

From Profile to Progress: Using Needs Assessment to Drive Sustainable Extension Programs

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Abstract: In communities facing poor housing, low income, and limited basic services, education and food security stood out as urgent concerns, underscoring the need for data-driven, participatory extension programs that genuinely respond to people's lived realities. This study aimed to conduct needs assessment through beneficiary profiling to generate evidence-based recommendations for sustainable community extension programs. Recognizing that many initiatives fail due to the absence of context-specific data, the research explored the actual living conditions and needs of selected households. Using a descriptive survey design, data were gathered from 21 purposively chosen households through structured questionnaires, informal interviews, and field observations. The instrument covered demographics, housing, income, and access to basic services. Findings showed most families lived in nipa or bamboo homes, cooked with firewood or charcoal, had no land ownership, and fetched water from deep wells. Incomes were often ₱5,000 or less, and while local assistance was common, few received national aid. Education and food security surfaced as urgent concerns. These findings affirm the need for localized, participatory approaches to extension programs and offer a clear baseline for designing responsive, targeted interventions aligned with community realities.

Keywords: Beneficiary Profiling, Community Extension, Education, Food Security, Needs Assessment.

INTRODUCTION

Community extension programs have long served as vital mechanisms by which academic institutions and local government units engage with marginalized populations to address pressing socio-economic issues. These programs aim not only to deliver short-term assistance but also to foster long-term sustainability through targeted interventions in education, health, livelihood, and environmental stewardship. However, the success and relevance of such programs hinge primarily on the alignment of interventions with the actual needs and conditions of the intended beneficiaries.

To ensure contextual responsiveness, the practice of needs assessment through beneficiary profiling has emerged as a strategic approach to designing practical extension projects.

In the Philippines, many rural and semi-urban communities continue to face interrelated challenges of poverty, limited access to services, and underemployment. These issues are exacerbated by the lack of comprehensive data that reflect the lived realities of the target populations. Without an accurate understanding of beneficiaries' living conditions, demographic structures, income levels, and priority needs, extension initiatives risk becoming misaligned and ultimately unsustainable. This highlights the importance of conducting detailed needs assessments as a foundational step in the development and implementation of community-based programs.

Preliminary observations in the target community revealed multiple indicators of poverty and vulnerability. Many households rely on firewood and charcoal for cooking, lack

access to clean water, and reside in nipa or bamboo dwellings without formal land ownership or access to transportation. A significant number of families subsist on ₱5,000 or less per month and receive minimal government aid. The burden is heavier for households with multiple school-aged children, underscoring the urgent need for educational subsidies and nutrition programs. These observations align with findings from national energy and housing surveys, which identify unsafe water sources, substandard housing, and rudimentary energy use as indicators of multidimensional poverty (Tagupa, 2017). Furthermore, the Department of Education has reported persistent undernutrition and hunger among school-aged children, reinforcing the critical need for nutrition-focused interventions (USDA Foreign Agricultural Service, 2023).

Despite recurring community extension initiatives, a noticeable gap remains in localized, data-driven profiling studies that inform these interventions. This lack of evidence-based planning hinders the development of tailored programs that can genuinely uplift communities. To address this gap, the present study—Needs Assessment through Beneficiary Profiling for Sustainable Extension Programs—aims to conduct a comprehensive assessment of community beneficiaries, focusing on their demographic characteristics, living conditions, socio-economic status, and expressed needs. This profiling effort aligns with CHED Memorandum Order No. 52, series of 2016, which mandates that higher education institutions (HEIs) ground their extension, research, and innovation initiatives in evidence gathered from the communities they serve (CHED, 2016).

Empirical studies affirm that needs-based extension initiatives tend to yield more sustainable and relevant interventions. For instance, Llamedo et al. (2024) and Uy Jr. et al. (2023) emphasized that systematic assessments can identify context-specific gaps and opportunities, allowing institutions to co-create solutions with communities. The present study reflects this approach by engaging residents in the profiling process, which not only surfaces unmet needs but also signals their willingness to collaborate in shaping responsive interventions. However, a lack of comprehensive blueprints remains, which fail to integrate livelihood support, educational assistance, and nutrition safeguards into a cohesive programmatic framework. Such integration is essential for maximizing limited resources and enhancing the agency of beneficiaries (Llamedo et al., 2024).

