

RESEARCH PAPER

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Socioeconomic profiling of rural households in Agusan del Norte: A multi-municipality comparative study**Rosalina A. Sagocsoc*, Rennielyn F. Canales, Argen C. Salvador, Eldie M. Labisto***Caraga State University, College of Agriculture and Agri-Industries, Philippines***Key words:** Demographic composition, Income distribution, Social inclusion, Sources of income, livelihood types**Received:** April 29, 2026**Accepted:** May 12, 2026**Published:** May 16, 2026**DOI:** <https://dx.doi.org/10.12692/ijb/28.5.125-136>**ABSTRACT**

Rural households play a vital role in agricultural production, food security, and local economic development in the Philippines. However, socioeconomic conditions differ substantially among municipalities, highlighting the need for localized evidence to support effective rural development planning. This study comparatively assessed the socioeconomic characteristics of rural households across six municipalities in Agusan del Norte-Carmen, Las Nieves, Magallanes, Remedios T. Romualdez (RTR), Tubay, and Jabonga. A descriptive-comparative cross-sectional research design was employed using municipal household profiling data. Descriptive statistical methods were applied to examine demographic characteristics, livelihood sources, household income, farm ownership, farm size, agricultural land types, crop distribution, and selected indicators of social inclusion. The findings showed that female respondents constituted the majority of the surveyed population, while married individuals represented the predominant marital status across all municipalities. Farming remained the principal livelihood, although fishing, wage labor, and other non-farm activities also contributed to household income. Household income was largely concentrated within the lower income categories, reflecting the continued importance of smallholder agriculture and diversified livelihood strategies. Privately owned farms and small landholdings predominated, whereas agricultural land use and crop distribution varied considerably among municipalities. Las Nieves consistently recorded the highest levels of farming activity, irrigated agricultural land, and social protection beneficiaries, while rice production was concentrated in Las Nieves and coconut and banana cultivation were more prominent in Carmen. Overall, the study demonstrates substantial municipality-level variation in socioeconomic characteristics and agricultural resources, emphasizing the need for locally tailored strategies that strengthen agricultural productivity, promote livelihood diversification, and support inclusive and sustainable rural development in Agusan del Norte.

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INTRODUCTION

Rural households play a fundamental role in agricultural production, food security, and local economic development, particularly in developing countries where agriculture remains a major source of employment and household income. In the Philippines, agriculture continues to support millions of rural families despite ongoing structural challenges, including low farm productivity, fragmented landholdings, climate variability, limited access to markets, and persistent rural poverty. These challenges have reinforced the importance of generating reliable socioeconomic information to guide agricultural development, livelihood improvement, and evidence-based policy formulation (Food and Agriculture Organization [FAO], 2023; Philippine Statistics Authority [PSA], 2023).

Rural livelihoods have become increasingly diversified as households combine farming with fishing, wage labor, small enterprises, and other non-farm activities to reduce economic risk and improve household resilience. Although agriculture remains the backbone of many rural economies, livelihood diversification has become an important strategy for coping with fluctuating commodity prices, climate-related hazards, and seasonal employment opportunities (Ellis, 2000; World Bank, 2022). The sustainability of these livelihood systems is influenced by multiple socioeconomic factors, including household composition, income distribution, land tenure security, farm size, access to irrigation, and participation in government support programs.

In the Philippines, national initiatives such as the Pantawid Pamilyang Pilipino Program (4Ps), agrarian reform, and agricultural modernization seek to improve the welfare of vulnerable rural populations. However, the effectiveness of these interventions often varies among localities because of differences in demographic characteristics, agricultural resources, environmental conditions, and livelihood opportunities. Consequently, development planning increasingly requires localized evidence that captures the diversity of rural communities rather than relying

solely on national or regional averages (Albert and Abrigo, 2021; Balisacan, 2019).

Agusan del Norte, located in the Caraga Region of northeastern Mindanao, is characterized by diverse agricultural landscapes where farming, fishing, and labor-based activities provide the principal sources of livelihood. The province exhibits considerable variation in agricultural production systems, land resources, and socioeconomic conditions among municipalities. Las Nieves is recognized for extensive rice production, whereas municipalities such as Carmen are more strongly associated with coconut and banana cultivation. Coastal municipalities, including Jabonga and Tubay, derive additional income from fisheries, while other areas depend on combinations of farming and non-farm economic activities. Despite these diverse production systems, many rural households continue to experience relatively low income, limited access to productive resources, insecure land tenure, and uneven participation in social protection programs, all of which constrain long-term livelihood improvement and rural development (National Economic and Development Authority–Caraga, 2010; PSA, 2023).

