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PERAN MEDIASI PARTISIPASI MASYARAKAT DALAM KEBERLANJUTAN INFRASTRUKTUR DI DESA

THE ROLE OF COMMUNITY PARTICIPATION MEDIATION IN THE SUSTAINABILITY OF VILLAGE INFRASTRUCTURE

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Abstrak

Partisipasi masyarakat telah terbukti sebagai faktor penting dalam upaya mencapai keberlanjutan infrastruktur di tingkat desa dengan keterlibatan masyarakat secara aktif dalam setiap fase siklus proyek konstruksi. Penelitian ini bertujuan untuk mengidentifikasi peran partisipasi masyarakat dalam menjelaskan pengaruh perencanaan & desain dan pelaksanaan konstruksi pada keberlanjutan infrastruktur di desa pada desa mandiri di Banyumas. Penelitian ini menggunakan metode kuantitatif. Tahapan penelitian ini dimulai dari pengumpulan data primer dan sekunder, menggunakan kuesioner sebagai alat pengumpulan data. Sebanyak 170 responden didapatkan dari hasil pendistribusian kuesioner. Selanjutnya data tersebut dianalisis dengan metode *Partial Least Square Structural Equation Modeling* (PLS-SEM). Hasil penelitian ini menunjukkan hubungan tidak langsung (*indirect* effect) pada partisipasi masyarakat dalam memediasi pengaruh perencanaan & desain terhadap keberlanjutan infrastruktur memperoleh nilai sebesar 0,391. Di sisi lain hubungan tidak langsung (*indirect* effect) pada partisipasi masyarakat dalam memediasi pengaruh pelaksanaan konstruksi terhadap keberlanjutan infrastruktur memperoleh nilai sebesar 0,272. Sehingga, hasil ini menjadi petunjuk bahwa yang perlu diperhatikan bukan hanya perencanaan dan desain serta pelaksanaan konstruksi yang baik, melainkan juga keterlibatan dan peran keaktifan masyarakat dalam setiap tahapan proses pembangunan, dalam mewujudkan keberlanjutan infrastruktur di desa yang optimal.

Kata kunci: Keberlanjutan Infrastruktur, Partisipasi Masyarakat, Pelaksanaan Konstruksi, Perencanaan & Desain

Abstract

Community participation has been proven to be an important factor in efforts to achieve infrastructure sustainability at the village level, with active community involvement in every phase of the construction project cycle. This research aims to identify the role of community participation in explaining the influence of planning & design and construction implementation on infrastructure sustainability in independent villages in Banyumas. This research uses quantitative methods. The stages of this research start with the collection of primary and secondary data, using questionnaires as a data collection tool. A total of 170 respondents were obtained from the distribution of questionnaires. The data were analyzed using the Partial Least Square Structural Equation Modeling (PLS-SEM) method. The results of this research indicate an indirect relationship (indirect effect) on community participation in mediating the impact of planning & design on infrastructure sustainability, which obtained a value of 0.391. The indirect relationship (indirect effect) on community participation in mediating the impact of construction implementation on infrastructure sustainability obtained a value of 0.272. These results are an indication that what needs to be considered is not only good planning and design and construction implementation, but also the involvement and active role of the community in each stage of the development process, in realizing optimal infrastructure sustainability in the village.

Keywords: Infrastructure Sustainability, Community Participation, Construction Implementation, Planning and Design

I. INTRODUCTION

Development is a process used to improve the standard of living through improving infrastructure, facilities, and the quality of human resources. Infrastructure development in rural areas is one of the main strategies in encouraging economic growth, improving community welfare, and strengthening connectivity between regions. The community must also be involved in the development process so that village development is successful and can be implemented and utilized by the village community itself, through village development projects that involve the community [1].

Development progress in Indonesia continues to increase, especially in the infrastructure sector, which is the main pillar of a nation's progress, especially in villages. The results of the 2020 Podes updating data collection nationally show that 86.19% of villages/sub-districts in Indonesia have basic service infrastructure [2]. For example, Banyumas Regency was declared as the Regency with the highest level of cooperation and self-reliance in Central Java in 2005 [3].

Besides the increasing development, there are several problems faced regarding community participation in the sustainability of village infrastructure in Indonesia. In Indonesia, the development of infrastructure has not been fully welcomed with support, drawing criticism from various groups in society. The community does not feel involved in every infrastructure planning and development process [4]. In addition, in Banyumas Regency, the level of community participation in empowering/controlling infrastructure development is still low due to the lack of community concern regarding planning and supervision of infrastructure development, and a preference to leave everything to the village government [5]. This condition indicates the failure of the conventional top-down approach, where projects are planned by the government or external parties without involving local aspirations, capacities, and interests [6].

