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What is the Element of the Smart Village Model?: Domains, aspects and indicators

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Abstract— The idea of "smart villages" doesn't mean that all villages have the same solution. The goal of this study has two-step plan for a "smart village". First is making a model of a smart village based on a review of the literature. Second, verification of the proposed model by interviewing the respondent. In accordance with the proposed model, exploration is conducted at the stage of verification using open-ended questions. As a result of verification, each indicator receives an additional form of explanatory indicators that are matched to the case study's conditions. This is qualitative research with multiple units of analysis based on a single case study. The case study is Banyuwangi Regency. The units of analysis are Kampung Anyar Village, Kaligondo Village, Wringinrejo Village, Tambong Village, and the Department of Community and Village Empowerment. This villages that have won the smart village competition from 2016 to 2019 in Banyuwangi. The result model consists of 6 domains, 17 aspects, and 55 indicators. The domain is governance, basic village services, village resources, the economy, infrastrucutre, and tourism. All domains, aspects, and indicators can be implemented in smart village development by making technology an enabler, and there are sustainable elements.

Keywords—E-Government; Smart Village; Technology; Smart Kampung; Smart Village Model

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I. INTRODUCTION

In the current global environment, the smart village concept could be a viable option for developing rural areas [1]. Researchers in India came up with the idea for a smart village. This notion was created in 2010 by N. Viswanadham and Sowmya Vedula. They first described the settlement's ecosystem before mapping out the integrated design techniques for constructing a smart village [2]. The smart city and smart village are two complementing elements that work together to provide more modern and equitable public services. In Indonesia, the smart village concept can be used as the foundation for village development within a district. Of course, due to peculiarities in rural environments, this concept cannot be fully implemented.

Banyuwangi is an Indonesian regency that is beginning to develop for rural areas. Banyuwangi has a "smart village" scheme. The development of rural areas is the emphasis of this program. The Regent Regulation No. 18 of 2016 established this initiative, which began in 2016. Banyuwangi Regency has already established regulations for the Smart City Masterplan's implementation through the Banyuwangi Smart Kampung. The master plan, on the other hand, uses the smart character model and has yet to provide a thorough description of how the smart village would be implemented. Meanwhile, according to Rahmawati, smart cities and smart villages are two distinct entities [3].

Several international and Indonesia-specific studies have looked at the smart village model. In 2010, N. Viswanadham and S. Vedula created a model for a "smart village." The smart village ecosystem is a model that was created in the rural areas of India. It is made up of four parts [2]. Another model, which is very different from Viswanadham's, is the model of [4], which says that there are four parts: 1) Smart infrastructure, 2) Smart service delivery, 3) Smart technology and new ideas, and 4) Smart institutions. In Indonesia, there is one model with five dimention: resources, technology, service chains, institutions, and sustainability. The grouping of dimensions used in the three models above is comparable. The Viswanadham and Ranade models differ in terms of smart resources and smart infrastructure. The Ella model, on the other hand, differs in that it includes a sustainability feature [5].

On the other hand, the smart village concept does not suggest a one solution for all villages [6]. The definition and attributes of a smart village are influenced by disciplinary backgrounds as well as geographical contexts [7]. The smart village model can't be used in every village in Indonesia because it depends on the resources, characteristics, and local knowledge of each village [5]. As a result, the goal of this paper is to create a smart village model for Banyuwangi Regency. Answering three research questions will help us attain this goal: (1) What are the

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components of a smart village? (2) What are the characteristics of each smart village component? (3) What are the indicators for each smart village component?

II. RESEARCH METHOD

This is qualitative research with multiple units of analysis based on a single case study [1]. This research was conducted in two steps. First is the development of a smart village model based on a literature review. Second, verification of the proposed model by interviewing the respondent. Banyuwangi was chosen as a case study because it is a regency ranked third in Indonesia's 100 Smart Cities in 2018. There is a uniqueness in Banyuwangi Regency, making the village the focus of overall development through the smart village program. The unit of analysis of this research is the villages that have won the smart village competition from 2016 to 2019. To know the research flow clearly can be seen in **Figure 1**.

