# Empowering Youth for Climate Action: Evaluating the YOUTHNITE Environmental Leadership Summit as an Extension Model

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***Abstract***

*Youth organizations are vital platforms for cultivating environmental leadership and advancing climate action, particularly in climate-vulnerable nations such as the Philippines. This study evaluates the YOUTHNITE Environmental Leadership Summit, a collaborative extension initiative implemented by ChildFund Philippines, Jose Rizal Memorial State University (JRMSU), the Department of Education–Dipolog City Division, and the Dipolog City Eco Club x Greenducators ZN (DCEC). Ten project proposals from the Youth for Environment in Schools Organization (YES-O) were assessed using standardized criteria: innovativeness, replicability and sustainability, impact/reach, feasibility, and presentation. Quantitative results showed that projects such as SolaRise and GreenBuild scored highest due to their strong integration of renewable energy and eco-construction, while lower-ranking proposals faced challenges in feasibility and communication. Thematic analysis revealed strengths in innovation and sustainability, but weaknesses in detailed planning, partnerships, and presentation. Mapping of proposals to the Sustainable Development Goals (SDGs) confirmed strong contributions to SDG 4 (Quality Education), SDG 11 (Sustainable Cities and Communities), SDG 13 (Climate Action), and SDG 17 (Partnerships for the Goals). Findings highlight YOUTHNITE as an effective extension model that bridges classroom learning with community-based climate action. The study concludes with recommendations for strengthening technical capacity, enhancing communication skills, and institutionalizing mentorship to ensure the sustainability and scalability of youth-led environmental initiatives.*

***Keywords and phrases:*** *Youth leadership; environmental education; extension program evaluation; sustainable development goals (SDGs); YES-O; climate action; Philippines; SDG 4; SDG 11; SDG 13; SDG 17*

## Introduction

Youth engagement in environmental action has become increasingly critical as the world confronts the escalating impacts of climate change. Globally, adolescents and young adults are recognized as catalysts for sustainability, capable of mobilizing peers and communities toward environmental stewardship when given the proper platforms and support (Balundė et al., 2020). In the Philippines, the Department of Education institutionalized the Youth for Environment in Schools Organization (YES-O) under DepEd Order No. 72, series of 2003, making it the sole co-curricular environmental club mandated across schools. More recently, DepEd memoranda have reiterated the need for YES-O chapters to serve as vehicles for youth-driven climate action and accountability (DepEd, 2020).

Despite these mandates, many YES-O chapters face challenges in bridging awareness with action. Cadiz and Cortez (2025) observed that sustainability in YES-O programs is often dependent on institutional support, monitoring, and external partnerships. Tabanao et al. (2025) similarly highlighted that while youth leaders exhibit high environmental awareness, gaps persist in translating concepts into feasible and replicable initiatives. These challenges underscore the need for structured extension interventions that provide mentorship, technical guidance, and resources to transform ideas into impactful projects.

The YOUTHNITE Environmental Leadership Summit was launched in Dipolog City in 2024 through the collaboration of ChildFund Philippines, Jose Rizal Memorial State University (JRMSU), the Department of Education – Dipolog City Division, and the Dipolog City Eco Club x Greenducators ZN (DCEC). The summit served as a capacity-building and project incubation platform for student leaders under YES-O, aligning with JRMSU's mandate to extend higher education's knowledge resources to underserved communities. Through project pitching, evaluation, and grant support, YOUTHNITE sought to cultivate transformational green leadership and equip youth with the skills necessary to address local environmental issues.

The program directly contributes to the Sustainable Development Goals (SDGs) by advancing quality education (SDG 4), sustainable cities and communities (SDG 11), climate action (SDG 13), and partnerships for the goals (SDG 17). At the national level, YOUTHNITE complements the Department of Education's youth formation agenda and aligns with the Philippines' National Climate Change Action Plan and the Philippine Development Plan 2023–2028, which emphasize inclusive, community-based climate resilience. The World Bank (2022) further identifies education and youth engagement as key enablers of adaptive capacity in climate-vulnerable countries like the Philippines, reinforcing the relevance of initiatives such as YOUTHNITE.