Although previous studies have examined rural poverty, agricultural developments, and social protection in the Philippines, most have focused on national trends or regional assessments rather than municipality-level comparisons. Furthermore, relatively few studies have simultaneously examined demographic characteristics, livelihood patterns, household income, agricultural production, land tenure, farm size, and social inclusion within a single comparative framework. This lack of integrated, locality-specific information limits the ability of local government units and development agencies to design interventions that address the distinct needs and opportunities of individual municipalities. A comprehensive comparative assessment is therefore needed to better understand the socioeconomic diversity of rural households and to support more targeted and context-specific rural development strategies.

Against this background, the present study provides a comparative socioeconomic profile of rural households across six municipalities in Agusan Del Norte—Carmen, Las Nieves, Magallanes, Remedios T. Romualdez (RTR), Tubay, and Jabonga. Specifically, the study aims to (1) examine the demographic characteristics of rural households; (2) characterize household livelihood sources and income distribution; (3) assess agricultural characteristics, including farm ownership, farm size, land type, and crop distribution; (4) evaluate selected indicators of social inclusion, including participation in the Pantawid Pamilyang Pilipino Program (4Ps), Indigenous Peoples (IP) affiliation, and agrarian reform beneficiary status; and (5) generate municipality-level evidence that can inform agricultural planning, rural development programs, and inclusive policy interventions in Agusan del Norte.

MATERIALS AND METHODS

Study area

The study was conducted in six municipalities of Agusan del Norte, Philippines: Carmen, Las Nieves, Magallanes, Remedios T. Romualdez (RTR), Tubay, and Jabonga. These municipalities represent diverse agroecological and socioeconomic settings within the Caraga Region, where agriculture, fisheries, and rural labor constitute the primary livelihood sources. The municipalities differ in terms of agricultural production systems, land-use patterns, population characteristics, and access to natural resources, making them appropriate for comparative socioeconomic analysis. The geographic diversity of the study area allowed the assessment of variations in household livelihoods, agricultural practices, income sources, land tenure arrangements, and social inclusion indicators across rural communities.

Research design

This study employed a descriptive-comparative cross-sectional research design using quantitative household profiling data. Descriptive research is appropriate for characterizing existing socioeconomic

conditions, whereas the comparative component enables systematic examination of similarities and differences among municipalities without manipulating study variables.

The research focused on describing demographic characteristics, livelihood patterns, household income distribution, agricultural production systems, farm ownership, farm size, land characteristics, crop distribution, and selected indicators of social inclusion. The cross-sectional design provided a snapshot of household conditions at the time of data collection and allowed municipality-level comparisons that can support evidence-based rural development planning.

The descriptive-comparative approach is widely recommended for community profiling and local development assessment because it facilitates identification of spatial differences in socioeconomic conditions while generating practical information for policy formulation and resource allocation.

Data sources

The study utilized both primary and secondary sources of information. Primary data consisted of municipality-level household profiling datasets collected through structured socioeconomic surveys conducted by local government units and partner institutions. The household profiling database included information on demographic characteristics, sources of livelihood, household income, agricultural production, farm ownership, land size, agricultural land type, social protection participation, and indigenous group membership.

Secondary information was obtained from municipal development reports, local government planning documents, agricultural profiles, and relevant national publications to provide contextual understanding of the study area and to support interpretation of the findings. These complementary sources were used to verify administrative information and enhance the discussion of municipality-specific socioeconomic conditions.

Study population and unit of analysis

The unit of analysis was the rural household. The study covered households engaged in farming, fishing, agricultural labor, wage employment, and other income-generating activities across the six municipalities.

Because the analysis relied on existing municipal household profiling datasets, all available and validated household records within the selected municipalities were included in the analysis. This approach minimized sampling bias and enabled comprehensive comparison among municipalities using standardized socioeconomic indicators.

Variables investigated

The study examined several groups of variables representing the socioeconomic characteristics of rural households.

