

Youth engagement in environmental programs of Barangay San Gabriel and Tampadong, Pamplona, Camarines Sur

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Abstract

The study was conducted in barangay Tampadong and San Gabriel, Pamplona, Camarines Sur. The study aims to (a) determine the existing environmental programs, (b) determine the level of engagement, (c) identify perceived challenges and (d) propose intervention to improve the youth engagement in environmental programs in barangay Tampadong and San Gabriel Pamplona, Camarines Sur. The researcher used qualitative research to explore youth engagement on environmental programs. The researcher conducted an interview to youth representatives from the two barangays. The study found that both barangays have existing environmental programs such as waste segregation, composting or Materials Recovery Facility (MRF), clean-up drives, tree planting, and ordinances against illegal dumping. The level of youth engagement in these environmental programs was interpreted as highly engaged, indicating that youth are aware of environmental initiatives, actively participate in activities, and encourage others to become involved. However, youth participation in environmental decision-making processes was comparatively lower. The study also identified several challenges affecting youth engagement, particularly time constraints, lack of support from leaders or peers, limited accessibility to programs, and misalignment of activities with youth interests. Furthermore, the respondents strongly supported proposed interventions such as organizing youth-focused environmental events, providing incentives, using social media for awareness campaigns, and strengthening collaboration with schools and youth organizations to improve youth participation. The study recommends intensifying information campaigns, demonstrations and household monitoring on proper waste segregation, and provision of incentives for community's compliance. Moreover, creation of youth councils, and youth representatives on environmental committee, and conduct of consultation meetings will

strengthen the sense of ownership on the environmental programs. Further, the barangays should create a comprehensive youth environmental program and utilize media for promotion, recognition and awards and partnership to schools and youth groups.

Keywords: level of engagement, youth engagement, environmental programs, Pasacao, Camarines Sur

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1. Introduction

Youth is defined as the phase between childhood and adulthood, marked by physical, emotional, and cognitive growth, exploration, and increasing social involvement (World Health Organization [WHO], 2025). Globally, around 1.2 billion people aged 15 to 24 years represent 16% of the total population, making this demographic critical for sustainable development initiatives (World Youth Report, 2020). UNESCO emphasizes that young people are essential partners in driving social change, reducing inequalities, and advancing sustainability, due to their creativity, innovation, and leadership potential. Projections indicate the youth population will rise by 7% to nearly 1.3 billion by 2030. By that time—when the Sustainable Development Goals (SDGs) are expected to be achieved—it is today's youth who will face the outcomes, positive or negative, of current environmental and climate-related decisions (Tabanao et al., 2025).

Engaging youth in community environmental initiatives benefits both young individuals and the communities they belong to. Active participation fosters positive youth development and builds life skills (Pittman et al., 2003; Schusler & Krasny, 2010). Beyond personal growth, these programs address critical local concerns and align strongly with the values and interests of young people (McCullough et al., 2022). Despite this recognized value, significant gaps remain—especially in Barangay San Gabriel, Pamplona, Camarines Sur. Studies show that while participation opportunities have increased, engagement is often tokenistic: youth are included too late in planning, lack meaningful decision-making roles, and have limited platforms to contribute. Weak communication, insufficient resources, lack of mentorship, and poor institutional support further limit empowerment. There is also limited evidence regarding which non-formal engagement models work best and what features drive success. Resolving these requires inclusive involvement from the early stages, better communication strategies, and rigorous evaluation of engagement approaches.

Worldwide, youth are increasingly recognized as central actors in climate and environmental action. According to the Geneva Environment Network (2024), young people consistently demonstrate capacity to develop innovative solutions and advocate effectively. Their participation in campaigns, policy dialogues, and local programs shows growing commitment to environmental stewardship. International research supports this: Sarkar (2023) noted that successful youth-led initiatives rely heavily on intergenerational cooperation and knowledge sharing, while More (2024) highlighted how youth activists raise awareness, shape policies, and mobilize communities through education and advocacy. Variations in engagement patterns exist globally. In Canada, for example, youth aged 15-30 volunteered as often as older adults but contributed more hours and a larger share of donations. In 2019, 58% of millennials and 55% of Gen Z used sustainable transport more often; 64% of millennials reduced single-use plastics and recycled more than Gen Z (55%). Additionally, 62% believed Canada should lead climate action, and 65% of those aged 18-34 were willing to pay extra annually for climate protection, compared to 38% of adults aged 55+ (Arriagada & Pinault, 2022).