This study pursues four objectives: (a) to describe the demographic, living conditions, and socio-economic profiles of target households; (b) surface priority needs as articulated by the beneficiaries themselves; (c) to identify gaps in current support mechanisms; and (d) generate evidence-based recommendations for sustainable extension initiatives. The study is delimited to one barangay identified for institutional outreach and utilizes survey and interview methods conducted in 2024 to establish a reliable baseline for future impact assessments.

This research aimed to convert granular, household-level data into actionable intelligence that can inform policy and practice among stakeholders, including social workers, local government units, non-governmental organizations, and higher education institutions. In doing so, it contributes to the national directive for inclusive and equitable development, ensuring that community extension interventions not only offer temporary relief but also lay the groundwork for long-term resilience and empowerment.

METHODS

This study employed a descriptive survey design to systematically gather quantitative and qualitative data regarding the demographics, socio-economic status, and priority needs of target households. Descriptive designs are particularly suited for community profiling as they enable researchers to describe the characteristics of a population in a real-life context (Creswell & Creswell, 2018). This design was deemed appropriate to gain a factual and contextual understanding of the beneficiaries' conditions, informing the development of responsive extension initiatives.

The research was conducted in one of the barangays in Tangub City, a semi-rural locality in Misamis Occidental, Philippines. The barangay was purposively selected as a

focal site of institutional outreach by the Northern Mindanao State College of Science and Technology (NMSCST) due to its observed indicators of socio-economic vulnerability and the need for community-based interventions.

The study involved 21 households residing in one of the barangays in Tangub City. These families were identified based on preliminary consultations with barangay officials and community leaders. The inclusion criteria involved families who were residents of the barangay for at least one year and who provided their informed consent to participate. The purposive selection of households was necessary to focus on those most likely to benefit from future extension programs.

A researcher-developed structured questionnaire was utilized to collect data. The instrument included both closed- and open-ended items clustered into four major sections: (1) demographic profile, (2) living conditions (e.g., housing, utilities, water source), (3) socio-economic status (e.g., income, employment, education), and (4) priority needs (e.g., food security, education, livelihood). The instrument was pre-tested among five non-participant households in a nearby barangay to ensure clarity and reliability, with minor revisions made accordingly. Additionally, informal interviews and field observations were conducted to validate and supplement the survey responses.

Data collection was conducted in March 2025. Prior to administration, the research team secured permission from the Barangay Captain and presented a formal letter of request endorsed by the NMSCST extension office. Trained enumerators conducted face-to-face interviews using the structured questionnaire. Each interview took approximately 20–30 minutes. The research team also documented visible indicators of living conditions (e.g., type of dwelling, sanitation facilities) to triangulate the data. Completed forms were checked for completeness before encoding.

The study adhered to ethical principles governing community-based research. Participants were informed about the purpose of the study, the voluntary nature of participation, and their right to withdraw at any time without penalty. Written informed consent was obtained from all participants. Confidentiality and anonymity were ensured by coding responses and omitting identifying information from the dataset. The study protocol was reviewed and approved by the NMSCST Extension and Research Office.

Data were encoded and analyzed using descriptive statistics, such as frequencies and percentages, to summarize the demographic, living conditions, and socio-economic data. Responses to open-ended questions were also analyzed to surface the most expressed needs and perceptions. This combination of quantitative and qualitative analysis enabled a comprehensive portrayal of beneficiary conditions, informing the development of targeted extension recommendations.

RESULTS AND DISCUSSION

Demographic and Living Conditions Profile of the Beneficiaries

Table 1 presents the demographic and living conditions profile of the beneficiaries of the proposed community extension program. Overall, the findings highlight economic limitations and modest living conditions among the respondents. The most prevalent characteristics include exclusive use of firewood or charcoal stoves for cooking ($n = 21$, 100%), lack of land ownership ($n = 16$, 76.20%), reliance on deep wells or manual pumps as the primary source of water ($n = 14$, 66.70%), and absence of a vehicle in the household ($n = 14$, 66.70%). In terms of housing, a significant number live in nipa or bamboo houses ($n = 10$, 47.60%), followed by those in semi-concrete ($n = 5$, 23.80%), concrete ($n = 4$, 19.00%), and light material dwellings ($n = 2$, 9.50%).

