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Community Participation in The Management of The Buleleng Conservation Zones in Tejakula District

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Abstract. This research aims to determine community participation in the management of water conservation monitoring in the Buleleng area in the Tejakula district. The study also aims to investigate the impact of both internal and external community factors on community participation in the conservation of fisheries resources within the Buleleng Regional Marine Conservation Area in Tejakula District. The total population covered in the study was 1920 people. The sample size of respondents is at least 10% of the total population, as many as 192 people. This research uses a quantitative survey method approach. Samples were determined using stratified random sampling. The sampling was determined proportionally based on the community's field of work in the conservation of fisheries resources in the Buleleng Region KKP in Tejakula District. The groups involved include fishermen, POKMASWAS members (Community Surveillance Groups), processors and marketers of fishery products, fish cultivators, community salt farmers, tourism actors, local regional officials, and non-governmental organizations. This research analysis uses PLS-SEM (Partial Least Squares Structural Equation Modeling). The results of this research show that simultaneously internal and external factors contribute to explaining 89.6 percent of community participation. Community participation, as measured by seven distinct items, shows a strong correlation with the factors explaining it. Simultaneously, internal and external factors contribute to defining the community participation of 89.6%. The internal factor that makes the most substantial contribution is work. The external factor making the most significant contribution is the maintenance of cultural activities around coastal and marine areas, ensuring their continuity.

Keywords: community participation; Tejakula district; water conservation

I. INTRODUCTION

An efficient method for managing coastal and marine resources is the establishment of Marine Protected Areas (MPAs). The Marine Conservation Area (KKP) is tasked with safeguarding and preserving healthy coral reef ecosystems, providing refuge for fish populations (SDI), and promoting high biodiversity to enable fisheries and sustainable tourism [1]. Marine Protected Areas (MPAs) encompass tidal waters and adjacent regions, including biodiversity, historical, and cultural elements, that have been granted legal or adequate protection for a portion or the entirety of the area [2]. Government Regulation No. 60 of 2007 designates KKP as a protected and regulated zoned aquatic region aimed at achieving sustainable management of fish resources and the environment. These regions encompass aquatic national parks, aquatic tourism parks, aquatic nature reserves, and fishery reserves [3].

The KKP reservation for the East Buleleng zoning area of 6,661.68 hectares, located in the waters of Tejakula District, was originally a community-based DPL including Pacung Village, Julah Village, Bondalem Village, Tejakula Village, Penuktukan Village, and Sambirenteng Village. The East Buleleng Marine Protected Area currently encompasses diverse activities, including fisheries (fishing, cultivation, and processing), tourism (dolphin tourism, snorkeling, and diving), and marine ecosystem conservation (coral reef rehabilitation and transplantation). Coral reefs. Community-based water conservation initiatives in this region warrant additional investigation to ascertain the degree of community engagement and concern over conservation efforts. This

defined area was subsequently established as a Marine Conservation Area (KKP) by the Decree of the Minister of Marine Affairs and Fisheries Number 122 of 2023, about Marine Conservation Areas in the Buleleng Region, Bali Province, classified as Aquatic Tourism Parks. The KKP in the Buleleng region is segmented into three areas: the seas around Pemuteran, the waters surrounding Buleleng Banjar, and the waters surrounding Tejakula [4].

This study seeks to assess community involvement in the administration of water conservation monitoring in the Buleleng region of the Tejakula district. The study aims to investigate the impact of internal and external community variables on community involvement in the conservation of fisheries resources within the Buleleng Regional Marine Conservation Area in Tejakula District.

II. METHODS

This study employs a quantitative survey methodology. In this study, the community's involvement in conservation efforts serves as the dependent variable (Y), while the independent variable (X) is identified. Internal Factors and External Factors constitute independent variables (X). Community participation constitutes the dependent variable (Y). The obtained research data includes both primary and secondary data. Primary data collection is conducted directly in the field using observation, questionnaires, and comprehensive interviews with respondents in the Tejakula District. Secondary data gathering involves literature reviews and data obtained from relevant agencies or institutions.