Demographic variables

These included:

1. Gender
2. Marital status

Livelihood variables

The primary livelihood categories included:

1. Farming
2. Fishing
3. Farm labor or wage labor
4. Other income-generating activities

Household income

Monthly household income was categorized according to the income brackets available in the municipal profiling database, including:

1. No income
2. PHP 1,000–5,000
3. PHP 5,001–10,000
4. PHP 10,001 and above

Agricultural variables

Agricultural characteristics included:

1. Major crops cultivated
2. Farm ownership status

3. Farm size
4. Agricultural land type
5. Livestock production

Social inclusion indicators

Social inclusion was assessed using household participation in government social protection and land reform programs, including:

1. Pantawid Pamilyang Pilipino Program (4Ps) beneficiaries
2. Indigenous Peoples (IP) affiliation
3. Agrarian Reform Beneficiaries (ARB)

These variables collectively provide a multidimensional representation of rural household welfare, livelihood security, and agricultural resource access.

Data processing and statistical analysis

The collected data were subjected to systematic validation and organization prior to statistical analysis. Data cleaning procedures included checking for duplicate entries, inconsistencies, incomplete records, and logical errors to ensure analytical reliability.

Descriptive statistical techniques were employed throughout the study. Frequencies and percentages were calculated for categorical variables, while municipality-level comparisons were presented using summary tables and graphical visualizations. Bar graphs were used to illustrate differences in demographic composition, livelihood structure, income distribution, agricultural characteristics, land ownership, farm size, and crop distribution among municipalities.

Comparative interpretation emphasized identifying common trends, municipality-specific characteristics, and socioeconomic disparities rather than testing causal relationships. Because the objective was to profile rural households rather than infer population parameters or evaluate interventions, inferential statistical analyses were not performed.

The results were interpreted within the broader context of rural development, agricultural livelihoods, and social inclusion in the Philippines.

Ethical considerations

The study analyzed municipality-level household profiling records that had been collected through authorized local government activities. Household information was treated confidentially throughout the analysis. Individual respondents were not identified, and all results were presented only in aggregated form to protect privacy and maintain data confidentiality.

The analysis complied with general principles of responsible research involving human-derived data, including confidentiality, anonymity, appropriate data handling and reporting of findings without revealing personally identifiable information.

Study limitations

The study has several limitations that should be considered when interpreting the findings. First, the analysis was based on cross-sectional household profiling data; therefore, temporal changes in socioeconomic conditions could not be assessed. Second, the study relied on existing municipal databases, making the analysis dependent on the completeness and accuracy of administrative records. Third, although municipality-level comparisons provide valuable insights, they do not establish causal relationships between socioeconomic variables. Finally, factors such as market fluctuations, climate variability, household decision-making processes, and local institutional differences were beyond the scope of the available dataset but may influence rural livelihoods.

Despite these limitations, the study provides a robust comparative assessment of rural household socioeconomic conditions across six municipalities in Agusan del Norte and offers valuable evidence for local development planning and agricultural policy formulation.

RESULTS

Gender distribution

Female respondents outnumbered male respondents across all six municipalities included in the study (Fig. 1). Las Nieves recorded the largest population of

both male and female respondents, followed by Carmen, whereas Magallanes had the smallest number of respondents. The proportion of female respondents ranged from approximately 64% to 76% across municipalities, with the highest female representation observed in Remedios T. Romualdez (RTR) and the lowest in Carmen. Overall, females comprised the majority of the surveyed rural population, indicating a consistent gender pattern throughout the study area.

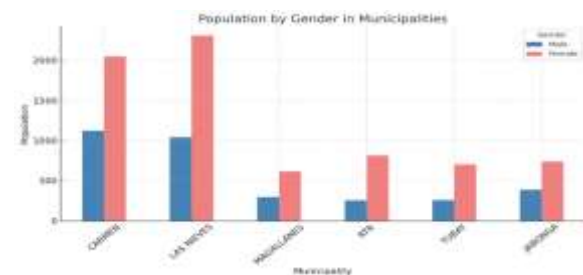


Fig. 1. Population by gender in municipalities

Marital status

Married respondents constituted the largest marital status group in all municipalities, accounting for approximately three-quarters of the surveyed population (Fig. 2).