With regard to home ownership, a majority reported owning their homes ($n = 13$, 65.00%), while a considerable number still rent ($n = 7$, 35.00%). As for family composition, most households have 4–6 members ($n = 10$, 47.60%), followed by households with seven or more ($n = 7$, 33.30%) and those with 3–5 members ($n = 4$, 19.00%). In terms of the number of children currently attending school, the highest group had 11 or more children in school ($n = 9$, 42.90%), while others reported having 1–5 ($n = 6$, 28.60%) or 6–10 children ($n = 6$, 28.60%).

= 6, 28.60%).

The findings suggest that the community experiences substantial economic challenges. The universal use of firewood and charcoal for cooking ($n = 21$, 100%) not only reflects limited financial resources to purchase LPG or electric stoves but may also pose health and environmental risks. Similarly, the high percentage of beneficiaries who rely on deep wells or manual pumps ($n = 14$, 66.70%) indicates a lack of access to clean and safe water sources, which is a basic human need. The data also underscore a lack of mobility and land tenure security, with two-thirds ($n = 14$, 66.70%) of respondents having no vehicle and over three-quarters ($n = 16$, 76.20%) not owning land.

In addition, the quality of housing materials used—primarily bamboo or other light and temporary materials—further reflects the socio-economic vulnerability of the population. While most households ($n = 13$, 65.00%) have their own homes, the nature of these homes suggests a need for improvement in structural integrity and safety. The large number of children attending school, especially in households with 11 or more children ($n = 9$, 42.90%), also indicates potential stress on family resources, particularly in terms of education-related expenses.

The findings on the demographic and living conditions of the beneficiaries reveal economic challenges that are consistent with prior research in rural and marginalized communities. The universal use of firewood and charcoal for cooking is common among low-income households in developing countries, primarily driven by limited financial resources and a lack of access to cleaner energy sources. This reliance has been linked to significant health and environmental risks (Francioli, 2018).). Similarly, limited access to safe water sources, such as reliance on deep wells and manual pumps, remains a pressing issue in many rural areas, contributing to adverse health outcomes (Danert, 2024).). Housing conditions predominantly involving nipa, bamboo, or light materials further underscore socio-economic vulnerability, a pattern echoed in studies highlighting the prevalence of substandard and unsafe dwellings in low-income communities (Uddin, 2024).). While a majority of households reportedly own their homes, informal or insecure land tenure may limit their sense of security and inhibit long-term investments in housing improvements (Uwayezu & De Vries, 2018).). The large family sizes observed, with many households supporting numerous children in school, reflect additional financial pressures that can impact educational attainment and family well-being. However, some research suggests that larger families in rural contexts may also provide labour support that partially offsets these costs (Desai, 1995).

Recommendations for interventions such as community water filtration, introduction of smokeless cookstoves, and housing improvement programs are supported by evidence demonstrating their effectiveness in similar settings (Rosa et al., 2014). How essential is it to acknowledge that behavioural and cultural factors can influence the adoption rates of new technologies, such as those cleaner underscoring, indicating the need for comprehensive community education and engagement in conjunction with technology provision (Linden, 2020)? Furthermore, critiques of some community programs highlight sustainability challenges that arise when initiatives lack meaningful community participation, underscoring the importance of empowerment and local governance in ensuring long-term success (Dushkova & Ivlieva, 2024).

Local government units, barangay leaders, and academic institutions should consider prioritizing efforts that enhance water accessibility, promote sustainable cooking technologies, and provide support for safer housing. Specific initiatives may include the establishment of shared water filtration stations or subsidized water district connections, the introduction of smokeless cookstove technologies or affordable LPG alternatives, and community-led programs to improve housing durability through the use of bamboo reinforcement or concrete patching. In terms of education, support may take the form of distributing school supplies, referring scholarships, or conducting enrollment drives—especially targeting large families. Moreover, livelihood development and land access

initiatives can help improve income security and long-term self-sufficiency. By aligning outreach initiatives with the real needs of the community, extension efforts can maximize relevance, participation, and sustainable impact.

