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Transforming strategy and policy to enhance eco-vihara in support of the Sustainable Development Goals (SDGs) regional action plan framework in Papua Bird's Head region

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Abstract

Eco-Vihara was established by applying nine criteria aligned with the SDGs Regional Action Plan in the Papua Bird's Head region. It is crucial to reform current policies and strategies at the basic and intermediate levels to achieve this alignment. Employing SWOT and AHP analyses, this study identified effective strategies for improving Eco-Vihara implementation at Buddha Prabha Vihara in Manokwari Regency, Buddha Sorong Vihara in Sorong City, and Buddha Sasana Vihara in Sorong Regency. The SWOT analysis revealed Internal Factor Evaluation (IFE) and External Factor Evaluation (EFE) values of 2.96 and 3.17, respectively, positioning the matrix in the aggressive quadrant-highlighting a focus on leveraging strengths and opportunities. AHP analysis further prioritized two key strengths and three opportunities, culminating in six strategic recommendations to strengthen leadership, collaboration, and funding mechanisms.

Keywords: Eco-Vihara; SDGs; Regional Action Plan; SWOT; AHP

1. Introduction

Through Presidential Regulation Number 59 of 2017, the Indonesian Government demonstrates its political commitment to the Sustainable Development Goals (SDGs) by ensuring that their implementation and achievement occur in a participatory manner involving all stakeholders. Moreover, Presidential Regulation No. 111 of 2022, which pertains to the execution of the SDGs, aligns the global objectives and targets of the 2030 SDGs with the national objectives of the 2020-2024 national development plan [1,2]. With six years remaining until 2030, Indonesia and its sub-national entities face significant challenges in meeting these objectives [3,4]. These frameworks provide a roadmap for integrating national and global goals into regional-level actionable policies.

West Papua and Southwest Papua Provinces in the Papua Bird's Head region face significant obstacles in attaining the Sustainable Development Goals (SDGs). These include high poverty rates, low economic growth, and developmental disparities. In March 2024, poverty rates peaked at 21.66% in West Papua Province and 18,13% in Southwest Papua Province, far exceeding the national average of 9.79%. Economic growth was also the lowest in Indonesia, with 2.27% in West Papua Province and 1,82% in Southwest Papua Province, compared to the national rate of 5.5%. Similarly, their human development indices lag behind the national average of 75.02, at 67.02 and 68.63, respectively [5,6,7]. The province's readiness to accomplish the SDGs score is 1.53 (between C and D), below the national average of 1.85,

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indicating that most indicators are unlikely to reach 50% of their targets by 2030 [8,9]. The realization of the Sustainable Development Goals in West Papua Province demonstrates low performance in the economic and social dimensions.

Despite these challenges, numerous opportunities exist to advance sustainable development in Papua's Bird's Head region. A notable initiative is the enactment of Special Autonomy Regional Regulation Number 10 of 2019, which underscores sustainability as a key objective. Between 2019-2024, this effort achieved a remarkable milestone, earning Papua the highest environmentally quality index score in Indonesia, ranging from 83.92 - 84.22 points, compared to the national average of 72.54 [10,11,12]. Supplementary measures to expedite regional development include Presidential Instruction Number 9 of 2020, which emphasizes the strategic enhancement of welfare as a pathway to sustainable development. Furthermore, implementing Special Autonomy through Law Number 21 of 2021 and reorganizing provincial boundaries- establishing West Papua and Southwest Papua Provinces under Law Number 29 of 2022 – aim to strengthen governance and foster equitable growth [13,14].

However, due to its geographical location in the Pacific Ocean, the region faces intensifying threats from climate change and natural disasters. Its vulnerability is exacerbated by proximity to fault lines, steep topography, strong ocean currents, high waves, and extreme climate conditions [15,16,17]. West Papua and Southwest Papua Provinces also face significant economic growth and social development challenges, including regional disparities arising from differences in geography (coastal, lowland, and mountainous areas), local revenue, population distribution, and infrastructure development. These disparities hinder progress toward achieving the Sustainable Development Goals (SDGs) [18,19].

Active collaboration among diverse stakeholders is anticipated to significantly improve the region's sustainable development index [20,21]. The Buddhist Community Development at the Ministry of Religious Affairs of West Papua Province, alongside Buddhist leaders and communities in both West Papua and Southwest Papua Provinces, has established an SDGs Regional Action Plan. This plan incorporates nine criteria: food governance (SDG 2), social governance (SDG 3), water governance (SDG 6), energy governance (SDG 7), economic governance (SDG 8), waste governance (SDG 12), environmental governance (SDG 15), institutional governance (SDG 16), and eco dharma (SDG 16) [22,23,24]. Each criterion is further elaborated with specific implementation strategies, informed by the outcomes of the Focus Group Discussions held by senior leadership within the Buddhist community.