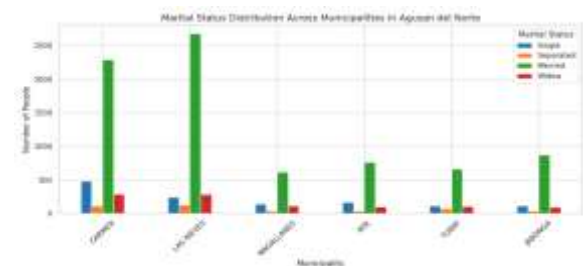


Fig. 2. Marital status distribution across municipalities in Agusan del Norte

Las Nieves and Carmen recorded the highest numbers of married individuals, reflecting their relatively larger household populations. Single respondents formed the second largest group, while separated and widowed individuals represented comparatively smaller proportions across all municipalities. Although the distribution of the smaller marital status categories varied slightly among municipalities, the predominance of married respondents was consistent throughout the study area.

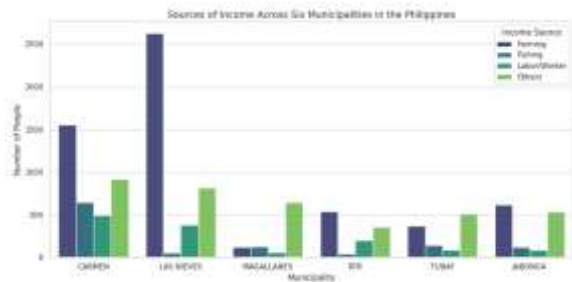


Fig. 3. Sources of income across six municipalities in the Philippines

Sources of income

Household livelihoods varied among municipalities, although farming remained the principal source of income across the study area (Fig. 3). Las Nieves recorded the highest number of households engaged in farming, followed by Carmen, while Jabonga and RTR also showed substantial agricultural participation. Fishing contributed more prominently to household livelihoods in Carmen, Tubay, and Jabonga than in the other municipalities. Income derived from labor or wage employment was comparatively lower across all municipalities, whereas the "other" income category-including non-farm and informal livelihood activities-represented a considerable proportion of household income, particularly in Carmen, Las Nieves, and Magallanes.

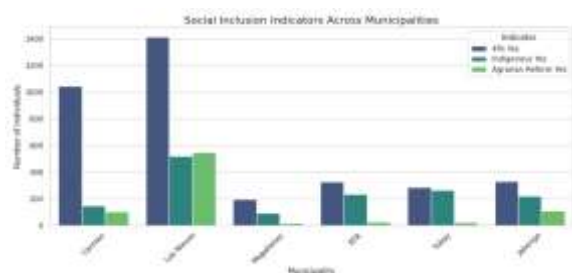


Fig. 4. Social inclusion indicators

Social inclusion indicators

The distribution of social inclusion indicators differed among municipalities (Fig. 4). Las Nieves recorded the highest numbers of Pantawid Pamilyang Pilipino Program (4Ps) beneficiaries, Indigenous Peoples (IPs), and Agrarian Reform Beneficiaries (ARBs). Carmen also had a relatively large number of 4Ps beneficiaries but fewer IPs and ARBs than Las Nieves. RTR, Tubay, and Jabonga exhibited moderate

representation across these indicators, whereas Magallanes consistently recorded the lowest numbers. Overall, the figures demonstrate considerable variation in the distribution of social protection and agrarian reform beneficiaries across the six municipalities.

Household income distribution by municipality

Household income distribution differed among municipalities and income sources (Fig. 5). Carmen and Las Nieves consistently recorded the highest numbers of households across farming, labor, fishing, and other income categories, reflecting their relatively larger populations and more diverse livelihood activities. Farming accounted for the largest share of household income in most municipalities, while fishing contributed relatively fewer households except in Carmen. Income from other livelihood activities also represented an important component of household earnings, particularly in Carmen, Las Nieves, Magallanes, and Jabonga. RTR and Tubay generally showed lower household numbers across all income sources.

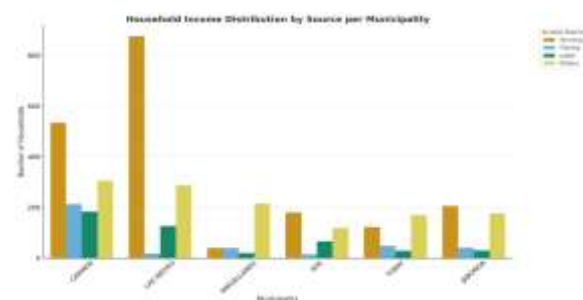


Fig. 5. Household income distribution per municipality

Income distribution in farming

Monthly income from farming was concentrated primarily within the lower income categories across all municipalities (Fig. 6). The largest numbers of farming households earning Php1,000-5,000 per month were observed in Las Nieves and Carmen. Las Nieves also recorded the highest number of households earning Php10,001 and above, followed by Jabonga, indicating the presence of relatively higher-income farming households in these

municipalities. In contrast, Magallanes, RTR, and Tubay recorded comparatively fewer farming households across all income categories.