In Indonesia, the implementation of community participation is still considered symbolic, without being followed by a measurable mechanism to ensure its contribution to the sustainability of infrastructure [7]. Besides the construction implementation aspect [4], planning is the key to infrastructure sustainability [8]. Globally, community participation has become a key principle in sustainable development, both at the planning and construction stages [9].

Several previous studies have applied the community participation framework to infrastructure development in Indonesia. Rohman et al. (2017) examined key factors associated with the success of toll road projects from a societal perspective in Indonesia [10]. Widodo (2018) assessed community participation in the planning, implementation, and results stages of the infrastructure development program in Procot sub-district, Tegal [11]. Kambu et al. (2022) examined the development of a model of local community wisdom that can serve as a basis for developing a participatory development approach for the construction of the Trans-Papua Highway in Papua [4]. Muhammad and Zulfiani (2022) examined the overview of community participation and identified the inhibiting and supporting factors of community participation in infrastructure development in Labanan Makarti Village, Berau [12]. A research conducted by Elvandari et al (2025) identified the forms of community participation and factors that encouraged community involvement in road construction in Batualu Village, Tana Toraja [1].

Although research on infrastructure sustainability in Indonesia is growing, previous studies have not yet examined the role of planning, design, and construction implementation as mediating variables. This indicates a gap in understanding the role of community participation as a mediating variable in bridging infrastructure sustainability. There is an opportunity to fill this gap in previous research by further exploring how community participation serves as a mediating variable in explaining the influence of planning, design, and construction implementation on infrastructure sustainability in villages, particularly in Banyumas.

This research employed quantitative methods and a questionnaire as the primary data collection tool, followed by PLS-SEM analysis. The research was conducted in ten independent villages in Banyumas. These ten villages were chosen as research objects because they are classified as independent villages, which means a village that has the availability and access to basic services, social activities, economic activities, environment, accessibility, and good government administration.

This research aims to identify the role of community participation in explaining the influence of planning & design and construction implementation on infrastructure sustainability in ten villages classified as independent villages in Banyumas.

II. LITERATURE REVIEW

A. Sustainable Development

The concept of sustainable development that is widely used today is the three-pillar concept introduced by Elkington (1998), which is called the Triple Bottom Line (TBL). According to the Triple Bottom Line (TBL) concept, a project can be said to be sustainable if it relies on three pillars, namely economic prosperity, environmental quality, and social justice, where each component is interrelated and interdependent with other components [13].

B. Sustainable Construction

Sustainable construction is most often associated with environmental, social, and economic issues in a building within the context of its community [14]. According to CIB (1994), as an international construction research network organization, there are seven principles of sustainable construction (reduce, reuse, recycle, nature, toxics, economics, and quality) which relate to decision making during each phase of the design and construction process, and continue throughout the entire life cycle of the building [15].

C. Sustainable Infrastructure

Sustainable infrastructure is defined as infrastructure that is built with consideration of three main aspects: economic, environmental, and social, and meets future needs without compromising the needs of future generations. Sustainable infrastructure must be planned, designed, constructed, operated, or decommissioned in such a way that ensures economic, social, environmental, and institutional sustainability throughout its life cycle [16].

D. Planning and Design

The Planning Phase is defined as the process of documenting a series of plans to guide the team in achieving project goals [17].

Figure 1 Planning and design process [17]

According to Figure 1, project planning is not a single task, but rather a set of integrated and iterative processes [17]. Meanwhile, the design stage can be defined as the foundation that establishes the boundaries, structure, functionality, and aesthetics of a project. It is a creative and technical process that translates a project program into a detailed physical representation [18].

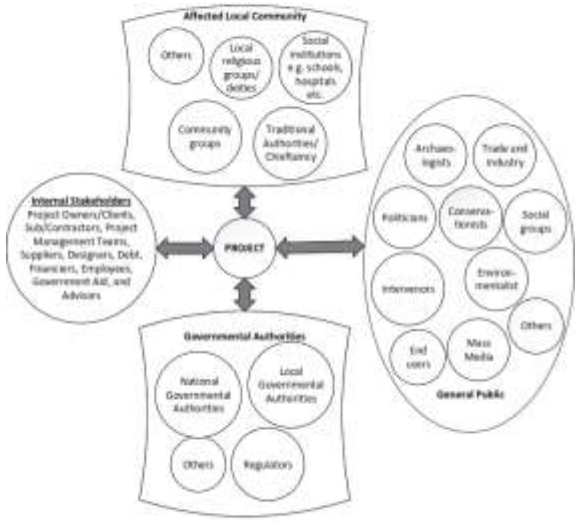

Figure 2 Project External Stakeholders [19]

According to Figure 2, the success of the design stage is highly dependent on effective collaboration between the various parties (stakeholders) involved. External stakeholders are divided into three main groups: the governmental, the general public, and the local communities affected [19].

