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Original Research

Experiences in Institutionalizing the Barangay Integrated Development Approach for Nutrition Improvement (BIDANI) of Bicol University, Legazpi City, Albay, Philippines

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Abstract

The Barangay Integrated Development Approach for Nutrition Improvement (BIDANI), implemented by Bicol University (BU) since 1987, has emerged as a significant response to the complex issue of malnutrition in the region. Initially introduced by the University of the Philippines Los Banos (UPLB), BIDANI has demonstrated its ability to address the challenges of poverty, food security, social deprivation, and underdevelopment. BU established the BIDANI Regional Network in Region V, forging collaborations with state universities and colleges, local government units, and government agencies. BIDANI has extended to numerous barangays, municipalities, and provinces through these partnerships. This paper describes the experiences and challenges of BU in institutionalizing BIDANI through documentary analysis and key informant interviews. It explains how BIDANI has transitioned from a mere program to a comprehensive approach and strategy for community development, yielding tangible benefits in the localities it serves. With BIDANI's impact beyond the immediate sphere of nutrition improvement, it is recommended that BIDANI be institutionalized as a flagship program among higher education institutions, calling for the support and recognition of policymakers, local chief executives, and other stakeholders who acknowledge the program's importance and its potential to drive sustainable community development.

Keywords— BIDANI, community development, malnutrition, program, poverty, strategy

1 Introduction

Malnutrition is a pervasive global challenge that significantly impacts the socio-economic progress of countries. It affects every nation and presents a complex problem, leading to enormous human and economic costs. Malnutrition increases healthcare expenses, reduces productivity, and hampers economic growth, perpetuating a cycle of poverty and ill health [1]. The relationship between nutritional status, human capital, and economic standing is vital, as malnutrition adversely affects physiological and mental capacity, hampering productivity and making individuals and countries more susceptible to poverty [2]. In terms of lost national productivity and economic growth, the economic costs of undernutrition are substantial, with the global economy paying trillions of dollars each year [3].

Furthermore, the chances of child malnutrition decrease with factors such as increased maternal education and the household's wealth status [4]. Addressing malnutrition is crucial for sustainable growth, poverty reduction, and human capital accumulation. Therefore, it is evident that malnutrition is a significant barrier to the socio-economic development of countries and demands urgent attention to achieve global progress.

Based on the 2022 Global Hunger Index, the Philippines ranked 69th out of 121 countries with a score of 14.8, indicating a moderate level of hunger in the country [5]. The Global Hunger Index considers various factors such as undernourishment, child wasting, child stunting, and child mortality. Therefore, a moderate level of hunger indicates that there are still areas of concern that need to be addressed, particularly in improving access to nutritious food and addressing nutritional deficiencies among the population, particularly children. This data serves as a valuable reference point for policymakers, organizations, and stakeholders in combating hunger and improving food security in the Philippines. It highlights the need for continued efforts and targeted interventions to reduce hunger levels further and ensure the population's health and nutritional status. Moreover, the 2022 Global Nutrition Report emphasizes the urgent need for increased commitments and decisive action to address the nutrition crisis [6]. It underscores the significance of accountability in driving transformative change to tackle this pressing issue. The report thoroughly examines the ongoing efforts and highlights the crucial role of each stakeholder in illustrating the importance of coordination as the key to achieving sustainable nutrition outcomes. In the Philippines, nutrition is a critical concern affecting its population's well-being and development. The nutritional challenges impact individuals, families, and communities across the nation. From malnutrition and stunted growth among children to the prevalence of diet-related diseases in adults, the Philippines faces significant hurdles in ensuring optimal nutrition for its people. With the current nutrition situation in the country, examining its causes, consequences, and the efforts being undertaken to address this multifaceted issue is a must. By understanding the factors influencing nutrition in the country, we can collectively work towards sustainable solutions that promote a healthier and more nourished population.

