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REDESIGNING THE VENN DIAGRAM AND THE ASSET PENTAGON IN EVALUATING THE CAPACITY AND PRODUCTIVITY OF DISASTER SURVIVORS IN INSTITUTIONALIZING SOCIAL ENTERPRISE DEVELOPMENT IN BICOL

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ABSTRACT: *This study demonstrates how redesigning the Venn Diagram and Asset Pentagon tools enables disaster survivors in the Bicol Region to assess and strengthen their capacity and productivity in social enterprise. By explicitly incorporating Disaster Risk Reduction and Management (DRRM) and Climate Change Adaptation (CCA) into strategic planning, PODIS and ILAW ng Kababaihan members use these tools to build enduring, resilient enterprises that can rebuild livelihoods in disaster-prone contexts. Integrating DRRM and CCA into strategic planning ensures these enterprises are not only sustainable but are specifically positioned to withstand recurring natural hazards and climate change impacts. As a result, redesigning the Venn Diagram provides clearer insight into cooperation between social groups. Simultaneously, adjustments to diagram elements enhance understanding of vital support networks for resilience and community well-being. The redesigned Asset Pentagon analyzes the five essential livelihood assets: natural, physical, human, social, and financial. By updating the assessment tool, participants were able to identify their organizational and community resource strengths and weaknesses more clearly, providing a better foundation for strategic planning and capacity development. The organizations used these tools to create visual representations of their future enterprises, enabling them to develop in context-specific ways for long-term success.*

Keywords: *Social enterprise development, DRRM and CCA, disaster survivors, strategic planning*

INTRODUCTION

The Bicol region emerged as a hub of social enterprises during the latter part of the COVID-19 pandemic, despite facing four destructive super-typhoons and significant social and economic disruptions. The collaboration and resilience of Bicolanos spurred the rise of start-up businesses, where groups supported each other while earning. Social enterprises in the region emphasized the triple bottom line—Profit, People, and Planet—highlighted as essential for sustainability in recent studies.

This study forms part of a research program funded by the Commission of Higher Education (CHED), aimed at developing sustainable social enterprises for disaster survivors in Bicol. Implemented by the Mariners Polytechnic

Colleges Foundation of Canaman, in partnership with CBSUA, the Mariners Polytechnic Colleges Foundation of Legazpi, and the Tabang Bikol Movement, the project supports economic resilience among disaster survivors.

This study demonstrates that guiding disaster survivor organizations to utilize visual mapping and assessment tools lays a solid foundation for institutionalizing sustainable social enterprises. An explicit focus on capacity, productivity, and resilience clarifies the strategic direction necessary for long-term success in the Bicol region.

The concept of the Venn diagram, viewed through a mathematical lens, has been around for a long time. Business management and operations have principles and strategies in place. Lee (2015) asserts that numerous studies have been



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conducted on the management and operational aspects of social enterprise. No studies exist, however, relative to the utilization of the concept of the Venn diagram as a social mapping tool for developing a social enterprise. On the other hand, the capital indicated in the asset pentagon, particularly the social and human capital, has been used in studies related to sustainable livelihood (Nicolas et al., 2022).

The sustainability of social enterprises may be projected early in the start-up phase. Visualizing the process of engaging in this venture and mapping out indicators of capabilities and productivity could be a significant factor in achieving success in social enterprise development endeavors. Micro-enterprises should enhance their opportunity perception, start-up skills, risk acceptance, process innovation, and ability to achieve high growth and internationalization to improve sales (Obrero and Garcia, 2022).

Nicolas et al. (2022) also note that integrating tourism is an effective economic strategy for farmers who engage in social enterprises, as this can enhance productivity and promote ethical practices. Incorporating knowledge gained from the literature and utilizing strategic planning tools can enhance the institutionalization of social enterprises in Bicol, the focus of this study.