This research employed a SWOT analysis, complemented by the Analytic Hierarchy Process (AHP), to expedite the execution of the SDGs Regional Action Plan, currently categorized within the basic and intermediate stages. It explores strategic and policy priorities for aligning the SDGs Regional Action Plan in Papua's Bird's Head region with national SDGs targets 2030 and the Long-Term Strategy for Low Carbon and Climate Resilience (LTS LCCR) goals for 2050. [25,26,27].

2. Material and methods

2.1. Study area

The research was conducted at three Buddhist Temples/ Vihara: Buddha Prabha Vihara in Manokwari Regency, West Papua Province (coordinates 0°52'15.65" S, 134°02'56.45" E), Buddha Sorong Vihara in Sorong City, Southwest Papua Province (coordinates 0°51'47.94" S, 134°14'52.90" E), and Buddha Sasana Vihara in Sorong Regency, Southwest Papua Province (coordinates 0°57'14.04" S, 131°20'00.73" E). Manokwari Regency is situated at the posterior of the bird's head, while Sorong City and Sorong Regency are positioned at the anterior. This area is characterized by lowlands influenced by a bimodal rainfall pattern, peaking in November/December and March/April, with temperatures ranging from 25 to 35°C and humidity exceeding 80%.

The investigation concentrated on the three principal Buddhist Temples because their attributes exemplified Eco-Vihara to support the SDGs Regional Action Plan in the Papua Bird's Head region. The physical evaluation findings indicated that the Buddhist Temples exhibited robust structure, effective energy utilization, vegetable gardens, and tree planting efforts, meeting Eco-Vihara criteria [28,29]. Several temples were excluded from the study since they failed to satisfy the eco-vihara criteria; all were located near other properties inside the business center, and a few were still under construction.