The study encompassed a total population of 1,920 individuals. The responder sample size constitutes a minimum of 10% of the overall population, amounting to 192 individuals. Sampling was conducted by stratified random sampling, proportionately based on the community's involvement in the protection of fishery resources in the Buleleng Region KKP within Tejakula District. This group comprises fishermen, POKMASWAS, processors and marketers of fisheries products, fish growers, community salt farmers, tourism stakeholders, local regional officials, and community non-governmental organizations.

The questionnaire comprises 35 questions organized into eight sections: the first section addresses respondent data with five questions; the second section pertains to knowledge of the Buleleng KKP in the waters surrounding Tejakula District, containing five questions; the third section focuses on understanding of fishery resource conservation, consisting of 8 questions; the fourth section examines government support with three questions; the fifth section addresses fisheries resource conservation policies and regulations, comprising three questions; the sixth section evaluates support from relevant institutions, containing three questions; the seventh section assesses public compliance with rules, consisting of 4 questions; and the eighth section explores awareness of participation in conservation activities, comprising four questions.

This study employs PLS-SEM (Partial Least Squares Structural Equation Modeling) for its investigation. To ascertain the association between community engagement in the conservation, monitoring, and restoration of fishery resources and its impact on the efficacy of water conservation, primary data from each questionnaire response was evaluated using Likert Scale scoring. The instrument employed to assess the attitudes, views, and perceptions of individuals or groups on social phenomena for each query or statement must utilize the Likert Scale [5]. The questionnaire responses from participants were evaluated using Likert Scale scoring (Table 1).

TABLE 1
LIKERT SCALE SCORING

No.	Information	Score
1	Strongly agree	5
2	Agree	4
3	Doubtful	3
4	Disagree	2
5	Strongly Disagree	1

III. RESULTS AND DISCUSSION

Tejakula District is a sub-district of Buleleng Regency, located in the eastern region of the regency, with an area of 97.69 km² and comprising 10 settlements. Nine out of the ten communities own beachfront areas. The population of Tejakula District is 78,241, comprising 39,783 males and 38,488 females (BPS, 2022).

According to Minister of Marine Affairs and Fisheries Decree Number 122 of 2023 regarding Marine Conservation Areas in the Buleleng Region, Bali Province, the seas surrounding Tejakula District are designated as Area III. The seas around Tejakula encompass an area of 9,472.48 hectares [4].

This region, characterized by diverse underwater structures, is a possible outstanding habitat due to its variety of coral fish, dolphins, and whales. The proactive preservation of coral reefs presents an alternative tourist model. Community-Based Tirta Ecotourism is a brand established in this region. The presence of Fraser's Dolphins and Pilot Whales, often found in the Tejakula District, signifies their habitation in the seas of Tejakula.

PLS-SEM (Partial Least Squares Structural Equation Modeling) Analysis

Evaluation of measurement models

This research employs a measuring paradigm that incorporates both reflective and formative components, with internal and external factors assessed reflectively and community engagement evaluated formatively (Table II). In Hair *et al.* [7], the assessment of the reflective measurement model includes a loading factor of ≥ 0.70, composite reliability of ≥ 0.70, Cronbach's alpha of ≥ 0.60, and average variance extracted (AVE) of ≥ 0.50, along with the evaluation of discriminant validity, specifically the Fornell-Larcker criterion and HTMT (Heterotrait-Monotrait Ratio) below 0.90. The assessment of the formative measurement model is based on the importance of the outer weight, with the absence of multicollinearity among the measurement items shown by an outer VIF below 5.

The community involvement variable is assessed using seven valid questions, each with an outer loading value of 0.7, indicating a high correlation among the items in elucidating community engagement. The reliability of the community engagement variable is satisfactory, as evidenced by a composite reliability of over 0.70 and convergent validity, as indicated by an AVE of more than 0.50.