The primary objective of this study is to demonstrate that employing redesigned Venn Diagram and Asset Pentagon tools enables disaster survivors in Bicol to visualize, assess, and enhance their organizational capacity and productivity, thereby laying the groundwork for institutionalizing social enterprises. Specifically, the study demonstrates the relevance of these visual tools for mapping social interconnections and livelihood assets among PODIS and ILAW ng Kababaihan, supporting the feasibility of sustainable social enterprise development for disaster survivors in the region.

MATERIALS AND METHODS

This study employed a qualitative research design to describe and evaluate the capacity and productivity of disaster survivors in establishing a sustainable social enterprise. The study employed

exploratory interviews, followed by face-to-face surveys and focus group discussions (FGDs) with members of people's organizations of disaster survivors.

After gathering benchmark data, trained strategic planning experts facilitated a strategic planning workshop. Strategic planning develops, adjusts, and implements strategies to represent a specific goal and creates mechanisms for achieving that goal (Zinoveva & Burmistrov, 2022). As part of this process and in line with recognized Disaster Risk Reduction and Management (DRRM) practices, we explicitly referenced the standard emergency-planning phases —mitigation, preparedness, response, and recovery—to clarify the workshop's position in the DRRM cycle. Our redesign of the Venn Diagram was used during the preparedness phase to evaluate respondents' social networks, enhancing readiness for future disasters. The Asset Pentagon was mapped to the recovery phase, assessing access to livelihood assets to strengthen post-disaster recovery initiatives. These insights informed strategic planning to enhance capacity, productivity, and social capability.

Qualitative data were analyzed in accordance with the identified indicators. Descriptive statistics such as means were utilized. The study evaluated two people organizations (PO) in the province of Camarines Sur in the Bicol Region, namely PODIS and ILAW. The research was conducted from January to August 2023 in Camarines Sur.

RESULTS AND DISCUSSIONS

This section describes the Venn diagram and Asset Pentagon utilization in evaluating PODIS and ILAW's social networks and livelihood assets as precursors of organizational capacity and productivity. It utilized descriptive statistics and indicators to describe the capacity and productivity of the organizations in operating their social enterprise. This chapter also presents the following: the social enterprises of the people's organizations, the redesigned Venn Diagram workshop output and analysis, the Asset Pentagon

workshop output and analysis, and finally, the implications of institutionalizing sustainable social enterprises for disaster survivors in the Bicol Region.

By framing these results in the context of transformative change, the initial capacity gains observed in PODIS and ILAW serve as foundational steps towards systemic shifts in the region. Linking these findings to a longer-term theory of change, such as improved community resilience and enhanced economic stability, helps outline the broader transformation we envision for the Bicol region. As these organizations build on their existing capabilities, their progress could scale up to catalyze regional economic growth, thereby supporting the institutionalization of social enterprises as a sustainable model for disaster resilience.

Description of the Peoples Organization of Disaster Survivors (PODIS) and ILAW ng Kababaihan Social Enterprises

PODIS is a group of disaster survivors in Canaman, Camarines Sur, who lost their homes to Super Typhoon Nina (Nock-Ten) in 2016. They are considered among the most vulnerable groups during the pandemic. The President of PODIS, Mrs. Virgie Blasa, worked to help her community survive the crisis. One of the early missions of PODIS was to promote a healthy community, particularly in combating dengue that broke out after massive flooding in Canaman following Typhoon Nina. With her hard work and the support of her family, she was allowed to till a hectare of land in Brgy. San Agustin, Canaman, Camarines Sur, owned by the Archdiocese of Caceres. In Mrs. Blasa's words, 'The land became a beacon of hope, a place where we could rebuild not just our homes, but our lives.' They planted Citronella and produced citronella oil to combat dengue and to become a potential supplier for other enterprises in the region. The ILAW ng Kababaihan is a group of mothers, the majority of whom are the wives of PODIS members, who envisioned starting a business from their homes. The majority of the group members experienced physical and emotional stress during the

pandemic. An ILAW member reflected, 'Creating the citronella-scented candles was not just about business; it was about reclaiming our peace and resilience.' With the citronella oils produced by PODIS, they made citronella-scented candles. Both social enterprises are considered start-up businesses of the disaster survivor groups.

