

Research Article

The Implementation of Green Public Procurement (GPP) in the Province of Albay

Ma. Jemmah B. Ceneta

Bicol University Graduate School, Philippines

Correspondence should be addressed to *Corresponding Author: majemmah.ceneta@bicol-u.edu.ph

ABSTRACT

The main objective of this study is to examine the implementation of Green Public Procurement in the province of Albay. This study explores awareness of procurement officers and city government officials on Green Public Procurement, evaluates the compliance of the three cities in Albay with its legal mandates, assesses the sustainability practices they have adopted, and identifies key challenges and strategic solutions to enhance the effectiveness of sustainable procurement initiatives. This employs a mixed-methods approach, blending qualitative and quantitative techniques to thoroughly analyze how Green Public Procurement is being implemented. To gain deeper insights, semi-structured interviews and focus group discussions are conducted with key stakeholders, including procurement officers and city government officials to shed light on their experiences and perspectives regarding Green Public Procurement. Additionally, relevant documents and policies are reviewed to better understand the existing framework and uncover any potential gaps. To complement this, structured surveys are distributed to key respondents, providing a means to measure awareness, compliance levels, and challenges related to Green Public Procurement. The collected data is then carefully analyzed using statistical tools to identify trends, patterns, and opportunities for improvement. This well-rounded approach ensures that the evaluation of Green Public Procurement practices in Albay is both detailed and insightful. The findings highlight that the cities of Tabaco, Legazpi, and Ligao in the Province of Albay have a basic awareness of Green Public Procurement, particularly in relation to Republic Act 9184. However, they lack a deeper understanding of how to effectively integrate green criteria into their regular procurement processes. While these cities engage in various sustainable development initiatives, there are no specific programs in place to encourage end users to prioritize green products during procurement. Moreover, the implementation of Green Public Procurement in these cities is hindered by the absence of essential elements such as binding policies, local ordinances, established procedures, and clear targets for Green Public Procurement adoption. These gaps present significant challenges to fully embrace sustainable procurement practices in the region.

Keywords: Green Public Procurement (GPP), Implementation, Awareness, Compliance, Environmental Impact, Challenges & Barriers, Sustainability, Albay

1. INTRODUCTION

Economic activities depend on environmental protection, as the economy operates within the constraints of ecological systems (Daly, 1990). Without proper stewardship, resource depletion and ecological degradation threaten sustainability and societal welfare, necessitating collaborative governance among governments, businesses, financial institutions, and grassroots organizations (Brundtland, G. H., 1987; Elkington, 1997). In the Philippines, Section 16, Article II of the 1987 Constitution reinforces the state's duty to safeguard a balanced and healthful ecology, shaping environmental jurisprudence through cases like *Oposa v. Factoran*, which highlighted intergenerational responsibility (La Viña, 2010). However, the worsening impacts of climate change call for urgent resilience-building through adaptive strategies and sustainable practices (Adger, W. N., 2000). Continued inaction risks the depletion of Earth's life-supporting systems (Omusebe, 2017), making government intervention critical. Sustainable public procurement offers a viable approach, reducing the ecological footprint of expenditures and fostering the transition to a circular economy (Sönnichsen, S. D., & Clement, J., 2020). Green procurement, in particular, integrates environmental considerations into policies, driving progress toward Sustainable Development Goal 12, which emphasizes responsible consumption and production (United Nations, 2015). Green Public Procurement (GPP), according to the European Union, is "a process whereby public authorities seek to procure goods, services and works with a reduced environmental impact throughout their lifecycle when compared to goods, services and works with the same primary function that would otherwise be procured." (European