TABLE 2
OUTER LOADING, COMPOSITE RELIABILITY, AND AVERAGE VARIANCE EXTRACTED

Variable	Items	Indicator	Outer Loading	Composite Reliability	AVE
Community Participation	Y_1	In marine conservation zones, punishments must be enforced for any violations.	0.789	0.924	0.657
	Y_2	Sanctions implemented in marine conservation zones represent a consensus between the government and the community.	0.824		
	Y_3	Sanctions in marine conservation zones to safeguard marine and fishery resources	0.915		
	Y_4	Sanctions in marine conservation zones govern the rights and responsibilities of fishermen inside these regions.	0.847		
	Y_5	Notify the authorities (Police/marine guard police) if you observe anyone vandalizing coastal and marine environments.	0.876		
	Y_6	Applauds the government's implementation of stringent punishments, following relevant legislation, against offenders causing harm to coastal and marine environments.	0.733		
	Y_7	Prevent entities that may harm marine and coastal waterways.	0.759		
Internal Factors	$X_{1.1}$	Last education	0.747	0.809	0.598
	$X_{1.2}$	Age	0.740		
	$X_{1.3}$	Gender	0.713		
	$X_{1.4}$	Domicile	0.755		
	$X_{1.5}$	Work	0.891		
External Factors	$X_{2.1}$	Regulations in Marine Protected Areas are established via a consensus between the government and the community.	0.806	0.966	0.620
	$X_{2.2}$	The implementation of a regulation or law by the Government, which regulates the use and management of coastal and marine areas in the Tejakula District.	0.802		
	$X_{2.3}$	The Government's enactment of a rule or legislation governing the utilization and management of coastal and marine regions in the Tejakula District.	0.825		
	$X_{2.4}$	The regulations of the Buleleng Marine Conservation Area, Tejakula District, are effectively enforced.	0.872		
	$X_{2.5}$	Community units are established based on inherited ancestral roots within a typical local neighborhood.	0.804		
	$X_{2.6}$	Customary rules govern sovereignty over land and natural resources, as well as social interactions within the local community (awig-awig).	0.903		

$X_{2.7}$	To ensure the continuance of coastal and marine preservation, many cultural activities are preserved in local areas.	0.915
$X_{2.8}$	Introducing the Buleleng Marine Conservation Area, Tejakula District	0.806
$X_{2.9}$	Boundaries or zones inside Marine Protected Areas might offer advantages for the conservation of marine resources.	0.906
$X_{2.10}$	Boundaries or zones in Marine Protected Areas can provide benefits for sustainable use	0.706
$X_{2.11}$	The presence of a Marine Protected Area does not impede fishing activity.	0.882
$X_{2.12}$	The establishment of a Marine Protected Area does not abrogate the entitlement to utilize and administer fishery resources.	0.859
$X_{2.13}$	Engage in the conservation of coral reefs and the protection of endangered species.	0.788
$X_{2.14}$	Avoid employing marine and fisheries resources that are either governmentally restricted or misappropriated for everyday needs. Examples include the destruction of coral, the use of forbidden fishing gear to capture fish, and the capture of protected species, among others.	0.728
$X_{2.15}$	Preservation of coastal and marine resources in alignment with community and governmental accords	0.721
$X_{2.16}$	Education and training are essential for marine and coastal conservation, monitoring, and restoration to ensure the sustainability of coastal and marine resources.	0.760
$X_{2.17}$	Engage in the utilization of coastal and marine resources for livelihood purposes.	0.769

Structural model evaluation

The assessment of the structural model pertains to the examination of the hypothesis about the effect of study factors. The evaluation of the structural model was conducted in three phases, beginning with the assessment of multicollinearity among variables and the Inner VIF (Variance Inflation Factor) measurement. Inner VIF values under 5 signify the absence of multicollinearity among variables [7].