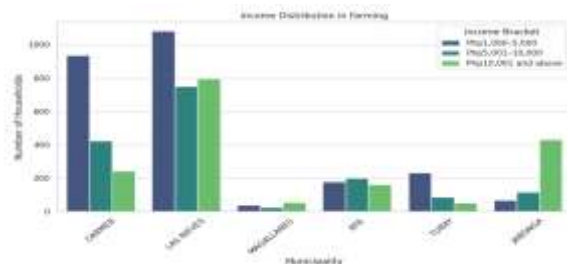


Fig. 6. Income distribution in farming

Income distribution in farmworker/labor

Income among farmworkers and laborers varied across municipalities (Fig. 7). Carmen recorded the highest numbers of laborers across all income categories, followed by Las Nieves. RTR exhibited moderate numbers of laborers, particularly within the Php5,001–10,000 income category. Tubay and Magallanes consistently recorded relatively few laborers, while Jabonga showed a concentration of laborers within the middle-income category but almost no representation in the highest income bracket.

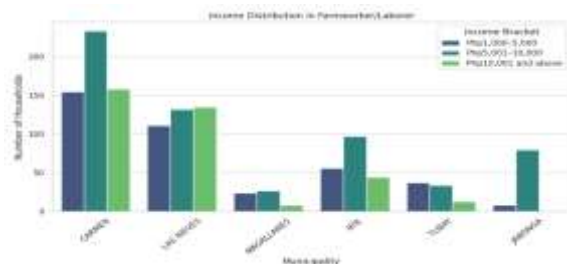


Fig. 7. Income distribution in farmworker/Laborer

Income distribution in fishing

Fishing-related income represented a relatively smaller livelihood sector than farming but showed noticeable differences among municipalities (Fig. 8). Carmen recorded the largest number of fishing households across all income categories. Tubay and Jabonga also had substantial numbers of fishing households, particularly within the Php5,001–10,000 income category. Magallanes exhibited moderate representation across the three income brackets, whereas Las Nieves and RTR

reported comparatively few households deriving income from fishing.

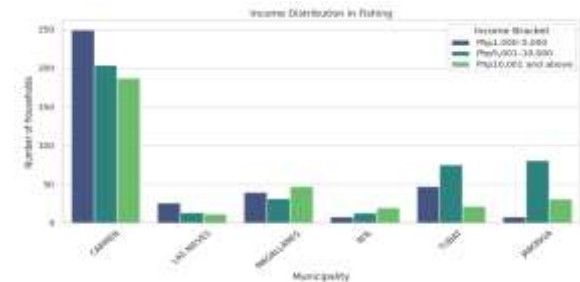


Fig. 8. Income distribution in fishing

Income distribution in other income sources

Income derived from other livelihood activities showed a relatively balanced distribution across the three income categories (Fig. 9). Las Nieves and Carmen recorded the highest numbers of households in each income bracket, while Magallanes and Jabonga also demonstrated considerable participation in non-farm income-generating activities. RTR and Tubay showed comparatively smaller numbers across all income levels. Overall, the findings indicate that alternative livelihood activities contribute substantially to household income throughout the study area.

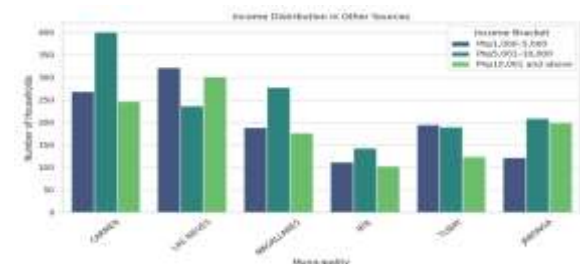


Fig. 9. Income distribution in other sources

Income distribution across municipalities

The overall household income distribution indicates that the Php1,000–5,000 monthly income bracket contained the largest number of respondents across the six municipalities (Fig. 10). Las Nieves and Carmen recorded the highest numbers of households within this income category, followed by Jabonga and Tubay. A considerable number of respondents also reported having no monthly income, particularly in Las Nieves and Carmen. Households earning Php5,001–10,000 and Php10,001 and above were

fewer in comparison but were represented in all municipalities, with Carmen, Las Nieves, and Jabonga recording the largest numbers in the highest income category.