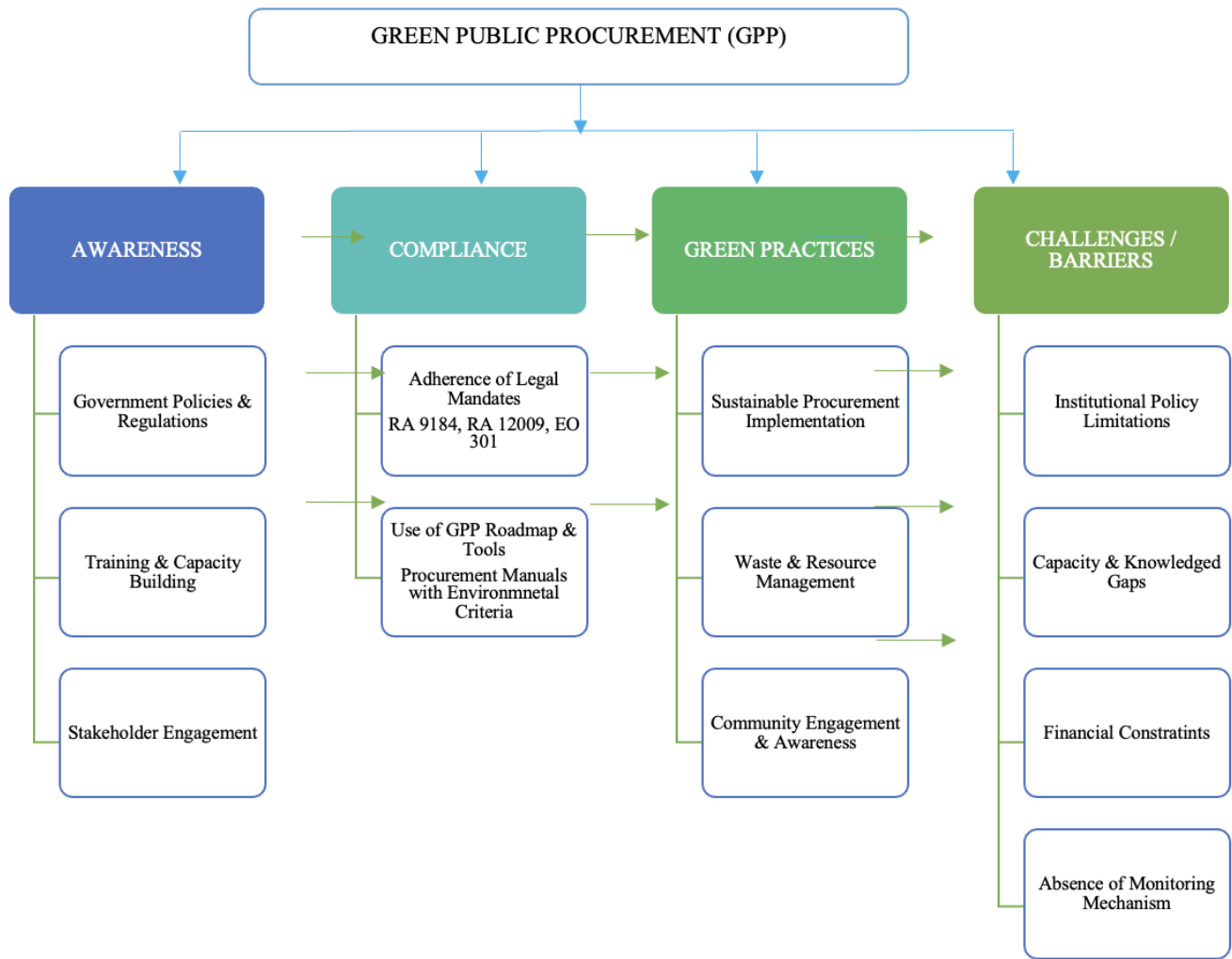
Commission, 2019b). GPP has gained significant attention in academic literature as a strategic tool for promoting sustainability through government purchasing decisions. Research highlights that GPP encourages the adoption of environmentally friendly goods and services, reducing the ecological footprint of public expenditures while fostering sustainable development (Chersan et al., 2020). Studies indicate that integrating green criteria into procurement policies enhances resource efficiency, minimizes waste, and supports the transition to a circular economy (Schotanus & Telgen, n.d.). Additionally, scholars emphasize the role of GPP in raising awareness among stakeholders and driving innovation in sustainable production practices (Chersan et al., 2020). The Green Public Procurement (GPP) in the Province of Albay emphasizes the interplay between awareness and compliance in fostering sustainable procurement practices. Awareness serves as a critical foundation, ensuring that procurement officers and stakeholders understand GPP principles. This understanding is facilitated by government policies, stakeholder engagement, capacity-building initiatives, and the Philippine Green Public Procurement Roadmap (Government Procurement Policy Board - Technical Support Office, 2017). Compliance, on the other hand, ensures adherence to legal mandates such as Republic Act No. 9184 (Government Procurement Reform Act), Executive Order No. 301, and relevant procurement laws that mandate eco-friendly procurement approaches. Together, awareness and compliance create a structured pathway for integrating sustainability into government purchasing processes, addressing challenges like knowledge gaps, stakeholder engagement, market readiness, and regulatory enforcement. By combining these components, the framework strengthens GPP adoption, enhances procurement efficiency, and promotes environmental responsibility within Albay's public procurement system.

2. MATERIALS AND METHODS

This work involved a mix of qualitative and quantitative methods of collecting data to answer the research problems. To quantify the level of awareness of the respondents on Green Public Procurement, the quantitative method was used through survey research. Cross-sectional surveys helped in assessing the level of awareness of the target population. To determine the measures, responses, and challenges of the cities in the Green Public Procurement program the qualitative method was used to conclude the research problems. This method focused on obtaining data through open-ended and conversational communication. A one-on-one interview and/or forum group discussion with the respondents was preferred in collecting data. It also included a case study research of the 2020-2022 public bidding documents of the three cities to assess whether, in their procurement process, they considered the 12th sustainable development goal which is responsible consumption and production. This work is regarded as primary research for this intends to explore a novel research problem and the data to be collected are original to answer the research problem. Structured survey questionnaires were used to collect information directly from the respondents. This list of questions was prepared to know the respondents' personal views and assess their knowledge regarding GPP. Also, unstructured survey questionnaires were distributed to gain a comprehensive understanding of the opinions of respondents. From then, an interview was scheduled with the key informants to collect rich and context-specific data. By engaging in conversation, the researcher was able to explore, validate, and delve deeply into the subject being studied. To obtain additional knowledge on the research topic, the secondary sources coming from books, articles, reviews, and other reading materials were considered as secondary sources of data.