Table 1: Demographic and Living Conditions Profile of the Beneficiaries

Profile	Frequency	Percentage
Number of People Living in the House		
3-5	4	19.00
4-6	10	47.60
7 or more	7	33.30
Number of Children Currently Attending School		
1-5	6	28.60
6-10	6	28.60
11 or more	9	42.90
Nearest Source of Water Used at Home		
Faucet (Water District)	7	33.30
Deep well / manual pump	14	66.70
With Own House		
Yes	13	65.00
No, renting	7	35.00
Type of House		
Nipa / bamboo	10	47.60
Light materials (woven bamboo, plywood, tarpaulin)	2	9.50
Semi-concrete	5	23.80
Concrete	4	19.00
With Piece of Land		
Yes	5	23.80
No	16	76.20
Means of Cooking		
LPG	-	-
Firewood / charcoal stove	21	100.00
Electricity	-	-
With Vehicle		
Yes	7	33.30
No	14	66.70

Socioeconomic and Assistance-Related Profile of the Beneficiaries

Table 2 details the socio-economic characteristics and needs of the beneficiaries, with a focus on parental occupation, income, household expenses, and specific educational and livelihood needs. The data reveal that the majority of beneficiaries have low income levels and depend on informal or seasonal employment. A considerable proportion of the families reported a monthly income of ₱5,000 or below ($n = 17$, 81.00%), indicating that the majority lived within or below the national poverty threshold. This financial constraint shapes many aspects of their daily lives, from food security to educational access. While a small number of households earn slightly more (₱5,001–₱10,000, $n = 4$, 19.00%), the narrow income range still reflects limited upward mobility. Interestingly, despite their low-income status, only a few families benefit from the government's 4Ps program ($n = 4$, 19.00%), which may point to gaps in program coverage, eligibility criteria, or awareness. Instead, barangay or LGU-based support, though occasional ($n = 17$, 81.00%), emerges as a more common source of aid, highlighting the critical role of local governance in community-level social protection.

With respect to parental occupations, the data reveals a strong gendered division of

labor, with a majority of mothers being housewives or stay-at-home ($n = 12$, 57.10%). Others are unemployed ($n = 5$, 23.80%) or engaged in marginal livelihoods such as vending or washing—activities that are often informal, unstable, and low-paying. This suggests a limited economic participation among mothers, which may be shaped by both cultural expectations and a lack of local employment opportunities. Fathers, by contrast, predominantly engage in physically demanding and low-wage jobs such as farming ($n = 7$, 33.34%), construction ($n = 4$, 19.05%), or labor work ($n = 4$, 19.05%). The presence of drivers and fishermen ($n = 2$ each, 9.52%) and even an unemployed father ($n = 1$, 4.76%) underscores the vulnerability and precarity of these occupational paths, where income is inconsistent and dependent on seasonal or project-based availability.

Household expenditure patterns further reinforce the economic constraints these families face. Most spend ₱5,000 or less on food ($n = 14$, 66.70%), indicating that nutritional quality and quantity may be compromised, especially with multiple dependents. Utilities such as electricity and water are kept at a minimum, with 80.95% spending ₱1,000 or below, which may suggest practices of rationing or limited access. School-related expenses reveal a polarizing trend: while nine families spend only ₱1,000 or less, another nine allocate ₱2,000–₱3,000, possibly reflecting differences in family size, prioritization of education, or varying degrees of external financial support. The few who reported expenses up to ₱6,000 ($n = 3$, 14.28%) could be stretching their finances to support their children's education, hinting at a deeper value placed on academic attainment despite economic hardship.

When it comes to livelihood sustainability, the data show that only a small number of families engage in any form of business or livelihood ($n = 4$, 19.00%), with the overwhelming majority relying solely on irregular labor or external support ($n = 17$, 81.00%). This limited entrepreneurial engagement may stem from a lack of capital, training, or market access. The number of working days per week reflects a generally underemployed community: while a majority work 3–5 days ($n = 12$, 57.14%), only a few manage to secure work for 6–7 days ($n = 5$, 23.81%). Those working just 1–2 days ($n = 3$, 14.29%) are likely experiencing job insecurity or may be in between work opportunities, underscoring the unstable nature of income sources in this setting.