While youth organizations like YES-O provide a formal platform for environmental action, there is limited evidence on the effectiveness of structured extension interventions in enhancing the feasibility, sustainability, and global alignment of student-led projects. This study addresses that gap by evaluating the outputs of YOUTHNITE project proposals

and analyzing their alignment with national and international sustainability frameworks.

## Methods and Materials

This study employed a mixed-method evaluation design to assess the outcomes of the YOUTHNITE Extension Program. A quantitative scoring system was used to evaluate project proposals submitted by youth leaders, while qualitative justifications provided by evaluators were analyzed thematically. This dual approach allowed for a comprehensive understanding of both the numerical performance of projects and the underlying strengths and weaknesses identified by the evaluators.

### Participants and Context

The participants in this evaluation were youth leaders and advisers from the Youth for Environment in Schools Organization (YES-O) across public secondary schools in Dipolog City, Philippines. Ten project proposals were submitted and reviewed during the YOUTHNITE Environmental Leadership Summit held in September 2024. The program was organized in partnership with ChildFund Philippines, the Department of Education (DepEd) – Dipolog City Division, Jose Rizal Memorial State University (JRMSU), and the Dipolog City Eco Club x Greenducators ZN (DCEC). These stakeholders provided technical assistance, funding support, and mentoring throughout the event.

### Evaluation Criteria and Instruments

Projects were assessed using a standardized rubric co-developed by JRMSU and ChildFund Philippines. The rubric included five weighted criteria:

1. Innovativeness (20%) – originality and creativity of the project idea.
2. Replicability and Sustainability (30%) – potential to be adapted by other schools and sustained over time.
3. Impact/Reach (20%) – breadth and depth of beneficiaries and expected outcomes.
4. Feasibility (20%) – practicality of implementation given available resources and timelines.
5. Presentation and Delivery (10%) – clarity, persuasiveness, and quality of project pitching.

Each project was scored by a panel of evaluators composed of representatives from JRMSU, DepEd, ChildFund, and DCEC. Scores were tallied to generate a total weighted score out of 25 points for each project.

### Data Collection Procedure

Data were collected during the summit through two primary methods:

- Quantitative: Evaluators completed scoring sheets for each project.
- Qualitative: Evaluators provided written justifications for their ratings, noting observed strengths and weaknesses.

The completed scoring sheets were encoded into a database for statistical analysis, while qualitative justifications were collated for thematic coding.

Data Analysis

Quantitative data were analyzed using descriptive statistics, including means, totals, and rankings, to compare the performance of all ten projects. Thematic analysis was applied to the evaluators' written justifications, allowing identification of recurring patterns in project strengths and weaknesses. Results were then mapped to the Sustainable Development Goals (SDGs) to situate the projects within a global sustainability framework.

Ethical Considerations

The study followed ethical guidelines for extension program evaluations. Participation was voluntary, with youth and school representatives informed of the evaluation purpose. Data were treated with confidentiality, and only aggregate findings are reported. The program operated under the institutional extension mandate of JRMSU and in accordance with DepEd's policies on youth formation and co-curricular organizations (DepEd, 2003, 2020).

## Results & Discussion

The results of the evaluation highlight both the strengths and challenges of youth-led environmental initiatives under the YOUTHNITE Extension Program. Ten project proposals from Youth for Environment in Schools Organization (YES-O) chapters in Dipolog City were assessed using standardized criteria of innovativeness, replicability and sustainability, impact/reach, feasibility, and presentation. The analysis integrates quantitative scores, qualitative justifications from evaluators, and alignment with the Sustainable Development Goals (SDGs). Findings show that while youth leaders demonstrated high levels of creativity and commitment to sustainability, gaps remain in feasibility, partnership building, and communication. The following section presents the results through tables and figures, followed by a thematic discussion that situates these findings within recent literature on youth engagement and climate action.

