

“Lusog-Linang”: Utilizing Community-engaged Research towards Capacity Building in Health of an Underserved Community

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ABSTRACT

Background and Objectives. Nurses have a pivotal role in nurturing the capabilities of individuals, families, and population groups for better health. However, underserved communities in the Philippines, such as those with socioeconomic inadequacies, geographic isolation, and service access problems, have significant limitations in attaining the highest possible level of health. Hence, a community extension service (Project “Lusog-Linang”), employing community-engaged research, was launched with the residents of an underserved locality in Central Luzon. The current paper aimed to describe the engagement of the community residents in describing their current health situation and related priority problems, as well as explore appropriate initiatives to manage the identified problems.

Methods. Community-engaged research was utilized to enable the residents of Barangay San Vicente, Bamban, Tarlac to participate in health capacity building. Particularly, records review and focus group discussions were conducted to assess the community’s health needs and to identify the residents’ perceived problems. The findings were presented in a community assembly, where residents further discussed their priority health concerns and potential interventions to address them. Quantitative data were summarized through descriptive statistics, while qualitative information was synthesized via content analysis.

Results. The priority community health problems included healthcare inaccessibility (trained staff, health equipment, and facility access), food insecurity, water supply limitations, and environmental sanitation. Moreover, there was inadequate knowledge and skills among the residents in health promotion, disease prevention, and illness management.

While Barangay San Vicente had limited socioeconomic resources to optimize their health capacities, the sense of community among the residents is a vital resource towards empowering them to improve their health.

Conclusion. The results could be utilized as a launching pad for developing appropriate health programs for the residents of Barangay San Vicente. Hence, the next steps in Project “Lusog-Linang” should include the identification and training of core group members toward community mobilization, and further exploring collaborative and sustainable partnerships across organizations to ensure that the community will have long-term solutions to their problems. Consequently, this project could guide public health workers in ensuring the active involvement and participation of the community members in managing their own health.

Keywords: *capacity building in health, community-engaged research, community empowerment, community organizing, underserved communities*



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INTRODUCTION

Health outcomes are influenced by a myriad of factors and conditions in which people live. These conditions, along with the forces and systems shaping daily life, are described as the social determinants of health.¹ These factors, such as education, environment, and access to health services, are fundamental to be addressed to improve health and reduce inequities within and between communities.²

While these social determinants involve a wide range of stakeholders, helping people manage health through their own efforts is the core of nursing practice. Particularly, nurses have the pivotal role to nurture the capabilities of individuals, families, and population groups to advance their health and prevent disease. Equitable partnerships across various levels of clientele are facilitated, especially through the community engagement process. Notably, Schiavo³ recognized that true community engagement should catalyze change in policies, programs, and practices by collaborating with and empowering communities in support of improved health outcomes.

It is in this light that the University of the Philippines College of Nursing (UPCN) has partnered with communities over the years from within and outside of Metro Manila to demonstrate what nurses can do to support marginalized communities achieve better health outcomes. Notably, underserved communities in the country, which include areas that are socioeconomically disadvantaged or have limited service access due to transportation problems, physical distance/terrain, being disaster-risk, or having armed conflict,⁴ face significant barriers in achieving the highest possible level of health. In Central Luzon, the municipality of Bamban is categorized as a second-class municipality, but has a number of underserved communities or *barangays* (the smallest administrative unit in the Philippines). One of which is Barangay San Vicente, which was reported to have limited healthcare access due to its distance from the town center, restricted transportation availability, and increased poverty among households.⁵

With the institutional mission to serve the health needs of Filipinos and to build the capacity of communities in health, a community extension service, dubbed as Project “Lusog-Linang” (Project for Capacity Building in Health), was launched by UPCN in May 2023. Since part of the project is to establish a partnership with the Municipality of Bamban, Province of Tarlac, this initiative utilized community-engaged research process towards health empowerment of the residents of Barangay San Vicente.

Taffere et al.⁶ recognized the importance of community engagement in research towards better outcomes and sustainability; however, there is an urgent need to clarify the methods and approaches of community engagement as their review reported a lack of clarity on how communities were engaged in this process. Moreover, in the Philippines, there are few published studies on community-engaged research among underserved communities. Hence, the present

study aimed to support an underserved community in: (1) describing their current health situation from a bio-psycho-socio-ecological perspective; (2) identifying priority health problems; (3) exploring relevant initiatives that will address the identified health problems.