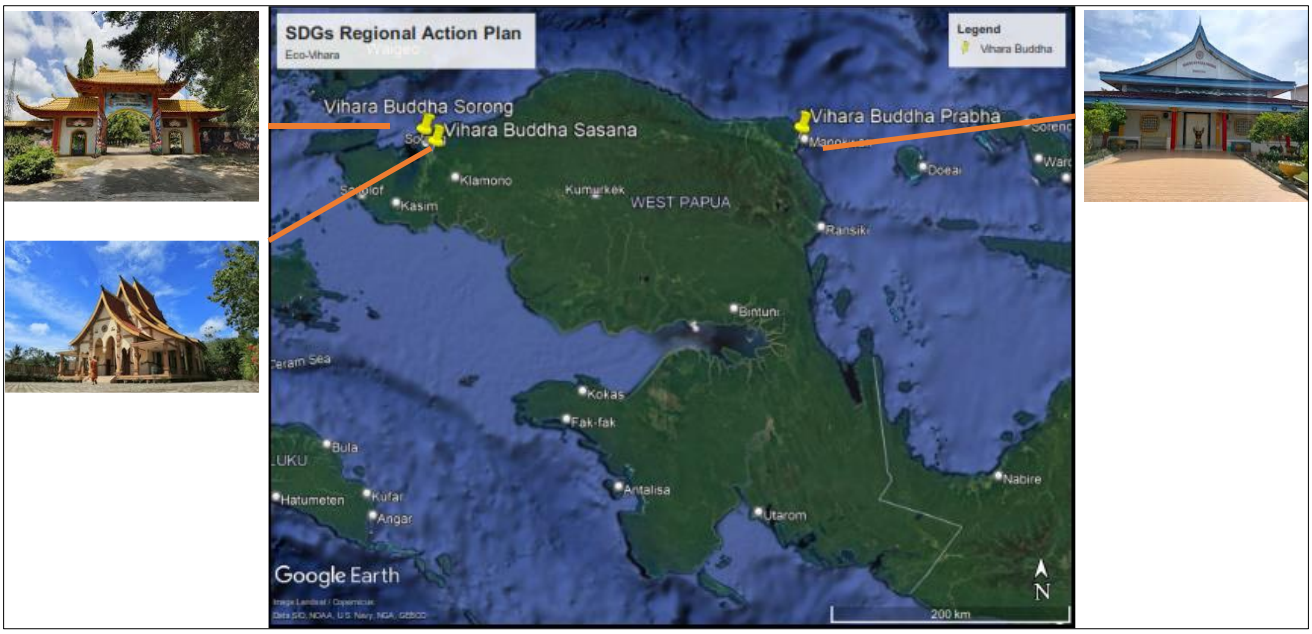

Figure 1 Eco-Vihara in the Bird's Head Papua region

2.2. Method of data analysis

2.2.1. Respondents

The respondent's data was collected through a questionnaire administered to individuals at three monasteries. The questionnaire assessed the implementation of Eco-Vihara programs and their contribution to the SDGs Regional Action Plan in Papua Bird's Head region. The sample size was determined using the Slovin formula (Eq.1) with a 5% margin of error. This approach is suitable for populations of this size, as it provides a statistically sound sample while minimizing the risk of sampling bias. Given the relatively small population of the Papua Bird's Head Buddhist community (957 individuals), Slovin's formula offered an efficient method for calculating the required sample size to achieve the desired confidence level in the research findings [30]. The calculated sample size for the study was 282 respondents, distributed proportionally across the three selected monasteries based on their respective population size within the Buddhist community in the Papua Bird's Head region. Respondents were selected based on specific criteria: they were primarily leaders and administrators actively involved in implementing Eco-Vihara programs [31,32].

$$n = \frac{N}{1+N.e^2} \quad \text{.....Eq. 1}$$

In this context, 'n' denotes the required sample size for the study, 'N' represents the population size, and 'e' indicates the margin of error tolerance.

The calculations are as follows:

$$= \frac{957}{1 + (957x(0.05)^2)}$$

$$= \frac{957}{3.3925}$$

$$= 282\ people$$

The respondent sample included 15.6% from Buddha Sorong in Sorong City (44 individuals), 12.8% from Buddha Prabha in Manokwari Regency (36 individuals), and 10.7% from Buddha Sasana in Sorong Regency (30 individuals). The remaining 60.9% (172 individuals) from other monasteries were excluded from the study as the monasteries did not meet the established criteria for Eco-Vihara implementation.

The questionnaire included a mix of closed-ended questions (e.g., a Likert scale) and open-ended questions to gather quantitative and qualitative data on respondents' experiences with Eco-Vihara programs, their perceived impact on the SDGs, and the challenges faced in implementing them.

2.2.2. SWOT Analysis

SWOT analysis is a systematic framework used to identify, analyze, and evaluate internal and external factors impacting an organization. The acronym SWOT stands for Strengths, Weaknesses, Opportunities, and Threats. To conduct a SWOT analysis, the following steps are typically followed [33,34]:

- Identify internal factors: This involves recognizing and assessing the organization's strengths and weaknesses. The factors are then used to develop an Internal Factor Evaluation Matrix (IFE).
- Identify external factors: This involves identifying and assessing external opportunities and threats facing the organization. These factors are then used to develop an External Factor Evaluation Matrix (EFE).
- Develop an Internal-External Matrix: This matrix helps to visualize the interplay between internal and external factors.
- Assign weights and scores: A weighting technique assigns scores to each factor. Typically, a rating scale of 1 to 5 is used, where 1 represents very low, and 5 represents very high. This process generates a score for each internal and external factor.
- Develop strategic options: Based on the SWOT analysis, potential strategic options are developed to leverage strengths, address weaknesses, capitalize on opportunities, and migrate threats.
- Prioritize strategic options: Use the Analytical Hierarchy Process (AHP) to prioritize the five most effective strategies by applying weighted ranking and scoring methodologies.

2.2.3. AHP Analysis

AHP utilizes pairwise comparisons to evaluate assessment factors and assign weights in multi-factor contexts (35,36). The AHP methodology bifurcates the consistency value into the consistency index (CI) and the consistency ratio (CR). The CI value is determined by dividing the result by the diminished quantity of criteria and reducing the number of criteria from the maximum lambda. The formula for determining the confidence interval (CI) is as follows:

$$CI = \frac{\lambda_{max}-1}{n-1} \ldots\ldots\ldots \quad \text{Eq. 2}$$

The specified inconsistency limit is the Consistency Ratio (CR), which is calculated by comparing the Random Index (RI) with the Consistency Index (CI), as seen in Table 1 (37). The matrix order n affects this quantity. Therefore, CR can be expressed as follows:

$$CR = \frac{CI}{RI} \ldots\ldots\ldots\ldots \quad \text{Eq. 3}$$

Table 1 RI values

N	1	2	3	4	5	6	7	8	9	10
RI	0	0	0.58	0.90	1.12	1.24	1.32	1.41	1.45	1.49

3. Results and discussion

3.1. Respondents

The respondents, chosen based on the Slovin method and representing the principal groupings, included the Buddha Sorong Vihara in Sorong City with 44 people, the Buddha Prabha Vihara in Manokwari Regency with 36 people, and the Buddha Sasana Vihara in Sorong Regency with 30 people. The designation of Buddhist representatives developed from the Vihara leaders, including the Monks Association of the East Indonesia Regional Secretariat, the Council, Buddhist Women, the Young Buddhist Generation, Buddhist Children, Vihara Executives, and Religious and Educational Foundations, as well as elected officials from provincial, regency, and city service offerings [38]. Figure 2 illustrates the geographic distribution of the management team.