Proceed with hypothesis testing between variables by examining the statistical t-value or p-value. If the computed t-statistic exceeds 1.96 (as per the t table) or the p-value of the test findings is less than 0.05, then a significant relationship between the variables exists. Furthermore, it is essential to present the results together with the 95% confidence interval for the computed path coefficient parameters. The third metric is the F-squared value, which assesses the impact of factors at the structural level, with thresholds defined as follows: 0.02 indicates a low effect, 0.15 is a moderate effect, and 0.35 is a significant effect [7].

Evaluation of model goodness and fit

PLS is a variance-based structural equation modeling methodology designed to evaluate theoretical models with an emphasis on predictive investigations. Consequently, various metrics were established to affirm the acceptability of the proposed model, including R square, Q square, SRMR, PLS prediction, as outlined by Hair *et al.* [8], and the Goodness of Fit Index (GoF Index) as described by Henseler and Sarstedt [9], in addition to evaluating the model's robustness through the examination of the linearity of the relationships among variables. Endogeneity and heterogeneity in sample models with Fimix PLS, as discussed by Hair *et al.* [8].

The quantitative magnitude R-squared measures the extent to which the variance in endogenous variables can be explained by other exogenous or endogenous factors within the model. The chart indicates that the effect of internal and external variables on community engagement accounts for 89.6% of the variance. The Q square score for the community involvement variable is 0.885, indicating a strong prediction accuracy of the model. The model estimation result is 0.075; since the SMR value is below 0.08, it can be concluded that the model exhibits an adequate fit. Empirical data can elucidate the impact of the variables within the model.

Hair *et al.* [8] asserted that PLS is a structural equation modeling methodology employed for predictive objectives. Consequently, it is essential to provide a metric for model validation to demonstrate the efficacy of the suggested model's predictive capacity. PLS prediction serves as a confirmation of the efficacy of the PLS prediction test (Table III). To demonstrate that the PLS findings had substantial predictive potential, a comparison

with the fundamental model, specifically the linear regression model (LM), is essential. The PLS model demonstrates predictive efficacy if its RMSE (Root Mean Squared Error) or MAE (Mean Absolute Error) is inferior to that of the linear regression model. Analysis of seven observations of RMSE and MAE values for six measurement items indicates that the 7 PLS model measurement items exhibit reduced RMSE and MAE values compared to the LM model (linear regression). This shows that the suggested PLS model had moderate predictive capability.

TABLE 3
PLS PREDICT

Measurement Items	PLS		LM	
	RMSE	MAE	RMSE	MAE
Y_1	0.416	0.252	0.506	0.300
Y_2	0.339	0.226	0.406	0.236
Y_3	0.229	0.132	0.289	0.152
Y_4	0.309	0.149	0.303	0.159
Y_5	0.248	0.152	0.286	0.168
Y_6	0.494	0.310	0.500	0.319
Y_7	0.460	0.276	0.526	0.343

Community participation

Regulations established by the government and community agreements, as outlined in awig-awig, are enforced and adhered to by the residents of Tejakula District. Violations that arise are addressed under current regulations in Tejakula Village, which enforces the Geretek Traditional Village, Pararem Number: 70/DA.Grt/XI/2021, regarding the Protection of Lakes, Springs, Rivers, and Seas. Community members who contravene marine protection regulations will face sanctions, including guidance, warnings, and/or fines (pamidanda) [10]. Mahdy *et al.* [11] state that the punishments outlined in awig-awig are imposed on offenders referred to as pamidanda. Pamidanda emphasizes decorum for harmony, is instructive, and induces shame. The magnitude of the pamidanda is contingent upon the severity of infractions and/or crimes inside a village lungan.