E. Construction Implementation

The execution or construction phase is the longest and most resource-intensive phase in the project life cycle. This makes effective management, including cost control, time control, quality control, and human resources control, key factors for the survival and success of the project, with the main goal of providing value. During the construction phase, various core activities are carried out simultaneously, such as procurement of materials, construction of building structures, supervision of work quality, scheduling of workers, and cost monitoring [20].

F. Community Participation

Community participation has been proven to be an important factor in efforts to achieve infrastructure sustainability at the village level, given that community involvement is active in every phase of the project cycle, from the planning stage to maintenance. This concept places lower-class communities as planners and policy makers for development at the local level [21].

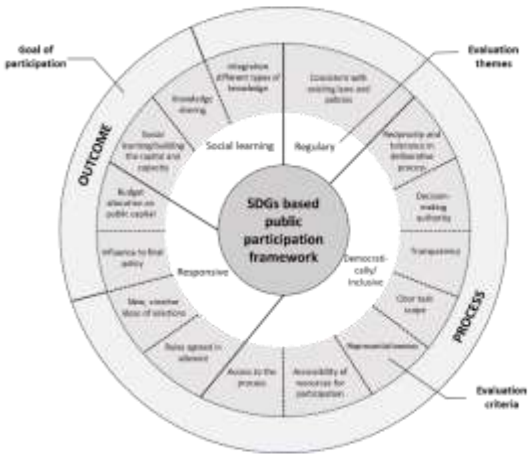

Figure 3 Public Participation Practice Framework [22]

According to Figure 3, five main areas are interrelated and support the achievement of SDGs. In the sub-goals of participation, there is social learning and building capital and capacity, where participation contributes to increasing social capital and enhancing the capacity of communities and institutions. With good contributions, the exchange of information and knowledge between various parties can run according to the sub-elements of knowledge sharing [7].

G. Planning & Design in Infrastructure Sustainability

Sustainability-based infrastructure design and planning is a crucial instrument in mitigating the challenges of urbanization, climate change, and limited natural resources [23]. Infrastructure development planning in Indonesia is experiencing a paradigm shift from a subjective approach to a more rational and objective one. This fundamental change includes a transition from sectoral planning to more integrated planning, in terms of sustainability, future planning must integrate environmental protection and sustainable development indicators, such as community participation [24].

H. Construction Implementation in Infrastructure Sustainability

Sustainable construction practices have become an important approach to addressing global challenges such as climate change and resource scarcity. These practices seek to balance cost efficiency, environmental impact, and stakeholder collaboration [25]. The implementation of a quality control system, comprehensive supervision, including checking the quality of materials, the construction methods applied, and compliance with standards, are important factors in maintaining the quality of the infrastructure that has been built [26][27].

I. Community Participation in Infrastructure Sustainability

Community participation in infrastructure sustainability can drive better outcomes by involving local communities in project design and implementation [28]. In addition, community participation can help create more specific plans at the local level. Community involvement allows for development that integrates the problems that need to be solved according to the conditions required [29]. The proposal for infrastructure development from the community itself shows a willingness to participate for the common good [12].

III. METHOD

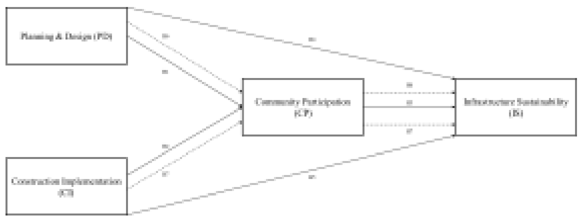

Figure 4 Conceptual Model

According to Figure 4, this research uses quantitative research methods, with non-probability sampling and purposive sampling techniques, where samples are selected by considering certain relevant characteristics [30]. This technique was chosen because the researcher deliberately determined the sample based on special considerations, based on predetermined considerations, namely, local community, business sector, village government, and regional government that have been or are involved in the infrastructure development process in the village. The selection of sampling frames was carried out through several secondary data sources, including data from the BAPPEDA of Banyumas Regency or the Social and Community Empowerment and Village Service of Banyumas Regency. The criteria set for obtaining this sampling frame were the independent village category. In this research, sample size guidelines were used using SEM analysis techniques, where the minimum sample size requirements depend on the number of indicators used in all latent variables. The number of samples is the number of indicators multiplied by 5 to 10 [31]. Data collection was carried out using a questionnaire as a data collection tool, and a total of 170 respondents were obtained from distributing questionnaires. Then, the data was analyzed using the Partial Least Square Structural Equation Modeling (PLS-SEM) method to determine the relationship between community participation as a mediating variable on infrastructure sustainability in the village. The research stages are explained as follows.