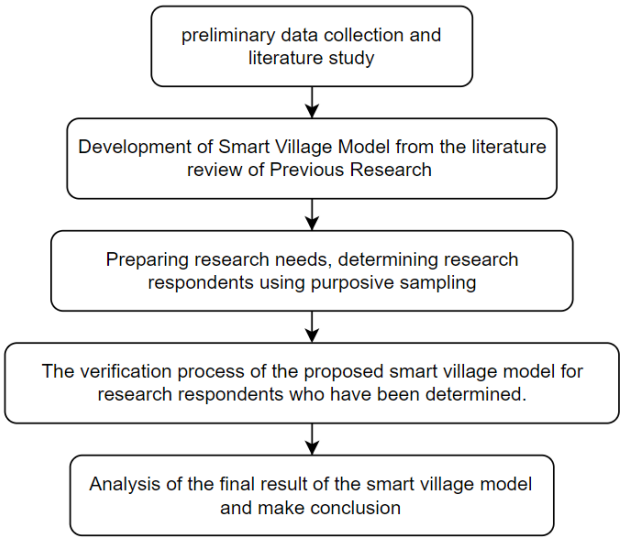

FIGURE 1. RESEARCH FLOW

This research starts with preliminary data collection and a literature review based on a selected case study. Then, smart village model development uses a concept mapping method based on studies from books, media, and previous research that explains the models of smart city, smart village, and smart rural, as well as village regulations. After the proposed smart village model has been analyzed, the next step is preparing research needs and determining respondents using purposive sampling. Each research respondent was interviewed using a research instrument that had been created to verify the smart village model that had been developed in the literature review process. After the verification process, the results are analyzed, and research conclusions are drawn.

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A. Data Collection

A method called "purposeful sampling" was used to figure out how many people responded. Cresswell says that purposeful sampling is used in qualitative research [2]. In determining the sample from the unit of analysis and respondent, researchers have specific characteristics. The respondent must meet the following criteria: (1) village apparatus with the most power, (2) village apparatus closely related to community services, and (3) department with responsibility over the smart village program's implementation.

The research instrument used in this study is a set of questions that were designed based on the developed model's aspects and indicators Research instruments can be in the form of questions in semi-structured interviews [3]. This data collection process is carried out by verifying the unit of analysis, not the model's implementation stage. According to Stake, researchers used data collection techniques, which consisted of observation, interviews, and documentation [21]

B. Data Analysis

Data analysis of the verification results was conducted to determine the suitability of the proposed model for the research target. The data was analyzed using pattern matching [1] to verify if the data collection results from each unit of analysis were suitable with the proposed model. The data analysis technique employed is a descriptive analysis. The detailed points that will be explained are data containing information related to the mechanism for implementing smart villages. After data analysis, the smart village model was evaluated. The model may experience changes when data collection has been carried out because the smart village model is indeed prepared based on the characteristics and existing problems. So, this research becomes an empirical study, not just a literature study.

III. RESULT AND DISCUSSION

A. Development of Smart Village Model

As explained in the research methodology section, the study method is qualitative. The development model is conducted by reviewing 29 kinds of literature. The literature was analyzed based on its domain, aspects, and indicators, which were checked carefully to make sure that the same information wasn't being used twice. Based on the results of the literature study, the proposed smart village model has 6 domains, 14 aspects, and 39 indicators. The suggested domains are 1) Governance, 2) Technology, 3) Resources, 4) Village Services, 5) Living, and 6) Tourism. [4].

The development of villages in Indonesia is heavily dependent on how governance models are used [5]. The governance domain has three (3) aspects, namely public services [8]–[10], transparency [9]–[11], and policy [12]. Aspects of public services have indicators of

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administrative services [13], use of ICT in services [9]–[11], [14], [15], integrated services [8], and public complaints services [13]. The transparency aspect has indicators of government information transparency [9], [11], [13] and financial transparency [11]. Indicators for the policy aspect include village regulations [16] public participation [11], [13], [17], [18].

In the smart village, technology plays an important role as well [19]. The technology dimension comes with two (2) aspects: ICT (Information and Communication Technology) [5], [8], [20] and appropriate rural technologies [5], [20]. The ICT aspect includes indicators for internet access [21], [22] and IT infrastructure and facilities [11], [22]. Meanwhile, the appropriate technology for rural areas includes the following indicators: efficient and durable, low cost, user friendly, easy maintenance [5], [23].

A smart village must also consider the status or quality of its resources [23]. The domain of resources is divided into two aspects: natural resources [5], [20], and human resources [5], [20], [23], [24]. Aspects of natural resources include indicators of the availability of clean water, the use, and availability of energy, soil conditions, and natural resource management. While the human resource aspect has indicators of participation in society [11], [13], [22], [24]–[26], openness to information and technology [10], [26], [27], ability and level of education [5], [8]–[11], [24], [26].