MATERIALS AND METHODS

Design

Prior to the project, a memorandum of understanding (2023 to 2024) with the local government unit (LGU) of Bamban, Tarlac was established to determine the health profile of the community and mobilize experts for analyzing the local health situation of Brgy. San Vicente. Community-engaged research (CER) was utilized to guide this project. Looking at communities as equal partners throughout the research, CER is a process that involves people or groups to whom the research outcomes will have an impact.⁷ In particular, CER aims to empower members to become more aware of their health and participate in its improvement. Hence, by combining knowledge with action and achieving social change, CER could contribute to improving health outcomes and eliminating health disparities.⁸ In reference to the research objectives, community engagement in this study was achieved through an action-oriented approach wherein stakeholder consultations and discussions sought to enable participants to recognize their current health situation, prioritize health problems, and propose practical projects and collaborative programs that could potentially address their problems. The project team also recognized the critical importance of community engagement as an enabling process linking various stakeholders together to address health-related issues, promote well-being, and create positive change.⁹

To answer the research questions through CER, the team gathered both quantitative and qualitative information from the community. First, a review of the community health profile was conducted, followed by focus group discussions (FGDs), and a community assembly for stakeholder analysis. The records review yielded quantitative data that were verified and validated through FGDs to ensure that both breadth and depth of data were captured. Likewise, the stakeholder analysis was carried out to faithfully adhere to the tenets of community engagement that put a premium on the participatory methods.

Setting

This study focused on Brgy. San Vicente, one of the 15 barangays of the municipality of Bamban in Tarlac province. Bamban is identified as southernmost among the 17 municipalities of the landlocked Province of Tarlac in Region 3 (Central Luzon). Bamban is approximately 88 kilometers from Manila and about 24 kilometers from the provincial capital (Tarlac City). The 2021 ecological profile of Bamban reported that the municipality has an average elevation of 89 meters. Fifty-six percent (56%) or the majority of its land

area is devoted to forestry, while about 9% of its total area is considered to be steep and is categorized as protected land.^{5,10}

Meanwhile, San Vicente is located 10 kilometers away from the town center, which has limited its service access, as there was no public transportation available to and from the town center where health/social provisions are mostly available. In 2020, San Vicente's population comprised 4.82% of Bambang's total population, making it fifth among the 15 barangays in terms of highest population percentage. Particularly, the latest population of the barangay is 3,772.^{10,11} According to the 2021 Ecological Profile of Bambang, about two in every five households in the municipality are considered to be income-poor, as they fall below the standard poverty and food threshold.⁵

Noting these information, Brgy. San Vicente qualifies as an underserved community, in which capacity building in health could be facilitated. Apart from considering its characteristics, the project team also determined the community's willingness to participate in the community engagement process. A field visit and ocular survey was done by the project team, and courtesy calls were completed with the responsible LGU and health offices.

Participants and Data Collection

Records Review

Prior to the current study, community profiling of Brgy. San Vicente was completed in March 2023 through the local government unit and Clark Development Corporation. This was facilitated through household surveys by licensed public health nurses. The surveys gathered data on the demographic, socio-economic, environmental, and health profiles of the residents, covering three sites (or *sitios*) (Centro, Quadra, Martin).

The household survey covered four areas namely: demographics, socio-economic profile, health status, and environmental condition. Particularly, ventilation was determined by dividing the total window and door openings [total area of window and door openings (meters) x 100] from the total household space. Results could be satisfactory (19-20), fair (17-18), or poor (16 and below). Meanwhile, water supply was classified into level 1 (point source - spring or well into an outlet but with no distribution system), level 2 (communal faucet - water source with reservoir, piped distribution network, and public faucet serving four to six households within a 25-meter radius), or level 3 (waterworks system - uses individual water taps to supply water in each household).¹² Likewise, excreta disposal was graded as level 1 (non-water carriage toilet facility - no need for water to wash the feces into a receiving space), level 2 (water carriage toilet facility - with water-sealed/flush toilet that directs to receiving vault/tank), and level 3 (water carriage toilet facility connected to septic tank or sewerage system to treatment plant).¹²

The community health records are available at the local government of Bambang. Together with the local leaders, two

project team members extracted relevant data independently, and these were later cross-checked with one another to ensure accuracy. Records showed a total of 425 individuals included in the community health profile. The project team then determined the adequacy of the sample size to represent the whole population of 3,772.^{10,11} Using a confidence level of 95% with a margin of error of 5% and sample proportion of 0.5, the calculated minimum sample size for the barangay is 345. Hence, the sample size used in the study is adequate.