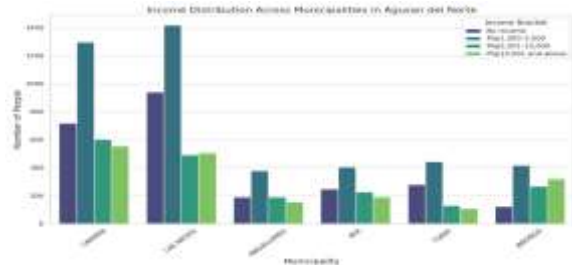


Fig. 10. Income distribution across municipalities in Agusan del Norte

Farm ownership distribution

Privately owned farms constituted the dominant form of land tenure across all municipalities (Fig. 11). Las Nieves recorded the highest number of privately owned farms, followed by Carmen. Rented farms represented the second largest ownership category, with Las Nieves and Jabonga reporting the greatest numbers. Leasehold arrangements accounted for relatively few farms across the municipalities, while the "other" ownership category—including informal and customary arrangements—was also substantial, particularly in Las Nieves and Carmen.

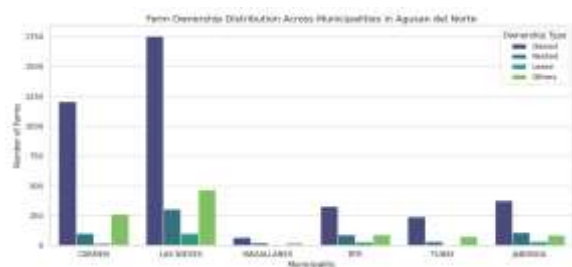


Fig. 11. Farm ownership distribution across municipalities in Agusan del Norte

Farm size distribution

Smallholder farming predominated across the study area (Fig. 12). Farms measuring less than one hectare represented the largest category in all municipalities, particularly in Las Nieves and Carmen. Farms ranging from one to two hectares formed the second largest category, with notable representation in Jabonga and Las Nieves. Farms measuring three

hectares and above were less common but remained present across most municipalities, with Las Nieves recording the highest number, followed by Carmen, RTR, and Jabonga.

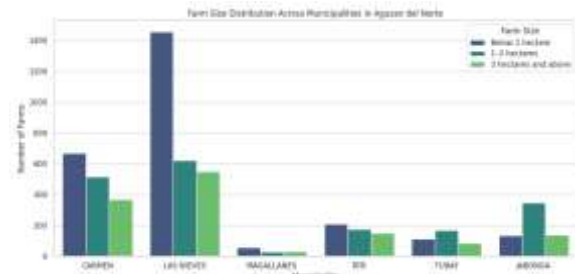


Fig. 12. Farm size distribution across municipalities in Agusan del Norte

Agricultural land type distribution

Agricultural land types varied considerably among municipalities (Fig. 13). Irrigated land was concentrated primarily in Las Nieves, followed by RTR, whereas Carmen reported no irrigated agricultural area. Lowland agricultural areas were also most extensive in Las Nieves, with smaller areas recorded in RTR, Jabonga, Magallanes, and Tubay. Highland agricultural land occupied comparatively limited areas throughout the province and was most evident in Jabonga and RTR, while Las Nieves and Carmen reported no highland agricultural land.

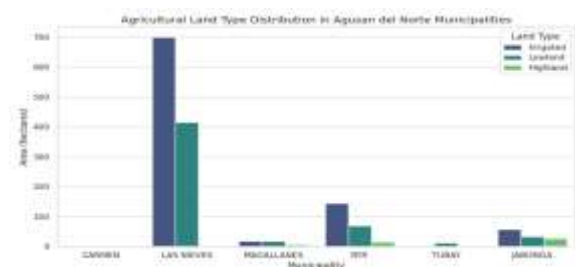


Fig. 13. Agricultural land type distribution

Crop distribution across municipalities

The distribution of cultivated crops differed markedly among municipalities (Fig. 14). Rice production was concentrated predominantly in Las Nieves, which recorded the largest cultivated area, followed by RTR and Jabonga. Carmen was characterized by extensive cultivation of coconut and banana, with little or no rice production. Jabonga exhibited a relatively diversified cropping pattern that included rice, corn,

banana, coconut, and other crops, whereas RTR and Tubay also maintained mixed crop production. Magallanes recorded comparatively smaller cultivated areas across all crop categories than the other municipalities, reflecting a more limited agricultural production area.

