricultural and fisheries sectors remain vital sources of livelihood. For fishers, farmers, gatherers, and processors, relevant information is critical to decision-making—from understanding weather patterns and market trends to adopting modern farming and fishing technologies. Access to such information directly influences their productivity, income, and resilience to environmental and economic shocks.

However, many of these communities face significant gaps in accessing, understanding, and using the information they need. There is a growing recognition that the traditional ways of disseminating agricultural and fisheries knowledge are no longer sufficient. A more inclusive, technology-enabled, and user-centered approach is required.

To respond to this, Cagayan State University (CSU) has developed Mangngalapp—an integrated package of technology aimed at empowering rural communities. This initiative compiles completed, IP-registered research outputs relevant to farming and fishing, and delivers them in a user-friendly format through modern information dissemination strategies.

Research Objectives

This study aimed to understand and document the information needs and seeking behaviors of key rural stakeholders in Aparri, Cagayan. Specifically, it sought to:

- Profile the socio-economic characteristics of fishers, farmers, gatherers, and fish processors.
- Identify their primary information needs related to their livelihood activities.
- Examine their access to and use of media and information sources.

- Assess the challenges and barriers they face in accessing relevant occupational information.

Methodology

Research Design

Descriptive-survey design employed to describe profile, information-seeking practices, and access to information and media.

Respondents and Sampling Techniques

Fishers, farmers, gatherers, and processors selected using system-random sampling.

Research Instruments and Techniques

Guided questionnaire used to collect data on socio-economic profile, information access, and information-seeking practices. Key informant interviews and focused group discussion guides were utilized.

Data Analysis

Data organized and tabulated, with frequency counts, percentages, and weighted mean calculated.

Key Findings

- A high concentration of low-income earners representing 72.28% with a mean of PhP 5,416.50, indicates a substantial level of economic vulnerability.
- Fishing (66.67%) emerges as the dominant livelihood activity with multiple sources of income reported including farming, post-harvest, construction, and other livelihood activities.

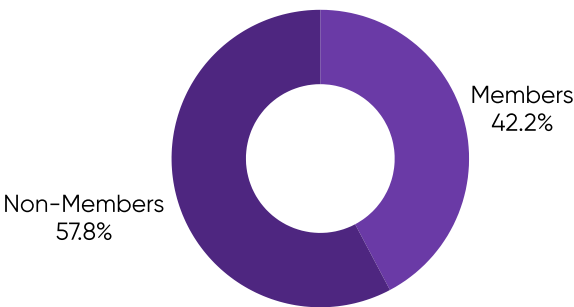


Figure 1. Membership to Fishers Association.

- Most fishers and collectors are members of fishers association. (see Fig. 1)
- TV (48.51%), radio (29.73%), and mobile phone access (29.7%) were the top-three medium of

accessing information at home. More than half (52.15%) reported having no access to any of the technologies at home. This would highlight existence of digital divide. (see Fig. 2)

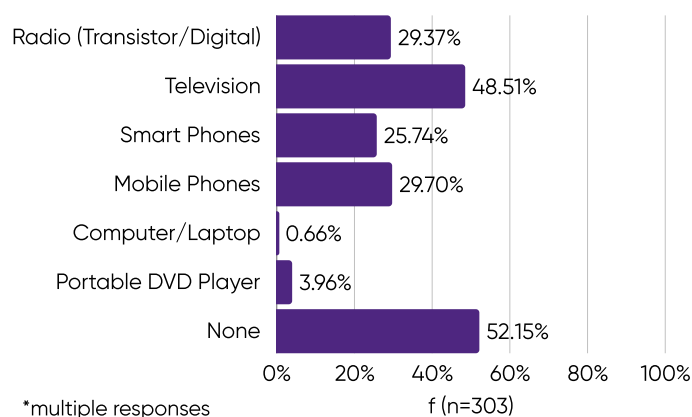


Figure 2. Technology or Media at Home.

- A strong reliance on traditional information sources among fishers and farmers including access to Public Information Offices/Centers (77.59), Schools or Universities (59.52), while digital platforms and informal channels (71.22) are gaining relevance, especially among processors and gatherers.
- Preferred information access channels across four key livelihood groups - reveal a notable differences in communication behavior and trust in sources.



Fishers lean toward visual or audio formats and peer-based sharing.



Farmers combine traditional and digital platforms, with strong trust in interpersonal sources.



Gatherers favor simple, accessible, mobile-friendly platforms and community intermediaries.



Processors are information-rich and multi-source users, valuing both formal and digital materials.