Redesigned-Venn Diagram Workshop Output and Analysis

The study employed a strategic planning workshop to introduce the Redesigned-Venn Diagram to the POs, which would help them understand and map out their social networks. The study used overlapping circles to illustrate the relationships between and among the identified organizations or groups that network, partner with, or support each other. The study redesigned this concept by adapting and applying a new set of criteria to visualize relationships more effectively. Besides the overlapping of circles, the study also considered the size and proximity of each circle to describe the relationship of organizations relative to the POs. The size of the circle described the perceived level of aid/assistance provided to them by the different organizations. A qualitative scale was used to assign the circle sizes: small for infrequent interactions or minimal aid, medium for occasional interactions or moderate aid, and large for frequent interactions or significant aid. There were also designated inner and outer circles to illustrate the space where the social enterprise operates. The inner circle represents the organization's internal dynamics regarding the implementation of action plans and operations, while the external circle indicates the area of influence. The proximity of the multiple circles, denoting other organizations, to the internal or external circles (perimeter circle) indicated the perceived degree of influence, availability, and response time of those organizations.

It was apparent in the POs that knowledge about social connections was limited only to the president of their organization. Members need to learn more about the networks or organizations in their social enterprise. Figure 1 shows the result of the workshop of PODIS, and Figure 2 shows the

result of the training of ILAW on the Redesigned-Venn Diagram, respectively.

As illustrated in Figure 1, the PODIS has identified several organizations and agencies that assist their social enterprise. The size of the circles used was small (green), medium (pink), and large (blue); this indicates PODIS's perception of the size or amount of assistance these organizations offer to them. The organizations and agencies identified in the small circles were Radio Station DWNX, the Municipal Agriculture Office (MAO) of Canaman, Camarines Sur, the Department of Social Welfare and Development (DSWD), the Cooperative Development Authority (CDA),

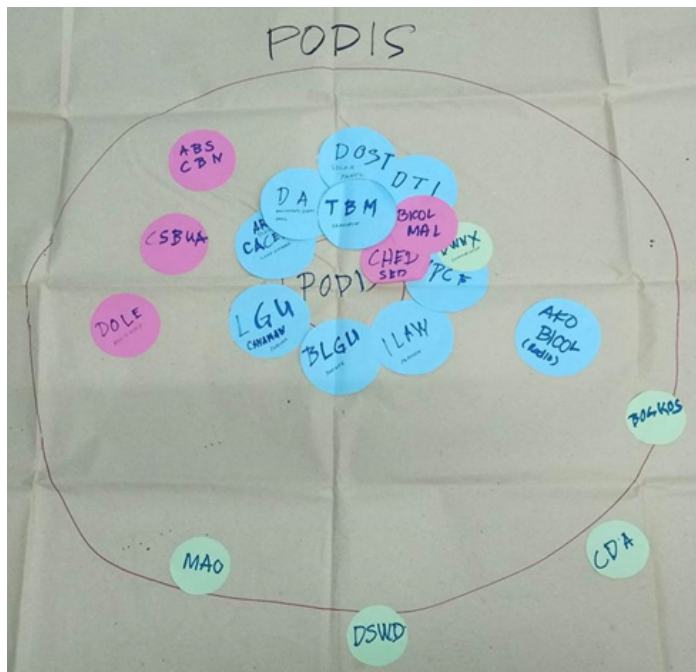


Figure 1. Redesigned-Venn Diagram Workshop Output of PODIS

and the Bugkos Kabataan Enterprise. The organizations identified in the medium circles were the Department of Labor and Employment (DOLE), the Central Bicol State University of Agriculture (CBSUA), the TV Network-ABS CBN, the Bicol Mail, and the CHED-SED Project. The organizations in the large circles were the Local Government Unit (LGU) of Canaman, Barangay Local Government Unit, ILAW ng Kababaihan, Tabang Bicol Movement, the Department of Agriculture (DA), the Department of Science and Technology (DOST), the Department of Trade and Industry (DTI), AKO Bicol, the Mariners

Polytechnic Colleges Foundation (MPCF), and the Archdiocese of Caceres.