The service domain is a group of services that the smart village offers. These services include basic services and local economic services [5], [10]. The basic service aspect has indicators of educational services [5], [9], [10], [13], [15], [17], [18], [21], [22], [25], [28]–[31], and health services [5], [9], [10], [14], [17], [25], [26], [30]–[32]. Economic services are services provided to support village economic growth [5]. Economic services consist of several indicators, namely entrepreneurship [8], [10], [11], [18], [19], [22], [24], access to economic institutions [15], [17], [19], [21], [25], [28], local commodities [5], [8], [25], [30], economic training[9], [13], [14], [18], [24], [25], and product marketing [14], [17].

Quality smart living supports civil society and social inclusion in rural areas [11], [33]. The living domain is comprised of three aspects: the building of a security and convenience environment [25], [34], infrastructure [5], [19], [22], [26], [34]–[36] and accessible access to public facilities [9], [10], [25], [30]. Aspects of security and convenience can be realized with indicators of security facilities [13], [19], [37], waste management [10], [15], [19], [21], [26], [30], the availability of street lighting [17], [21], and the existence of environmental care activities [11], [25], [30]. The infrastructure of the village includes roads and bridges [5], [19], [22], [34], [35], drainage [15], [19], [26], [30] and sanitation [13], [15], [19], [21], [26]. Access to green open space facilities [22], [30] and public transportation [11], [15], [19], [22], [26], [36] can be provided by the village as public facilities indicators.

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The tourism domain consists of two (2) aspects: village potency [5] and village branding [12]. Indicators for aspects of village potency include traditions and culture [34], tourism destinations [5], [11]–[13], [30], [38], and the creation of village identity [13]. Indicators for the village branding aspect include annual festival activities [13] and village branding platforms [11].

B. Verification of Smart Village Model

Verification was conducted to examine respondent's perspectives and empirical facts related to smart village domains, aspects, and indicators. Interviews are conducted in each unit of analysis of research case studies for verification. Kampung Anyar Village, Kaligondo Village, Tambong Village, Wringinrejo Village, and the Banyuwangi Regency Community and Village Empowerment Service are the five units of analysis. **Table 1** shows the details of all respondents. Overall, the results show that the smart village model consists of 6 domains, 17 aspects, and 55 indicators.

Tabel 1. PERSPECTIVE RESPONDEN IN THIS RESEARCH

Code	Initial	Job and Institution	Date of interview	Total length of interview
R1	SLH	Kampung Anyar Village Chief	Oct 1st, 2019	20 minutes
R2	S	Kampung Anyar Village Secretary	Oct 1st, 2019	2 hours 13 minutes
R3	W	Kaligondo Village Chief	Nov 18th, 2019	53 minutes
R4	RS	Kaligondo Village Secretary	Nov 14th, 2019	2 hours 6 minutes
R5	MZR	Kaligondo Village Service Staff	Nov 14th, 2019	42 minutes
R6	M	Wringinrejo Village Chief	Nov 18th, 2019	1 hours 43 minutes
R7	MS	Wringinrejo Village Secretary	Nov 13th, 2019	2 hours 48 minutes
R8	DB	Tambong Village Chief	Nov 12th, 2019	1 hours 34 minutes
R9	AB	Tambong Village Secretary	Nov 12th, 2019	2 hours 11 minutes
R10	SI	Tambong Village Service Staff	Nov 12th, 2019	1 hours 10 minutes
R11	TFW	Head of Community Participation and Socio-Cultural Empowerment in Department of Community and Village Empowerment	Nov 19th, 2019	41 minutes

Table 1 is a list of respondents for the verification process that consisted of 4 village heads, four village secretaries, four service staff, and 1 division head at the Community and Village Empowerment Service. Domains, aspects, and indicators will be used in each unit of analysis. The results of the verification show that aspects of governance have remained unchanged, with the addition of indicators for public services, especially service facilities. Service facilities are

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supported by the smart village assessment indicator at point 1 for free wifi and point 12 for being accessible to people with disabilities [9]. In addition, service facilities are also obtained from the results of interviews with respondents. The resulting model can be shown in **Figure 2.**