During the 2019 National Nutrition Summit in the Philippines, the Expanded National Nutrition Survey (ENNS) results were presented, shedding light on the current nutrition situation in the country [7]. The survey examined various aspects of nutrition, including anthropometry, infant and young child feeding practices, biochemical markers, clinical and health indicators, food security, and maternal health. The findings revealed both positive and negative trends. The prevalence of stunting among children under five years old decreased from 33.4% in 2015 to 30.3% in 2018, indicating some progress. However, the prevalence of overweight for height increased slightly from 3.9% in 2015 to 4.0% in 2018. These trends suggest that while efforts to combat malnutrition have shown some positive outcomes, much work remains to be done. In the year 2022, the Expanded National Nutrition Survey (ENNS) was carried out by the Department of Science and Technology - Food and Nutrition Research Institute (DOST-FNRI) [8]. The primary objective of this survey was to analyze and compare health and nutrition indicators before and during the latter stages of the

pandemic [9]. The survey aimed to provide valuable insights into Filipinos' nutrition and health status by gathering empirical data on a national scale. The findings would serve as a basis for planning and implementing effective nutrition programs and policies.

The Philippine Plan of Action for Nutrition (PPAN) 2023-2028 serves as a blueprint directing government, academe, non-government organizations, and private sectors for collaborative efforts to combat all forms of malnutrition across life stages [10]. Among the gaps identified were 1) weak nutrition program leadership in some LGUs due to lack of knowledge and insight into the nutrition problems, 2) reliance on volunteers and staff with other multiple functions – the absence of full-time/dedicated staff or nutrition office, 3) absence of a strong nutrition officer that could steer multi-sectoral actions from Local Nutrition Council members, 4) too many programs with few human resources, and 5) Non-functional LNCs. Additionally, the situation is aggravated by the fragmented and uncoordinated approach of relevant agencies and stakeholders for nutrition and the inadequate financial and human resources devoted by LGUs to providing age-specific nutrition interventions. PPAN is aligned with the Philippine Development Plan 2023-2028's goal of ensuring food security and promoting sustainable agriculture. The plan aims to increase the productivity and competitiveness of the agriculture sector, improve access to safe and nutritious food, and promote sustainable agricultural practices [11]. It responds to Sustainable Development Goals (SDGs) by 2030, particularly SDG 2, which aims to end hunger, achieve food security and improved nutrition, and promote sustainable agriculture [12].

According to Bayani [13], given the higher occurrence of micronutrient deficiencies in infants and young children, it is crucial to educate mothers as they typically play a key role in food and healthcare decisions. Mothers are the primary recipients of nutrition education initiatives. Additionally, secondary and tertiary targets such as frontline health and nutrition workers, volunteers, agricultural technicians, media figures, and local/national leaders in government and business sectors can assist in reaching mothers. This includes individuals from the executive and legislative branches and those associated with food manufacturing and salt production corporations. Agdeppa et al. [14] mentioned in their study that since mothers are the primary caregivers responsible for managing food intake at home, their practices would significantly affect the household members' health and nutritional status. They generally assumed that when mothers have increased levels of education, they tend to have higher awareness of health and dietary precautions for their children. Onis et al. [15], cited from the World Health Organization, concluded that most developing countries had experienced important decreases in child mortality over the last three decades. As more children survive, paying attention to the strong relationship between nutritional status and children's ability to achieve optimal physical growth and psychological development becomes critical. Impaired growth and development in children can affect the rest of their lives and compromise academic performance and the ability to contribute to society [16].

The Barangay Integrated Development Approach for Nutrition Improvement (BIDANI) Program introduced by the University of the Philippines Los Banos stands as a beacon of hope and transformation in the Bicol region of the Philippines. BIDANI is a community-based, multi-disciplinary, holistic, development-oriented approach to improve governance and strengthen the food and nutrition security of Philippines villages [17, 18]. Bicol University was among the seven state universities and colleges identified to implement the BIDANI with UPLB as the national coordinator. The BU BIDANI Program became a pioneering initiative to empower communities, foster sustainable development, and improve livelihood and nutritional status. The Barangay Integrated Development Approach for Nutrition Improvement (BIDANI) is a comprehensive nutrition-in-development strategy emphasizing the need to mainstream improving Filipinos' nutrition towards sustainable development [19]. Through its holistic framework, the program addresses various aspects of development, including local capacity building, resource mobilization, collaboration, and targeted interventions. This paper explores the remarkable journey and impact of the BU BIDANI Program,

highlighting its notable experiences, challenges encountered, and the positive outcomes it has brought to the region. By delving into the essence of the BU BIDANI Program, we gain insights into its transformative power and the immense potential it holds for creating sustainable change in communities throughout the Bicol region and beyond.