Focus Group Discussions

After the extraction of relevant data from the community profile on record, the team conducted FGDs with residents in October 2023. Purposive sampling was utilized for the selection of FGD participants. The inclusion criteria were: (1) at least 18 years of age and (2) living in the community for at least five years. In particular, FGDs involved key stakeholders and representatives from the barangay administration (including local leaders), barangay health station (BHS) [barangay nutrition scholars (BNS) and health volunteers], and community residents.

Three FGDs, with 13, 15, and 10 participants, respectively, were conducted in multiple contexts to ensure representation across age groups, genders, and *sitios*. Particularly, FGD1 comprised of residents from *Quadra* (local leaders, $n = 2$; BNS, $n = 2$; health volunteers, $n = 3$; residents, $n = 6$); while FGD2 involved participants from *Centro* (local leaders, $n = 2$; BNS, $n = 4$; health volunteers, $n = 4$; residents, $n = 7$); FGD3 included people from *Martin* (local leader, $n = 1$; BNS, $n = 2$; health volunteers, $n = 2$; residents, $n = 5$).

These discussions explored the health status of their community, particularly their health beliefs and health-seeking behaviors. Causes of illnesses and deaths were also gathered, along with the challenges to health and possible solutions related to such. Three project team members moderated the FGDs, which were held at the barangay-covered court. To ensure that all FGD members were heard, the data collection team confirmed that each participant was able to share their thoughts and insights during the discussions. The three FGDs lasted an average of 90 to 120 minutes each, and they were audio-recorded with the participants' permission to facilitate transcription and content analysis. Field notes were also written to document participants' focal points from the data collection. The FGDs were completed until data saturation was reached, wherein no new information was obtained from the participants.

Community Assembly

At least 10 representatives per *sitio* were invited to participate in the community assembly, considering the distance of the different areas from the community center. Purposive sampling targeted the inclusion of various age groups (from youth to senior citizens), sex (men, women), roles in the community (residents, health volunteers, barangay officials), and *sitios* of residence (Centro, Quadra, Martin).

The project team and local leaders and residents discussed together to purposively select the representatives, which was also based on the participants' availability. They were gathered through coordination with community leaders and mobilization of community health volunteers.

The synthesized results of the records review and FGDs were presented to the community assembly participants in November 2023 at the community's covered court. This was followed by an analysis of the community's priority health problems and other factors that could influence such problems by the participating residents. Attendees were divided into five groups, wherein they discussed and shared their health perceptions and felt health needs in the community. This was facilitated by four experienced public health nurses. Each group was given 45 minutes each then presented their output to the rest of the assembly to arrive at a shared recognition of their health problems and collective initiatives to address these problems.

Data Analysis

Descriptive statistics (frequency and percentage) were employed to summarize the quantitative data obtained from the community records. Meanwhile, responses from the FGDs were transcribed verbatim and field notes were added. The qualitative data were subjected to directed content analysis to synthesize the gathered information into meaningful clusters.¹³ In this method, the coding categories were pre-identified and structured based on the framework used in the study.¹³ Since the purpose of the FGDs was to identify the perceived priority health problems and potential initiatives/solutions to such, these were used as the main foci in analyzing the significant statements from the interviews.

First, at least two members of the team independently read the transcripts to identify significant statements and patterns that belong to the predetermined categories. The separate analysis was then compared with each other to ensure the credibility of the results. For confirmability, the whole project team re-examined the analysis to establish a consensus set of findings. To enhance dependability through participant checking, the FGD results were presented during the community assembly. Finally, the group presentations of the residents during the community assembly were synthesized with the FGD findings to ensure a comprehensive understanding of the participants' perspectives and representation of their voices.

Ethical Considerations

This study was part of the community extension service and health program development work titled Project "Lusog-Linang," under the collaboration of the UPCN and Bamban municipality. To achieve the objectives of the project, the LGU collaborated with the UPCN to assist the community in determining their health status and needs.

Informed consent was obtained from the residents before any data collection. Particularly, full disclosure about

the project's background, right to withdraw, and extent of participation were provided to the residents. Consent was obtained using the local language (Tagalog) by experienced public health nurses. Notably, participation was purely voluntary, and eligible residents who declined to join were not disadvantaged for community health services.

The project team employed the research process within their scope of practice, without showing impartiality, and according to their knowledge and judgment. Representatives from various sectors and population groups in the community were invited to participate to obtain an inclusive viewpoint of the community. Moreover, data collection forms did not inquire personal identifiers from the participants, rather control numbers were utilized. Only the project team had access to the gathered data, which were then reported as summative results without revealing participants' identities.