**Table 1**

*Evaluation results of youth-led environmental project proposals under YOUTHNITE (N = 10)*

| Project | Innovativeness | Replicability & Sustainability | Impact/ Reach | Feasibility | Presentation & Delivery | Total Score |
|---|---|---|---|---|---|---|
| **SolaRise** | 19 | 30 | 19 | 20 | 10 | **21.6** |
| **GreenBuild** | 18 | 30 | 18 | 19 | 9 | **20.9** |
| **Project GPOTS** | 18 | 28 | 18 | 18 | 9 | **20.1** |
| **Shade & Shelter** | 17 | 29 | 17 | 18 | 9 | **20** |
| **RePaper** | 18 | 27 | 15 | 16 | 8 | **18.7** |

| | | | | | | |
|---|---|---|---|---|---|---|
| **EcoBin** | 17 | 26 | 16 | 16 | 8 | **18.5** |
| **HydroHarvest** | 17 | 25 | 16 | 16 | 8 | **18.3** |
| **GreenWave** | 16 | 25 | 15 | 15 | 7 | **17.6** |
| **BioCycle** | 16 | 24 | 15 | 15 | 7 | **17.4** |
| **Waste2Wealth** | 15 | 24 | 14 | 14 | 7 | **17.1** |

Table 1 presents the evaluation results of ten youth-led project proposals under the YOUTHNITE Extension Program. Proposals were rated across five dimensions: innovativeness, replicability and sustainability, impact/reach, feasibility, and presentation and delivery. *SolaRise* emerged as the highest-rated project (21.6), closely followed by *GreenBuild* (20.9), *Project GPOTS* (20.1), and *Shade & Shelter* (20.0). The lowest-scoring project was *Waste2Wealth* (17.1), although still demonstrating creative approaches to recycling and upcycling. The overall scores suggest that youth leaders produced diverse and innovative concepts, with most projects clustering between 17 and 22 points.

The data indicate that proposals excelled in innovativeness and sustainability potential, with *SolaRise* standing out due to its emphasis on renewable energy integration, while *GreenBuild* highlighted eco-construction for school resilience. Mid-range scores (e.g., *EcoBin*, *HydroHarvest*) suggest projects with solid concepts but limited feasibility due to resource and technical constraints. Lower-ranked projects often lacked detailed implementation strategies or clear replicability pathways, reflecting a gap between creative ideas and actionable project planning. Presentation and delivery also appeared as a common challenge, where weaker communication skills limited the evaluators' perception of otherwise promising ideas. These findings suggest that while Filipino youth possess strong climate innovation potential, structured mentorship is necessary to transform ideas into sustainable, scalable action.

The evaluation findings mirror previous studies on youth-led sustainability programs. Balundė et al. (2020) demonstrated that pro-environmental behavior among adolescents is strongly linked to innovation and environmental self-identity, consistent with the high scores on innovativeness in this evaluation. However, feasibility and replicability challenges reflect broader patterns observed by Gavazzi et al. (2021), who noted that youth-led initiatives often require technical and institutional support to ensure long-term sustainability. Within the Philippine context, YES-O remains the formal mechanism for embedding such programs in schools (DepEd, 2003, 2020), but its success is contingent on adviser involvement and partnerships (Cadiz & Cortez, 2025). Extension programs like YOUTHNITE, which integrate mentorship and seed funding, directly address these gaps and resonate with the World Bank's (2022) call for multi-sectoral collaboration in climate-vulnerable nations. Thus, the results underscore that youth environmental leadership flourishes when backed by structured evaluation, institutional scaffolding, and cross-sectoral partnerships.