Therefore, this paper explores the experiences and challenges of Bicol University (BU) in institutionalizing the Barangay Integrated Development Approach for Nutrition Improvement (BIDANI) and how it transitioned from being a program to an approach. It also highlights the challenges encountered and the best experiences in its institutionalization. Due to limited studies discussing BIDANI, this study will provide an excellent contribution to the literature.

2 Methodology

The paper utilized documentary analysis, interviews with project staff, and a review of available records to describe the experiences and challenges of Bicol University (BU) in the institutionalization of the BIDANI. In-depth interviews were conducted with the three pioneer project staff and implementers from UPLB, who subsequently became permanent academic personnel of Bicol University. The research instrument was an FGD Guide developed by the researcher to delve into the best practices and challenges of Bicol University in institutionalizing the Barangay Integrated Development Approach for Nutrition Improvement (BIDANI). With the assistance from the BUEMD staff and Sociology Intern students, the interview was conducted over 4 weeks, and the responses of the research participants were analyzed through narrative analysis [20]. Further, a study of available documents was also conducted to gather insights into the deeper exploration of the University's experiences in institutionalizing BIDANI.

During the data gathering, informed consent was sought from the research participants who were informed of the purpose of the study. They were also assured that the information they would share would only be used to accomplish the objective of this paper. Moreover, they were also told that their personal information would be treated with confidentiality.

3 Results and Discussion

3.1 Institutionalization of BIDANI in Bicol University

The Barangay Integrated Development Approach for Nutrition Improvement (BIDANI) was developed as a community-based strategy to address malnutrition issues among the rural poor. It originated from the Nutrition Improvement Model (NIM) Project, initially tested by the University of the Philippines at Los Baños from 1978 to 1984 [21]. At that time, the program was known as the Nutrition Improvement Model (NIM) project, which later became BIDANI. The main objective of both NIM and BIDANI remained the same: to address poverty through nutrition improvement. The program recognized the direct connection between nutrition, malnutrition, poverty, and functional illiteracy. As an action-cum-research program, it was supported by various agencies at the local, national, and international levels such as the UN Food and Agriculture Organization (FAO), German World Hunger Assistance Program, National Nutrition Council (NNC), and the then National Science and Technology Authority (NSTA) [19]. From NIM, it evolved into BIDANI organizing the BIDANI National Network, where Bicol University became one of the partner SUCs for Region V. The network members were trained to replicate the program in their respective regions with funding support from the National Nutrition Council (NNC) and Philippine Council for Agriculture, Aquatic and Natural Resources Research and Development (PCAARRD) from 1986-1989.

In collaboration with State Universities and Colleges (SUCs), BIDANI secured a grant from the Netherlands Government Directorate for Development Cooperation (DGIS). This financial backing sustained the program through its initial implementation phase from 1990 to 1991, and Phase 2 was executed from 1996 to 2000. The various SUCs played a significant role in contributing to the

achievements of BIDANI. In 1994, the Bicol BIDANI Network was established, bringing together leading SUCs from different regional provinces. Bicol BIDANI Network significantly introduced the BIDANI Program to various State Universities and Colleges (SUCs). The attractiveness of the BIDANI program was that SUCs could consider it a comprehensive research, development, and extension program. This approach allowed different state colleges to utilize BIDANI as an umbrella program for their research, development, and extension initiatives. Numerous training sessions were conducted monthly at Bicol University, particularly at BU Guinobatan (formerly BU College of Agriculture and Forestry). These institutions included Sorsogon State University (SorSU), Camarines Norte State College (CNSC), Catanduanes State University Colleges (CatSU), Partido State University (ParSU), Don Emilio B. Espinosa Sr. Memorial State College of Agriculture and Technology (DEBESMSCAT), and Camarines Sur Polytechnic College (CSPC). The formation of this network aimed to foster collaboration, share best practices, and maximize the impact of BIDANI initiatives in improving nutrition and addressing the needs of communities in the Bicol region and beyond. The participation and support of these State Universities and Colleges (SUCs) played a crucial role in advancing the implementation of BIDANI and promoting sustainable development in the region. Table 1 shows the areas covered by the BIDANI Program from 1987 to 1999.