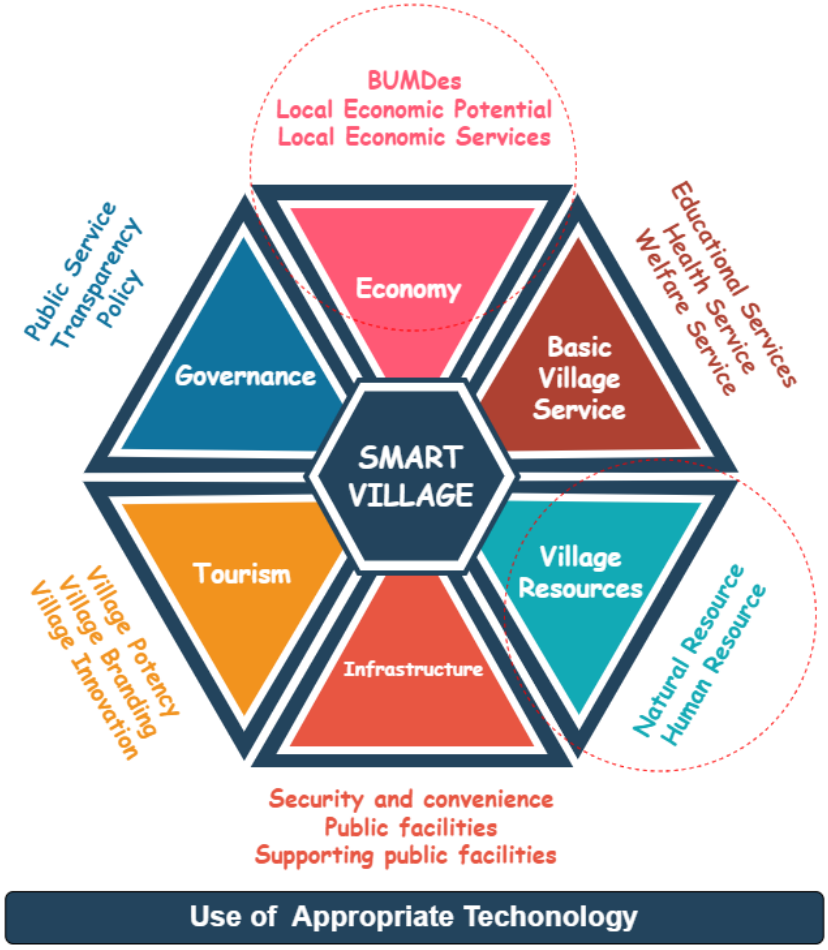

Figure 2. SMART VILLAGE MODEL BASED ON RESEARCH RESULT

Figure 2 shows the result of the development of the smart village model based on the verification process which has been done. The model verification shows that there are restrictions on aspects of the application of technology and information. The smart aspect is more focused on enhancing the competence of village administrators and their communities in terms of independent village management and the innovation of economic and social activities [13]. Technology keeps playing an essential part in the development of villages, but these domains have been merged into the existing ones. Because, according to explanations from multiple sources, besides ICT, what is required in the village is the only technology that can make life easier and does not incur high expenses [R7], [R11]. Meanwhile, ICT can be utilized in every domain to provide optimal community services [5].

When determining the technology for a smart village, one must choose technology that is efficient, durable, inexpensive, and easy to use [23]. So, using technology isn't just about making

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the best use of resources; it's also about helping villages grow in a sustainable way [5]. Because, in the end, technology will help people meet their needs in a variety of ways [R1], [R2].

The village service domain was changed to basic village services [39] which consisted of education and health services. Educational services are divided into four indicators, namely the availability of formal educational institutions, non-formal education institutions [25], [39], the availability of village libraries [13], [25] and scholarship programs. There are two different kinds of indicators for health services: health facilities and infrastructure [13], [26], and health assistance programs [25].

The economic domain is a new domain separate from the village service domain because the goal of the smart village is to improve the economic level [8], [40]. There are three parts to the domain economy: local economic potential, BUMDes, and local economic services. Services that are based on a village's economic growth potential are called "local economic potential-based services" [5]. Service indicators based on the local economy consist of entrepreneurship [11] and the local commodities sector [8]. Setting up BUMDes is an effort to manage the village's potential so that it can be used to improve the local economy [41]. Several respondents said that capital loans, tourism management, the distribution of aid funds, the marketing of community products, financial transaction services, and the buying of goods are some of the BUMDes indicators at the stage of verification.