Each participant is accountable for strategy and policy decisions, which are vital since they influence the majority of the behaviors of an organization and are challenging to amend once established. These decisions substantially influence overall achievement. The management team must evaluate energy governance (SDG 7), water governance (SDG 6), waste governance (SDG 12), food, vitamin, and mineral governance (SDG 2), environmental governance (SDG 15), institutional governance (SDG 16), social governance (SDG 3), economic governance (SDG 8), and eco dharma (SDG 16) as indicators in Eco-Vihara to facilitate the SDGs Regional Action Plan before decision-making [39,40].

The Buddhist leadership in the three research locations ranges in age from 21 to 64, classifying them as highly productive employees [41]. At the Buddha Prabha Vihara, there was a single person with a Doctorate, five people with Master's degrees, and ten people with Bachelor's degrees, while the rest held qualifications at the high school and junior high school levels. Data from the Buddha Sorong Vihara indicated that five people possessed Bachelor's degrees, and the remaining individuals held qualifications at the high school and junior high school levels. Records from the Buddha Sasana Vihara indicated the presence of three Bachelor's degrees. At the same time, the rest consisted of individuals with high school, junior high school, elementary school education, or no formal education. Consequently, it affects the implementation of the SDGs Regional Action Plan in applying Eco-Vihara at each vihara [42,43]. Monthly revenue varies from IDR 2,500,000 for farmers to IDR 20,000,000 for entrepreneurs.

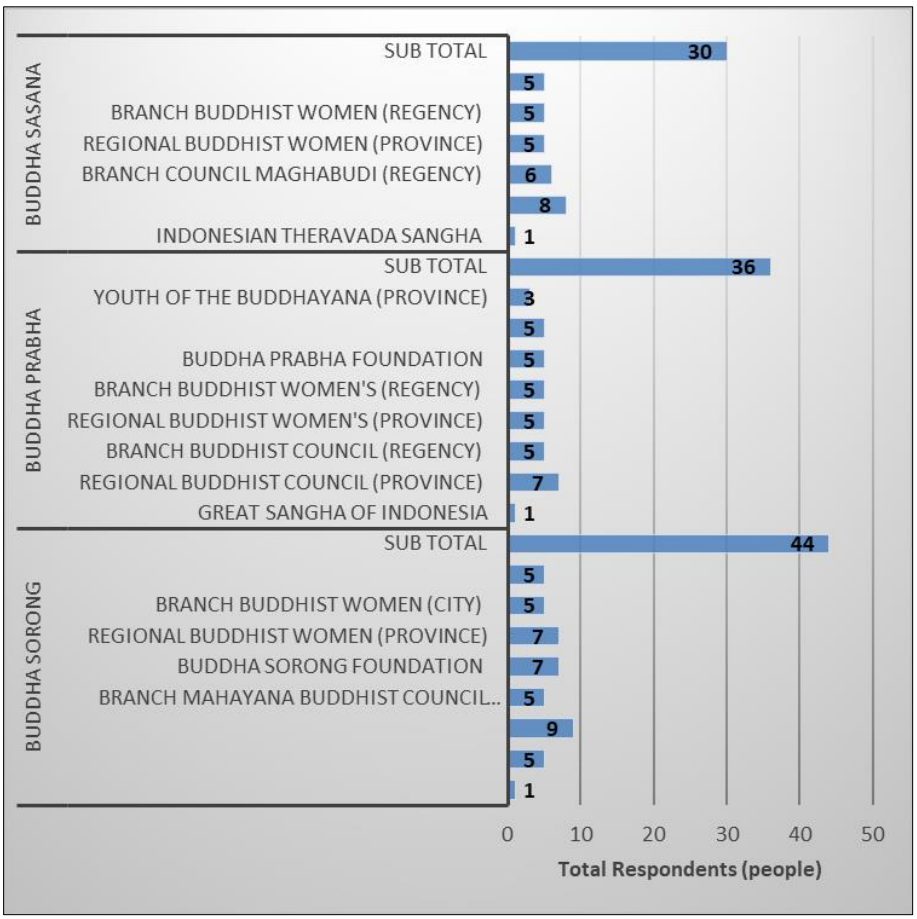

Figure 2 Supervision of the Eco-Vihara development team

3.2. SWOT Analysis

3.2.1. Internal factor

The first step in developing the Internal Factor Evaluation (IFE) matrix is evaluating the strengths and weaknesses of Eco-Vihara in promoting the SDGs Regional Action Plan in Papua's Bird's Head. A survey was administered to 110 management groups and leaders to obtain their insights. The significance was assessed by identifying internal elements through surveys and consulting with experts. To guarantee that the coefficients of each strength and weakness total 1, a numerical value between 0 and 1 is allocated to each characteristic [44,45]. This allows us to evaluate the extent to which internal elements are impacted. Each recognized internal factor was allocated a numerical value from 1 to 4, with

a score of 1 signifying a substantial weakness, a score of 2 indicating a moderate weakness, a score of 3 representing a moderate strength, and a score of 4 indicating a substantial strength (46). The final result is determined by multiplying the designated weight by the relevant rating. The weight, rank, and score of the specified internal variables are displayed in Table 2 [47].