Table 1. Areas Covered by the BU BIDANI Program 1987 to 1999

No.	Name of SUC	Year Started	No. of Province	No. of Municipality	No. of Barangays
1	Bicol University (BU) Legazpi City	1987	2	7	35
2	Camarines Norte State College (CNSC) Daet, Camarines Norte	1994	1	2	14
3	Camarines Sur Polytechnic College (CSPC) Nabua, Camarines Sur	1997	0	0	0
4	Partido State College (PSC) Goa Camarines Sur	1997	1	1	3
5	Catanduanes State Colleges (CSC) Virac, Catanduanes	1994	1	2	10
6	Don Emilio B. Espinosa Sr. Memorial State College of Agriculture and Technology (DEBESMSCAT) Mandaon, Masbate	1997	1	1	5
7	Sorsogon State College (SSC) Sorsogon, Sorsogon	1994	1	2	11
	Total		6	15	78

Accordingly, the primary motivation for bringing BIDANI to the Bicol region, notably Bicol University, was the prevalence of malnutrition among children and the various challenges faced by the country. This led to the nationalization and regionalization of the program, with a specific focus on the Bicol region. State colleges and universities, including Bicol University and Samar State College, were identified as key targets for implementation. The aim was to address malnutrition by leveraging the resources and expertise available in these educational institutions. By involving multiple state colleges and universities, BIDANI sought to create a collaborative network that could effectively tackle the problem of malnutrition in the region and contribute to the overall improvement of nutrition outcomes for children [22]. In 1999, Bicol University implemented the BIDANI program, guided by a framework (Figure 1) designed to achieve its goals and objectives. De Leon

(1999) conceptualized the framework by acknowledging the Bicol Region's abundant human and natural resources stemming from its strategic location. However, despite these advantages, the region has experienced limited development over the years [23]. The high prevalence of malnutrition in the area was attributed to poverty, which, in turn, was linked to inadequate planning, implementation, and evaluation of local development programs. The lack of access to resources and services, particularly for the poor, along with insufficient services and facilities in rural areas, further contributed to the problem. There was a low level of participation in community affairs, hindering the progress of development initiatives.

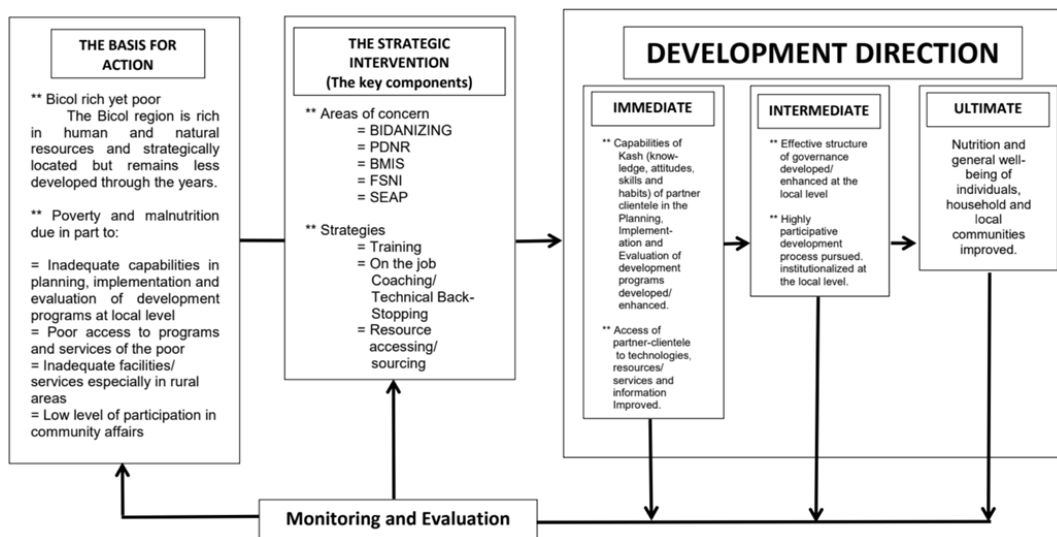


Figure 1.

The BU BIDANI Framework.

Source: De Leon, J. T. [23]. "To the Homes and to the Fields: The BU BIDANI Project Through the Years"

To address the identified challenges, the BIDANI program at Bicol University implemented a strategic intervention by utilizing the UPLB BIDANI key components such as Barangay Integrated Development Approach (BIDA or BIDANIZING), Participatory Domiciliary Nutrition Rehabilitation (PDNR), Barangay Management Information System (BMIS), Food Security for Nutrition Improvement (FSNI), and Self-Employment Assistance Program (SEAP). These components served as the foundation for the program's approach and activities. Various strategies were employed to achieve the program's objectives, including training sessions to enhance knowledge and skills, on-the-job coaching, technical support to ensure effective implementation, resource mobilization to access necessary support, and sourcing relevant information and tools. These strategies aimed to empower the communities and individuals involved in the program, equipping them with the necessary resources and capabilities to effectively address malnutrition and related challenges. By implementing these key components and employing strategies, the BIDANI program at Bicol University sought positive changes in the targeted communities, promoting integrated development, participatory approaches, improved nutrition, food security, and self-employment opportunities.