RESULTS

Community Profile

A total of 98 households, equivalent to 425 individuals, were included in the available community health records for the year 2023, which showed relevant data about the demographic, socioeconomic, environmental, and health profile.

Demographic and Socioeconomic Profile

Of the total 425 individuals included, 48% ($n = 204$) are females, and 52% ($n = 221$) are males. This gives a sex ratio of 108 males per 100 females, indicating that there are more males in the sample. In terms of age, the 26-30 age group has the highest population, while the 81 and above group has the lowest count. Figure 1 illustrates the population pyramid of the individuals included.

Table 1 shows the other demographic characteristics of the profiled residents. Majority of them reported an unspecified education level or did not attend formal education (42.8%), while others received elementary (28.9%), secondary (20.7%), and tertiary (6.4%) education. Moreover, a greater number of adults were unemployed (62.5%). Among the residents receiving regular earnings ($n = 101$; employed/self-employed), majority of them are skilled workers (34.7%) or are taking agricultural work (29.7%). With increased unemployment in the community, most adult participants reported having no regular income (62.5%), while those who have income sources (employed/self-employed) indicated earning less than PhP 10,000 monthly ($< \text{PhP } 1,000/\text{month} = 8.2\%$, $\text{PhP } 1,001 \text{ to } 5,000 = 14.1\%$, $5,001 \text{ to } 10,000 = 6.7\%$). Food, electricity, and water were also identified as the top three expenses of the family.

Environmental Profile

Table 2 describes the environmental profile of the community. Majority of the 98 profiled households (67.3%) owned the houses where they reside, with others reported

their living spaces are occupied for free (16.3%). In terms of ventilation, some households were found to have fair ventilation (30.6%), while others had satisfactory (29.6%) and poor ventilation status (10.2%). For food storage/handling, results showed that more than half of the households do not regularly refrigerate their leftover food (56.1%). Meanwhile,

a greater number of households had level one water supply (point source) (45.9%), with the rest having level two (communal faucet) (21.4%) and three (individual household taps) (15.3%) sources. Regarding excreta management, the majority practiced level two fecal waste disposal or utilized water-sealed/pour flush toilets (40.8%), while others reported level one (non-water carriage toilets) (28.6%) and level three (water carriage toilets connected to sewerage) (18.4%). In terms of refuse disposal, majority utilized burning (79.6%), with others reporting open dumping (14.3%) and burial (6.1%).

Table 1. Demographic Profile of Community Members based on Records (N = 425)

Characteristics	n	%
Educational attainment (N = 425)		
Elementary	123	28.9
High school	88	20.7
Vocational	5	1.2
College	27	6.4
Unspecified/no formal education	182	42.8
Employment status [N = 269 (from adult population)]		
Unemployed/no income source	168	62.5
Employed	52	19.3
Self-employed	49	18.2
Occupation [n = 101 (from employed/selfemployed)]		
Skilled Workers	35	34.7
Agricultural Jobs	30	29.7
Entrepreneurs	11	10.9
Professionals	2	1.98
Unspecified	23	22.8
Monthly average income [n = 269 (from adult population)], in PhP		
No reported income	168	62.5
<1,000 / Unspecified	22	8.2
1,001 - 5,000	38	14.1
5,001 - 10,000	18	6.7
10,001 - 15,000	12	4.5
15,001 - 20,000	7	2.6
20,001 and above	4	1.5

Health Profile

Bamban has two rural health units (RHUs): RHU-I in Brgy. San Nicolas and RHU-II in Brgy. San Roque. RHU-I is serviced by one physician, one dentist, one sanitary inspector, one nurse, four midwives, one medical technician, one pharmacist, and one administrative aide. Meanwhile, RHU-II has one physician, one dentist, one sanitary inspector, one nurse, and five midwives. Similar to all communities, Brgy. San Vicente has a BHS located in the Centro (*sitio* proper). Hence, 53.1% of the households referred to the BHS as their primary source of healthcare utilization. However, the BHS only operates once per month, during the health visits by the midwife coming from the RHU. On a daily basis, residents are expected to seek healthcare at RHU-II, which is 10 kilometers away from the community and with no direct link to any public transportation.