The evaluation of the Eco-Vihara implementation indicated strengths, achieving a ranking of 4, particularly in integrating Eco Dharma into daily personal practices. This is complemented by the incorporation of social practices and the engagement of temple leaders in executing the SDGs Regional Action Plan through policies, educational initiatives, and partnerships with various stakeholders, including government entities, business organizations, academic institutions, the mass media, and the Buddhist community [48,49,50].

The significant findings of multiple deficiencies in the execution of the existing SDG Regional Plan in Papua's Bird's Head are evidenced by geographic disparities, elevated poverty rates, diminished Human Development Index values, inadequate green/blue economic development practices, insufficient rainwater harvesting, and the inefficacy of renewable energy utilization in addressing established targets [51,52,53].

3.2.2. External factor

Recognizing opportunities and risks in the second phase of the SWOT analysis for External Factor Evaluation (EFE). The Papua Bird's Head region facilitated the progression of the Eco-Vihara in endorsing the SDGs Regional Action Plan through nine criteria by aggregating expert feedback, as illustrated in Table 3. Upon discovery, exterior factors were subjected to the same evaluative process as internal factors to determine their relevance for their relative ranking. The scores 1, 2, 3, and 4 represented the essential and standard categories of understanding [54]. Table 3 delineates the weight, rank, and score of the paramount opportunities and threats within the Eco-Vihara criteria [55].

Assessment of primary opportunity indicators identified in the execution of Eco-Vihara, characterized by Buddhist advocacy for environmental preservation and climate change adaptation amidst a current temperature rise of 1.5°C; assistance from interested parties in the pursuit of Sustainable Development Goals (SDGs), the Sendai Framework, and the Paris Agreement by 2030; advancement of an eco-friendly green/blue economy aimed at enhancing the Human Development Index; implementation of the SDGs Regional Action Plan; and assistance from the Special Autonomy Fund and other sources to address issues in the economic, educational, and health sectors in Papua [56,57,58].

Investigation of the primary threat indicators uncovered during the execution of Eco-Vihara in Papua Bird's Head consists of high Disaster Risk Index values, a rise in the frequency of hydrometeorological disasters in recent decades, an escalation in the intensity of climate change impacts, as well as challenges related to poverty, ignorance, underdevelopment, inequity, and insufficient access to economic, educational, and healthcare services [59,60,61].

Table 2 Internal Factor Evaluation (IFE) of Eco-Vihara

No	**Strengths**	**Weight**	**Rank**	**Score**
1	Application of Eco Dharma principles in everyday life (S1)	0.11	4	0.44
2	Integration of social governance principles into everyday practices (S2)	0.10	4	0.42
3	The Buddhis Temple has endorsed environmental sustainability (S3)	0.08	3	0.24
4	The Buddhist Temple has prioritized Green Open Space (S4)	0.08	3	0.25
5	Awareness of Vihara Leaders in the execution of Eco-Vihara (S5)	0.08	4	0.32
6	The Vihara Representative has instituted policies and educational initiatives concerning Eco-Vihara (S6)	0.09	4	0.34
7	The Vihara leadership collaborates with multi-stakeholders in the development of the Eco-Vihara (S7)	0.09	4	0.35
	Sub Total	0.63		2.37
No	**Weaknesses**	**Weight**	**Rank**	**Score**
1	The SDGs indicator remains low in Papua's Bird's Head region (W1)	0.04	1	0.04
2	Local and regional disparities (W2)	0.04	2	0.09

3	Elevated poverty levels in Papua's Bird's Head (W3)	0.04	2	0.08
4	Low Human Development Index in Bird's Head Papua (W4)	0.04	2	0.07
5	The green/blue economy has not been effectively implemented (W5)	0.03	2	0.07
6	The circular economy is not functioning well (W6)	0.03	1	0.03
7	Waste reduction has not been functioning efficiently (W7)	0.04	1	0.04
8	The infrastructure for garbage treatment is inadequately developed (W8)	0.04	1	0.04
9	Rainwater harvesting has not been executed effectively (W9)	0.04	2	0.08
10	The utilization of renewable energy and efficiency remains suboptimal (W10)	0.03	2	0.06
	Sub Total	0.37		0.59
	Total IFE			2.96