After conducting an External Final Evaluation commissioned by the Royal Netherlands Government from February to March 1995, it was determined that BIDANI is an exemplary model of "Universities-In-Development." As a result, the evaluation recommended a Final Extension of the program for an additional five years (1995-2000). BIDANI is a unique action research program that recognizes the importance of a nutrition-focused, integrated development approach and a community-driven action plan to address the issue of malnutrition. The program emphasizes the development of an integrated plan by the community, with nutrition as a guiding principle and improving nutrition as a central objective. BIDANI emphasizes self-determination and self-reliance,

empowering communities to take charge of their development.

As the BIDANI program progressed towards 2000 and beyond, its commitment to the adopted barangays remained steadfast. However, the program’s sustainability faced challenges that hinged on the institutional priorities, thrusts, and directions of elected leaders at the State Universities and Colleges (SUCs) and the Local Government Units (LGUs). One of the significant hurdles was the scarcity of funds, given the extensive coverage of communities in the Bicol Region. This financial constraint continues to persist, even for Bicol University (BU), as resources are still allocated for various activities such as community visits, training sessions, participation in local and national BIDANI events, and the provision of technical assistance as part of the Technical Working Group of the National Nutrition Council. Despite these challenges, the commitment to the program and its objectives remains unwavering. Thus, in the case of Bicol University, Table 2 presents the covered areas in 2002 - 2022. The reduction in number in 2022 was due to the limited mobilization brought by the COVID-19 pandemic and the lack of manpower to monitor it.

Table 2. Areas Covered by the BU BIDANI Program 2002 to 2022

Name of SUC	Year Covered	No. of Province	No. of Municipality	No. of Barangays
Bicol University (BU) Legazpi City	2000	1	11	34
	2001-2003	1	11	35
	2004	1	11	34
	2005-2018	1	11	40
	2019-2021	1	11	33
	2022	1	3	3

Source: BU BIDANI Partner Assessment Form 2021

3.2 Challenges in the Institutionalization of BU BIDANI Program

Here are some challenges encountered in the implementation of the BU BIDANI Program:

Limited resources. Implementing a comprehensive development program requires substantial financial and logistical resources. Acquiring funding, infrastructure, and necessary equipment posed challenges and required effective resource management. One of the measures was ensuring an annual allocation from the General Appropriations Act (GAA) and the University for the extension fund, which served as the counterpart of the Philippine government in supporting the BIDANI program. However, funding sustainability should also be ensured as over time, the budget for BIDANI was no longer allocated separately but was instead included under the general extension program. Silvestre [24] examined the current strategies and investments in addressing stunting in the first 1000 days of life in the Philippines and reviewed the public expenditures on nutrition, including Annual Investment Plans (AIPs) and Gender and Development (GAD) budgets and the evaluation of the implementation of the Philippine Plan of Action for Nutrition (PPAN) 2017-2022, which revealed that the delivery and management of nutrition-sensitive programs and interventions are inconsistent and highly fragmented across different governance levels. The study emphasized the need for effective nutrition governance strategies and the implementation of the Philippine Plan of Action for Nutrition (PPAN) 2017-2022 to address the determinants of stunting in the first 1000 days of life in the Philippines. It highlighted the importance of multi-sectoral action plans, clear resource responsibilities, leadership, and governance between sectors in nutrition-specific and -sensitive interventions, and the provision of sustainable food, health, water, and nutrition to reduce stunting. It also underscored the need for external support from academics and local governments to implement convergence actions to effectively accelerate stunting prevention and reduction. It

comprehensively analyzed the Philippine Plan of Action for Nutrition (PPAN) and its implementation over nearly five decades. Candelario [25] highlighted the significant role of the PPAN in addressing malnutrition in the Philippines but also identified obstacles hindering the achievement of its nutrition-related goals. These challenges included inadequate coordination of programs at the local level, concerns regarding data quality, and insufficient training of personnel involved in implementing the PPAN. Despite the efforts, the study revealed that the country had made limited progress toward achieving the global nutrition targets set by the Sustainable Development Goals 2030. The study concluded by emphasizing the need to revisit and refine the PPAN to adapt to the evolving nature of malnutrition in the country. It also provided recommendations to address the gaps in planning, implementation, and monitoring of the PPAN, offering valuable insights that could be applied to other countries facing similar nutrition challenges.