Meanwhile, hypertension was noted as the top illness among the residents (56.0%) based on their health profile records. Moreover, 27.3% of residents with past illnesses have been previously diagnosed with pneumonia. The 2021 Ecological Profile of Bamban reported heart diseases to be

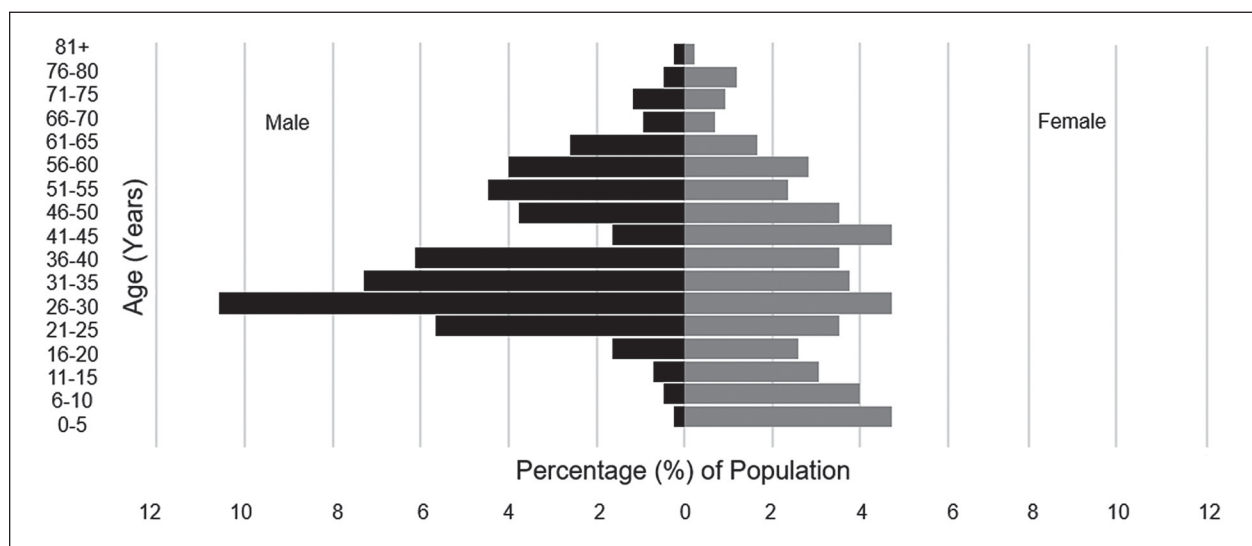


Figure 1. Population pyramid of the individuals (N = 425) included in the community profile in Barangay San Vicente, Bamban, Tarlac.

Table 2. Environmental Profile of Households based on Records (N = 98)

Characteristics	n	%
Home ownership		
Owned	66	67.3
Rented	3	3.1
Shared	2	2.04
Free/unspecified	27	16.3
Ventilation		
Satisfactory	29	29.6
Fair	30	30.6
Poor	10	10.2
Unspecified	29	29.6
Food storage		
Refrigerated	27	27.6
Not refrigerated	55	56.1
Unspecified	16	16.3
Water supply		
Level 1 (Point source)	45	45.9
Level 2 (Communal faucet system)	21	21.4
Level 3 (Waterworks system)	15	15.3
Unspecified	17	17.3
Excreta disposal		
Level 1 (Non-water carriage facility)	28	28.6
Level 2 (Water-sealed and flush type)	40	40.8
Level 3 (Connected to sewerage system)	18	18.4
Unspecified	12	12.2
Refuse disposal		
Burning	78	79.6
Burial	6	6.1
Open dumping	14	14.3

the top cause of death, followed by diabetes and diseases of the lungs and kidneys.⁵ Table 3 describes the health profile of the community.

Community’s Priority Health Problems and Areas for Improvement

Through the FGDs, participants provided insights about their perceived priority health problems in the community. Analysis of the interviews revealed three major areas of concern: (1) managing health problems on their own, (2) accessing healthcare facilities and equipment, and (3) availing professional care providers. Particularly, residents described concerns on how to appropriately care for the sick members of the family. They verbalized that they lack the correct information on how to properly attend to the health needs of their loved ones and the skills to do it correctly. Second, they expressed that the RHU is the first facility they consulted for healthcare concerns. However, it will cost them PhP 200 to reach the site via tricycle since there are no alternative public transport options available. Further, they claimed that the BHS is only open when the midwife comes for a visit once a month. Lack of medical equipment and limited supplies of medicines also complicated the situation in the

Table 3. Health Profile of Individuals Based on Records (N = 425)