Table 3 External Factor Evaluation (EFE) of Eco-Vihara

No	**Opportunities**	**Weight**	**Rank**	**Score**
1	A welcoming environment and climatic adaptability for the community (O1)	0.09	4	0.35
2	Renewable energy, waste management, and external financial sources (O2)	0.09	3	0.27
3	Enhance public awareness of the significance of environmental stewardship (O3)	0.09	3	0.28
4	Development Partners facilitate the attainment of the SDGs, the Sendai Framework, and the Paris Agreement by 2030 (O4)	0.09	4	0.35
5	Development collaborators facilitate the advancement of the green and blue economies (O5)	0.08	4	0.33
6	The involvement of third parties in initiatives to enhance the human development index (O6)	0.09	4	0.36
7	Buddhists advocate for the execution of Eco-Vihara via the formulation of the SDG Regional Action Plan (O7)	0.09	4	0.38
8	Special Autonomy and the Steering Committee aim to expedite advancements in economic, educational, and health sectors in Papua (O8)	0.10	4	0.40
	Sub Total	0.73		2.73
No	Threats	Weight	Rank	Score
1	Elevated Disaster Risk Index in Bird's Head, Papua (T1)	0.03	2	0.07
2	Hydrometeorological disasters are currently on increasing frequency in Papua's Bird's Head (T2)	0.04	2	0.07
3	Rising Effects of Climate Change on Papua's Bird's Head (T3)	0.03	2	0.07
4	Expanding rates of deforestation and degradation (T4)	0.03	1	0.03
5	Enhanced utilization of plastic and ecologically destructive materials (T5)	0.03	1	0.03
6	Economic dangers encompass inflation, unemployment, and systemic uncertainty (T6)	0.03	1	0.03
7	Challenges of poverty, ignorance, underdevelopment, and unfairness (T7)	0.03	2	0.07
8	Unequal access to economic, educational, and healthcare services (T8)	0.04	2	0.07
	Sub Total	0.27		0.45
	Total EFE			3.17

3.2.3. SWOT Analysis of Eco-Vihara

Upon concluding this phase of SWOT execution, a preferred scenario will be chosen from the four accessible possibilities (aggressive, competitive, cautious, and defensive), and appropriate methods for enhancing the Eco-Vihara in Papua Bird's Head will be proposed [62]. We can utilize the relevant matrices to assess and compare internal and external aspects. The present status of the Eco-Vihara for the achievement of the SDGs Regional Action Plan can be characterized through the use of an evaluation matrix. The vertical dimension of the matrix is utilized to position the final scores obtained from the internal factor assessment matrix. The horizontal dimension displays the final external factor assessment matrix results. This matrix framework facilitates the assessment of the Eco-Vihara and the identification of the most efficacious measures. The grid above resembles a SWOT (Strengths, Weaknesses, Opportunities, Threats) study. It thoroughly examines the most efficient methods to improve the Eco-Vihara Framework [63].

The Eco-Vihara Framework was established by subtracting the aggregate scores from the internal and external factor matrices. Table 3 reveals a total score of 3.17 for exterior aspects, whereas Table 2 shows a cumulative score of 2.96 for interior components. Figure 3 displays the matrices representing the internal and external components and their corresponding scores. The present status of Eco-Vihara is categorized as basic to middle-level evaluation. Consequently, Figure 3 illustrates that aggressive measures are required by leveraging strategic strengths and opportunities to elevate status to middle and high levels [64].

