BRIDGING EDUCATION AND SUSTAINABILITY: EVALUATING SERVICE-LEARNING PROGRAMS THROUGH THE LENS OF SDGs

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Abstract— **The Service-Learning Program (SLP) emerged as a dynamic academic approach that bridged classroom learning with real-world community engagement. These programs empowered students to contribute to the Sustainable Development Goals (SDGs) through hands-on projects, interdisciplinary collaboration, and socially responsive innovation by integrating academic learning with community service that directly addressed local and global challenges. This study evaluated the implementation and impact of service-learning programs conducted by a private Higher Education Institution (HEI) over the years through the framework of the United Nations Sustainable Development Goals (SDGs). Drawing on detailed reports from community development initiatives, student-led services, and academic-community engagements, the study assessed how these programs contributed to goals such as Quality Education (SDG 4), Good Health and Well-being (SDG 3), Affordable and Clean Energy (SDG 7), Climate Action (SDG 13), and Sustainable Cities and Communities (SDG 11). Through programs aligned with engineering, architecture, and information and computing technology, the initiatives showcased the integration of technical competencies with social responsibility, focusing on disaster preparedness, environmental sustainability, digital literacy, and infrastructure development. Using a qualitative-descriptive approach, the study examined the alignment of program objectives, stakeholder participation, and community impact with SDG targets. The findings determined the significance of interdisciplinary collaboration, contextual responsiveness, and reflective learning in promoting sustainable development through education, project implementation, and action. This evaluation provided a roadmap for enhancing service-learning practices to ensure they remained responsive, inclusive, and transformative in addressing community needs and global challenges.**

Keywords— *service-learning programs, sustainable development goals, engineering, education, and community engagement*

I. INTRODUCTION

In recent years, higher education institutions (HEIs) have been increasingly called upon to not only educate students but also to contribute meaningfully to the resolution of pressing social and environmental issues. This call to action has paved the way for the rise of service-learning programs (SLPs)—pedagogical approaches that purposefully combine academic instruction with community service, fostering a mutually beneficial relationship between students and society (Leal Filho et al., 2019; Felix & Harris, 2020). As a form of experiential learning, service-learning emphasizes student engagement with real-world problems while reinforcing theoretical knowledge gained in the classroom (Felix & Harris, 2020)

Rooted in civic responsibility and social transformation, service-learning has been recognized as a strategic educational model that aligns with the United Nations Sustainable Development Goals (SDGs), particularly in addressing community needs through local innovations and interdisciplinary collaboration (UNESCO, 2020). Research has shown that SLPs significantly contribute to both student learning outcomes and societal change, particularly when aligned with sustainable development frameworks (Leal Filho et al., 2019). Moreover, embedding the SDGs into service-learning initiatives has been found to enhance students' global awareness, critical thinking, and sense of social responsibility (Bernardo et al., 2020; Felix & Harris, 2020).

In the context of the Philippines, where communities face a range of developmental challenges—including disaster vulnerability, digital divides, and infrastructural limitations—service-learning offers an effective avenue for HEIs to actively participate in nation-building (Morilla, 2019). By leveraging academic disciplines such as engineering, architecture, and information and computing technology, SLPs can respond to complex problems such as climate change, digital illiteracy, and inadequate public infrastructure, while fostering sustainable, inclusive, and community-driven solutions (Bernardo et al., 2020).

Service-learning (SL) methodology in higher education has shown significant potential for promoting sustainable development goals (SDGs) and enhancing students' skills and attitudes. Studies have demonstrated that SL can improve awareness and sensitivity towards SDGs in physical education teacher education programs (García-Rico et al., 2021) and environmental science education (Hernández-Barco et al., 2020). Implementation of SL projects in environmental education courses for preservice teachers has resulted in improved attitudes towards sustainable development across multiple dimensions (Diez-Ojeda et al., 2025). SL programs offer students opportunities to apply professional skills to address social issues, fostering critical awareness and civic engagement (Samino García, 2023). While SL has shown numerous strengths, including its alignment with SDGs and positive impact on students, challenges in implementation such as needs assessment and partnership engagement have been identified (Samino García, 2023).