A. Study Literature

The literature review phase was conducted by examining various indicators and variables from references related to infrastructure sustainability, community participation, and aspects of construction planning and implementation. The results of this literature review serve as a theoretical basis for comparing the theoretical framework with the empirical findings obtained from the data analysis.

B. Data Analysis

The data analysis methods used were descriptive analysis and SEM-PLS analysis. The results of the descriptive analysis in this study were used to effectively communicate the research findings to readers and other stakeholders. Meanwhile, SEM-PLS analysis is used to measure the model and analyze the relationship between variables, including analyzing the role of mediating variables in explaining the relationship between dependent variables and independent variables. This SEM-PLS test has advantages in handling small samples and complex models, and facilitates path analysis by using path diagrams or schematics, which help analyze data visually [32].

IV. RESULT AND DISCUSSION

A. Respondent Background

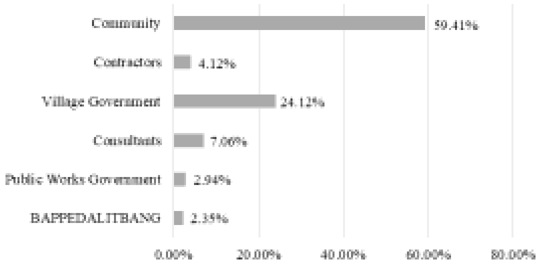

Figure 5 Respondent background based on involvement

According to Figure 5, from 170 respondents, several classifications were obtained including local government, namely BAPPEDALITBANG, as much as 2.53% and the public works department, as much as 2.94%, business sector, namely consultant as much as 7.06% and contractor as much as 4.12%, village government as much as 24.12%, and the community as much as 59.41%. The most dominant background is based on its role in infrastructure development in the village, namely 59.41% of the total respondents.

B. Respondent Description

Respondents' responses will be described through their assessment of the importance of indicators for each variable: planning and design, construction implementation, community participation, and infrastructure sustainability. This is done by calculating the average and standard deviation of respondents' responses to each indicator.

From the tabulation results of the questionnaire data, the average (mean) and standard deviation values were obtained for each answer to the question, as shown in Table 1.

Table 1 Mean and Standard Deviation

Variables	Indicators		Mean	Standard Deviation
Community Participation	Decision Making	PM 1	4.312	0.806
	Interaction	PM 2	4.247	0.621
	Transparansi Proses	PM 3	4.324	0.516
	Stakeholder Engagement	PM 4	4.288	0.822
Planning & Design	Completeness of Technical Documents	PD 1	4.306	0.760
	Implementation of Standards	PD 2	4.418	0.700
	Design Compliance with Geographical Conditions	PD 3	4.329	0.758
Construction Implementation	Use of Local Materials	PK 1	3.788	0.983
	Effectiveness of Work Supervision	PK 2	4.294	0.638
	Quality Control	PK 3	4.294	0.733
Infrastructure Sustainability	Social Acceptance	KI 1	4.206	0.659
	Inclusivity	KI 2	4.218	0.690
	Community Empowerment	KI 3	4.459	0.695
	Reliability	KI 4	4.271	0.602
	Maintenance & Operations	KI 5	4.294	0.591

According to Table 1, the results of the average respondent's answers show the respondent's agreement value towards the indicators. In this study, the scale used was 0-5, with higher values indicating a good level of agreement towards the factors influencing infrastructure sustainability. The mean value obtained from the analysis is between 3.788 and 4.418, while the standard deviation value is between 0.516 and 0.983. This indicates that there is agreement on the indicators in the research. For the scatter plot diagram, the relationship between the mean value and the standard deviation is as shown in Figure 6.

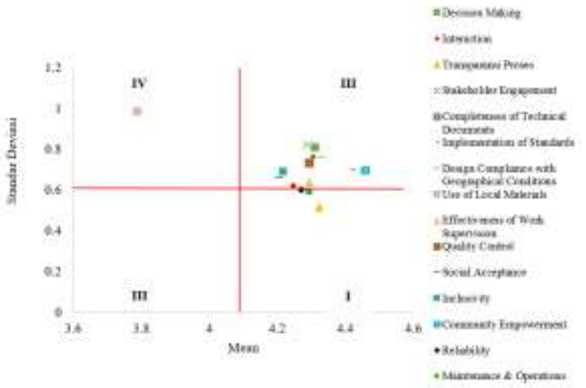

Figure 6 Scatter Plot Diagram of the relationship between Mean and Standard Deviation values

Based on the Figure 6, the relationship between the mean value and standard deviation can be explained that the indicators of process transparency, maintenance & operations, and reliability have a higher degree of importance compared to stakeholder involvement, interaction, effectiveness of supervision, social acceptance, inclusiveness, implementation of standards, community empowerment, quality control, suitability of design to geographical conditions, completeness of technical documents, and decision making, while the use of local materials has the lowest degree of importance. Each indicator is mapped based on the degree of importance, not the scale of importance or unimportance of an indicator.