On the other hand, the workshop output of ILAW, shown in Figure 2, identified the following organizations in the small circle, which include: schools, churches, malls, markets, religious outlets, online selling, trade fairs (tiange), and their neighbors. The organizations identified in the medium circle were the Barangay San Agustin LGU, DWNX, DEPED, and CBSUA. The organizations in the big circle were DOLE, LGU Canaman, MPCF, TBM, Jaimeliza, Sir Eric, the Extension Director of MPCF, the Creative Group of Celia Jacob, DSWD, DTI, ABS-CBN, and Bicol Mail.



Figure 2. Redesigned-Venn Diagram Workshop Output of ILAW

In terms of proximity to the POs, PODIS identified the CHED-SED Project, Bicol Mail, MPCF, ILAW, Bugkos, BLGU, LGU, Archdiocese of Caceres, DOST, and DWNX as being closest to them. ABS-CBN, CBSUA, DOLE, and AKO BICOL were inside the perimeter and were located farther away. The youth-led social enterprise BUGKOS Kabataan and the MAO were placed just in line, and the DSWD and CDA were placed outside the circle.

For ILAW, the following entities have been identified as closest to them: DOLE, LGU, MPCF,

TBM, Jaimeliza, and the BLGU. Overlapping these organizations' circles are the Creative Group of Ms. Celia Jacob, DSWD, DEPED, DTI, DWNX, CBSUA, ABSCBN, and Bikol Mail. Inside the circle were selling platforms such as trade fairs and online selling. Organizations overlapping the outer circle included schools, Churches, Sari-Sari Stores, Malls, Markets, and Religious Outlets, while those outside the circle were Neighbors and Fiesta Tiange.

The workshop outputs revealed various local government organizations, national government agencies, individuals, and groups that had previously assisted the people's organization and may continue to support them in their social enterprise development endeavors. These organizations may play a critical role in the sustainability of their social enterprise. As reported by Jug (2020), to maintain the market and create new ones, partnerships and collaborations with other organizations are essential. Tables 1 and

Table 1. PODIS Redesigned-Venn Diagram Workshop Output Analysis

Proximity/ Size	Small Circle	Medium Circle	Large Circle
Closest/ Overlapping Inner Circle	DWNX	CHED-SED BIKOL MAIL	LGU Canaman Archdiocese of Caceres DA TBM DOST DTI MPCF ILAW BLGU
Close/ Within the perimeter		CBSUA DOLE ABS-CBN	AKO BIKOL
Far/Inside the Outer Circle	MAO BUGKOS		
Farthest/ Outside the Perimeter	DSWD CDA		

2 present the analysis of the Redesigned Venn Diagram Workshop Output according to size and proximity for PODIS and ILAW, respectively.

The Venn diagram analysis helped the

Table 2. ILAW Redesigned-Venn Diagram Workshop Output Analysis

Proximity/ Size	Small Circle	Medium Circle	Large Circle
Closest/ Overlapping Inner Circle		Baranggay San Agustin DWNX DEPED CBSUA	LGU Canaman DOLE MPCF RBM Jaimeliza Erick Abad Creative Group of Celia Jacob DSWD DTI ABSCBN BICOL Mail
Close/ Within the perimeter		Selling Platforms- Trade fair and Online Selling	
Far/Inside the Outer Circle		Schools Churches Sari-Sari Store Mall Market Religious Outlet	
Farthest/ Outside the Perimeter		Neighbors Fiesta Tiange	

respondents identify their needs, preferences, expectations, and challenges. Their preferred groups or organizations, where they can easily approach and ask for assistance, were identified as the closest to them. It is envisioned in the workshop that many other organizations will be added to the list of collaborators to sustain their social enterprises.