3. RESULTS AND DISCUSSIONS

The successful implementation of Green Public Procurement (GPP) in the Province of Albay is guided by four interrelated components: awareness, compliance, green practices, and challenges/barriers. First, awareness is a crucial foundation for fostering an environmentally conscious procurement system. This involves familiarizing stakeholders with government policies and regulations such as RA 9184 (Government Procurement Reform Act), RA 12009 (establishing the Green Public Procurement program), and Executive Order 301. Training and capacity-building programs are essential for procurement officers, suppliers, and other stakeholders to internalize GPP principles and procedures. Additionally, engaging stakeholders—from government agencies to civil society organizations and the private sector—ensures multi-sectoral collaboration and shared accountability. Compliance with national legal mandates forms the second pillar of the framework. Local government units (LGUs) in Albay are expected to align their procurement activities with the GPP roadmap and utilize prescribed tools such as procurement manuals and monitoring templates that include environmental criteria. This legal alignment ensures that procurement decisions reflect both cost-efficiency and environmental responsibility.



The three cities in Albay implement various green initiatives that indirectly support Green Public Procurement (GPP) by fostering sustainable infrastructure, environmental policies, and responsible community behavior. These efforts, such as waste management programs, conservation projects, and awareness campaigns, create conditions that encourage eco-friendly procurement practices. While not directly part of GPP, they influence supplier readiness, public demand for sustainable products, and policy alignment, making green procurement more feasible. By strengthening these initiatives, cities can enhance GPP implementation and contribute to long-term environmental sustainability. However, several challenges and barriers hinder full implementation. These include institutional and policy limitations such as the absence of GPP-specific local ordinances and weak enforcement mechanisms. Capacity and knowledge gaps remain, especially in areas lacking trained personnel and suppliers unfamiliar with green criteria. Budget constraints also pose difficulties, with green products often perceived as costlier despite their long-term benefits. Lastly, the lack of clear monitoring and evaluation systems prevents the effective assessment of GPP progress and impact. These components form a comprehensive framework that supports the institutionalization of Green Public Procurement in Albay, aiming to promote sustainability, resource efficiency, and climate resilience in public sector purchasing decisions.

Awareness. Awareness plays a crucial role in the successful implementation of Green Public Procurement (GPP), as it influences the adoption and effectiveness of sustainable purchasing practices. Studies highlight that increasing awareness among policymakers, procurement officers, and suppliers enhances compliance with environmental standards and fosters a culture of sustainability in public procurement processes (Chiappinelli, 2022). The Philippine Green Public Procurement Roadmap emphasizes the need for capacity-building initiatives and stakeholder engagement to ensure that procurement entities understand the benefits and requirements of GPP (Government Procurement Policy Board - Technical Support Office, 2017). Additionally, research suggests that awareness campaigns and training programs can address barriers such as regulatory challenges and market readiness, ultimately driving the transition toward greener procurement practices (Barnie, 2019). By integrating awareness strategies into procurement policies, governments can strengthen the impact of GPP and contribute to broader sustainability goals (Chiappinelli, 2022).

Table 1. Summary of the Level of Awareness on GPP of the Three Cities in Albay

City	Total Average	Description
TABACO	2.60	Aware
LEGAZPI	2.82	Aware
LIGAO	2.78	Aware

The table Summary of the Level of Awareness on GPP of the Three Cities in Albay presents a comparative analysis of Green Public Procurement (GPP) awareness among procurement officers in Tabaco, Legazpi, and Ligao. It provides a total average score for each city, categorizing their awareness levels based on their respective descriptions. Legazpi recorded the highest total average score of 2.82, followed by Ligao with 2.78, and Tabaco with 2.60. Despite slight variations in scores, the awareness level across all three cities is consistently categorized as "Aware." This indicates that procurement officers in these cities have a general understanding of GPP, which suggests positive engagement with sustainable procurement policies and practices. However, while the scores reflect basic awareness, they do not necessarily indicate deep knowledge or implementation capability. Further research may be needed to assess whether procurement officers fully comprehend GPP principles and actively integrate them into purchasing decisions. Additionally, enhancing awareness through capacity-building programs, training sessions, and stakeholder engagement could strengthen GPP adoption in Albay, ensuring that knowledge translates into actual policy compliance and implementation.

The table reveals that procurement officers in Tabaco, Legazpi, and Ligao are not yet fully aware of Green Public Procurement (GPP), possessing only partial knowledge of its components. While their current understanding reflects some familiarity with sustainable procurement, it does not indicate comprehensive knowledge or active implementation. However, their ongoing learning efforts suggest a commitment to adopting GPP practices in the future. GPP follows conventional procurement procedures but offers additional benefits, contributing to sustainable development, economic growth, inclusivity in business and consumer society, and environmental protection (International Institute for Sustainable Development, IISD). The Province of Albay has demonstrated strong environmental commitment through local ordinances and initiatives, prioritizing various programs to safeguard natural resources. Despite this, the significant role of government purchasing power in advancing sustainability must not be overlooked, as strategic procurement decisions can shape economic, societal, and environmental outcomes.

Regular training sessions and seminars for procurement personnel primarily focus on Republic Act No. 9184 (Government Procurement Reform Act) to keep them informed of public procurement policies. However, GPP awareness efforts have remained limited and inconsistent. While some procurement officials have accessed information via the Government Procurement Policy Board (GPPB) website, many Bids and Awards Committee (BAC) members remain unaware of GPP's existence in the Philippines. Key questions arise regarding why it is termed "green" and how public procurement can transition toward sustainable practices, further emphasizing the need for enhanced awareness. Interestingly, some respondents revealed that this is their first exposure to the concept of GPP, highlighting an urgent need to integrate sustainability education into procurement training.