Illnesses	n	%
Present illness (n = 25)		
Anemia	2	8.0
Anxiety	1	4.0
Asthma	2	8.0
Cataract	1	4.0
Diabetes	1	4.0
Diarrhea	1	4.0
Hypertension	14	56.0
Kidney stone	1	4.0
Rectal tumor	1	4.0
Skin rashes	1	4.0
Past illness (n = 11)		
Appendicitis	1	9.1
Asthma	2	18.2
Dengue	2	18.2
Gastritis	1	9.1
Pneumonia	3	27.3
Urinary tract infection	2	18.2
Medical attendance (n = 33)		
Yes	27	81.8
No	6	18.2
Healthcare utilization (N = 98)		
Traditional healer	20	20.4
Barangay health station	52	53.1
Rural health unit	5	5.1
Private clinic	11	11.2
Public hospital	7	7.1
Private hospital	3	3.1

RHU. This leaves them two choices, either to spend more for transportation to reach the district hospital located in the next town or forgo the much-needed health consultation.

Meanwhile, the community assembly enabled the residents to further discuss and analyze their existing problems, including the salient points that should be addressed to improve their health capacities. Poor access to healthcare and social services, lack of clean sources of water, and limited availability of nutrient-rich food in the community were identified as leading problems in the community. These reinforced the findings from both FGDs and review of community health records. During the group sharing in the assembly, participants reported the weaknesses of the community that make it susceptible to having various health problems, which include: (1) geographical inaccessibility; (2) low socio-economic status; and (3) inadequate/unavailable resources. Owing to its distant location from the town center, the community lacks access to markets to purchase fresh produce. This results in families resorting to the consumption of canned goods and other preserved food products. Residents also claimed that they lack information about the dangers of eating high amounts of processed foods. Environmental sanitation issues mainly revolved around

the lack of sustainable safe water supply in the community. It was mentioned that this problem is due to the terrain of the community preventing the local water district from supplying them with water. Moreover, they emphasized that San Vicente has a BHS that only operates once a month, and also lacks supplies. Primary care can be accessed through the RHU located 10 kilometers away and requires out-of-pocket expenses for transportation.

Community's Strengths and Potential Initiatives for the Identified Problems

The community assembly was intended to have an inclusive perspective and facilitate community ownership of their identified problems and what solutions they consider are critical to address them. Notably, access to healthcare was the central theme of the proposed solution to the identified priority health concerns. Specifically, the participants have a shared need for an emergency vehicle to transport them to health facilities or to undergo training on first-aid as an alternative. Likewise, they mentioned the need to have a regular health professional in their health station whom they can readily consult. The right health personnel should be present at the right place and time to enable them to participate in activities across the areas of health promotion, disease prevention, and health restoration, and rehabilitation. Hence, residents expressed the need for health information dissemination, conduct of training, and a functional health facility manned by a qualified personnel as an urgent solution to their problems.

Apart from sharing the problems and weaknesses of the community, participants also described their perceived strengths. Findings showed the community's 3Ps: (1) *Pagbibigayan* (residents are generous to give and share); (2) *Pagkakasundo* (relationships are harmonious, supportive, and understanding); and (3) *Pagtutulungan* (community members help one another). Despite the resource limitations in the whole community, they underlined the importance of supporting their relatives, neighbors, and co-residents in ensuring that no one is left behind.

DISCUSSION

Through the community engagement process in this study, the community leaders and residents collaborated with the project team to identify and address their existing health problems. The results of the study could be used as a springboard for developing community health initiatives that are appropriate, collaborative, and sustainable for the residents of Brgy. San Vicente, Bamban, Tarlac. Consequently, this study could also guide public health workers in ensuring the active involvement and participation of community members in managing their health.

Demographic findings showed that majority of the population have low socioeconomic status (low educational attainment and low/no regular income) and composed of

young adults (21-40 years). The environmental profile of the community highlighted the utilization of point source (well or spring without a distribution system) for water supply, practice of burning for refuse disposal, and limited capacity to store food. In terms of its health profile, chronic diseases like hypertension commonly affect the adult population, while communicable diseases like pneumonia were also previously reported among the community members. Healthcare utilization was mainly facilitated through the nearby barangay health station; however, the facility is only operating once per month. Meanwhile, the FGDs and community assembly enabled the identification of priority health problems by the community members. These included inadequate self-management abilities, limited access to health services (limited facility operations, equipment/supply problems, and staffing shortage), lack of potable water supply, and food insecurity. With these identified problems, community residents underlined the need for capacity-building initiatives that will enable them to cope with the limited resources. Notably, the importance of coordinated support from various sectors is vital to address the overarching resource challenges in the community.