Coordination and collaboration. Implementing a program that involves multiple stakeholders, such as local communities, government agencies, and NGOs, can be complex. Challenges were presented by coordinating activities, aligning objectives, and fostering effective collaboration among these diverse entities. The change in leadership and institutional prioritization of programs and projects were among the hardships encountered in sustaining the program. These likewise happen even among local government units. Viajar et al. [26] showed that the implementation of the intervention strategy at the local level was primarily facilitated by the commitment of local chief executives (LCEs) who gave full support to the intervention, the presence of local resolution on its adoption, and accessibility of complementary food production facility which provided the complementary food supplies for the intervention. Other factors that facilitated the implementation were the presence of manpower and other resources, such as the active involvement of local nutrition implementers. However, the multiple workloads of key implementers and the nutrition program as the least priority in the local agenda were challenges in program implementation. From this monitoring study, the commitment of LCEs, consideration of nutrition as a priority program, and active participation of both implementers and participants contributed to effective program implementation.

Capacity building. Enhancing local capacity requires investing in training and skill development. Building the skills and knowledge of community members and program staff posed challenges in identifying appropriate training opportunities and ensuring their effective delivery, as well as applying their learning to improve themselves. In the case of Malabon City, coordination with local communities proved insufficient [5]. Although Barangay Nutrition Scholars who collected data for the weighing program sent the data to barangay captains (chief executives), the captains could not interpret the information properly. Without a good understanding of the problem, barangay captains often underestimated the severity of malnutrition and prioritized other responsibilities and programs.

Community engagement. Gaining community trust and active participation can be challenging, especially when introducing a new program. Overcoming initial skepticism, building relationships, and effectively engaging community members in decision-making and project implementation required concerted efforts. Community engagement is a crucial aspect of nutrition programs, as it involves working collaboratively with community members to address issues affecting their well-being. Effective community engagement can increase relevance, enhance trust, diverse perspectives, and sustainable interventions [27]. However, challenges such as time and resource constraints, building relationships and trust, balancing community and academic priorities, and competing priorities can hinder successful community engagement. Therefore, developing strategies to overcome these challenges and promote effective community engagement in nutrition programs is essential.

Monitoring and evaluation. Implementing a robust monitoring and evaluation system is fundamental for assessing the program's impact and identifying areas for improvement. Designing

and implementing effective monitoring and evaluation mechanisms posed challenges, such as data collection, analysis, and ensuring feedback loops. Monitoring the nutrition status among children in the community is vitally important to provide health program implementers in designing desirable programs for intervention [28]. The study is designed to monitor, record, evaluate and visualize the nutritional status of the barangays of Ozamiz City, Misamis, Occidental. Through BIDANI, several tools were introduced and adapted to identify families with malnourished children, and assessments of their profiles, including weight, height, and feeding practices, were conducted. Initially conducted for several months, the assessments later transitioned to quarterly. A form was used to track and follow up on the progress of these families, with coordination and assistance from the barangay health workers, barangay council, and other relevant agencies. It was crucial for the partners involved to engage in the intervention to combat malnutrition effectively and actively. Also, nutrition classes were conducted to provide targeted support and education to the families, enabling them to prioritize and improve their nutritional practices.

Institutional and policy support. Alignment with existing institutions and policies is critical for the program's success and sustainability. Reeve et al. [29] discussed that the policymakers are aware that improving the nutritional status of the community is their mandate as elected officials. Navigating bureaucratic processes, ensuring policy support, and securing institutional buy-in have been challenging during implementation. Furthermore, when there was a change in leadership at the University, a decision was made to transfer the BIDANI program to the BU Extension Service Center, now the BU Extension Management Division. This move was made because the BIDANI program was already institutionalized as a university extension program. In 1998, BU institutionalized the implementation of the BU BIDANI with a corresponding budget allocation through Board of Regents Resolution No. 20, Series of 1998 [30].