Albay's commitment to environmental protection is evident through its numerous local policies designed to achieve sustainability goals. Studies, such as those by Jabbour (2023), demonstrate that GPP generates significant environmental benefits, including reduced greenhouse gas emissions, lower waste production, and minimized energy consumption. Additionally, GPP leads to long-term cost savings by reducing resource consumption while promoting the adoption of efficient, eco-friendly products and services. Ultimately, the success of GPP depends on the awareness and commitment of local governments, procurement officers, and suppliers. Strengthening policy frameworks, enhancing capacity-building programs, and fostering collaboration among stakeholders will be crucial in achieving full compliance and effective implementation of GPP in Albay.

Compliance. Compliance with Green Public Procurement (GPP) in the Philippines is guided by legal frameworks and policy initiatives that promote sustainable purchasing practices among government agencies. The Philippine Green Public Procurement Roadmap outlines strategies for integrating environmental considerations into procurement processes, ensuring adherence to sustainability goals and regulatory requirements (Government Procurement Policy Board - Technical Support Office, 2017). Additionally, Republic Act No. 9184, also known as the Government Procurement Reform Act, mandates transparency and efficiency in procurement, supporting the implementation of GPP through standardized guidelines (Government Procurement Policy Board, 2017). Executive Order No. 301 further establishes a GPP program, encouraging public entities to prioritize eco-friendly goods and services in their procurement decisions (Government Procurement Policy Board, 2017). Compliance with these policies ensures that procurement activities align with environmental objectives, fostering responsible consumption and production practices.

Table 2. Summary of the Level of Compliance on GPP of the Three Cities in Albay

City	Total Average	Description
TABACO	2.76	Substantially Compliant
LEGAZPI	2.63	Substantially Compliant
LIGAO	2.84	Substantially Compliant

The table Summary of the Level of Compliance on GPP of the Three Cities in Albay provides insights into how procurement officers in Tabaco, Legazpi, and Ligao adhere to Green Public Procurement (GPP) guidelines. While all three cities fall under the category of "Substantially Compliant," indicating a general alignment with GPP principles, their compliance levels vary. Ligao recorded the highest average score of 2.84, followed by Tabaco with 2.76, and Legazpi with 2.63, suggesting that Legazpi may face greater challenges in implementing and monitoring GPP practices effectively. One potential issue affecting compliance is the lack of binding policies, making GPP adoption voluntary rather than mandatory. Without strict enforcement, procurement officers may not consistently apply green technical specifications, sustainability criteria, or eco-friendly purchasing strategies in their processes. Additionally, stakeholder engagement remains an area for improvement, as training programs primarily focus on Republic Act No. 9184 (Government Procurement Reform Act) but do not necessarily integrate comprehensive GPP education. Although some procurement officers have accessed materials from the Government Procurement Policy Board (GPPB) website, many members of the Bids and Awards Committee (BAC) remain unaware of its existence in the Philippines. Questions such as "Why is it called green?" and "How can public procurement transition into GPP?" indicate significant gaps in awareness that need to be addressed through targeted training, localized capacity-building sessions, and proactive information dissemination.

Furthermore, monitoring and evaluation mechanisms across local government units (LGUs) need improvement, as compliance tracking may be inconsistent or lack a standardized reporting process. Regular audits and performance reviews could strengthen adherence to GPP guidelines and ensure procurement officers actively integrate sustainable practices into their purchasing decisions. Additionally, ongoing legislative efforts—such as the Green Public Procurement Act (House Bill No. 6468), which the House of Representatives passed on December 12, 2022 (Representatives, 2022)—signal a move towards mandatory GPP adoption rather than voluntary compliance. If passed into law, this measure would require all government agencies to integrate sustainability considerations into their procurement processes. Moreover, studies such as those by Jabbour (2023) emphasize the long-term benefits of GPP, including reduced greenhouse gas emissions, lower waste production, and decreased energy consumption, demonstrating that a fully compliant procurement system could lead to both environmental sustainability and economic efficiency. Ultimately, while procurement officers in Albay exhibit substantial compliance, a stronger regulatory framework, continuous education, and improved monitoring mechanisms are necessary to achieve full implementation and lasting impact in sustainable procurement.

Green Practices. Green Public Procurement (GPP) plays a critical role in promoting sustainability by integrating environmental considerations into government purchasing decisions. One of its primary objectives is to reduce greenhouse gas emissions, thereby contributing to climate change mitigation. According to Testa et al. (2016), GPP is an essential policy tool that governments can use to drive environmental sustainability, as it incentivizes businesses to adopt greener practices and innovate towards eco-friendly solutions. By prioritizing products and services that adhere to sustainability standards—such as energy-efficient technologies and waste-reduction strategies—GPP fosters long-term environmental benefits, including resource conservation and waste minimization. The concept of a circular economy further strengthens GPP, as it encourages reuse, repair, and recycling, reducing overall ecological footprints (Geissdoerfer et al., 2017). Additionally, procurement decisions directly impact biodiversity and ecosystems. Studies indicate that deforestation, pollution, and industrial expansion caused by unsustainable procurement practices pose significant risks to biodiversity (Steffen et al., 2015). Thus, incorporating sustainability in public purchasing policies ensures that natural habitats and ecological balance remain protected.