C. SEM-PLS Analysis

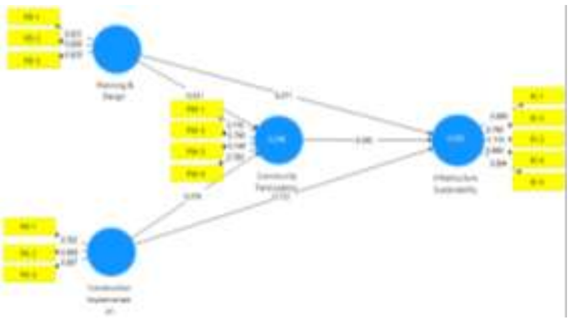

Figure 7 Empirical research model

According to Figure 7, the community participation variable acts as a mediating variable that explains the influence of planning & design and construction implementation on the sustainability of infrastructure in the village. Next, each research variable will be shortened to make it easier to remember: community participation (CP), construction implementation (CI), planning & design (PD), and infrastructure sustainability (IS). In this study, SEM-PLS analysis was carried out according to the criteria by analyzing the results of the outer model and inner model.

1) Outer Model Analysis

Table 2 Result of Outer Loading

Indicators	Variables			
	IS	CP	CI	PD
KI-1	0.880			
KI-2	0.790			
KI-3	0.739			
KI-4	0.860			
KI-5	0.894			
PD-1				0.833
PD-2				0.808
PD-3				0.829
PK-1			0.592	
PK-2			0.869	
PK-3			0.887	
PM-1		0.776		
PM-2		0.790		
PM-3		0.749		
PM-4		0.780		

According to Table 2, the results of the research showed that there was one indicator that had a value of 0.4-0.7, namely the PK-1 indicator of 0.592. This indicator was maintained if it did not increase the AVE and composite reliability [32].

Table 3 Result of Construct Reliability and Validity

Variables	Cronbach 's Alpha	rho_A	Composite Reliability	AVE
IS	0.889	0.891	0.920	0.697
CP	0.778	0.779	0.857	0.599
CI	0.708	0.801	0.833	0.631
PD	0.765	0.777	0.863	0.678

According to Table 3, the results showed that all variables had values above the specified requirements: AVE>0.5, Cronbach's alpha>0.7, and composite reliability>0.7 [32]. From these results, the PK-1 indicator can be maintained, and then AVE>0.5 indicates that the construct explains more than 50% of the variance of its indicators.

Table 4 Result of Analysis Cross Loadings

Indicators	Variables			
	IS	CP	CI	PD
KI-1	0.880	0.498	0.363	0.402
KI-2	0.790	0.415	0.348	0.374
KI-3	0.739	0.464	0.329	0.428
KI-4	0.860	0.390	0.357	0.389
KI-5	0.894	0.483	0.269	0.400
PD-1	0.467	0.378	0.303	0.833
PD-2	0.326	0.301	0.322	0.808
PD-3	0.371	0.351	0.182	0.829
PK-1	0.228	0.146	0.592	0.026
PK-2	0.280	0.333	0.869	0.219
PK-3	0.411	0.380	0.887	0.418
PM-1	0.430	0.776	0.292	0.276
PM-2	0.394	0.790	0.362	0.386
PM-3	0.499	0.749	0.219	0.350
PM-4	0.342	0.780	0.321	0.279

According to Table 4, these results show the measure of the uniqueness of the construct of each value of each indicator in each variable. In this case, the loading to the construct itself must be greater than the loading to other constructs [32].

Table 5 Result of Fornell-Larcker Criterion

Variables	IS	CP	CI	PD
IS	0.835			
CP	0.542	0.774		
CI	0.400	0.384	0.794	
PD	0.479	0.421	0.326	0.823

According to Table 5, these results show that all variables in this study have met the requirements for discriminant validity. $\sqrt{AVE}$ > correlation between constructs [32].