Community knowledge of participation in conservation efforts in Tejakula District encompasses active involvement, executing, and endorsing regularly planned beach clean-up initiatives aligned with everyday and traditional activities in each community. Secondly, actively participating in and facilitating underwater clean-up initiatives. This underwater clean-up project is conducted by coastal communities, Community Monitoring Groups (POKMASWAS) in each village, and licensed divers residing in the KKP Buleleng Region, Tejakula District. The third involves actively engaging in and endorsing initiatives aimed at diminishing plastic waste, minimizing plastic usage, managing waste disposal, and mitigating pollutants in coastal and marine ecosystems, as well as facilitating the processing of plastic waste by collecting it at Reduce, Reuse, Recycle (TPS3R) Waste Management Sites. Fourth, establish a conservation network inside the East Buleleng KKP reserve area, together with the Central Buleleng and West Buleleng KKP reserve areas.

Of the seven valid measurement items, community participation is notably robust, as indicated by Y3 (LF=0.915), which pertains to sanctions in marine conservation areas aimed at safeguarding marine and fisheries resources, and Y5 (LF=0.876), which involves reporting to authorities (Police/Polair) upon witnessing individuals who harm coastal and marine environments. Violations are reported to the authorities for processing in line with Indonesian law. In Tejakula District, community observers and conservation activists from the Community Monitoring Group (POKMASWAS) conduct surveillance patrols in coastal regions in collaboration with Polairud and the Indonesian Navy, reporting any violations of coastal conservation to the authorities.

The statistical measure R-squared quantifies the extent to which the variance in endogenous variables can be explained by other exogenous or endogenous factors within the model. The data indicate that internal and external variables collectively account for 89.6% of the impact on community engagement. The Q square score for the community involvement variable is 0.885, indicating a strong prediction accuracy of the model.

Community engagement is essential in all phases of planning, execution, result utilization, and assessment, rather than merely as verbal expressions [12]. Participation is crucial, as coastal communities, particularly fishermen, are the primary recipients of the effects of environmental degradation in coastal regions.

Internal Community Factors

The participants in this study are members of the coastal community who engage with the Buleleng Fisheries Conservation Area in Tejakula District. The attributes of the examined community encompass gender, age, demographic status, education, and occupational field. Table IV presents the characteristics of the respondents. In 10 occupational categories, male respondents constituted 88.5% of the total. This is due to men's traditional obligation to provide revenue for their families and engage with coastal regions, which serve as sites for livelihood opportunities.

The percentage of the productive working-age demographic is 94.3%. The predominant percentage of responders belonged to the productive age bracket of 25 to

65 years. Individuals within this age bracket are proficient in executing livelihood tasks in coastal regions. At a mature age, individuals are deemed competent and knowledgeable in performing tasks to sustain their families. The productive age range affects attitudes, facilitating the acquisition of information and collaboration in the management and oversight of water resource utilization. In this efficient era, comprehending and executing the rules established by the government at the Buleleng KKP, Tejakula District would be straightforward. Anjani [13] asserts that the caliber of human resources is a critical determinant of the efficacy in administering marine conservation zones.

Of the respondents, 96.9% were native inhabitants, while 3.1% were immigrants. Given these circumstances, public knowledge of participation in conservation actions is substantial. Given that this region serves as both a residence and a livelihood source, community engagement in conservation efforts within the Buleleng KKP area, Tejakula District, is substantial. Establishing the Aquatic Conservation Area in the Tejakula District relies on community involvement and engagement [13].

TABLE 4
RESPONDENT DATA BASED ON GENDER, AGE, POPULATION STATUS, EDUCATION, AND FIELD OF WORK

Participant Profile	Number of people	Percentage (%)
1. Gender		
a. Male	170	88,5
b. Female	22	11,5
2. Age		
a. 16-25 years old	10	5,2
b. 26-45 years old	75	39,0
b. 46-65 years old	96	50,0
c. > 65 years old	11	5,8
3. Population status		
a. Native inhabitants	186	96,9
b. Immigrant	6	3,1
4. Education		
a. Elementary school	83	43,2
b. Junior high school	33	17,2
c. Junior high school	67	36,5
d. Higher Education	12	6,1
5. Field of work		
a. Fisherman	85	44,2
b. Processors and Marketers	32	16,7
c. Salt processor	12	6,3
d. Supervisory groups	12	6,3
e. Fish cultivator	3	1,6
f. Tourism actors	30	16
g. Regional governmental apparatus	16	8,3
i Nongovernmental organization	2	1,0