Many cities implement green initiatives that indirectly support the adoption of Green Public Procurement (GPP) by fostering an environmentally conscious infrastructure, policies, and community behavior. While not explicitly categorized as procurement strategies, these initiatives create the necessary conditions for sustainable purchasing decisions. In Tabaco City, it has initiated several environmentally sustainable programs that reflect the principles of Green Public Procurement (GPP), especially in infrastructure and waste management. One of the city's landmark GPP-related projects is the eco-friendly Tourist Rest Area (TRA) constructed at Hiraya Manawari Nature Park. Developed in partnership with the Department of Tourism, the TRA incorporates green building features such as solar panel roofing and a rainwater harvesting system. This project not only supports sustainable tourism but also demonstrates Tabaco City's commitment to environmentally responsible public infrastructure (When In Manila, 2023).

In the field of waste management, the City Environment and Natural Resources Office (CENRO) of Tabaco has undertaken several impactful initiatives. In April 2024, the city engaged a third-party service provider to ensure the proper collection and disposal of medical waste, highlighting its efforts toward safe and sustainable healthcare waste management (GovServ, 2024a). The city also regularly conducts coastal clean-up drives, such as the "Kalinisan sa Bagong Pilipinas Program," which actively involves government employees and community volunteers in preserving the cleanliness of coastal areas (GovServ, 2024b). Moreover, Tabaco City has become a benchmark for other LGUs, such as Pasacao in Camarines Sur, in showcasing nature-based coastal protection strategies (GovServ, 2024c). Further reflecting GPP principles, Tabaco City creatively utilized recycled materials in a city-sponsored public display. In 2022, the city built a candyland-themed Christmas village made entirely from ecobricks and repurposed plastics. This initiative emphasized both environmental awareness and community engagement, serving as a unique demonstration of how recycled materials can be incorporated into public projects (Rappler, 2022). Through these green initiatives, Tabaco City exhibits a strong commitment to sustainable development by integrating environmental considerations into public procurement, infrastructure, and community projects.

Legazpi City has launched a range of green initiatives that underscore its commitment to environmental sustainability and climate resilience. One of the city's hallmark programs is the "Plastic for Rice" initiative, which incentivizes residents to exchange

five kilograms of residual plastic waste for one kilogram of rice. This program encourages waste segregation and promotes recycling at the household level (Wikipedia, 2024). To further enhance its waste management strategy, the city has deployed a smart waste management system—a digital platform that optimizes garbage collection routes and monitors efficiency, ultimately reducing fuel consumption and operational costs (Asian Development Bank, 2020). Additionally, the city began operating a granular plastic shredding machine in 2023 to process plastic waste from homes and establishments, significantly minimizing waste volume and preventing environmental pollution (Philippine News Agency [PNA], 2023).

Legazpi City has also prioritized climate-resilient infrastructure. It has constructed flood control systems including pumping stations, dikes, and drainage systems, particularly along the Tibu and Macabalo Rivers. A 2.7-kilometer coastal road has also been built to serve as a protective barrier against storm surges (Wikipedia, 2024). Urban greening is another focal area of Legazpi's sustainable development strategy, with tree planting efforts under the National Greening Program contributing to increased vegetation cover and improved microclimates (HLS-ESC, n.d.). In terms of environmental education and community engagement, Legazpi City promotes awareness through initiatives like the Green Film Festival, where students are exposed to educational documentaries on solid waste management (PNA, 2018). The city is also involved in bamboo propagation projects supported by international organizations, such as the Global Center on Adaptation. These efforts contribute not only to carbon sequestration and erosion control but also offer sustainable livelihood opportunities for local communities (GCA, n.d.). Legazpi City's integrated approach—combining waste management, green infrastructure, and public engagement—reflects a strong alignment with sustainable development and climate adaptation goals.

Ligao City in Albay has launched various green initiatives aimed at promoting environmental sustainability and improving community well-being. One of the city's most notable programs is its comprehensive waste management effort, including the "Trash to Treasure" and "May Kabuhayan sa Basura" programs. These initiatives encourage residents, students, and barangays to segregate and recycle waste materials in exchange for food and household items, promoting both environmental responsibility and livelihood support (Philippine News Agency [PNA], 2022; GovServ, n.d.). The city has also implemented the "Kalakalan" or "Palit Basura" program, which allows recyclable materials to be traded for essential goods, fostering a culture of ecological responsibility (GovServ, n.d.).