This study evaluated the implementation of service-learning programs by a private higher education institution through the lens of the UN SDGs, specifically SDG 3 (Good Health and Well-being), SDG 4 (Quality Education), SDG 7 (Affordable and Clean Energy), SDG 11 (Sustainable Cities and Communities), and SDG 13 (Climate Action). Through analyzing documented reports, student-led initiatives, and academic-community engagements, the study seeks to understand how service-learning fosters interdisciplinary collaboration, social innovation, and contextual responsiveness. The findings aim to contribute to a deeper understanding of how HEIs can institutionalize service-learning as a transformative, sustainable, and scalable model for both education and community empowerment.

Research Objective

Generally, this study aimed to evaluate the implementation and impact of service-learning programs conducted by a private Higher Education Institution (HEI) in advancing the United Nations Sustainable Development Goals (SDGs), with emphasis on interdisciplinary collaboration, community engagement, and sustainable development outcomes. Specifically, it aimed to,

1. Determine the number of service-learning programs implemented by the HEI aligned with the specific targets of the SDGs.
2. Determine the contributions of service-learning programs to community development in terms of its advocacies.
3. Assess the degree of academic-community integration for sample projects.

II.   METHODS

Data for this study were sourced from institutional records maintained by the Community Engagement and CICM Advocacies (CECA) Office in collaboration with the School of Architecture, Computing, and Engineering (SACE) of the HEI. These records were part of the school's annual reporting system for service-learning activities, spanning academic years 2019–2020 to 2024–2025.

Each academic year, the Community Engagement and CICM Advocacies (CECA) coordinators systematically gathered and consolidated reports from faculty members who were involved in implementing service-learning projects. These reports served as official documentation of the academic-community initiatives carried out under the school's extension and advocacy programs. For each submitted project, essential information was collected to support evaluation and analysis. This included the specific Sustainable Development Goal(s) the program aimed to address, as identified either by the faculty or CECA staff; a comprehensive title and description of the service-learning initiative; and the academic department or discipline that spearheaded the activity. When applicable, the name and role of the partnering community organization were also recorded. Lastly, each report contained a summary of the project's intended outcomes and its documented contributions to the target community, offering insights into the real-world impact of the initiative.

The collected reports were organized into a master dataset for analysis. A standardization process was conducted to harmonize project titles, unify SDG labels, and ensure consistent formatting of narrative descriptions. Ambiguous or incomplete entries were clarified through direct communication with program implementers or CECA staff. The compiled dataset served as the foundation for both quantitative and qualitative analyses.

III.   RESULTS AND DISCUSSION

Summary of Service-Learning Programs Aligned with SDGs

Figure 1 shows the number of student-led projects (SLPs) implemented which focused on each of the United Nations Sustainable Development Goals (SDGs) over a five-year period. These SDGs represent important global issues such as quality education, good health, clean energy, and sustainable cities. A better understanding of the global concerns that students and educators prioritize in their projects and activities can be gained by analyzing the frequency with which each goal was selected. This summary helps see the priorities of the academic community in supporting positive change in society.
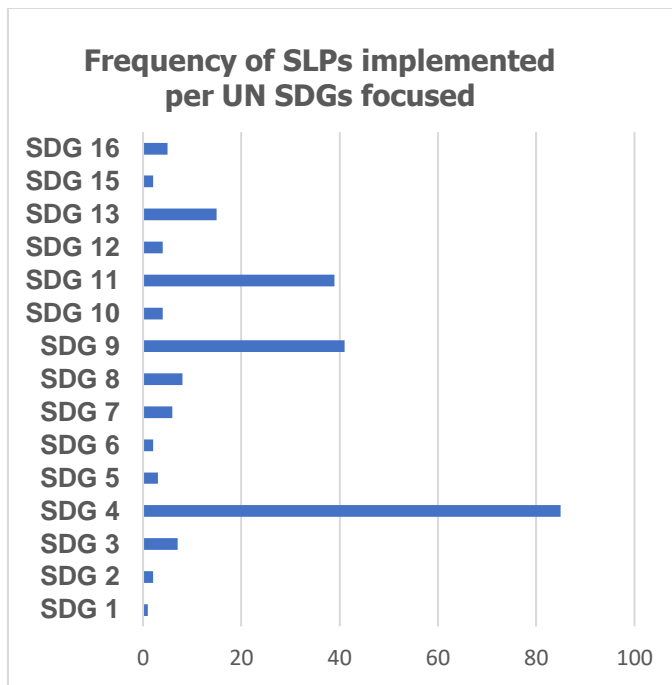
Figure 1. **Frequency of SLPs implemented per UN SDGs focused**