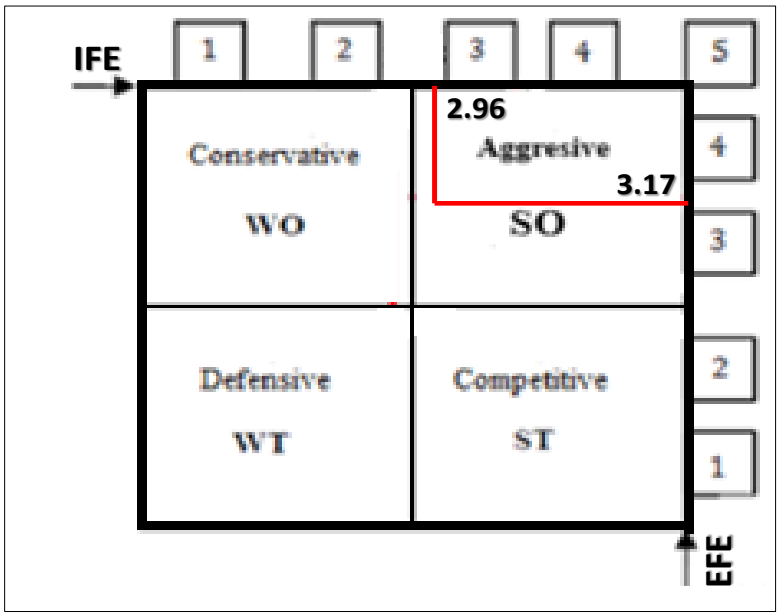

Figure 3 Eco-Temple SWOT quadruples

3.3. AHP Analysis of Eco-Vihara

The SWOT matrix employs the Analytical Hierarchy Process (AHP). Initially, paired assessments of the SWOT categories were performed using a 1-9 comparison scale [65]. The results of the comparison are displayed in Table 4. The components of the SWOT matrices are compared inside each corresponding SWOT category. A cohort of Buddhist Leaders performs all pairwise comparisons within the application. A specialized team was established comprising members from the Monks Association of the East Indonesia Regional Secretariat, the Council, Buddhist Women, the Young Buddhist Generation, Buddhist Children, Vihara Managers, and Religious and Educational Foundations, including representatives from provincial, regency, and city administrations across three viharas. The SWOT analysis matrix comparison reveals that Strengths and Opportunities are selected for further investigation via AHP, as shown in Tables 5 and 6.

Tabel 4 Pairwise and priority value of SWOT matrix

SWOT Groups	S	W	O	T	Priority Value
S	1.00	0.33	0.25	0.20	0.08
W	3.00	1.00	0.75	0.60	0.23
O	4.00	1.33	1.00	0.80	0.31
T	5.00	1.67	1.25	1.00	0.38
Total	13.00	4.33	3.25	2.60	1.00
CR	0.00				

Table 5 Strengths pairwise and priority value of SWOT matrix

Strengths	S1	S2	S3	S4	S5	S6	S7	Priority Value
S1	1.00	0.33	0.25	0.20	0.14	0.13	0.11	0.03
S2	3.00	1.00	0.75	0.60	0.43	0.38	0.33	0.08
S3	4.00	1.33	1.00	0.80	0.57	0.50	0.44	0.11
S4	5.00	1.67	1.25	1.00	0.71	0.63	0.56	0.14
S5	7.00	2.33	1.75	1.40	1.00	0.88	0.78	0.19
S6	8.00	2.67	2.00	1.60	1.14	1.00	0.89	0.22
S7	9.00	3.00	2.25	1.80	1.29	1.13	1.00	0.24
Total	37.00	12.33	9.25	7.40	5.29	4.63	4.11	1.00
CR	0.00							

Table 6 Opportunities pairwise and priority value of SWOT matrix

Opportunities	O1	O2	O3	O4	O5	O6	O7	O8	Priority Value
O1	1.00	0.50	0.33	0.25	0.20	0.17	0.14	0.11	0.03
O2	2.00	1.00	0.67	0.50	0.40	0.33	0.29	0.22	0.05
O3	3.00	1.50	1.00	0.75	0.60	0.50	0.43	0.33	0.08
O4	4.00	2.00	1.33	1.00	0.80	0.67	0.57	0.44	0.11
O5	5.00	2.50	1.67	1.25	1.00	0.83	0.71	0.56	0.14
O6	6.00	3.00	2.00	1.50	1.20	1.00	0.86	0.67	0.16
O7	7.00	3.50	2.33	1.75	1.40	1.17	1.00	0.78	0.19
O8	9.00	4.50	3.00	2.25	1.80	1.50	1.29	1.00	0.24
Total	37.00	18.50	12.33	9.25	7.40	6.17	5.29	4.11	1.00
CR	0.00								

The SO technique offers a proactive strategy for enhancing the Eco-Vihara Framework to expedite the SDGs Regional Action Plan in Papua's Bird's Head region. Thus, the principal objective of this assertive strategy is to leverage existing strengths and opportunities to enhance leadership, collaboration, and funding capabilities. An assertive strategy is

delineated in Figure 3. Table 7 elaborates on this through the AHP analysis, based on the convergence of the Eco-Vihara Framework's strengths and opportunities.

The processes utilized to assess the enhancement of the Eco-Vihara Framework are derived from an integration of two strengths and three opportunity indicators. The six strategies formulated are as follows: accelerate educational policies and advocate for the implementation of Eco-Vihara; promote the enhancement of the Human Development Index as part implementation of SDGs through Eco-Vihara; motivate external entities to develop Eco-Vihara; engage Vihara leadership with diverse stakeholders; assess the effectiveness of Vihara management; and leverage funding from multiple sources to improve achievements to elevate the Eco-Vihara rating from basic to intermediate and from intermediate to excellent. Studies in multiple Eco-Viharas, Eco-Temples, Eco-Mosques, and Eco-Churches indicate that leadership, advocacy, education, socialization, and diverse funding sources significantly influence the effectiveness of evaluation and enhancement of initiatives aimed at executing the SDGs Regional Action Plan from a perspective of religion, while concurrently promoting environmental sustainability and community welfare [66,67,68].