Regarding program interests and needs, the unanimous interest in a feeding program ($n = 21$, 100.00%) is a telling indicator of food insecurity and its perceived importance in child well-being. Educational support emerges as another critical area: all families identified the need for school bags and supplies ($n = 21$, 100.00%), with more than half also pointing to the necessity of shoes ($n = 12$, 57.14%) and uniforms ($n = 8$, 38.10%). These findings highlight that while education is valued, access to it is hindered by the inability to meet even basic school requirements. The overwhelming need for additional assistance ($n = 18$, 85.70%) further emphasizes the multidimensional challenges these families face—not just economic, but also social and educational—signaling a pressing demand for integrated, responsive support systems that address both immediate and long-term developmental needs.

These findings highlight a community where economic insecurity is pervasive and where formal employment and consistent income are scarce. The dominant presence of mothers who are housewives or unemployed may indicate limited access to work opportunities, possibly due to a lack of skills training, available jobs, or childcare responsibilities. Similarly, the fathers' occupations, being mainly agricultural or labour-based, reflect the informal and often unstable nature of their income sources.

The overwhelming need for basic educational materials, bags, supplies, shoes, and uniforms, underscores a serious gap in meeting children's academic needs. Moreover, the fact that all respondents support feeding programs strongly suggests the prevalence of food insecurity. The limited livelihood activities ($n = 4$, 19.00%) despite precise financial needs point to a lack of access to capital, tools, or training required to initiate sustainable income-generating ventures.

The predominance of low-income levels and reliance on informal or seasonal

employment aligns with existing research on household vulnerabilities. For instance, seasonal farm laborers experience significant income fluctuations and unmet basic needs, which contribute to chronic financial instability (Pacilan et al., 2024). The low rate of government 4Ps assistance—despite significant economic need, is also noteworthy. Although the 4Ps program has demonstrated effectiveness in promoting human capital and reducing poverty (Tabilog et al., 2017), gaps in coverage and eligibility verification continue to exclude many who could benefit the most.

Moreover, the data revealing that most mothers are housewives or unemployed underscores the limited employment opportunities for women in low-income rural settings. This mirrors the findings of Chen (2016), who emphasized that employment in the informal economy often yields low productivity and requires long hours to meet basic subsistence needs. The children's educational needs, specifically the demand for bags, supplies, and uniforms, illustrate a critical resource gap. This finding is consistent with Mncube's (2023) report, which indicates that rural students often lack the educational materials necessary for full participation in school. Adding to the burden, the cost of school supplies in the Philippines has increased by 16%, exacerbating the difficulty for families to support their children's education (Alampay & Garcia, 2019).

The unanimous interest in feeding programs further signals widespread food insecurity among the beneficiaries. Food insecurity in the Philippines is often associated with a reliance on calorie-dense, low-nutrient foods, particularly among low-income households (Duong et al., 2024). Community-based feeding programs have been effective in responding to this crisis by directly addressing nutritional deficiencies and supporting child development (Visser et al., 2018). Finally, the low number of families with sustainable livelihood initiatives suggests that structural barriers, such as a lack of access to capital, skills training, and livelihood tools—factors essential for promoting long-term economic resilience—are present.

Given the socio-economic profile outlined, social workers, local government units, non-governmental organizations (NGOs), and academic institutions engaged in community extension initiatives must develop programs that directly address income generation, educational support, and nutritional aid. One of the key strategies to uplift the beneficiary community involves implementing livelihood training workshops. These workshops may include skills development in areas such as handicrafts, food processing, or micro-entrepreneurship, coupled with capital start-up assistance to ensure participants can apply their newly acquired skills in income-generating ventures.

In parallel, educational sponsorship drives can provide tangible support to school-aged children by supplying essential learning materials such as school bags, uniforms, and shoes. These efforts can ease the financial burden on families with multiple children attending school and promote increased participation and retention in education. Feeding programs, implemented in collaboration with local schools and barangay officials, can ensure that children receive at least one nutritious meal each day, thereby addressing the issue of food insecurity that often undermines academic performance and physical health.