**Figure 1**

*Total evaluation scores of YOUTHNITE project proposals, ranked highest to lowest.*

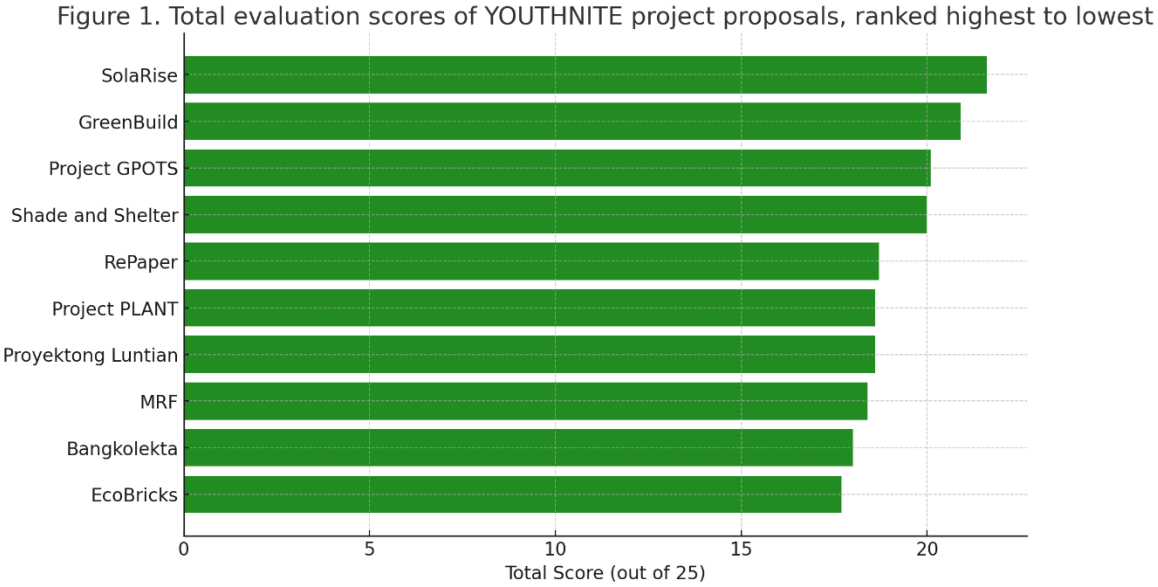


Figure 1 illustrates the comparative ranking of the ten project proposals based on their total evaluation scores. The distribution shows a clear stratification, with *SolaRise*, *GreenBuild*, and *Project GPOTS* leading, while *Waste2Wealth* and *BioCycle* scored at the lower end. Most projects fell within a relatively close scoring band, suggesting that the proposals were competitive and generally well-prepared.

The rankings highlight how certain projects stood out for their comprehensive alignment with the evaluation criteria. High-ranking proposals effectively combined technical feasibility with broad community impact, whereas lower-ranking projects, although creative, lacked clarity in implementation details or resource planning. The clustering of scores between 17 and 22 suggests that the program succeeded in fostering a generally high standard of outputs among youth participants. This competitiveness signals both the strength of the mentoring framework and the need for targeted improvements in specific skill areas, such as project management and communication.

The stratified results resonate with findings by Tabanao et al. (2025), who observed that while youth consistently display enthusiasm for sustainability, only a subset manage to translate awareness into actionable, high-quality outputs. Similarly, Gavazzi et al. (2021) highlighted that student-led sustainability projects often show potential but require structured evaluation and technical input to achieve impact. The competitive nature of the rankings demonstrates the effectiveness of extension programs like YOUTHNITE in raising project quality across the board, consistent with the World Bank's (2022) assertion that structured frameworks elevate community-led climate initiatives.