Sustainability. Ensuring the long-term sustainability of development initiatives is vital. Developing strategies to transition ownership and responsibility to local communities and securing ongoing support and resources have been challenging. BIDANI tried to create a national law for its implementation, although it was postponed or did not have the opportunity to proceed. Nonetheless, BIDANI has made significant contributions to enhancing and improving the development of the barangay council. BIDANI establishes a Memorandum of Agreements (MOA) to ensure formal engagement and collaboration as the basis for their partnerships. These MOAs outline the involved parties' roles, responsibilities, and commitments, providing a framework for implementing BIDANI activities. The presence of these formal agreements helps streamline and strengthen the engagement process, ensuring clarity and accountability among the stakeholders involved in the program. Salvo et al. [31] highlighted the importance of comprehensive interventions, maternal education, and immunization programs in improving the nutritional status of children in resource-constrained areas.

Addressing these challenges requires careful planning, stakeholder engagement, adaptive management strategies, ongoing monitoring and evaluation, and impact assessment to ensure the program's effectiveness and outcomes.

3.3 Best Practices in the Institutionalization of BU BIDANI

Innovative and integrated approaches are paramount to addressing the multifaceted challenges of malnutrition and underdevelopment in communities, particularly in regions like the Philippines. The Barangay Integrated Development Approach for Nutrition Improvement (BIDANI) program stands as a beacon of such innovation, embodying a holistic strategy to foster sustainable nutritional improvements at the grassroots level. Among its best practices in the institutionalization of the BU BIDANI are:

Enhanced local capacity. The program successfully improved the local capability for planning

and development preparation. This allowed communities to design and implement development plans tailored to their specific needs, empowering them to improve their living conditions actively. The initial activity implemented by BIDANI was the Barangay Management Information System (BMIS), which was introduced in the Philippines before the establishment of the Community-Based Monitoring System (CBMS) by the Department of the Interior and Local Government (DILG). BMIS involved gathering essential data for planning purposes, encompassing community life's socio-cultural, economic, political, and environmental aspects. It was conducted two or three times before initiating a project in a specific area, serving as a baseline survey to obtain key information about the community. Furthermore, the importance of revisiting and reprogramming the BMIS towards the end of the year was emphasized. This evaluation allows for assessing any changes in the community resulting from the BIDANI intervention. By comparing the baseline data with the current information, the program's effectiveness and impact can be measured, providing valuable insights for future improvements and interventions.

Mobilization of local resources. The program facilitated the mobilization of local resources, leading to broader community participation in project implementation. This increased involvement empowered the local population and fostered a sense of ownership and responsibility for their development. It was emphasized that BIDANI has taken a comprehensive approach by highlighting all aspects of life that impact the community. This includes not only food production and infrastructure development but also the involvement of the local government units and the maintenance of peace and order. The program recognizes that all these factors are interconnected and influence the well-being of the people. To ensure effective implementation, BIDANI actively organizes and enhances the barangay council, encouraging their participation and engagement. The program also keeps up with the latest developments in local government practices, integrating them into its approach. By addressing these various dimensions and involving key stakeholders, BIDANI aims to create a holistic and sustainable impact on the community, promoting positive change in the lives of the people it serves.

Strengthened collaboration. BIDANI strengthened the linkage between local communities and external agencies. This collaboration enhanced coordination and cooperation among different organizations operating in the area, resulting in a more comprehensive and synergistic approach to development. The BIDANI involves the active participation of various agencies and stakeholders in barangay development. This includes government agencies like the Department of the Interior and Local Government (DILG), non-governmental organizations, and even farmers. The program has adapted strategies to cater to the needs and interests of different groups such as farmers, women, religious organizations, and various barangay organizations. Each barangay is organized and evenly divided by the planning committee, which is a fundamental concept of the program. The barangay council also plays a significant role in the success of BIDANI. The collective involvement of these agencies and stakeholders ensures that the program addresses each barangay's specific challenges and requirements, fostering a collaborative and inclusive approach to community development.

Diverse project implementation. The program successfully implemented various projects, including livelihood initiatives. These projects provided sustainable income-generating opportunities for community members, improving their economic well-being and promoting self-sufficiency. The key issue was whether the community genuinely desired to enhance the capabilities and competency of women in impoverished families and empower them to improve their own lives, leading to food security and ultimately preventing malnutrition among their children. It was highlighted that the fundamental solution lay in providing these women with sustainable livelihood opportunities. By enabling them to generate income and support their families, the cycle of poverty and malnutrition could be broken, resulting in improved well-being for women and their children. A feature from the UP Media and Public Relations Office [32] mentioned that BIDANI began with the goal of nutrition improvement (NI), yet, it aspired to be holistic which the NI led to look for improvement

in other interrelated areas of concern, including physical infrastructure such as farm-to-market roads, peace and order, livelihood, potable water, and others.