External Factors of Society

The community understands the purpose of establishing this KKP, and the procedure for its establishment is being followed. Before its designation as a KKP, the community first advocated for this region to be recognized as a reserve until it ultimately received KKP status. This support is demonstrated by community participation in Forum Group Discussions (FGD), outreach initiatives conducted by the pertinent government, and the formulation of legislation in the region.

A well-managed fishing industry can enhance revenue sources in the area [14].

The KKP procedure for the Buleleng Region in Tejakula District undoubtedly engages people with a direct stake in the usage of local fishery resources. Fishing activities may still occur in restricted-use zones. In this area, fishers may capture fish with sustainable fishing equipment, according to size regulations, and avoid the use of banned substances such as toxins or explosives. According to KP Ministerial Regulation Number 31 of 2020 About the Management of Conservation Areas, limited-use zones are designated for sustainable fisheries and tourist activities. Limited-use zones provide social, economic, and cultural purposes for local communities next to Conservation Areas. Respondents acknowledge that the establishment of a

Marine Protected Area does not negate the entitlement to utilize and administer fishery resources. The sea is accessible to anyone; individuals are permitted to engage in activities and interact with it. Fauzi [15] asserts that licensing represents the most prevalent and straightforward method of fisheries regulation, while regulations and policies utilizing economic instruments can promote participation in fisheries management, transitioning from unsustainable open access conditions to optimal management practices. and environmentally sustainable.

Aryanti and Rusni [16] assert that one aspect of coastal resource management in Indonesia is stakeholder management, namely the issuance of permits to entities deemed competent in managing natural resources. One possibility for growth in coastal regions is facilitated by the utilization of natural resources, along with effective stakeholder management. Effective stakeholder management is essential for maximizing regional development, with the government and the community serving as pivotal players. In this context, the government is responsible for regulation and oversight, although its actions are constrained, making the local community the primary driver of progress [17].
The residents of Tejakula District recognize that deteriorated coastal and marine environments will adversely affect their livelihoods. The community in the Buleleng Water Conservation Area, Tejakula District, has refrained from engaging in activities within coastal regions that could harm coastal ecosystems. This includes abstaining from the use of explosives in fishing and conducting fishing exclusively in the designated limited-use zones.

The establishment of Reserved Marine Protected Areas in Buleleng Regency commenced in 2000, culminating in the issuance of Regent's Decree SK No. 523/630/HK/2011 regarding the Reservation of Water Conservation Areas for Buleleng Regency [18], followed by the Minister of Marine Affairs and Fisheries Decree Number 122 of 2023 concerning Conservation Areas in the Waters of the Buleleng Region, Bali Province [4]. This process is deemed significant and advantageous for the sustainability of the aquatic zones in the Tejakula District. The government has conducted activities aimed at enhancing awareness of fisheries resource conservation in the Buleleng Regional Marine Conservation Area in Tejakula District, including the provision of guidance and counseling on fisheries resource conservation in the East Buleleng region. This activity was conducted to engage the primary stakeholders and commercial entities within the marine and fisheries industry. In addition to groups, coaching is also offered to primary stakeholders and individual enterprises in the KP sector. These organizations and individuals include those who earn their livelihood in the KP sector and engage with coastal ecosystems, including fishermen, processors, and marketers of processed fish products, aquaculturists, salt farmers, conservation advocates, and KP resource managers. This instruction is implemented by the Ministry of Marine Affairs and Fisheries by Fisheries Extension Officers operating in the Tejakula District region. The outreach conducted encompasses the dissemination of regulations about marine conservation areas, eco-friendly fishing gear, and fishing practices in alignment with Minister of Marine Affairs and Fisheries Regulation Number 18 of 2021, which addresses the placement of fishing equipment and aids in the State Fisheries Management Areas of the Republic of Indonesia and the High Seas, as well as the organization of fishing addons. It also facilitates access to information and technology for key stakeholders and marine and fisheries business operators, while enhancing awareness of sustainable environmental functions. Empowerment initiatives for coastal communities in Tejakula District are conducted by the Buleleng Regency Food Security and Fisheries Service. The Tejakula District Government and coastal village administrations in Tejakula District provide community aid.