Moreover, parenting and employment seminars targeted at stay-at-home mothers can serve as a gateway to introducing flexible livelihood options or remote work opportunities, enabling them to contribute economically while still fulfilling their caregiving responsibilities. Finally, establishing linkages with microfinance institutions can help support small-scale businesses or farming endeavors, particularly among parents with irregular employment, providing them with the financial tools to sustain and grow their livelihoods.

Addressing these pressing needs through sustainable and empowering community-based projects not only enhances the immediate well-being of the families but also strengthens the long-term development and resilience of the beneficiary community. Such targeted, data-informed interventions hold the potential to break cycles of poverty and foster inclusive growth from the grassroots level.

Table 2: Socioeconomic and Assistance-Related Profile of the Beneficiaries

Profile	Frequency	Percentage
Fathers' Occupation		
Farmer	7	33.34
Fisherman	2	9.52
Construction worker	4	19.05
Driver	2	9.52
Helper Mechanic	1	4.76
Unemployed	1	4.76
Laborer/Vendor	4	19.05
Mothers' Occupation		
Housewife / stays at home	12	57.10
Household helper	1	4.80
Unemployed	5	23.80
Child Development Worker	1	4.80
Fish Vendor	1	4.80
Washer	1	4.80
Estimated monthly family income		
₱5,000 or below	17	81.00
₱5,001 – ₱10,000	4	19.00
Government Assistance Received		
4Ps	4	19.00
Barangay / LGU Assistance	17	81.00
Estimated monthly expenses for Food		
Profile	Frequency	Percentage
Php 5 000 and below	14	66.70
Php 5,001-10 000	7	33.30
Estimated monthly expenses for Electricity and water		
Php 1 000 and below	17	80.95
Php 1 001 to Php 2 000	1	4.76
Php 2 000 to 3 000	3	14.29
Estimated monthly expenses for School expenses (fare, projects, allowance)		
Php 1000 and below	9	42.86
Php 2 000 to Php 3 000	9	42.86
Php 3 001 to Php 6 0000	3	14.28
With Business or Livelihood		
Yes	4	19.00
No	17	81.00
No of Days Parents are Working		
1-2	3	14.29
3-5	12	57.14
6-7	5	23.81
No response	1	4.76
Interested in Feeding Program		
Yes	21	100.00
No	-	-
School Related Needs for Children Uniform	8	38.10

Shoes	12	57.14
Bags	21	100.00
School Supplies	21	100.00
Additional Assistance Needs		
Yes	18	85.70
No	3	14.30

CONCLUSIONS

Poverty and vulnerability persist in selected areas of Northern Mindanao, revealing gaps in basic services such as clean water, housing, stable income, and nutrition. The prevalence of informal work, low educational attainment, and limited government aid highlight systemic barriers to quality of life. The strong interest in feeding programs and school-related support reflects the community's prioritization of education and nutrition, aligning with national concerns on undernutrition and educational access (USDA, 2023). This emphasizes the value of data-informed needs assessments, as encouraged by CHED CMO No. 52 s. 2016. Overall, the findings affirm that thorough profiling is vital to designing responsive, equitable, and sustainable extension programs. When grounded in community realities, such initiatives promote lasting impact, empowerment, and inclusive development.

RECOMMENDATIONS

Based on the findings, it is recommended that educational institutions, in partnership with LGUs and stakeholders, implement sustainable, needs-based extension programs focused on education, nutrition, and livelihood. A key proposal is the "Bag of Hope" initiative, which will provide children with school supplies and hygiene kits, alongside motivational and wellness sessions. Parents will also join sessions on supporting their children's education and well-being, promoting a culture of hope and learning.

Beneficiary profiling becomes a standard step in all extension efforts to ensure relevance and responsiveness. Addressing infrastructure gaps, such as clean water, cooking fuel, and housing, requires collaboration with government and private sectors. Establishing barangay-based extension advisory councils is also encouraged to foster community participation and accountability.

Finally, a strong monitoring and evaluation framework anchored in baseline data should guide implementation, ensuring that programs are evidence-based, adaptive, and impactful. These recommendations aim to promote community empowerment through informed, empathetic, and inclusive outreach.

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