Among the 17 SDGs, SDG 4: Quality Education was the most focused on, with 85 projects implemented.

Examination of the Alignment of Program Objectives and Outcomes with the Specific Targets of the SDGs

The alignment of academic programs with the Sustainable Development Goals (SDGs) was examined through the lens of service-learning projects conducted across multiple academic years. These projects were initiated by various departments of the university and targeted specific SDGs, aiming to integrate global development goals into local, context-specific academic interventions. The table below illustrates the frequency of such projects per SDG, the departments most engaged in implementing them, and examples that demonstrate the strategic coherence between the program objectives and the global targets.

1.1 SDG 4: Quality Education
The most prominent area of service-learning engagement is SDG 4: Quality Education, with 85 projects spearheaded by the Math, IT, Computer Engineering, and Civil Engineering departments. Programs like Math-a-thon, Empowering ALS Students, and MATHinIC reflect the institution's strong emphasis on improving foundational skills in numeracy, literacy, and digital fluency, particularly among underserved learners. These efforts are essential in promoting lifelong learning, bridging educational gaps, and supporting out-of-school youth through Alternative Learning Systems (ALS). These initiatives not only focus on numeracy and literacy but also integrate digital fluency, thereby promoting lifelong learning and bridging educational gaps.

Service-learning addresses barriers to education, promoting inclusivity and participation (Gallardo & Zerbikas, 2012). Programs like Math-a-thon and Empowering ALS Students specifically address the needs of underserved groups, including out-of-school youth (Helgueta & Fuentes, 2022). Initiatives combine traditional literacy and numeracy with digital skills, fostering lifelong learning (Castro et al., 2020). Projects encourage student participation, enhancing both academic performance and social responsibility (Sulaiman et al., 2020).

1.2 SDG 9: Industry, Innovation, and Infrastructure
The second highest concentration of service-learning projects falls under SDG 9: Industry, Innovation, and Infrastructure. Departments like Computer Engineering, Electronics Engineering, and IT are at the forefront, showcasing innovations through projects such as GENIUS L, Connecting the Wires, and Arduino Workshops. These initiatives integrate hands-on technical skills and community applications, preparing students to respond to real-world infrastructure needs while encouraging sustainable technological advancement. This reflects a strong institutional orientation toward nurturing innovative ecosystems and supporting community-driven digital transformation.

Projects like Arduino Workshops are designed to enhance practical skills and creativity among students, as seen in the integration of Arduino in academic curricula, which promotes critical thinking and problem-solving abilities (León et al., 2024). Workshops such as "Pinch Your Spark" highlight the use of open-source platforms like Arduino to foster innovation and hands-on learning, crucial for developing sustainable technological solutions (James, 2022).

SDG 9 focuses on building resilient infrastructure and promoting inclusive and sustainable industrialization, which are reflected in the service-learning projects that encourage students to develop innovative solutions for community challenges (Hannafin, 2024) (Xu, 2022). These projects support the development of new skills and technological advancements, essential for sustainable economic growth and social development, particularly in developing regions (Xu, 2022).