Structured, well-designed approaches are key to meaningful engagement. Hickman (2016), through the Youth Leading Environmental Change project, proposed a theory explaining how youth drive cultural shifts toward sustainability when given proper support and platforms. Reimer and Lynes (2015) argued that engagement must be strategic—with clear activities, motivation strategies, and measurable outcomes. In Southeast Asia, involvement in sustainability programs correlates with stronger community ties and better environmental behaviors. A Malaysian study by Hanifah (2021) found that participation in waste management, energy conservation, and sustainable purchasing significantly improved pro-environmental practices.

Local studies reflect growing environmental awareness among Filipino youth, yet many still face barriers:

limited information, lack of environmental education, weak community support, and minimal decision-making roles. These findings align with Cardarelli (2021), who emphasized that authentic engagement requires not only opportunities but also mentorship, resources, and empowerment-focused frameworks.

This study focuses on Barangay San Gabriel (population 3,928) and Barangay Tampadong (population 1,645), Pamplona, Camarines Sur—areas already implementing tree planting, clean-up drives, and waste management programs, but with unmeasured levels of youth involvement. Both barangays have a large youth population whose participation could greatly advance local sustainability goals. Drawing from international and local literature, this research provides a foundation to analyze current engagement and develop better interventions. Specifically, the study aims to identify existing programs, assess engagement levels, determine challenges, and propose improvements. It affirms that youth engagement benefits environmental outcomes, empowers individuals, promotes sustainable habits, and builds resilient communities.

Statement of the Problem - This research seeks to answer the following questions:

- What are the existing environmental programs in Barangay Tampadong and San Gabriel, Pamplona, Camarines Sur?
- What is the level of engagement of youth from these barangays in environmental programs?
- What perceived challenges hinder youth engagement in such programs?
- What interventions can be proposed to improve participation?

Objectives of the Study - The general objective is to assess existing programs and youth engagement. Specifically:

- Identify the environmental programs currently implemented.
- Determine the level of youth engagement.
- Describe the perceived challenges affecting participation.
- Develop an intervention plan to enhance youth involvement.

Significance of the Study - This research highlights the role of youth in environmental protection and sustainability. Its findings will benefit the following:

- Researchers: Deepens understanding of youth participation and strengthens skills in research and community work.
- Youth: Raises awareness, builds skills, fosters responsibility, and encourages active participation.
- Local Government Units: Provides data-driven insights to design and improve youth-inclusive programs.
- Environmental Groups: Helps identify effective strategies for conservation and advocacy.
- Academe: Serves as reference material and links theory with real-world application.
- Non-Government Organizations: Offers insights to design empowerment-focused initiatives and partnerships.

Scope and Delimitation - This study covers existing environmental programs, level of engagement, challenges, and proposed interventions in Barangays San Gabriel and Tampadong, over the past ten years. Respondents include 275 youth from San Gabriel (31.43% of 875 youth population) and 214 from Tampadong (46.52% of 460 youth population), aged 15-30 years old as defined by Republic Act 8044. It focuses on activities such as tree planting,

clean-up drives, waste management, and awareness campaigns. It excludes other age groups and communities outside the two barangays.

Theoretical Framework - The study integrates three theories: Youth Empowerment Theory (Zimmerman, 1995), Theory of Planned Behavior (Ajzen, 1991), and Social Cognitive Theory (Bandura, 1986).

- **Youth Empowerment Theory** explains that youth become more engaged when they are given meaningful roles, responsibilities, and opportunities to contribute to community programs. When youth feel valued and empowered by barangay officials and community leaders, their level of participation in environmental programs increases.
- The **Theory of Planned Behavior** explains that youth participation is influenced by their attitude toward environmental programs, the support they receive from others (subjective norms), and their perceived behavioral control. In this study, perceived behavioral control represents the challenges youth experience, such as lack of time, lack of resources, and limited support, which affect their intention to participate.
- **Social Cognitive Theory** further explains that youth engagement is influenced by the interaction between personal factors (such as confidence and environmental awareness), environmental factors (such as barangay support and availability of programs), and behavior (actual participation). Youth who have higher self-efficacy and stronger community support perceive fewer challenges and are more likely to engage in environmental activities.