In addition to waste management, Ligao City emphasizes environmental conservation through efforts such as the mangrove plantation project in Barangay Cabarian, which protects against storm surges and supports coastal livelihoods. The city has also cultivated sunflower fields in locations like Kawakawa Hill, California Village, and Dunao Highway to boost eco-tourism and enhance natural beauty (Albay 3D, 2014a; 2015). Kawakawa Natural Park, featuring life-sized Stations of the Cross and panoramic views of Mayon Volcano, further reflects Ligao's eco-tourism potential and environmental education goals (Albay 3D, 2014a). On the renewable energy front, the city inaugurated a Class "AA" slaughterhouse in Barangay Tinago powered by a mini-hydroelectric power plant—demonstrating a commitment to clean energy and hygienic public infrastructure (Albay 3D, 2014b). Additionally, the Tricycle Boundary-Hulog Program (TBHP) supports sustainable transport by assisting drivers in replacing old 2-stroke engines with more efficient 4-stroke engines, thus reducing air pollution and increasing operational efficiency (City Government of Ligao, n.d.). Through these initiatives, Ligao City has established itself as a local government eco-champion, earning recognition for its environmental governance and innovative practices.

Challenges. The cities of Tabaco, Legazpi, and Ligao have collectively identified critical challenges in implementing Green Public Procurement (GPP), including lack of awareness, absence of local policies, limited availability of green products, and insufficient monitoring mechanisms. These obstacles highlight the pressing need to improve stakeholder education, enhance regulatory support, and develop tools that ensure compliance and effectiveness. A lack of awareness among city personnel, manufacturers, and suppliers significantly limits the adoption of GPP. Nearly 90% of survey respondents emphasized the importance of extending GPP education beyond procurement personnel to ensure market readiness. Additionally, the absence of local policies that promote and prioritize eco-friendly products hinders efforts toward sustainability. 98% of respondents acknowledged that local ordinances play a crucial role in institutionalizing GPP practices and stimulating demand for sustainable goods.

Another major challenge is the limited availability of green products in the market. Manufacturers and suppliers often lack sufficient awareness regarding the importance of producing environmentally positive goods, resulting in a market gap. 83% of respondents indicated that green criteria are deprioritized due to inadequate market readiness. This issue underscores the need for stronger incentives and collaboration between policymakers and suppliers to expand the availability of sustainable alternatives. Furthermore, the absence of a monitoring mechanism creates gaps in tracking GPP implementation. While current systems like the Agency Procurement Compliance and Performance Indicators (APCPI) monitor national procurement compliance, they fail to measure the environmental impact and progress of GPP. 100% of respondents emphasized the necessity of an exclusive monitoring tool to assess, validate, and optimize GPP practices within local government units.

These findings align with the challenges reported by the Asia-Pacific Economic Cooperation (APEC), which highlights difficulties in defining technical specifications, integrating a life cycle approach, training personnel, communicating GPP standards, and developing effective monitoring systems (APEC, 2013). Addressing these barriers is essential for ensuring the successful implementation of GPP and its long-term sustainability. Recognizing these challenges enables local government officials to formulate targeted action plans that strengthen GPP integration and advance sustainable development goals. Overcoming GPP obstacles is crucial for positioning the city governments of Albay as responsible procurers—serving as a model for environmental sustainability in public procurement.

To overcome these barriers, policy reinforcement, stakeholder education, and incentivizing green industries are essential. Strengthening institutional frameworks, implementing training programs, and providing financial support to businesses that adopt sustainable practices can enhance GPP effectiveness and ensure that public procurement contributes meaningfully to environmental protection and sustainability.

4. CONCLUSION

The data indicates that procurement officers in Tabaco, Legazpi, and Ligao in the Province of Albay have only a basic awareness of Green Public Procurement (GPP) as outlined in RA 9184 but lack a comprehensive understanding of how to effectively integrate green criteria into procurement processes. While some GPP practices are partially implemented, progress is significantly hindered by the absence of binding policies, such as local ordinances, clearly defined procedures, and specific targets for GPP adoption. The compliance levels of Tabaco, Legazpi, and Ligao with Green Public Procurement (GPP) demonstrate a notable commitment to sustainability, yet there remain areas requiring enhancement to achieve full and consistent implementation. While all three cities exhibit substantial adherence to GPP principles, strengthening policy enforcement, stakeholder engagement, and monitoring mechanisms can further improve compliance and ensure more effective integration of eco-friendly procurement practices. To effectively implement Green Public Procurement (GPP) in the Province of Albay, targeted interventions are needed to address existing gaps. Enhancing awareness through comprehensive orientation sessions and seminars for all government departments—not just the Bids and Awards Committee—will ensure uniform understanding of GPP principles. Strengthening local policies, monitoring systems, and formal market research is essential for integrating sustainable procurement standards into everyday practices. Additionally, providing incentives and recognition for suppliers promoting eco-friendly products will encourage broader participation. These strategic measures will help transition GPP from partial implementation to a fully integrated procurement system, aligning with environmental conservation and Albay's long-term developmental goals.

ACKNOWLEDGMENT

“No duty is more urgent than that of returning thanks.” — James Allen

Navigating the challenges of completing this study within the designated timeframe proved demanding. The successful orchestration of strategic efforts, made possible by the contributions of numerous individuals at every stage of the research process, propelled the researcher toward achieving her goals. Foremost, the researcher expresses sincere gratitude to her thesis adviser, Dr. Noemi L. Ibo, whose steadfast guidance and expertise shaped the trajectory of this work. The intellectually rigorous critique sessions conducted under her mentorship were instrumental in elevating the quality of the academic paper. The researcher also extends profound appreciation to the members of her thesis committee: Ms. Pritzie S. Rey, Dr. Rosemarie T. Frias, and Dr. Cynthia O. Mendoza. Their collective wisdom, scholarly insight, and constructive feedback inspired meticulous refinements to the study. Special thanks are owed to Prof. Irene Moral and Prof. Gertrudes Peña for their diligent review of the manuscript, which identified critical inconsistencies and enhanced the clarity of the findings.