Asset Pentagon Workshop Output And Analysis

The Asset Pentagon used in the study was adapted from the Sustainable Livelihoods Framework of ADB (2017), which illustrates the interrelation between critical assets that marginalized households should consider when

starting a livelihood. The study utilized this part of the SLA to describe the needs and status of the POs in terms of the critical assets. The ADB (2017) categorized the assets into five types: Human Capital, Social Capital, Natural Capital, Physical Capital, and Financial Capital. The people's organizations underwent a workshop to create their asset pentagon. This was done by designing their capacity and productivity potentials as individuals and groups. The results are presented through a digitized version of the asset pentagon.

As illustrated in Table 3, ILAW has identified several assets under its social capital, including partnerships with MPCF, CBSUA, DTI, DOLE, and DSWD. Their physical capital includes assets such as tools and equipment, access to electricity, and the availability of supplies. Under human capital, members' health, training skills, and knowledge to do business were identified as assets. Only rainwater is recognized as an asset under natural capital. At the same time, existing cash savings and rolling capital were identified as

assets under financial capital.

ILAW's human and social capital were given higher scores compared to the other assets evaluated in the Pentagon (Figure 3). It may

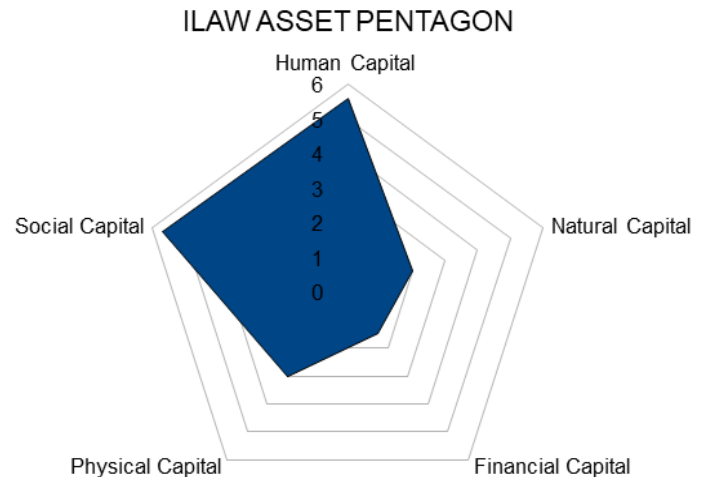


Figure 3. ILAW ng Kababaihan Asset Pentagon Workshop Output

indicate the women's organization's strength in membership and collaboration with partners. It also indicates that ILAW should work harder to gain more robust physical, natural, and financial capital.

PODIS, on the other hand, has identified assets, as shown in Table 4, under human capital, including education, training, health, and access to nutrition. Under social capital, PODIS has identified several assets, including membership in TBM and partnerships with political units, such as the LGU and barangay. Also included in their social capital were national agencies such as DOLE, DTI, DOST, and DA. They also identified HEIs such as CBSUA and MPCF. PODIS's natural capital includes assets such as access to water, farmland, and produce from trees. While access to solar energy, electricity, equipment, and infrastructures were assets under physical capital. PODIS's financial capital also includes the availability of cash and savings.

PODIS's asset pentagon, shown in Figure 4, illustrates physical capital as its most vital asset, comprising equipment and access to infrastructure granted by partner organizations, including national agencies such as DA. PODIS financial and social capital were average

Table 3. Asset Pentagon ILAW Score Card

Capital Type	Resource Component	Score
Human Capital	Health	5
	Training and Skills	4
	Knowledge Enterprise Development	8
	Mean Score	5.7
Social Capital	Members	2
	MPCF	5
	CBSUA	4
	DTI	10
	DOLE	5
	DSWD	8
	Mean Score	5.7
Natural Capital	Rain Water	2
	Mean Score	2.0
Physical Capital	Tools and Equipment	3
	Electricity	1
	Supplies	5
	Mean Score	3.0
Financial Capital	Cash Savings	1
	Rolling Capital	2
	Mean Score	1.5