Table 6 Result of Heterotrait-Monotrait Ratio (HTMT)

Variables	IS	CP	CI	PD
IS				
CP	0.643			
CI	0.486	0.487		
PD	0.569	0.534	0.409	

According to Table 6, these results can be interpreted as meaning that all values in the construct meet the requirements <0.85; conservative or <0.9; liberal [32]. This means that discriminant validity is perfectly fulfilled, which shows that all variables in the construct are empirically different and do not overlap.

2) Inner Model Analysis

In this study, SEM-PLS analysis was carried out related to the structural/inner model being modeled. The results of this analysis are as follows. From the Bootstrap test using 5000 subsamples, it generates t-values for parameter estimates through a non-parametric process that involves re-estimating the model hundreds or thousands of times by sampling with replacement from the original sample to generate the input for each iteration [33].

Table 7 Result of Direct Effect Analysis

Variabels	O	M	STDEV	O/STDEV	P Value
CP → IS	0.362	0.373	0.120	3.030	0.002
CI → IS	0.172	0.171	0.074	2.337	0.019
CI → CP	0.276	0.282	0.058	4.760	0.000
PD→ IS	0.271	0.268	0.052	5.185	0.000
PD → CP	0.331	0.335	0.061	5.384	0.000

Note : O = Original Sample; M = Sample Mean; STDEV= Standard Deviation; O/STDEV = T Statistics

From the results in Table 7, it can be concluded that the direct effect of all independent variables (CP, CI, PD) is statistically proven to be a valid predictor for their respective dependent variables.

Table 8 Result of Indirect Effect Analysis

Variabels	O	M	STDEV	O/STDEV	P Value
CI → CP → IS	0.100	0.106	0.042	2.389	0.017
PD → CP → IS	0.120	0.125	0.048	2.510	0.012

Note : O = Original Sample; M = Sample Mean; STDEV= Standard Deviation; O/STDEV = T Statistics

According to Table 8, the results of the Bootstrap test using 5000 subsamples is the indirect effect of the CP variable significantly mediates the relationship between CI and PD on IS. Improvements in CI and PD will increase IS more optimally if it is done through strengthening the CP variable.

D. Discussion

The results of the presence or absence of direct influence can be known from the path coefficient and p-values. Based on the results of the path coefficient and p-value, it is known that planning & design influence infrastructure sustainability because it has a p-value of 0.000 and a coefficient of 0.271. This shows that infrastructure planning & design is not only aimed at building new physical assets, but rather an approach that focuses on the real needs of the community [24]. Sustainability-based infrastructure design and planning are crucial instruments in mitigating the challenges of urbanization, climate change, and limited natural resources [23].

The implementation of construction infrastructure has a significant direct influence, as evidenced by a p-value of 0.019 and a positive coefficient of 0.172. This shows that sustainable construction practices have become an important approach to address global challenges such as climate change and resource scarcity. These practices seek to balance cost efficiency, environmental impact, and stakeholder collaboration [25]. Factors such as optimal quality control and supervision systems in construction projects are very important to ensure that every aspect of the project, from planning to completion, meets the established quality standards [26].

Community participation in infrastructure sustainability has a direct influence, as indicated by a p-value of 0.002 and a coefficient of 0.362. This shows that community participation in infrastructure sustainability can help create plans that are more site-specific and responsive to real needs at the local level [29]. Community participation in infrastructure sustainability can drive better outcomes by involving local communities in project design and implementation [28]. The emergence of proposals and participation in infrastructure development from the community itself shows a willingness to participate for the common good [12].

The results of the indirect effect test obtained can be seen in the path coefficient indirect effect with 2 segments and the p-values of the indirect effect with 2 segments table.

Based on the results of the path coefficient indirect effect with two segments and p-values of the indirect effect of two segments, it can be seen that community participation can be a mediating variable between construction implementation and infrastructure sustainability, with a p-value <0.05, amount 0.017.

Community participation can be a mediating variable in planning & design for infrastructure sustainability because it has a p-value of 0.012. Without effective community participation, the benefits of planning & design cannot be fully realized in terms of creating optimal infrastructure sustainability. Public involvement in both the planning and design phases has significantly increased over the last decade, particularly since 2011 [34]. Public participation is crucial to the success of these projects, as it helps identify relevant problems and solutions. Involving the community from the planning and design stages creates a moral responsibility to maintain the infrastructure in the future [35]. Active community involvement from the planning to maintenance stages has been shown to improve the quality and long-term durability of the infrastructure [36].

The results of this research are expected to provide input in designing infrastructure development programs that are more effective and sensitive to community participation, which requires greater focus at the village level, by involving the community in every planning & design process and construction implementation so that the sustainability of infrastructure in the village is better.