**Figure 2**

*Average evaluation scores across criteria for all YOUTHNITE project proposals.*

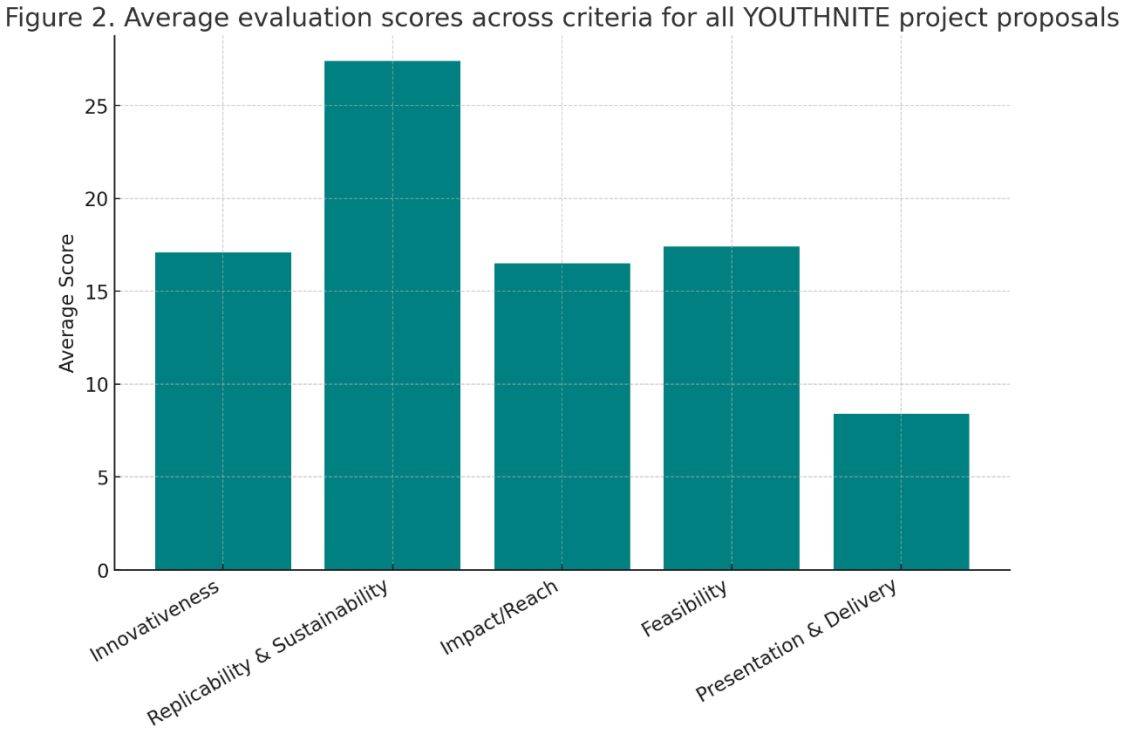


Figure 2 presents the average scores for each of the five evaluation criteria across all projects. Innovativeness and replicability scored the highest on average, while feasibility and presentation received comparatively lower scores. This suggests that while students excel at generating fresh and creative ideas, translating them into practical, well-communicated projects remains a challenge.

The higher scores in innovativeness reflect the creativity and passion of youth participants in conceptualizing novel environmental solutions, such as solar-powered systems and eco-construction designs. Strong replicability and sustainability ratings further demonstrate that many projects envisioned long-term applications beyond a single school. In contrast, feasibility and presentation emerged as weak points, underscoring gaps in technical detail, budgeting, and communication. These patterns suggest the need for capacity-building modules that focus on project planning, financial literacy, and effective public speaking, ensuring that promising ideas can be realistically implemented and convincingly presented.

These findings align with Cadiz and Cortez (2025), who noted that sustainability in YES-O thrives when innovation is coupled with clear implementation strategies and resource mobilization. Likewise, Balundė et al. (2020) emphasized that adolescents' environmental values often precede the development of technical competencies, a gap that structured mentorship must address. The observed weakness in presentation resonates with DepEd's (2020) call for systematic reporting and accountability mechanisms in YES-O, where youth leaders are trained not only to design but also to communicate their initiatives

effectively. Therefore, YOUTHNITE's evaluation underscores the importance of balancing creativity with capacity-building in feasibility and communication, ensuring alignment with the Sustainable Development Goals (SDGs).