Educational institutions is important in nurturing innovative ecosystems by incorporating industry-relevant projects into their curricula, thus preparing students to contribute to digital transformation and infrastructure development (Popescu & González, 2023).

1.3 SDG 11: Sustainable Cities and Communities and SDG 13: Climate Action
Service-learning programs under SDG 11: Sustainable Cities and Communities (25 projects) and SDG 13: Climate Action (18 projects) demonstrate the university's active role in promoting environmental sustainability and disaster resilience.

Projects such as *SeismicSafe* and *Fire Risk Assessments* involve structural assessments, hazard mapping, and sustainable architectural design, primarily led by Civil Engineering, Architecture, and Geodetic Engineering departments. These programs not only respond to local disaster risks but also support national policies on disaster risk reduction (DRR) and climate adaptation. The strong presence in these SDGs indicates a well-integrated academic approach to urban safety and ecological awareness. Service-learning programs under SDG 11: Sustainable Cities and Communities (25 projects) and SDG 13: Climate Action (18 projects) demonstrate the university's active role in promoting environmental sustainability and disaster resilience. Projects such as SeismicSafe and Fire Risk Assessments involve structural assessments, hazard mapping, and sustainable architectural design, primarily led by Civil Engineering, Architecture, and Geodetic Engineering departments. These programs not only respond to local disaster risks but also support national policies on disaster risk reduction (DRR) and climate adaptation. The strong presence in these SDGs indicates a well-integrated academic approach to urban safety and ecological awareness.

These programs exemplify interdisciplinary collaboration, combining expertise across engineering disciplines to perform structural evaluations and hazard mapping, which fosters a holistic approach to urban safety. Moreover, by engaging local communities, these projects build social capital and ensure that interventions are contextually relevant and community driven (He, 2022). Academically, service-learning is integrated into the curriculum, equipping students with practical knowledge and skills in disaster risk assessment and sustainable design, thereby enhancing their preparedness for professional roles in disaster management and environmental sustainability (Kibsey, 2016; Domínguez - Alonso et al., n.d.). Overall, these initiatives not only advance student learning but also contribute meaningfully to building safer, more resilient communities in the face of climate-related challenges.

1.4 SDG 3: Good Health and Well-being, SDG 5: Gender Equality and SDG 10: Reduced Inequalities

In terms of health and social equity, the institution has initiated projects aligned with SDG 3: Good Health and Well-being (7 projects), SDG 5: Gender Equality (3 projects), and SDG 10: Reduced Inequalities (2 projects). Interdisciplinary efforts—such as PINTAHAN: Inclusive Healing and CHEMUNITY: Catalyzing Compassion—illustrate the blending of health education, wellness promotion, and advocacy. Although fewer in number, these programs contribute to building inclusive communities and addressing the broader determinants of health and inequality. However, the limited project frequency suggests an opportunity for increased engagement in addressing gender and social justice issues more systematically.

The initiatives addressing health and social equity through projects aligned with the Sustainable Development Goals (SDGs) demonstrate a clear commitment to improving health outcomes and reducing inequalities, particularly under SDG 3 (Good Health and Well-being), SDG 5 (Gender Equality), and SDG 10 (Reduced Inequalities). While the seven projects focus on enhancing health services and education by addressing social determinants of health, and three projects specifically target gender disparities with gender-sensitive interventions (Chilet-Rosell & Hernández-Aguado, 2022), only two projects address systemic inequalities intersecting race, gender, and health outcomes (Tengland & Rämgård, 2022).. Interdisciplinary efforts such as PINTAHAN: Inclusive Healing and CHEMUNITY: Catalyzing Compassion highlight the institution's collaborative approach to integrating health education and advocacy, fostering inclusive community health practices (Vyas et al., 2022). However, the relatively limited number of projects suggests a need for more systematic and expanded engagement in gender and social justice issues to comprehensively address health equity. Increasing the scope and frequency of such initiatives would align the institution more closely with calls for broader public health policy action and enhance its impact on social justice and gender equity (Chilet-Rosell & Hernández-Aguado, 2022).