The community in the Tejakula District water conservation region robustly endorses the established restrictions, as evident in their daily activities and heightened awareness of implementation. Before the designation of the Tejakula District waters as a water conservation area, the Buleleng Regency regional government enacted regulations, specifically Buleleng Regent's Decree No. 523/630/HK/2011, which pertains to the reservation of water conservation areas within Buleleng Regency, encompassing an area of 14,040.83 hectares. The determination of this reserve area involved significant community engagement throughout its development. This is reflected in Bali Province Regional Regulation No. 2 of 2023 on the Regional Spatial Plan (RTRW) for Bali Province for the period 2023-2043 [19]. This rule (RTRW) encompasses the local wisdom of the Balinese Tri Hita Karana community, including coastal waters, coastal boundaries, reserve areas, and water conservation zones.
Pura Segara is one of the revered sites in coastal regions. According to Decree No. 11/Kep/I/PHDIP/1994 of the Central Indonesian Hindu Dharma Parisada regarding the Purity of Bhisama Temple, the sanctity radius is defined as follows: Pura Sad Kahyangan requires a minimum distance of 5 km from the temple, Pura Dang Kahyangan mandates a minimum distance of 2 km from the temple, and the temple area fence delineates the Kahyangan Tiga Temple.

Tri Hita Karana represents the harmonious interaction among the three fundamental components that constitute life. These three relationships encompass interactions with other individuals, connections with the natural environment, and relationships with God, all of which are interconnected. Bali Provincial Regulation Number 4 of 2019 defines a Traditional Village as a legal unity of the Balinese people characterized by territorial position, original structure, traditional rights, proprietary assets, customs, and social etiquette that have been transmitted through generations within the confines of a sacred site (kahyangan tiga or kahyangan village), along with responsibilities, authority, and the right to govern and manage one's household [20]. The Traditional Village Authority oversees the administration of sacred sites and surroundings. Pura Segara is one of the holy sites. Segara shrine, situated in the seaside region, serves as a swagging shrine for fishermen to offer prayers to Sang Hyang Widhi (God Almighty), recognized as the God of the Sea or Dewa Baruna. External variables are significantly represented by X2.7 (LF=0.915) through indications of coastal and marine maintenance continuity, with the preservation of cultural activities in the local area. Segara shrine, situated in the seaside region, serves as a swaging shrine for fishermen to offer prayers to Sang Hyang Widhi/God Almighty, recognized as the God of the Sea or Dewa Baruna. Bali Provincial Regulation Number 3 of 2001 stipulates that "awig-awig" is a regulation established by the krama (residents) of the Pakraman village and/or the Pakraman banjar krama, serving as a framework for the implementation of Tri Hita Karana, in alignment with the mawacara village and the religious dharma of the Pakraman village or Banjar Pakraman.
The statistical measure R-squared quantifies the extent to which the variance in endogenous variables can be explained by other exogenous or endogenous factors within the model. The chart indicates that the impact of internal and external variables on community engagement is 89.6%. The Q-square score for the community involvement variable is 0.885, indicating strong prediction accuracy of the model.

IV. CONCLUSION

The assessment of community participation, based on seven measuring items, demonstrates a robust association in elucidating community involvement. Both internal and external forces together elucidate the 89.6% community engagement rate. The primary internal component contributing significantly is work. The primary external element contributing to the continuance of coastal and marine maintenance is the preservation of cultural activities in the local area.

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