The demographic characteristics of the community (low educational attainment and socioeconomic status) are known to be significantly associated with poor health literacy.¹⁴ Health literacy is defined as the capacity to avail, comprehend, evaluate, and utilize health information in the domains of health promotion, illness prevention, and health care.¹⁵ In the latest national survey,¹⁶ the prevalence of limited health literacy in the country was recorded at 51.5%, and such problems could be higher in areas with reduced health information access. In this community, residents were noted to have poor lifestyle habits and health-seeking behaviors. For instance, most households practiced burning waste materials and did not refrigerate leftover food. In addition, most people reported having limited knowledge of managing common illnesses and minimizing their risk or transmission to others. Hence, most of them indicated not seeking help for health concerns until they experience significant signs/symptoms. Consequently, non-communicable diseases (e.g., hypertension), are common among adults, and communicable illnesses remain endemic in the community. While these findings are consistent with the overall epidemiological situation of the country, these further imply the need to collaborate with the community in designing relevant programs that will improve their health literacy across domains.

Beyond the low health literacy of the residents, community-related factors primarily impact the overall health problems in San Vicente. Adding to the residents' inadequate health-related knowledge to manage and prevent illnesses is the limited access to appropriate healthcare facilities, equipment, and staff. While the nearest BHS has limited operating days, the nearest RHU is hardly accessible. They also noted that their health facilities have limited availability

of medications and treatment supplies to manage common illnesses. Hence, the community will benefit from the presence of a rural health midwife or a public health nurse, so that the BHS can be operational on a regular basis. While the recruitment of additional health workers is devolved to the LGUs, local financial restrictions could limit this proposal. Moreover, the health worker deployment program of the DOH has been limited to 4th to 6th-class municipalities (Bamban is categorized as second-class), as full devolution is being aimed in the next few years.¹⁷ Increased healthcare funding is also needed for the local health facilities to have more supply of common medications and treatment equipment. An emergency transport vehicle should also be in place so that residents requiring healthcare referral or hospital admission can be immediately transported. With the existing resource limitations facing the priority healthcare needs of the community, partnerships for capacity building of the community need to be explored.

Despite their socioeconomic limitations, the residents of San Vicente indicated a strong sense of community – willing to share their resources, striving to maintain harmonious relationships, and accommodating to help one another. These characteristics are important in initiating and sustaining community efforts to address their health problems. Particularly, the identification and training of potential leaders/volunteers who will collaborate with existing officials in empowering the community is vital. Known as core group formation,¹⁸ this process entails the inclusion and representation of community members who are most interested in helping the community achieve better outcomes. By aiding the empowerment of these people, a sense of ownership and representation can be established among the residents, further enhancing their capacity towards achieving better health status. Apart from identifying and training key people to lead health programs, capacity building of other residents is also essential. For instance, the early involvement of the teaching staff and youth would contribute to having a health-promoting school within the community. The school is an ideal setting to enhance well-being, wherein teachers and students could facilitate educational interventions and positively influence each other to improve health capacities.¹⁹ School members could also disseminate relevant health information to other people and promote the early practice of lifestyle behaviors among the young, which have long-term effects on the community's health status. Collaboration with the LGU and health facilities could enable them streamline health service and workforce planning that will benefit their constituents.

Cognizant of the above-mentioned limitations and potentials, the Project “Lusog-Linang” team and the residents of San Vicente explored relevant initiatives to improve the community's health capacity. First, the project team has coordinated with the community members to identify their learning needs on the most common diseases in the area. This facilitated targeted health education drives on communicable

and non-communicable disease prevention. In particular, discussions on how to prevent dengue and measures to reduce cardiovascular risks were conducted in the barangay. After the assembly, the project team and community members began identifying people who can potentially serve as health leaders. Known as health lead scholars, these residents are envisioned to be trained to achieve the basic competencies for health care/disaster response to mobilize the community towards better health. Initially, ten volunteers from the youth and adult sectors were identified to undergo basic barangay health worker (BHW) and first aid training. It is hoped that they will assist in mobilizing the community in future health initiatives. Moreover, Project “Lusog-Linang” also started exploring partnerships with the schools in Bamban town to identify potential staff and students who could be trained for this initiative. Through the assistance of the LGU and the Department of Education in Tarlac, two secondary schools in Bamban were tapped to roll out the plans in forming a critical mass of students who can assist in health promotion activities within the municipality, including Brgy. San Vicente.