Bicol University is acknowledged for fostering an exceptional academic environment. The institution's resources, library facilities, and collaborative culture profoundly enriched the research experience. The researcher also thanks the faculty and staff of BUJMRIGD, particularly Ms. Cath, for their invaluable logistical support throughout the project's various phases.

To her family—Papa, Ate Jing, and Jaja—the researcher extends heartfelt gratitude for their unwavering motivation and steadfast encouragement during her academic journey. The companionship of Khaliq and Aschere provided solace during periods of stress, while the enduring spiritual guidance of her late mother continues to serve as an unyielding source of strength. The author also acknowledges the unwavering support of friends and colleagues, whose understanding and camaraderie sustained her through the most challenging stages of this endeavor. Above all, the researcher offers praise and glory to Almighty God, whose divine grace fortified her faith to bring this undertaking to fruition. Praise be to God.

REFERENCES

- [1] Al Sharyani, S. S. J., & Ullah, A. (2024). Implementation of green procurement practice and its challenges. *International Journal of Research in Commerce and Social Sciences*, 6(5), 1–15. <https://ijrcs.org/wp-content/uploads/IJRCS202406005-min.pdf>
- [2] Adger, W. N. (2000). Social and ecological resilience: Are they related? *Progress in Human*

- Geography, 24(3), 347–364. <https://doi.org/10.1191/030913200701540465>
- [3] Albay 3D. (2014, August 25). Providing safe environment and sustainable development in Ligao City. Albay 3D Blog. <https://albay3d.blogspot.com/2014/08/providin-g-safe-environment-and.html>
- [4] Albay 3D. (2014, March 25). Ligao City inaugurates hydroelectric-powered Class "AA" slaughterhouse. Albay 3D Blog. <https://albay3d.blogspot.com/2014/03/ligao-city-inaugurates-hydroelectric.html>
- [5] Albay 3D. (2015, December 4). Ligao City hailed as one of LGU Eco Champions. Albay 3D Blog. <https://albay3d.blogspot.com/2015/12/ligao-city-hailed-as-one-of-lgu-eco.html>
- [6] Asian Development Bank. (2020). Optimizing municipal waste collection in the Philippines through a smart app. Development Asia. <https://development.asia/case-study/optimizing-municipal-waste-collection-philippines-through-smart-app>
- [7] Barnie, J. A. (2019). Exploring the awareness and opportunities for the implementation of green procurement in new municipalities in Kumasi [Master's thesis, Kwame Nkrumah University of Science and Technology]. <https://ir.knust.edu.gh/server/api/core/bitstreams/9d230373-e148-4b77-9891-0f4c1bf69a9c/content>
- [8] Brundtland, G. H. (1987). Our common future: Report of the World Commission on Environment and Development. Oxford University Press.
- [9] Chersan, I. C., Dumitru, V. F., Gorgan, C., & Gorgan, V. (2020). Green public procurement in the academic literature. *Amfiteatru Economic*, 22(53), 82–101. <https://doi.org/10.24818/EA/2019/53/82>
- [10] Chiappinelli, O. (2022). Determinants and effectiveness of green public procurement adoption. In *Handbook of labor, human resources and population economics*. Springer. https://doi.org/10.1007/978-3-319-57365-6_300-1
- [11] City Government of Ligao. (n.d.). City cooperative development office. City Government of Ligao. <https://ligaocity.albay.gov.ph/departments/city-cooperative-dev-office/>
- [12] Daly, H. E. (1990). Toward some operational principles of sustainable development. *Ecological Economics*, 2(1), 1–6. [https://doi.org/10.1016/0921-8009\(90\)90010-R](https://doi.org/10.1016/0921-8009(90)90010-R)
- [13] Eisenhardt, K. M. (1989). Agency theory: An assessment and review. *Academy of Management Review*, 14(1), 57–74. <https://doi.org/10.5465/amr.1989.4279003>
- [14] Elkington, J. (1997). Cannibals with forks: The triple bottom line of 21st-century business. Capstone.
- [15] Erizaputri, S., Bechauf, R., & Casier, L. (2024). Monitoring progress in green public procurement: Methods, challenges, and case studies. International Institute for Sustainable Development. <https://www.iisd.org/system/files/2024-03/monitoring-green-public-procurement.pdf>
- [16] European Commission. (2019). Green public procurement: A collection of good practices. Publications Office of the European Union. <https://op.europa.eu/en/publication-detail/-/publication/04e308b3-9bd5-4c93-af09-8a0c44b1d122>
- [17] Freeman, R. E. (1984). Strategic management: A stakeholder approach. Pitman.
- [18] Geissdoerfer, M., Savaget, P., Bocken, N. M. P., & Hultink, E. J. (2017). The circular economy – A new sustainability paradigm? *Journal of Cleaner Production*, 143, 757–768.
- [19] Global Center on Adaptation (GCA). (n.d.). Bamboo propagation in Legazpi for sustainable adaptation. LLAHUB. <https://llahub.gca.org/stories/7f4a72eb-44aa-4b6a-addc-dd259945fc95>
- [20] Government Procurement Policy Board – Technical Support Office. (2017). The Philippine green public procurement roadmap. https://www.gppb.gov.ph/wp-content/uploads/2023/06/GPP_roadmap_print.pdf
- [21] Government Procurement Policy Board. (2017). Republic Act No. 9184: Government Procurement Reform Act. <https://www.gppb.gov.ph/wp-content/uploads/2023/05/GPPB-Resolution-No.-25-2017.pdf>
- [22] Government Procurement Policy Board. (2017). Executive Order No. 301: Establishing a green public procurement program. <https://www.gppb.gov.ph/green-public-procurement/>
- [23] GovServ. (n.d.). City Government of Ligao environmental programs. <https://www.govserv.org/PH/Ligao/402721806519826/City-Government-of-Ligao>
- [24] GovServ. (2024a). Medical waste disposal update by Tabaco City CENRO. <https://www.govserv.org/PH/Tabaco/315389532735686/City-Environment-%26-Natural-Resources-Office---Tabaco-City>
- [25] GovServ. (2024b). Kalinisan sa Bagong Pilipinas Program coastal clean-up. <https://www.govserv.org/PH/Tabaco/315389532735686/City-Environment-%26-Natural-Resources-Office---Tabaco-City>
- [26] GovServ. (2024c). Benchmarking of LGUs on nature-based coastal protection. <https://www.govserv.org/PH/Tabaco/315389532735686/City-Environment-%26-Natural-Resources-Office---Tabaco-City>
- [27] Hart, S. L. (1995). A natural-resource-based view of the firm. *Academy of Management Review*, 20(4),