Table 7 Total priority and SO strategies

SWOT Groups	**Group Priority**	**SWOT Factors**	**Factor Priority**	**Total Priority**
Strength	0.08	Application of Eco Dharma principles in everyday life (S1)	0.03	0.002
		Integration of social governance principles into everyday practices (S2)	0.08	0.006
		The Buddhis Temple has endorsed environmental sustainability (S3)	0.11	0.008
		The Buddhist Temple has prioritized Green Open Space (S4)	0.14	0.010
		Awareness of Vihara Leaders in the execution of Eco-Vihara (S5)	0.19	0.015
		The Vihara Representative has instituted policies and educational initiatives concerning Eco-Vihara (S6)	0.22	0.017
		The Vihara leadership collaborates with multi-stakeholders in the development of the Eco-Vihara (S7)	0.24	0.019
Opportunities	0.31	A welcoming environment and climatic adaptability for the community (O1)	0.03	0.008
		Renewable energy, waste management, and external financial sources (O2)	0.05	0.017
		Enhance public awareness of the significance of environmental stewardship (O3)	0.08	0.025
		Development Partners facilitate the attainment of the SDGs, the Sendai Framework, and the Paris Agreement by 2030 (O4)	0.11	0.033
		Development collaborators facilitate the advancement of the green and blue economies (O5)	0.14	0.042
		The involvement of third parties in initiatives to enhance the human development index (O6)	0.16	0.050
		Buddhists advocate for the execution of Eco-Vihara via the formulation of the SDG Regional Action Plan (O7)	0.19	0.058
		Special Autonomy and the Steering Committee aim to expedite advancements in economic, educational, and health sectors in Papua (O8)	0.24	0.075
Strategy				
Inspire external entities to formulate educational policies and advocacy for the execution of Eco-Vihara to enhance the Human Development Index as part of SDGs (SO1)				

SWOT Groups	Group Priority	SWOT Factors	Factor Priority	Total Priority
Encourage outside parties to develop Eco-Vihara to improve the SDGs Regional Action Plan (SO2)				
The Special Autonomy Fund and both entities can enhance the accomplishments of Eco-Vihara in executing the SDG Regional Action Plan (SO3)				
The Vihara leadership engages with multiple stakeholders to enhance the human development index in alignment with the Sustainable Development Goals (SO4)				
The Vihara managerial effectiveness engages with various parties to further develop the SDGs Regional Action Plan (SO5)				
The Vihara management has requested assistance from the Special Autonomy Fund and other sources to elevate the Eco-Vihara grade from basic to intermediate and from intermediate to excellent (SO6)				

4. Conclusion

The respondents involved in formulating the strategy and policy for implementing Eco-Vihara comprised leaders from various Buddhist organizations, totaling 110 people: 36 from the Buddha Prabha Vihara in Manokwari Regency, 44 from the Buddha Sorong Vihara in Sorong City, and 30 from the Buddha Sasana Vihara in Sorong Regency.

The IFE and EFE values derived from the SWOT analysis were 2.96 and 3.17, respectively. The resulting SWOT matrix is positioned in the aggressive quadrant, reflecting the integration of strategies and opportunities. Moreover, the optimal method is identified by AHP analysis, yielding the factor and total priority.

Another benefit is that a priority analysis was performed, yielding the two most significant values in strength and three in opportunities, resulting in six combinations of aggressive strategies to advance the Eco-Temple evaluation from a basic to a middle level and from a middle level to a high level. The six strategies executed include accelerating educational policies and advocating for the implementation of Eco-Vihara; promoting the enhancement of the Human Development Index as part of the Sustainable Development Goals through Eco-Vihara; motivating external entities to develop Eco-Vihara; engaging Vihara leadership with diverse stakeholders; evaluating the effectiveness of Vihara management; and leveraging funding from multiple sources to enhance outcomes.

Compliance with ethical standards

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Disclosure of conflict of interest

There is no conflict of interest.

Statement of ethical approval

The ethical clearance has been approved by the Head of the Ministry of Religious Affairs Office in West Papua Province, following the Regulation of the Minister of Religious Affairs of the Republic of Indonesia Number 8 of 2024, which pertains to amendments to the Regulation of the Minister of Religious Affairs Number 18 of 2024 regarding the Ministry of Religious Affairs Strategic Plan for 2020-2024.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

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