**Table 2**

*Thematic categories emerging from evaluators' justifications of project scores.*

| Strengths | Weaknesses |
|---|---|
| High innovation in renewable energy and eco-construction (*SolaRise, GreenBuild*). | Some projects lacked detailed feasibility plans or technical clarity. |
| Strong sustainability and replicability potential across majority of proposals. | Replicability limited in narrowly school-based projects (*RePaper*). |
| Clear community-level impacts such as awareness campaigns and waste reduction activities. | Impact restricted mainly to immediate school communities. |
| Feasibility demonstrated through realistic timelines and budgets in top-ranked projects. | Limited presentation and delivery skills, reducing clarity of proposals. |
| Engaging presentation and delivery for leading proposals. | Insufficient partnerships to ensure long-term sustainability. |

Table 2 synthesizes the evaluators' qualitative justifications, grouping observations into strengths and weaknesses. Strengths highlighted include innovation in renewable energy and eco-construction, strong replicability potential, and visible community-level impact. Conversely, weaknesses centered on feasibility gaps, narrow scope of impact, and limited presentation or partnership strategies.

The thematic analysis reinforces the quantitative results in Table 1 and Figures 1–2. Projects excelled at creativity and long-term vision but often lacked concrete implementation details, technical grounding, or sustainable partnerships. This gap between ideas and action demonstrates that while youth leaders can conceptualize projects with high potential, they still need scaffolding in areas such as feasibility studies, multi-stakeholder collaboration, and public communication. The findings also suggest that the highest-scoring proposals benefited from stronger adviser involvement and realistic budgeting, demonstrating how mentorship shapes project quality.

These themes echo the findings of Cadiz and Cortez (2025), who emphasized that YES-O projects achieve sustainability when institutional support and partnerships are in place. Balundė et al. (2020) similarly noted that youth often exhibit strong environmental values but require guidance to translate them into action. Weaknesses in presentation and partnerships are consistent with DepEd's (2020) reiteration that YES-O must submit Annual Accomplishment Reports, underscoring accountability and communication as essential leadership skills. Thus, Table 2 illustrates that YOUTHNITE functions not only as an innovation incubator but also as a bridge to strengthen the organizational and technical competencies of youth leaders.

**Figure 3**
*Alignment of YOUTHNITE project proposals with the Sustainable Development Goals (SDGs).*

| SDG | Focus Area | Aligned Projects |
|---|---|---|
| SDG 4 – Quality Education | Empowering youth through environmental leadership and capacity-building | *All Projects* |
| SDG 11 – Sustainable Cities and Communities | Building resilient and sustainable school and community infrastructure | *GreenBuild, Shade & Shelter, EcoBin* |
| SDG 13 – Climate Action | Mitigating and adapting to climate change through renewable energy and resource management | *SolaRise, HydroHarvest, GreenWave, BioCycle* |
| SDG 17 – Partnerships for the Goals | Strengthening collaborations among schools, HEIs, LGUs, NGOs, and youth organizations | *Project GPOTS, RePaper, Waste2Wealth* |

Figure 3 maps the ten YOUTHNITE project proposals onto the Sustainable Development Goals (SDGs). All projects align with SDG 4 (Quality Education) by integrating environmental awareness into student leadership. Distinct clusters emerged: projects addressing infrastructure resilience (*GreenBuild, Shade & Shelter*), climate adaptation (*SolaRise, HydroHarvest*), waste management (*RePaper, Waste2Wealth*), and multi-stakeholder collaboration (*Project GPOTS*).

The mapping reveals that YOUTHNITE projects are not isolated initiatives but contribute to global sustainability targets. The predominance of SDG 13 (Climate Action) demonstrates youth prioritization of climate mitigation and adaptation. Meanwhile, SDG 11 (Sustainable Cities and Communities) projects highlight youth recognition of local resilience challenges, and SDG 17 (Partnerships for the Goals) reflects attempts to institutionalize collaboration. This structured alignment strengthens the defensibility of YOUTHNITE as an extension program that links grassroots innovation to international frameworks.