1.5 SDG 6: Clean Water and Sanitation, SDG 12: Responsible Consumption and Production and SDG 15: Life on Land

Projects aligned with SDG 6: Clean Water and Sanitation, SDG 12: Responsible Consumption and Production, and SDG 15: Life on Land are relatively limited, totaling only 8 combined projects. Activities such as Hazard and Spot Mapping, Polymer Education Tutoring, and Tree Planting Site Mapping reveal initial steps toward environmental conservation and sustainable consumption.

Studies have shown that universities are aligning their activities with various SDGs, particularly focusing on SDG 4 (Quality Education), SDG 11 (Sustainable Cities and Communities), and SDG 15 (Life on Land) (Ambrizzi et al., 2021; Korhonen-Kurki et al., 2019). However, some SDGs, such as SDG 6 (Clean Water and Sanitation) and SDG 5 (Gender Equality), receive less attention (Korhonen-Kurki et al., 2019). University support and student engagement are key factors in successful SDG-related projects, especially for SDG 12 (Responsible Consumption and Production) (Shaharudin et al., 2025). Integration of SDGs into academic curricula varies across departments, with some disciplines showing greater engagement than others (Saramin et al., 2023). To enhance sustainability efforts, universities should promote interdisciplinary collaboration, provide institutional support, and increase awareness of SDGs among faculty and students (Korhonen-Kurki et al., 2019; Saramin et al., 2023).

1.6 SDGs SDG 2: Zero Hunger, SDG 8: Decent Work and Economic Growth, and SDG 16: Peace, Justice, and Strong Institutions

Projects supporting SDG 2: Zero Hunger, SDG 8: Decent Work and Economic Growth, and SDG 16: Peace, Justice, and Strong Institutions are limited but showcase creativity and potential. For instance, the Arduino-Based Hydroponics Plantation

System aligns with food security, while EmpowerTeck promotes economic participation among small businesses. Governance and institutional strengthening are addressed through web development training and digital literacy initiatives under SDG 16. These efforts could be scaled up through partnerships with local government units, cooperatives, and civil society organizations to broaden their impact on economic empowerment and local governance.

While SDG 16 and SDG 5 (Gender Equality) are highly aligned, SDG 16 and SDG 2 (Zero Hunger) show limited compatibility (Lawrence et al., 2020). However, institutions play a crucial role in promoting SDG 2 achievement, with good governance and inclusive institutions being instrumental in developing countries (Galabada, 2022). The inclusion of SDG 16 in the transition from MDGs to SDGs marks an important shift, recognizing the central role of effective, accountable, and inclusive political institutions in sustainable development (Dasandi & Jankin, 2019). To fully leverage SDG 16's potential, increased cross-sector collaboration and targeted investments are recommended, along with enhanced research and safeguarding of those working on SDG 16-related issues (Cram, 2024).

Table 2. Contribution of Service-Learning Programs of different community development advocacies

Advocacy Area	Number of Aligned Programs	Key SDGs Involved
Civic and Indigenous Peoples Development	12	SDG 4, SDG 10, SDG 11
Faith Formation and Religious Dialogues	3	SDG 4, SDG 11
Nutrition and Health Development	10	SDG 3, SDG 12
Gender and Development	8	SDG 5, SDG 4
Poverty Alleviation	7	SDG 1, SDG 8, SDG 9
Youth Empowerment	15	SDG 4, SDG 8, SDG 10
Justice, Peace, and Integrity of Creation	6	SDG 16, SDG 13
Disaster Response and Risk Reduction Management (DRRM)	18	SDG 11, SDG 13

The table presents a breakdown of service-learning programs according to their contribution to specific advocacy areas of the university, through the community extension office, and their alignment with the United Nations Sustainable Development Goals (SDGs). This data offers meaningful insights into how academic engagement efforts are translated into impactful community service.