- Fishers prioritize real-time and location-based information critical to daily operations and safety (weather, fishing zones,) as well as policy and preservation techniques. (see Fig. 3)
- Farmers focus on sustainable crop production, with full demand for knowledge on pest control, fertilizer use, and weather - essential for yield and food security. (see Fig. 4)

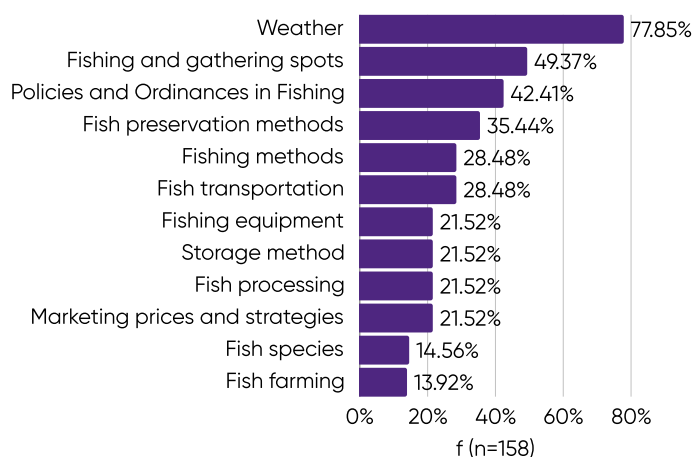


Figure 3. Type of Information Needs of Fishers.

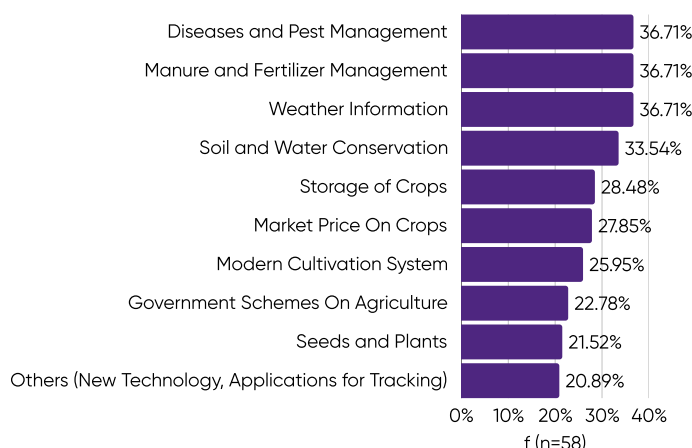


Figure 4. Type of Information Needs of Farmers.

Top 3 Problems in Accessing Information

1. Poor availability and unreliability of information (47.85%).
2. Inability to access formal channels and sources (40.59%) such as government and academic institutions.
3. Language barriers and other communication issues (32.34%) - information are often not delivered in local dialects or culturally relevant formats.

Top 3 Most Cited Factors Encountered during Information Gathering

1. Lack of awareness about new sources of information (66.34%).
2. Lack of awareness about new communication technology (61.72%). Despite mobile and internet proliferation, digital tools remain underutilized due to lack of familiarity, especially in rural areas.
3. Low education level and media illiteracy (54.46%) to understand, evaluate, and use information even when it is available.

Conclusion

The findings underscore the urgent need to strengthen the information ecosystem that supports rural livelihoods, particularly among fishers, farmers, gatherers, and processors. Their dependence on timely, practical, and localized knowledge—ranging from weather and market data to production methods and post-harvest practices—highlights the value of accessible, multi-format communication channels. While digital and mobile tools show promise, persistent barriers such as low digital literacy, language mismatches, and limited institutional reach hinder effective information uptake. Addressing these gaps through inclusive policies, localized interventions, and community-driven strategies is essential to empower rural producers, improve adaptive capacity, and support resilient and informed decision-making in the face of socio-economic and environmental changes.

Policy Recommendations

- A need for differentiated and inclusive communication strategies be collaboratively developed by concerned institutions and CSU, by merging digital tools, cultural diversity, and regulatory frameworks.
- Policymakers and development agencies must ensure that information dissemination strategies are both multi-channel, multi-modal and tailored to each stakeholder group's access and preference realities.
- Stakeholders—including government agencies, NGOs, academic institutions, and private sector partners—are encouraged to align their interventions with the study's key findings to enhance the flow, accessibility, and usability of relevant information within fishing and farming communities.

Target Policy Actors and Beneficiaries



Interventions Suggested

1. Establish Barangay-based Information Access Points (BIAPs)
2. Launch a Mobile-based Advisory Service (INFO4RURAL)
3. Adopt the MangngalAPP Digital Knowledge Hub
4. Train 60 Local Information Facilitators ("InfoKagawad")
5. Conduct quarterly Barangay-based IEC Caravan

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Editor's Note

This policy brief is based on results of the CSU-funded project "Design, development and implementation of the MangngalAPP" thru Special Order 2021-02-055 dated February 9, 2021. This project was implemented by the Cagayan State University – Aparri Campus. The CSU – Aparri Campus project team is composed of Billy S. Javier, Jesty S. Agoto, and James Karl A. Agpalza.



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