Health and nutrition was the program's entry point. From the socio-economic perspective, one can see that having a healthy and well-nourished constituent can contribute productively to socio-economic development.

Improved nutritional status. Through targeted interventions and education programs, BIDANI made significant strides in improving the nutritional status of the target communities. This contributed to the enhanced well-being and health of the population, fostering a better quality of life. Studies showed some indicators that determine the changes in the knowledge, attitude, and practices of malnourished families, such as dietary preparations and prolonged breastfeeding [33, 34].

BIDANIZATION. The introduction of BIDANIZATION, a continuous advocacy and mobilization effort, played a significant role in increasing awareness and promoting the internalization of the BIDANI concept among individuals and groups. This led to a stronger sense of community integration and collaboration between BU BIDANI and residents. Local leaders were trained in participatory planning, considering the multi-sectoral representation of various stakeholders in identifying the needs and problems of the community while simultaneously participating in the problem-solving process. The commendable aspects of the BIDANI program were highlighted, particularly its integrated approach, which has garnered recognition from local government units (LGUs) and the Department of the Interior and Local Government (DILG). The program's effectiveness in addressing malnutrition goes beyond food production and feeding alone; it takes a holistic approach by improving water systems and other barangay facilities. Through frequent visits to selected barangays, people have adopted the strategies of the BIDANI program, further contributing to its success. The positive impact of the program's implementation was acknowledged despite its current infrequency. Moreover, BIDANI fosters community initiatives and self-reliance while ensuring the sustainability of groups in each area and their respective functions.

Regional expansion and collaboration. Joining the BIDANI National Network Program and establishing regional networks expanded the program's reach and enabled collaboration with other institutions. This collaboration enhanced the program's capacity to effectively implement initiatives and work closely with local communities, government agencies, and NGOs, ultimately contributing to sustainable development in the region. The BU BIDANI still works closely with the UPLB BIDANI, most of the SUCS in the area, government line agencies, non-government organizations, industries, and private individuals.

These experiences highlight the positive outcomes and the effectiveness of the BU BIDANI Program in empowering communities, improving livelihoods, and fostering sustainable development in the Bicol region and beyond.

4 Conclusion and Recommendations

Over time, BIDANI has evolved from a program into a development approach and strategy for community development, significantly benefiting the localities where it operates. BIDANI's impact extends to local and national development by fostering human capital development, improving educational outcomes, enhancing productivity, reducing healthcare costs, alleviating poverty, and contributing to sustainable development goals. The institutionalization of BIDANI in Bicol University highlights the positive outcomes that enhanced local capacity, mobilization of local resources, strengthened collaboration, improved nutritional status, promoted BIDANIZATION as an advocacy and mobilization effort, played a crucial role in increasing awareness and empowering communities, improving livelihoods, and fostering sustainable development in the Bicol region and beyond. While there are best practices in institutionalizing BIDANI at Bicol University, several

challenges were also identified that may hinder the program's effective implementation, including limited resources, coordination and collaboration, capacity building, sustainability, community engagement, monitoring and evaluation, and institutional and policy support.

Considering these findings, it is recommended that BIDANI be institutionalized as a significant program among higher education institutions. The study highlighted the importance of the BIDANI program in promoting nutrition in development and improving the nutritional status of the rural poor in the Philippines. The program's comprehensive approach, including multi-sectoral collaboration, community participation, and continuous investment in nutrition and health education, has positively reduced malnutrition rates and improved the overall well-being of the rural poor. The program's sustainability requires the support of policymakers, local chief executives, academicians, and other stakeholders who recognize its importance and potential for sustainable community development. There is also a need to conduct an impact assessment on how the program has contributed to society and the institution.

Statements and Declarations

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Conflicts of Interest

The author declares no conflict of interest.

Ethical Considerations

To comply with Republic Act 10173, also known as the Data Privacy Act of 2012, the author obtained consent from the interview participants through a letter. This letter explained the purpose of the study and clarified that all information collected would be used exclusively for academic purposes.

Data Availability

The data for this study are available on request from the author.

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