2.1 Disaster Response and Risk Reduction Management (DRRM)

This area recorded the highest number of aligned programs, showing the university's strong commitment to building resilient communities and promoting disaster preparedness. Through initiatives such as earthquake hazard mapping and electrical safety inspections, these programs reflect a proactive approach to risk reduction, climate action, and sustainable urban development.

The Disaster Response and Risk Reduction Management (DRRM) program exemplifies a comprehensive, interdisciplinary approach to disaster management by integrating expertise from business, engineering, and urban planning, among other fields (Paretti et al., 2022).

Community engagement is a cornerstone of effective DRR strategies, as it ensures that local populations are not merely recipients of aid but active participants in risk reduction efforts (Alexander, 2020; Kalliontzi et al., 2024). By focusing on building local knowledge, skills, and adaptive capacity, DRRM initiatives empower communities to better anticipate, respond to, and recover from disasters, ultimately enhancing their resilience (Nikolić et al., 2020). This participatory approach also helps tailor interventions to the unique needs and vulnerabilities of different communities, making risk reduction efforts more relevant and sustainable.

2.2 Youth Empowerment

Youth-focused programs rank second in number, emphasizing the institution's dedication to shaping the next generation of leaders. These activities promote education, skills development, digital literacy, and entrepreneurship, particularly for senior high school and college students. These initiatives closely align with Sustainable Development Goal (SDG) 10, which advocates for reducing inequalities and promoting inclusivity and equal opportunities. Education serves as the foundation for youth empowerment by fostering critical thinking and adaptability, skills necessary to navigate an increasingly dynamic job market (Trivedi & Patel, 2023).

Complementing education, skill development programs provide practical, job-ready competencies across various sectors, thereby enhancing employability and nurturing an entrepreneurial spirit among young people (Kumar, 2024). Entrepreneurship promotion is recognized as a significant driver of economic growth and innovation; programs that offer vital support to young entrepreneurs, while integrating entrepreneurship education into school curricula cultivates a proactive mindset toward business creation, addressing unemployment and stimulating economic development (Singh, & Singh, 2023; Pandey, 2023). Furthermore, inclusivity and civic engagement are critical components of youth

development programs, especially those targeting underserved communities. Initiatives by organizations that empower youth to participate actively in civic duties and social justice efforts, fostering leadership, resilience, and a deep sense of societal responsibility (Mehmood, 2024). By encouraging youth participation in community initiatives, these programs not only build individual capacities but also contribute to broader societal progress, ensuring that young people become agents of positive change.

2.3 Civic and Indigenous Peoples Development
This advocacy area showcases how service-learning fosters civic responsibility and cultural preservation. Programs that support Indigenous Peoples and barangay communities contribute to inclusive education, local empowerment, and sustainable community planning. The focus on SDG 10 highlights efforts to reduce inequalities, especially for marginalized groups.

Indigenous empowerment is critical for acknowledging the rights, knowledge, and cultural heritage of Indigenous communities, which in turn supports sustainable practices and the preservation of their unique identities (Soni et al., 2024). Service-learning is instrumental in this process by linking educational institutions with local communities, fostering civic engagement, and developing informed citizen-leaders who are equipped to address social challenges effectively (Cress & Stokamer, 2020). Moreover, collaborative partnerships among diverse stakeholders are essential for promoting equity and addressing systemic inequities, ensuring that the strengths and assets of Indigenous and local communities are recognized and leveraged for sustainable community development (Bansal et al., 2023). Through these integrated efforts, service-learning not only empowers marginalized groups but also contributes to broader social justice and sustainable development goals.

2.4 Nutrition and Health Development
Programs in this area center on promoting healthy lifestyles, mental well-being, and sustainable consumption habits. The link with SDG 12 reflects a growing concern for environmental health and responsible use of resources. These projects often involve interdisciplinary collaboration between health sciences, engineering, and education sectors.