- 986–1014. <https://doi.org/10.2307/258963>
- [28] HLS-ESC. (n.d.). Legazpi City Green Infrastructure Plan. https://hlsesc.org/documents/6hlsesc/F_Legazpi.pdf
- [29] La Viña, A. G. M. (2010). Climate change and governance: The Philippine experience. *Philippine Law Journal*, 85(4), 792–820.
- [30] Omusebe, J. A., Iravo, M., Ismail, N., & Wanjohi, P. (2017). Literature review on effect of adoption of green procurement practices on effective procurement management in the public sector. *IOSR Journal of Business and Management*, 19(8), 29–34. <https://www.iosrjournals.org/iosr-jbm/papers/Vol19-issue8/Version-4/F1908042934.pdf>
- [31] Philippine News Agency. (2018, October 2). Legazpi students attend Green Film Festival on solid waste management. Philippine News Agency. <https://www.pna.gov.ph/articles/1050415>
- [32] Philippine News Agency. (2023, January 24). Plastic shredding machine now operational in Legazpi City. Philippine News Agency. <https://www.pna.gov.ph/articles/1193519>
- [33] Philippine News Agency. (2022, February 7). Recyclables traded for food, goods in Albay's Ligao City. Philippine News Agency. <https://www.pna.gov.ph/articles/1166588>
- [34] Rappler. (2022, December 22). Tabaco City, Albay, builds candyland-themed Christmas village with ecobricks. Rappler. <https://www.rappler.com/philippines/luzon/tabaco-city-albay-christmas-village-2022/>
- [35] Schotanus, F., & Telgen, J. (2007). Developing a typology of organisational forms of cooperative purchasing. *Journal of Purchasing and Supply Management*, 13(1), 53–68. <https://doi.org/10.1016/j.pursup.2007.03.002>
- [36] Sönnichsen, S. D., & Clement, J. (2020). Review of green and sustainable public procurement: Towards circular public procurement. *Journal of Cleaner Production*, 245, 118901.
- [37] Steffen, W., Richardson, K., Rockström, J., Cornell, S. E., Fetzer, I., Bennett, E. M., Biggs, R., Carpenter, S. R., de Vries, W., de Wit, C. A., Folke, C., Gerten, D., Heinke, J., Mace, G. M., Persson, L. M., Ramanathan, V., Reyers, B., & Sörlin, S. (2015). Planetary boundaries: Guiding human development on a changing planet. *Science*, 347(6223), 1259855.
- [38] Testa, F., Annunziata, E., Iraldo, F., & Frey, M. (2016). Drawbacks and opportunities of green public procurement: An effective tool for sustainable production. *Journal of Cleaner Production*, 112, 1893–1900.
- [39] United Nations. (2015). Transforming our world: The 2030 agenda for sustainable development. <https://sdgs.un.org/2030agenda>
- [40] United Nations Environment Programme. (2021). Sustainable public procurement: Policy and practice. <https://www.unep.org/resources/publication/sustainable-public-procurement>
- [41] Walker, H., & Brammer, S. (2009). Sustainable procurement in the United Kingdom public sector. *Supply Chain Management: An International Journal*, 14(2), 128–137. <https://doi.org/10.1108/13598540910941993>
- [42] Wikipedia. (2024). Legazpi, Albay. Wikipedia. https://en.wikipedia.org/wiki/Legazpi,_Albay
- [43] When In Manila. (2023, October 9). An eco-friendly Tourist Rest Area is set to rise in Bicol Region. When In Manila. <https://www.wheninmanila.com/eco-friendly-tourist-rest-area-rise-bicol-region/>