Together, these explain that engagement is influenced by empowerment, challenge perceptions, and social environment.

1. Methodology

This section describes the methods and procedures used to investigate youth engagement in Barangays San Gabriel and Tampadong. It covers research design, sampling, respondents, instruments, data gathering, and statistical analysis.

Research Design - A qualitative research method was used, supported by quantitative survey data. This approach allowed deep exploration of experiences, processes, and context through observation, document review, and interviews, focusing on understanding rather than controlling variables (Bhandari, 2025).

Sampling Methodology - Stratified random sampling was applied, dividing the population by age, gender, and educational attainment to ensure representation. Random selection was done within each group (Simkus, 2023).

Population and Sample - The population includes all youth aged 15-30 years residing in the two barangays. Sample size was determined as follows:

Table 1
Youth Population and Sample Size

Barangay	Total Youth Population	Percentage	Sample Size
Tampadong	460	34.46%	214
San Gabriel	875	65.54%	275
Total	1,335	100%	489

Note. Source: 2020 Census data; PhilAtlas, 2018.

Research Instrument - A structured questionnaire was developed to gather data on existing programs, engagement levels, challenges, and interventions. A 4-point Likert scale was used: 4 - Strongly Agree 3.00 - 4.00, 3 - Agree 2.00 - 2.99, 2 - Disagree 1.00 - 1.99, and 1 - Strongly Disagree 0.99 - 1.00.

Data Gathering Procedure - Permission was secured from barangay officials, and informed consent was obtained from participants. Questionnaires were distributed personally and retrieved to ensure completeness. Secondary data from barangay records and ordinances were also reviewed. Data were tabulated and analyzed using frequency, percentage, and weighted mean.

Statistical Treatment

- Frequency and Percentage: Describes respondent profile and distribution (Manikandan, 2011; Cuemath, 2023).
- Weighted Mean: Determines levels of engagement, challenges, and interventions (Bhandari, 2023).
- Slovin’s Formula: Used to determine sample size with acceptable margin of error (Bobbitt, 2023; Longe, 2025).

2. Results and Discussion

This section presented the results and data collected through the research procedures and methods used in this study. The data were analyzed to come up with the findings needed to answer the specific problems identified.

2.1 Existing Environmental Programs

Table 2
Existing Environmental Programs

Environmental Program	San Gabriel			Tampadong		
	Weighted Mean	Interpretation	Rank	Weighted Mean	Interpretation	Rank
Waste segregation	3.15	Strongly Agree	5	3.05	Strongly Agree	5
Composting or MRF (Materials Recovery Facility)	3.17	Strongly Agree	3.5	3.17	Strongly Agree	1.5
Clean up-drives	3.19	Strongly Agree	2	3.14	Strongly Agree	3
Planting Activities	3.17	Strongly Agree	3.5	3.17	Strongly Agree	1.5
Ordinance against littering and illegal dumping	3.29	Strongly Agree	1	3.13	Strongly Agree	4

In San Gabriel, the Ordinance against littering and illegal dumping ranked highest (WM=3.29), while Waste segregation ranked lowest (WM=3.15). In Tampadong, Composting/MRF and Tree planting tied for highest (WM=3.17), and Waste segregation was lowest (WM=3.05). Programs with immediate visible impact, such as clean-up drives, are better implemented and valued, aligning with Social Cognitive Theory—people engage more when they see tangible results (Bandura, 1986). Tree planting, a long-term activity, ranked lower due to inconsistent maintenance and limited resources. These findings agree with Ajzen (1991), who noted that accessible and visible programs generate higher participation.

2.2 Level of Youth Engagement

Table 3
Level of Youth Engagement

Level of Engagement	San Gabriel			Tampadong		
	Weighted Mean	Interpretation	Rank	Weighted Mean	Interpretation	Rank
Actively participate	3.2	Highly engaged	5	3.21	Highly engaged	1.5
Aware of youth-led environmental initiatives	3.19	Highly engaged	2.5	3.21	Highly engaged	1.5
Represented in decision-making	3.18	Highly engaged	4	3.1	Highly engaged	5
Volunteer in program.	3.19	Highly engaged	2.5	13	Highly engaged	4
Encourage peers to join	3.24	Highly engaged	1	3.18	Highly engaged	3

All indicators were rated Highly Engaged. In San Gabriel, Encouraging peers ranked highest (WM=3.24), reflecting leadership and empowerment (Zimmerman, 1995). In Tampadong, Active participation and Awareness ranked highest (WM=3.21). However, Representation in decision-making was lowest in both areas, confirming that participation is mostly operational rather than strategic (Hart, 1992). Differences between barangays reflect varying levels of leadership opportunities and institutional support (Reimer & Lynes, 2015).