This relationship of health, sustainability, and education fosters interdisciplinary collaboration among health sciences, engineering, and education sectors to address both individual and environmental health comprehensively. In health sciences, integrating sustainability into medical education equips future healthcare professionals with the knowledge to understand environmental determinants of health, thereby improving patient outcomes and emphasizing preventive care (Gilcrease et al., 2024). Engineering contributes through innovations in green technologies and resource-efficient solutions that support sustainable practices within healthcare systems and community health initiatives (Torres et al., 2023). Education is fundamental as well, with community-based projects demonstrating

effective strategies to influence consumer behavior towards more sustainable lifestyles (Vaughter, et al., 2022). Addressing environmental health concerns, such as food loss and waste, is critical for minimizing pollution and conserving resources, requiring a combination of technological innovation and behavioral change (Sylvester, 2024). Furthermore, the cumulative health effects of pollutants and climate change highlight the necessity of a multidisciplinary approach to mitigate risks and protect public health (Srijaroon, 2022). Together, these interdisciplinary efforts underscore the importance of integrating health and sustainability education to foster holistic well-being and environmental stewardship.

2.5 Gender and Development
Efforts toward gender equality and empowering women in education and STEM are evident through initiatives like inclusive math and science competitions and female participation in tech workshops. These programs support equal access to learning opportunities and help break traditional gender barriers.

Programs incorporating hands-on activities and peer learning have been effective in increasing female participation in STEM, achieving a 36.5% engagement rate among engineering students (Garcia-Suarez et al., 2024). Historically, women like Hypatia and Shakuntala Devi have made significant contributions to mathematics, yet systemic barriers continue to limit female representation (Shukla & David, 2024). Recent policy reforms in countries such as India aim to improve girls' education and participation, fostering a more supportive environment for women (Shukla & David, 2024). The inclusion of women is critical for driving innovation and addressing global challenges, as diverse teams have been shown to produce more effective solutions (Palomino-Monteza et al., 2023). Economically, closing the gender gap could boost global GDP by up to 2%, underscoring the importance of these initiatives (Palomino-Monteza et al., 2023).

2.6 Poverty Alleviation
Poverty alleviation programs involve helping small businesses, promoting job readiness, and introducing community-based innovations. The inclusion of SDG 9 underlines how technology and infrastructure support can aid economic upliftment. While this area shows promise, it has potential for further growth and diversification.

Poverty alleviation programs aim to improve living conditions through measures like cash transfers and microfinance, showing positive impacts on income and access to services (Aditya, 2024). However, challenges remain in ensuring equitable access and benefits, particularly for underrepresented groups. Sustainable Development Goal 9 emphasizes the importance of infrastructure, industrialization, and innovation in driving economic growth and reducing inequality (Desa, 2016). The business sector has increasingly engaged in poverty alleviation initiatives, with concepts like "inclusive business" and "frugal innovation" gaining traction (Hart et al., 2016).

2.7 Justice, Peace, and Integrity of Creation
Though fewer in number, programs under this advocacy contribute to good governance, environmental justice, and climate awareness. These initiatives include digital systems for transparency, ethical leadership training, and peace-centered education. Their alignment with SDG 16 reflects an intent to strengthen institutions and promote inclusive societies.

Recent research highlights the importance of SDG 16 in promoting peace, justice, and strong institutions. Integral ecology provides a holistic approach to sustainable development and social justice, emphasizing community-led initiatives and environmental justice (Kemigisha, 2025). However, countries face challenges in implementing SDG 16, which is critical for achieving all other SDGs (Hope, Sr., 2020). To overcome these challenges, policymakers should focus on strengthening institutions, promoting inclusive decision-making, and addressing governance issues such as corruption and human rights (Hope, Sr., 2020). The integration of digital systems, ethical leadership training, and peace-centered education aligns with SDG 16's goals of strengthening institutions and promoting inclusive societies (Sherif & Labib, 2025; Kemigisha, 2025).