The integration of YOUTHNITE projects into the SDG framework mirrors Leal Filho et al.'s (2019) argument that higher education initiatives should directly connect student-led sustainability activities with global development agendas. Tabanao et al. (2025) likewise stressed that bridging awareness with action ensures that youth contributions are not only symbolic but transformative. The World Bank (2022) further underscores that for climate-vulnerable countries like the Philippines, youth initiatives grounded in SDG alignment provide both local solutions and pathways for policy influence. Thus, Figure 3 highlights the significance of YOUTHNITE as both a local intervention and a globally relevant model.

## Conclusions

The evaluation of the YOUTHNITE Extension Program demonstrates that youth possess remarkable creativity and passion for environmental leadership. Projects such as *SolaRise* and *GreenBuild* exemplify the potential of student-led initiatives to combine innovation with sustainability and replicability. However, across the ten proposals,

feasibility and presentation emerged as consistent areas for improvement, reflecting the common gap between visionary ideas and practical implementation.

The thematic analysis revealed that projects thrived when supported by strong mentorship, realistic timelines, and external partnerships, while weaknesses were linked to limited technical planning and communication. Beyond program evaluation, the findings validate the application of experiential learning and community-based extension theories, as they highlight how practical engagement enhances students' competencies and leadership. Furthermore, mapping the proposals onto the Sustainable Development Goals (SDGs) confirmed their global relevance, with strong contributions to SDG 13 (Climate Action), SDG 11 (Sustainable Cities and Communities), and SDG 17 (Partnerships for the Goals), anchored in the educational empowerment of SDG 4 (Quality Education).

Overall, YOUTHNITE stands as an innovative extension model that bridges classroom learning with community-based climate action, transforming youth enthusiasm into structured, theory-informed, and policy-relevant contributions to environmental sustainability.

Based on the findings and conclusions, the following recommendations are proposed:

1. **Strengthen Technical Capacity** – Future iterations of YOUTHNITE should include workshops on feasibility analysis, project management, and financial literacy to ensure youth leaders can translate innovative ideas into actionable plans that are scalable and sustainable.
2. **Enhance Communication Skills** – Training in public speaking, proposal writing, and digital storytelling will improve the clarity and persuasiveness of youth project presentations, enabling participants to advocate more effectively for their initiatives at larger platforms and in multi-sector settings.
3. **Deepen Multi-Sector Partnerships** – Stronger collaborations with local governments, NGOs, and private sector actors can provide the resources, expertise, and networks needed not only for long-term sustainability but also for scaling youth-led initiatives to broader communities and regions.
4. **Institutionalize Mentorship Programs** – Embedding advisers from HEIs, LGUs, or NGOs as mentors will help bridge technical and organizational gaps in youth-led proposals, while also ensuring that guidance is sustained as projects grow in scope, replicability, and regional impact.
5. **Expand SDG Integration** – Explicitly linking project outputs with measurable SDG indicators will strengthen alignment with global development priorities. This integration will position YOUTHNITE as a model that can be scaled across regions, enhance policy relevance, and demonstrate youth contributions to climate action and sustainable development.
6. **Conduct Longitudinal Monitoring** – Tracking the outcomes of funded projects beyond initial implementation will generate evidence of impact, support continuous mentorship, and provide data for refining strategies for scaling and aligning youth initiatives with long-term SDG commitments

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**Disclosure: Use of AI Tools**

In compliance with Threshold's guidelines for the ethical use of artificial intelligence (AI) and automated tools in academic research, the authors disclose the use of OpenAI's ChatGPT for enhancing the quality and clarity of the manuscript. ChatGPT was utilized to assist in refining the language, structure, and formatting of the text, ensuring a high level of academic rigor and coherence. The authors confirm that all data analysis, critical interpretations, and conclusions presented in this manuscript were conducted independently by the research team. The AI tool was employed strictly for editorial assistance and did not influence the scientific content or ethical considerations of the study. All intellectual contributions from the AI tool are in accordance with the authors' original intentions and have been reviewed and approved by all co-authors. The use of ChatGPT complies with Threshold's ethical standards and guidelines for transparent reporting of AI involvement in research. The authors remain fully responsible for the integrity and accuracy of the content presented in this paper.

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