2.3 Perceived Challenges

Table 4
Perceived Challenges

Perceived Challenges	San Gabriel			Tampadong		
	Weighted Mean	Interpretation	Rank	Weighted Mean	Interpretation	Rank
Lack of awareness	3.16	Strongly Agree	5	2.64	Agree	3
Time constraints	3.19	Strongly Agree	1.5	2.95	Agree	1
Environmental programs inaccessible	3.18	Strongly Agree	4	2.85	Agree	2
Lack of encouragement or support	3.19	Strongly Agree	1.5	2.8	Agree	5
Programs not aligned with interests	3.19	Strongly Agree	1.5	2.62	Agree	4

In San Gabriel, Time constraints, Lack of support, and Misaligned programs tied as top challenges (WM=3.19). In Tampadong, Time constraints ranked highest (WM=2.95). This aligns with Brodie et al. (2017), who stated that school or work commitments are major barriers. According to Theory of Planned Behavior, lack of perceived control reduces participation intention (Ajzen, 1991). San Gabriel respondents rated all challenges as Strongly Agree, while Tampadong rated them as Agree, likely due to differences in infrastructure and resources (Kollmuss & Agyeman, 2002).

2.4 Proposed Interventions

Table 4
Perceived Challenges

Parameters	San Gabriel			Tampadong		
	Weighted Mean	Interpretation	Rank	Weighted Mean	Interpretation	Rank
Integrate environmental education	3.21	Strongly Agree	3	3.15	Strongly Agree	5
Offer incentives / rewards	3.22	Strongly Agree	2	3.56	Strongly Agree	1
Use social media for promotion	3.18	Strongly Agree	5	3.9	Strongly Agree	3
Organize youth-focused activities	3.26	Strongly Agree	1	3.2	Strongly Agree	4
Collaborate with schools / organizations	3.2	Strongly Agree	4	3.30	Strongly Agree	2

All interventions were highly supported. In San Gabriel, Youth-focused activities ranked highest (WM=3.26), while Tampadong preferred Incentives (WM=3.56). This supports Youth Empowerment Theory—motivation increases when activities match interests and offer recognition (Zimmerman, 1995). School partnerships were also preferred, aligning with Social Cognitive Theory regarding supportive environments and role models (Bandura, 1986).

2. Summary, Conclusion and Recommendation

This section presents the summary, findings, conclusion, and recommendations for the study titled Youth Engagement in Environmental Programs in Barangay San Gabriel and Tampadong, year 2025-2026

Summary - The study titled “Youth Engagement in Environmental Programs of Barangay San Gabriel and Tampadong, Pamplona, Camarines Sur” investigates the extent to which young people participate in barangay-led environmental initiatives, including waste management, cleanup drives, tree planting, and ecological awareness campaigns. The research aims to (1) identify the existing environmental programs in the two barangays, (2) determine the level of youth engagement, (3) examine the perceived challenges affecting their participation, and (4) propose an intervention program to enhance youth involvement. The respondents of the study are youth aged 15 to 30 years old, as defined by Republic Act 8044, residing in Barangay San Gabriel and Barangay Tampadong. Using stratified random sampling, a total of 489 youth respondents were selected: 275 from Barangay San Gabriel (out of 875) and 214 from Barangay Tampadong (out of 460). The study employs a qualitative research design, supported by survey questionnaires on a 4-point Likert scale, along with document reviews and field-based data collection, to obtain in-depth and reliable information about youth participation in local environmental programs.