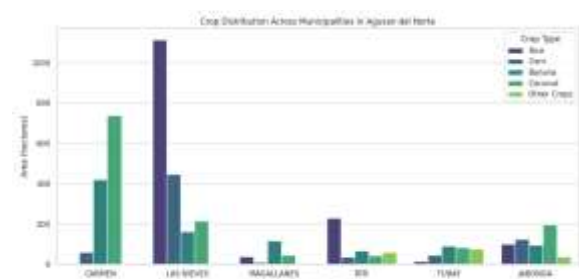


Fig. 14. Crop distribution across the municipalities

DISCUSSION

The findings provide a comprehensive picture of the socioeconomic conditions of rural households across six municipalities in Agusan del Norte and demonstrate that agriculture continues to be the primary foundation of rural livelihoods. Although the municipalities differ in population size, livelihood composition, agricultural resources, and social inclusion indicators, several common patterns emerged that reflect broader rural development challenges in the Philippines.

The predominance of female respondents across all municipalities is noteworthy. Similar demographic patterns have been reported in rural communities where male household members frequently migrate temporarily or permanently to urban areas or other regions in search of employment, leaving women with greater responsibilities in household management and agricultural production. Consequently, women increasingly participate in farm management, family decision-making, and community organizations, emphasizing the importance of gender-responsive agricultural policies and extension services. This observation is consistent with evidence showing that women play essential roles in smallholder agriculture but often face constraints in accessing productive resources, agricultural inputs, extension services, and financial support (FAO, 2023; Doss, 2018).

Marriage represented the dominant marital status across all municipalities, indicating that family-based households remain the prevailing social structure in rural Agusan del Norte. Stable household structures are important for sustaining agricultural production because farming activities commonly rely on family labor, knowledge sharing, and intergenerational resource management. Similar demographic characteristics have been documented in many agricultural communities in Southeast Asia, where household composition strongly influences labor availability, livelihood diversification, and resilience to economic shocks (World Bank, 2022).

Agriculture remained the principal livelihood across the study area, particularly in Las Nieves and Carmen, confirming the continued dependence of rural households on farming for income generation. However, the substantial contribution of income from non-farm activities demonstrates that many households have diversified their livelihood strategies. Diversification has become an increasingly important adaptation mechanism that reduces vulnerability to fluctuating commodity prices, production risks, and climate-related hazards. Previous studies have similarly shown that combining agricultural and non-agricultural income sources improves household resilience and enhances income stability among rural communities (Ellis, 2000; FAO, 2023).

Despite agriculture being the dominant livelihood, household income remained concentrated within the lower income categories, indicating that many families continue to experience limited economic returns from farming. The predominance of monthly incomes between Php1,000 and Php5,000 suggests that agricultural production remains largely small-scale and subsistence-oriented. Comparable findings have been reported for many smallholder farming systems in developing countries, where low productivity, limited market access, increasing production costs, and climate variability constrain household income despite high labor investment (World Bank, 2022; IFAD, 2021). The presence of

households reporting no regular monthly income further highlights the economic vulnerability of portions of the rural population.

The analysis of agricultural characteristics further supports this interpretation. Most farming households cultivated less than one hectare, reflecting the dominance of smallholder agriculture throughout the province. Small farm size has long been recognized as a major limitation to increasing agricultural productivity because it restricts economies of scale, mechanization, irrigation investment, and commercialization opportunities. Nevertheless, larger farms observed in Las Nieves, Carmen, and Jabonga may provide greater opportunities for production intensification and market-oriented agriculture. Similar relationships between farm size and agricultural productivity have been widely documented in developing countries (Lowder *et al.*, 2021).