2.8 Faith Formation and Religious Dialogues
Faith-based programs are the least represented, suggesting a specialized but focused approach. These projects often involve the design of worship spaces, moral values formation, and integration of spirituality in education. Although fewer in quantity, their depth of engagement contributes to the spiritual and cultural development of communities.

The analysis of service-learning programs reveals that the university demonstrates a strong commitment to community development through education, disaster preparedness, and youth empowerment, with many initiatives aligned with key SDGs such as Quality Education (SDG 4), Sustainable Cities (SDG 11), and Climate Action (SDG 13). The programs are responsive to local needs, particularly in vulnerable and underserved communities, and foster interdisciplinary collaboration across departments. Youth-focused and civic-based projects highlight the institution's forward-thinking approach in building future leaders and resilient societies. However, areas like Faith Formation, Gender and Development, and Poverty Alleviation remain underrepresented, presenting opportunities for further engagement.

IV. CONCLUSION AND RECOMMENDATIONS

The University of Saint Louis' Service-Learning Programs (SLPs) addressed several Sustainable Development Goals (SDGs), including Quality Education (SDG 4), Sustainable Cities and Communities (SDG 11), Climate Action (SDG 13), Industry, Innovation, and Infrastructure (SDG 9), Good Health and Well-being (SDG 3), Affordable and Clean Energy (SDG 7), and others. The data show a strong institutional commitment to using academic expertise for community participation and sustainable development. The SLPs were designed to combine academic learning with community engagement, and their SDG connection was apparent and effective. The university's strongest alignment is with SDG 4 (Quality Education), as shown by several programs to improve literacy, numeracy, and digital skills, particularly among underrepresented and underserved groups like out-of-school youth. This emphasis shows the school's dedication to educational equality and lifelong learning. SDG 11 (Sustainable Cities and Communities) and SDG 13 (Climate Action) projects on disaster preparedness, hazard mapping, and sustainable design demonstrate a proactive approach to urban safety, resilience, and environmental sustainability. These projects demonstrate how the university effectively combines academic competence with community engagement to address social and environmental issues.

A major strength of the university's SLPs is their interdisciplinary nature. Programs often bridge disciplines such as engineering, architecture, information technology, and the social sciences, resulting in innovative solutions that blend technical competencies with social responsibility. Moreover, the institution's emphasis on youth empowerment is evident in initiatives that equip young people with practical skills, digital literacy, and entrepreneurial capabilities, preparing them to become future leaders and active contributors to national development. This broad engagement of students in hands-on, community-oriented projects fosters critical thinking, civic responsibility, and contextual awareness, underscoring the transformative impact of service-learning on both learners and the communities they serve.

Despite these strengths, the analysis reveals notable gaps in the breadth of SDG coverage. While certain goals, like SDG 4 and SDG 11, receive extensive attention, others remain significantly underrepresented. Areas such as SDG 5 (Gender Equality), SDG 10 (Reduced Inequalities), and SDG 16 (Peace, Justice, and Strong Institutions) have fewer corresponding projects, indicating a need for more systematic and comprehensive engagement in promoting social justice, gender equity, and institutional strengthening. Likewise, environmental goals such as SDG 6 (Clean Water and Sanitation), SDG 12 (Responsible Consumption and Production), and SDG 15 (Life on Land) feature only a handful of projects, suggesting missed opportunities to further integrate ecological sustainability into the university's service-learning agenda.

Additionally, while many projects are innovative and impactful, some remain localized and small in scale, potentially limiting their reach and long-term sustainability. The involvement of certain departments is also uneven, with some academic units deeply engaged in service-learning while others participate less actively. This imbalance points to the opportunity for broader institutional integration of SDG-focused programs across all disciplines, ensuring that sustainable development becomes a shared responsibility throughout the university community.

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