Conclusion - Both communities run effective environmental programs with visible results, though waste segregation remains poorly practiced and needs stricter enforcement and more education. Youth are active in hands-on work and aware of initiatives, but are rarely involved in planning or decision-making, limiting their participation to operational tasks only. Common barriers such as lack of time, limited access, and insufficient support hinder full engagement; these concerns are felt more strongly in San Gabriel, while responses in Tampadong are more varied. Both barangays agree that innovative, youth-focused approaches—including digital promotion, incentives, and partnerships with schools and youth groups—are key to strengthening participation.

Recommendation

- The barangay officials should intensify information campaigns, demonstrations, and household monitoring on proper waste segregation. Providing color-coded bins, conducting seminars, and offering small incentives for compliance can help increase participation in waste segregation programs.
- The Sangguniang Kabataan (SK) should be strengthened and made more visible by leading environmental campaigns, organizing activities, and serving as role models in stewardship. Furthermore, youth should be provided with meaningful opportunities to participate in planning and decision-making processes to foster a sense of ownership, while social media and digital platforms should be maximized to effectively disseminate information and encourage participation among the tech-savvy youth population.
- Barangays should schedule activities during weekends or after school hours, provide transportation or nearby venues, and assign youth mentors or facilitators. Programs should also be designed based on youth interests, such as using digital platforms, competitions, and creative activities to make participation more appealing.
- The barangays should create a comprehensive youth engagement program that uses social media for promotion, provides recognition and rewards, partners with schools and youth groups, and organizes creative environmental activities such as contests, campaigns, and workshops.

Practical Educational Implications - The findings of this research hold meaningful and actionable implications for various stakeholders involved in environmental governance, youth development, and community sustainability in Barangay San Gabriel and Barangay Tampadong, Pamplona, Camarines Sur.

For barangay officials and local government units, the results serve as a data-driven guide to design, implement, and improve environmental programs that genuinely engage the youth. Recognizing that activities

with immediate, visible outcomes (such as clean-up drives) attract higher participation, while long-term initiatives (like tree planting and waste segregation) face sustainability challenges, authorities can adjust program design—for instance, by adding regular monitoring, recognition systems, and visible impact reporting to encourage sustained involvement. Furthermore, since youth expressed strong interest in incentives, youth-centered activities, and school partnerships, barangay leaders can integrate these elements to make programs more appealing and inclusive. The study also highlights the gap in decision-making involvement; thus, officials can establish formal youth advisory boards or committees to ensure young people are not just participants, but co-planners and decision-makers, leading to more relevant and effective environmental projects.

For the youth sector and youth organizations, this research provides clear insights into their own engagement patterns, challenges, and preferences. It empowers young people to advocate for their needs, propose activities aligned with their interests, and take greater leadership roles in environmental stewardship. Understanding that time constraints and lack of support are major barriers, youth groups can collaborate with schools and workplaces to schedule activities conveniently, while also building peer support networks to sustain participation. The identified interventions—such as eco-contests, digital promotion, and educational activities—can be directly adopted by youth leaders to mobilize more peers and strengthen their contribution to community development.

For schools and educational institutions, the findings emphasize the vital role of formal and non-formal education in boosting youth engagement. Integrating environmental education into the curriculum, organizing school-community environmental projects, and recognizing student participation through awards or credit systems can bridge the gap between learning and action. Schools can also partner with barangays to co-design programs that fit students' schedules and align with their learning goals, helping translate environmental knowledge into actual behavior and community service.

For environmental groups and non-government organizations, this study offers a clear understanding of local barriers and motivations, enabling them to develop targeted capacity-building programs, provide mentorship, and deliver resources to support barangay-led initiatives. They can use the results to craft strategies that address specific challenges—such as accessibility, relevance, and social support—and to replicate successful engagement models in other nearby communities with similar contexts.

Overall, this research provides a practical framework to transform youth engagement from token participation into meaningful, empowered action. By applying the identified strategies, stakeholders can create a more active, capable, and committed youth sector that drives sustainable environmental management, builds climate-resilient communities, and contributes effectively to local and national sustainability goals.

AI Declaration Statement - AI Use Disclosure. The authors used ChatGPT (OpenAI, 2026 version) for language refinement, grammar correction, organization of ideas, and manuscript improvement during the preparation of this study. All outputs generated by the AI tool were carefully reviewed, verified, validated, and edited by the authors. The authors assume full responsibility for the accuracy, integrity, and originality of the final manuscript. No confidential or personally identifiable information was entered into the AI system.

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