Land tenure patterns also revealed important differences among municipalities. Although private ownership represented the dominant tenure arrangement, a considerable proportion of households continued to cultivate rented, leased, or informally managed land. Secure land tenure is widely recognized as an important factor influencing farmers' willingness to invest in soil improvement, irrigation infrastructure, perennial crops, and sustainable land management practices. Conversely, insecure tenure may discourage long-term investment and reduce agricultural productivity (FAO, 2022).

Marked differences in agricultural land types and crop distribution reflected the diverse agroecological conditions across the province. Las Nieves possessed the largest areas of irrigated land and rice production, indicating relatively favorable conditions for intensive crop cultivation. In contrast, Carmen specialized in coconut and banana production, illustrating municipality-specific agricultural systems shaped by local environmental conditions and resource availability. These findings emphasize that agricultural development strategies should be

adapted to local production systems rather than applying uniform interventions across municipalities. The distribution of social inclusion indicators demonstrated that Las Nieves and Carmen contained the highest numbers of beneficiaries of the Pantawid Pamilyang Pilipino Program (4Ps), Indigenous Peoples, and Agrarian Reform Beneficiaries. These findings suggest that government social protection and land reform programs remain concentrated in municipalities with relatively larger rural populations and greater development needs. The continued presence of substantial numbers of program beneficiaries also indicates that poverty reduction and livelihood improvement remain ongoing priorities. Previous evaluations have shown that social protection programs such as the 4Ps contribute to improved educational participation, food security, and household welfare, although complementary livelihood support is necessary to achieve long-term economic resilience (World Bank, 2023).

Overall, the findings demonstrate that rural livelihoods in Agusan del Norte are characterized by a combination of agricultural dependence, smallholder farming systems, income diversification, and varying levels of social protection. While municipalities differ in their agricultural specialization and socioeconomic characteristics, common challenges—including relatively low household income, limited farm size, and unequal access to productive resources—continue to constrain rural development. Addressing these constraints will require integrated interventions that combine agricultural modernization, improved market access, secure land tenure, livelihood diversification, climate-resilient farming practices, and strengthened social protection. Such locally tailored strategies have greater potential to improve household welfare and promote sustainable rural development across the province.

CONCLUSION

This study provides a comparative socioeconomic profile of rural households across six municipalities in Agusan Del Norte, highlighting important variations in demographic characteristics, livelihood strategies,

agricultural resources, and social inclusion. Although municipality-specific differences were observed, farming remained the principal livelihood throughout the study area, underscoring the continuing importance of agriculture to rural household economies. At the same time, many households supplemented farm income through fishing, wage labor, and other non-farm activities, reflecting the growing role of livelihood diversification in sustaining rural livelihoods.

The findings further demonstrate that rural households continue to face several structural constraints. Most farming households operate on small landholdings, household income is concentrated in the lower income categories, and access to irrigated land and secure land tenure varies considerably among municipalities. Crop production also reflects distinct local production systems, with rice predominating in Las Nieves, while coconut and banana are more prominent in Carmen. These differences emphasize the heterogeneous nature of agricultural production within the province and the importance of recognizing local contexts when assessing rural development conditions.

The study also reveals substantial variation in the distribution of social protection beneficiaries, Indigenous Peoples, and agrarian reform recipients across municipalities, indicating differences in socioeconomic vulnerability and development needs. Collectively, these findings suggest that rural development in Agusan del Norte cannot be effectively addressed through uniform interventions but instead requires approaches that consider local livelihood characteristics, agricultural resources, and socioeconomic conditions.

Overall, this study provides an updated evidence base for understanding the socioeconomic characteristics of rural households in Agusan del Norte. The municipality-level comparisons presented here contribute to a better understanding of rural livelihood systems and may serve as a valuable reference for future research, agricultural planning, and the design of context-specific rural development strategies that promote sustainable livelihoods and inclusive agricultural development.

ACKNOWLEDGEMENTS

The authors sincerely acknowledge the Local Government Units (LGUs) of Carmen, Las Nieves, Magallanes, Remedios T. Romualdez, Tubay, and Jabonga, Agusan del Norte, for providing access to the municipal household profiling data and relevant information used in this study. The authors also express their appreciation to the local officials, technical staff, and community stakeholders whose assistance facilitated the collection, organization, and validation of the socioeconomic data. Special thanks are extended to the College of Agriculture and Agri-Industries, Caraga State University, for its academic support throughout the conduct of this research.

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