V. CONCLUSION

Based on the results of the analysis, the value of the direct effect between community participation and infrastructure diversity has a path coefficient of 0.362 with a significance of p-value of 0.002. The direct effect of planning & design on infrastructure sustainability is 0.271, and the indirect effect through community participation is 0.120, so the total influence with participation as a mediating variable is 0.391. The magnitude of the direct effect of construction implementation on the infrastructure ecosystem is 0.172, and the indirect effect through community participation is 0.100, so the total influence with community participation as a mediating variable is 0.272. It can be concluded that community participation in infrastructure desires in villages with the classification of independent villages in Banyumas acts as a mediating variable that explains the influence of planning & design and construction implementation on infrastructure desires in villages. In this stage, not only planning & design and construction implementation must be considered, but also the involvement and attitude of proactive community participation. The better the construction implementation mechanism is, accompanied by consideration of community participation, the better the infrastructure desires in the village will be.

REFERENCES

[1] D. A. Elvandari, S. Anwar, and M. A. Kasogi, "Dinamika Partisipasi Masyarakat Dalam Pembangunan Infrastruktur Desa," *Dev. Policy Manag. Rev.*, vol. 5, no. 1, pp. 39–51, 2025.

[2] B. P. Statistik, "Statistik Infrastruktur Indonesia," Badan Pusat Statistik, 2020.

[3] D. Rahajuni and E. S. Gunawati, "Faktor - Faktor Yang Mempengaruhi Partisipasi Masyarakat Terhadap Pembangunan Di Kabupaten Banyumas," vol. 4, no. 1, 2009.

[4] Z. Kambu, M. Y. Jinca, M. S. Pallu, and M. I. Ramli, "Persepsi Masyarakat Terhadap

Keberlanjutan Pembangunan Infrastruktur Jalan Trans Papua, Indonesia: Studi Kasus Kabupaten Nduga," *KRESNA J. Ris. dan Pengabdi. Masy.*, vol. 2, no. 1, pp. 97–110, 2022.

[5] K. Fitriana and I. R. Koho, "Partisipasi Masyarakat Dalam Pembangunan Infrastruktur (fisik) Di Desa Kemutug Lor Kecamatan Baturaden Kabupaten Banyumas," vol. 6, no. 4, pp. 39–45, 2025.

[6] N. S. Sabet and S. Khaksar, "The performance of local government, social capital and participation of villagers in sustainable rural development," *Soc. Sci. J.*, vol. 00, no. 00, pp. 1–29, 2020.

[7] A. Akbar, J. Flacke, J. Martinez, and M. F. A. M. Van, "Participatory planning practice in rural Indonesia: A sustainable development goals-based evaluation," *Community Dev.*, vol. 00, no. 00, pp. 1–18, 2020.

[8] Suwandi, S. Hardjomuljadi, O. Gondokusumo, E. M. Sari, and Najid, "Improving the quality of design documents: Towards sustainable Indonesian government project performance," *Int. J. Innov. Res. Sci. Stud.*, vol. 8, no. 2, pp. 1783–1796, 2025.

[9] T. Voituriez, K. Morita, T. Giordano, N. Bakkour, and N. Shimizu, "Transforming our world: the 2030 Agenda for Sustainable Development," *Gov. Through Goals Sustain. Dev. Goals as Gov. Innov.*, vol. 16301, no. October, pp. 259–273, 2015.

[10] M. A. Rohman, H. Doloi, and C. A. Heywood, "Success criteria of toll road projects from a community societal perspective," *Built Environ. Proj. Asset Manag.*, 2017, doi: 10.1108/BEPAM-12-2015-0073.

[11] F. Widodo, "Evaluasi Partisipasi Masyarakat Pada Pembangunan Infrastruktur Dalam Konteks Pemberdayaan Masyarakat," vol. 5, no. 2, pp. 108–121, 2018.

[12] R. F. Muhammad and D. Zulfiani, "Partisipasi Masyarakat Dalam Pembangunan Infrastruktur Di Desa Labanan Makarti Kecamatan Teluk Banyur Kabupaten Berau," vol. 9, no. 4, pp. 5651–5663, 2022.

[13] R. Jeurissen, "Book Reviews : John Elkington, Cannibals With Forks: The Triple Bottom Line of 21st Century Business," *J. Bus. Ethics*, 2000.

[14] M. A. Mosaberpanah and S. darban Khales, "The Role of Transportation in Sustainable Development," no. February, 2018, doi: 10.1061/9780784412688.053.

[15] C. J. Kibert, *Sustainable Construction Green Building Design and Delivery*. John Wiley & Sons, Inc, 2013.