Table 4. Asset Pentagon PODIS Score Card

Capital Type	Resource Component	Score
Capital Type	Component	Score
Human Capital	Education	3
	Training	3
	Health	3
	Nutrition	3
	Mean Score	3.0
Social Capital	TBM	6
	LGU	5
	MPCF	6
	BRGY LGU	3
	DOLE	10
	DTI	2
	DOST	1
	CBSUA	2
	DA	10
	Mean Score	5.0
Natural Capital	Water	1
	Farm Land	5
	Trees/Forest Resources	4
	Mean Score	3.3
Physical Capital	Equipment	8
	Building Infrastructure	8
	Solar Energy System	5
	Electricity Access	5
	Mean Score	6.5
Financial Capital	Cash	5
	Savings	4
	Mean Score	4.5

compared to other assets, indicating the PO's knowledge of finances and good membership as reflected in the organizations identified. Human and natural capital need to be given focus by the PO to ensure growth and sustainability.

Feasibility of Institutionalizing Social Enterprises of Disaster Survivors in Bicol

To ensure the transferability of these tools, other communities should consider specific contextual factors before adoption. Important factors include assessing their local hazard profile, understanding the density of social capital, and mapping the partner landscape to identify potential collaborators. Developing a brief checklist that accounts for these aspects can support communities in adapting our framework while maintaining a disciplined approach.

Utilizing the Venn diagram and the asset pentagon as tools for evaluating the capacity and productivity of the POs has shed light on its vision. The workshop results have provided the POs with a bird's-eye view of their capacity and productivity in establishing a livelihood. The workshop was instrumental in helping the POs set their targets for their social enterprise. Social enterprises may have a greater chance of thriving and being sustainable when the proper processes are in place, including the tools utilized in this study.

CONCLUSION

Successful Bicolano entrepreneurs are transformational leaders. Transformational leadership is a leadership style that extends beyond the transactional component of business and focuses on transforming the community, helping people improve their standards of living (Paladan, 2014). PODIS and ILAW have shown potential in social enterprise development. Being affected by the pandemic and the complex vulnerabilities present in their organizations, they turn to agriculture and business, including agribusiness, to cope and thrive on the road to transforming their lives and influencing like-minded disaster survivors. DRRM and CCA planning workshops, along with the utilization of

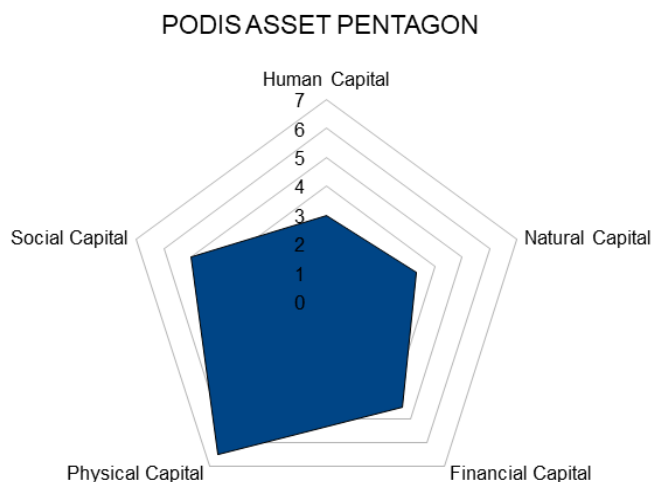


Figure 4. PODIS Asset Pentagon Workshop Output

the tools mentioned in the study, may contribute to the sustainability of their social enterprise. As preliminary tools for the numerous processes involved in institutionalizing social enterprise, the redesigned Venn diagram and asset pentagon have guided the POs in planning for a sustainable, resilient, and more beneficial social enterprise for disaster survivors.

To bridge this research with policy applications, these tools could be formally integrated into local and national guidelines. Specifically, local DRRM councils may adopt these tools as part of their disaster preparedness strategies, thereby enhancing community resilience and economic stability through social enterprises. Additionally, the Commission on Higher Education (CHED) might consider incorporating these strategies into its program guidelines for community engagement and capacity building, promoting their institutional adoption. Such policy insertions can ensure that the tools reach a wider audience and facilitate tangible community development.

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