Moreover, the LGU and its health units have discussed with the project team how they can work together toward maximizing their human resources for health (HRH) to deliver primary care services. Training facility administrators in the WHO²⁰ workload indicators of staffing need (WISN) methodology could help in determining the staffing levels and workload pressure of each health facility and health worker cadre (i.e., physician, nurse, midwife). This could establish means to facilitate inter-borrowing or cross-assignment of health workers within the municipality, so that HRH can be maximized. While Project “Lusog-Linang” aimed to train health lead scholars to attain the competencies of community health workers, the LGU is encouraged to continue collaborating with them to assist in health education/promotion activities, referral of sick patients, and monitoring of the community's health status. Consequently, their presence could reduce the workload burden of healthcare professionals, while also maximizing the health capacity of the residents. As part of the long-term plans to produce their own HRH, exploratory discussions were also made between the UPCN and the LGU in assisting the community to identify people with the potential and interest to complete a degree in health sciences. University of the Philippines Manila has a satellite campus in the provincial capitol that offers an integrative step-ladder training, starting from the midwife, nurse, and physician.²¹ By training future health professionals to address the local needs of their community, HRH could be more responsive in promoting better health outcomes.

As socioeconomic limitations seem to be recurring factors amidst the community's health problems, sustainable initiatives to address them are crucial. For instance, the population is mainly composed of young adults, which is conducive to training towards skill enhancement and economic production. Partnerships with the Technical Skills

and Development Authority (TESDA) could help in training eligible residents to acquire competencies for occupations they could apply for in the locality. Residents could also be trained on how to capitalize on their local resources that could be transformed into income-generating programs. These initiatives could increase the economic capacity of the community, which is a vital social determinant of health. Meanwhile, backyard gardening might be an alternative to increasing the availability of nutritious food in the community, as well as promoting the use of evidence-based herbal medicines.²² Nevertheless, the water supply in the area should be improved first to maximize this initiative.

Indeed, a macro-level perspective is crucial in understanding and addressing the social determinants of health. This is particularly relevant to the lack of potable water source in the community. Living in the upland area, residents mostly obtained their drinking water from the mountain streams and deep well, despite these sources having high vulnerability to microbial contamination.²³ Hence, some residents traveled to the lowlands only to access potable water from refilling stations, which are costly. Through coordination with the local branch of the Department of Environment and Natural Resources (DENR), a possible strategy is to build a small water impounding structure (SWIS) in the uplands.²⁴ Filtration systems should also be included in the system and reservoir design to improve water quality.^{23,24} While these interventions would take some time, community members need to have knowledge and skills in appropriate household water treatment practices. These include educating leaders/residents on determining acceptable water sources, identifying potentially harmful water supply, and performing basic water sanitation procedures (e.g., filtration, boiling). As the community is empowered to promote water sanitation by their own means, the LGU should continuously communicate with stakeholders to ensure that long-term solutions are in place. Ultimately, these programs would entail continuous collaboration among community leaders, residents, non-government institutions, and government agencies, so that sustainable improvements can be achieved.

Study Limitations

The study has some limitations. Due to time and budgetary constraints for the project, there may be other sectors in the locale who were not included in the household surveys, FGDs, and community assembly. Nevertheless, the community profiling was noted to have a sufficient sample size, while the FGDs represented the three major sites in the area. Moreover, the current paper was limited to reporting the initial phases of community engagement; hence, preliminary collaborations and community initiatives were only reported in this paper. The prolonged impact of the programs springing from this project would need to be determined, and factors that could enable their sustainability should be further established. Moving forward, the inclusion of more partners and community stakeholders would be crucial.

CONCLUSION

Project “Lusog-Linang.” through the community engagement process, facilitated the active involvement of the residents of San Vicente in identifying priority community problems and potential solutions related to them. Through records review, FGDs, and community assembly, participants articulated the community’s health needs vis-a-vis the strengths and challenges in responding to such problems. The community has a low socioeconomic status, but there were also poor health behaviors and environmental practices that need to be addressed to optimize health. Notably, residents prioritized inadequate access to healthcare services, lack of clean water supply, and food insecurity as their most significant health problems that require attention. Together with the residents, initiatives pertaining to capacity building were explored. These include health literacy campaigns across population groups, capacity-building sessions among core members of the health team, collaboration with the LGU and health facilities, and inter-organizational partnerships for sustainable health programs. These local agencies include the Clark Development Corporation, Office of the Mayor, and Bamban Municipal Health Office (with its RHUs and BHSs). Notably, Project “Lusog-Linang” envisions to serve as a springboard to engage other stakeholders to partner with the community to pursue development initiatives and improve health outcomes.

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Statement of Authorship

All authors certified fulfillment of ICMJE authorship criteria.

Author Disclosure

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