[16] A. I. Beksultanova, L. J. Gaisumova, and M. Abdullovna, "The role of development infrastructure in sustainable," vol. 01008, pp. 1–7, 2021.

[17] M. D. Martin and K. Miller, "Project Planning as the Primary Management Function," Project Management Quarterly. Accessed: Aug. 27, 2025. [Online]. Available: https://www.pmi.org/learning/library/project-planning-as-primary-management-function-10339

[18] K. M. S. Din and H. Naeem, "Factors Affecting Quality in the Design Phase: An Evidence from the Construction Industry in United Arab Emirates," *J. Policy Res.*, vol. 9, no. 3, pp. 154–159, 2023.

[19] A. P. C. Chan and G. D. Oppong, "Managing the expectations of external stakeholders in construction projects," *Eng. Constr. Archit. Manag.*, vol. 21, no. 2, 2014.

[20] N. Ivanov and D. Ivanov, "The importance of automating the 'construction' phase of the construction project life cycle," *E3S Web Conf.*, vol. 389, 2023.

[21] Nurman, *Strategi Pembangunan Desa*. Jakarta: PT. RajaGrafindo Persada, 2015.

[22] A. Akbar, J. Flacke, J. Martinez, and M. F. A. M. Van, "Participatory planning practice in rural Indonesia: A sustainable development goals-based evaluation," *Community Dev.*, vol. 00, no. 00, pp. 1–18, 2020, doi: 10.1080/15575330.2020.1765822.

[23] A. Awasthi, M. Geeta Yadav, S. Baswaraju, G. Nijhawan, S. Ziara, and A. Kumar, "Detailed analysis of Sustainable Infrastructure Design and Benefits for urban Cities," *E3S Web Conf.*, vol. 552, pp. 1–14, 2024.

[24] S. Hansen, “Investigasi Perencanaan Pembangunan Infrastruktur : Pergeseran Paradigma Dan Pertimbangan Perencanaan Masa Mendatang,” vol. 1, no. 2020, pp. 56–65, 2022.

[25] C. Abugu, “Sustainable Construction Practices: Balancing Cost Efficiency, Environmental Impact, and Stakeholder Collaboration,” *Int. Res. J. Mod. Eng. Technol. Sci.*, no. January, 2025.

[26] L. Lima, E. Trindade, L. Alencar, M. Alencar, and L. Silva, “Sustainability in the construction industry: A systematic review of the literature,” *J. Clean. Prod.*, vol. 289, p. 125730, 2021.

[27] A. A. Ibim and A. K. Chijioke, “Quality Control Compliance as an Environmental Response to Sustainability in the Nigerian Construction Industry,” *Asian Rev. Environ. Earth Sci.*, vol. 9, no. 1, pp. 18–22, 2022.

[28] J. Sebunya and A. Gichuki, “The Impact of Participatory Planning on Sustainable Development: A Literature Review,” *J. Strateg. Manag.*, vol. 4, no. 4, pp. 1–9, 2024.

[29] Z. Wang, “Exploring the Role of Community Participation in Sustainable Urban Development,” *Adv. Econ. Manag. Polit. Sci.*, vol. 158, no. 1, pp. 143–149, 2025.

[30] Sugiyono, *Metode Penelitian Kuantitatif Kuantitatif dan R&D*. CV. Alfabeta, 2019.

[31] A. T. Ferdinand, *Structural Equation Modeling Dalam Penelitian Manajemen*. Semarang: Badan Penerbit Universitas Diponegoro, 2009.

[32] J. F. Hair, J. J. Risher, M. Sarstedt, and C. M. Ringle, “When to use and how to report the results of PLS-SEM,” *Eur. Bus. Rev.*, vol. 31, no. 1, pp. 2–24, 2019.

[33] J. F. H. Jr, W. C. Black, B. J. Babin, and R. E. Anderson, *Multivariate Data Analysis, Eighth Edition*, Eight., vol. 19, no. 3. United Kingdom: Cengange Learning, 2019.

[34] D. Geekiyanage, T. Fernando, and K. Keraminiyage, “Mapping participatory methods in the urban development process: A systematic review and case-based evidence analysis,” *Sustain.*, vol. 13, no. 16, 2021.

[35] V. Ferreira, A. P. Barreira, L. Loures, D. Antunes, and T. Panagopoulos, “Stakeholders’ engagement on nature-based solutions: A systematic literature review,” *Sustain.*, vol. 12, no. 2, pp. 1–27, 2020.

[36] R. Yunginger and I. M. Patuti, “Pendampingan Partisipasi Masyarakat Dalam Pemetaan IMAP Untuk Peningkatan Kualitas Infrastruktur Pemukiman Berkelanjutan,” 2025.