> *The important economic institution in the village is BUMDes. Villagers can cooperate with BUMDes to help their economy [R3]*
>
> *BUMDes is important if that is the direction for the community to be passionate about economic problems [R8]*
>
> *BUMDes are also designed to help improve the welfare of the village community* [39]. *The next aspect is economic services, which has economic training indicators [R2], [R3], [R9], marketing media [R1], [R7], [R9], access to economic institutions [R7], [R9], and help for small business [R2], [R6], [R7].*

Meanwhile, there has been no modification to the resource domain. Respondent 4 explained that village financial management training is required every year, and the community is aware of the law [R4]. Likewise, the environmental domain has a fixed aspect. It's just that there are an additional two (2) indicators on access to public facilities. These indicators are sports facilities and village hall facilities, as explained by several respondents.

> *For camping, there is a Kali Bendo field, or agricultural land belonging to the province, and lots of green space because the village is still beautiful [R2]*

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Changes have been made to the tourism domain. The village innovation aspect now has indicators for village superior products, and the village marketing aspect now has indicators for promoting activities through competitions held by the village.

Based on verification result, use of appropriate technology is part of every domain in the smart village. Information and communication technology plays a role as a means for the public to communicate, for example with the availability of whatsapp groups. Technology used to measure how well a service works, such as how on-time it is, how reliable it is, how well it handles complaints, how happy the users are, how new the systems are, how much they are used, how easy they are to get to [40], [42]. ICT makes villages smart by adding community skills, knowledge, culture, and governance aspects [24]. ICT, with satellite internet access improves telephone and wireless networks [17]. Village government must provide Information with Wi-Fi / Internet that can help village activities [10], [21].

Village development requires long-term planning and development [20], [23]. Development is shown not only to answer current challenges but is also aimed at the sustainability and welfare of future generations [43]. Sustainability was added with the aim of maintaining the sustainability of smart village resources and programs [5],[R6],[R1].

Based on the verification results, there is a difference with the model proposed in the literature review stage. The economic domain here is raised because the economic aspect is the thing that is most highlighted by each village. The economic domain is about how to improve the welfare of the people by making the economy stronger. Permendes No. 5 of 2015 says that the main goal of village community empowerment is to reduce poverty and increase access to economic resources [44].

The economic domain separated from village services consists of three aspects: local economic potential, financial services, and BUMDes. The development of the village into a smart village will certainly positively influence the development of the BUMDES business. Apart from activity or product innovation, the smart village concept can be used in the marketing process and introduction of BUMDES products [45]. In addition to BUMDes, villages can provide other economic services and explore the local economic potential in their communities. Services based on a village's economic potential are services that help the village's economy grow [5].

Based on Law Number 6 of 2014 Chapter IX Article 83 paragraph (2) and (3) states that village development is indeed focused on improving services for the community and the 3 main components in village development, namely resources, economy, and infrastructure. So, the living domain was changed to infrastructure because based on the results of research by the respondents, infrastructure was an important domain. The infrastructure aspect of living is changed to public facilities and the access aspect of public facilities is changed to supporting public facilities.

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In the tourism domain, there are additional aspects, namely village innovation with village superior product indicators. This is evidenced by the respondent's verification results, which state that the existence of superior village products can be extracted from natural resources, cultivation, and others [R4]. Tourism and culture can help rural areas create more jobs and attract investment. This potential needs to be used as well as possible and pushed for so that millions of people living in rural areas can get ahead. All domains, aspects, and indicators can be implemented in smart village development by making technology an enabler [12], [14] and there is an element of sustainability [5], [23], [46].

The results of the verification that has been carried out can be seen in detail in table 2. The domains, aspects and indicators of the smart village development model are described in table 2.

Tabel 2. DOMAIN, ASPECT, AND INDIKATOR OF VERIFICATION RESULT

Domain	Aspect	Indicator
Governance	Public services [8]–[10]	Integrated services [8]
		Administrative services [13]
		Use of ICT in services [9], [11], [47], [48]
		Fasilitas Pelayanan
		Public complaints services [13]
	Transparency [9]–[11]	information transparency [9], [11], [13]
		financial transparency [11]
	policy [12]	village regulations [16]
		public participation [11], [13], [17], [18]
Basic Village Services	educational services [5], [9], [10], [13], [15], [17], [18], [21], [22], [25], [28]–[31]	formal educational institutions [25], [39]
		non-formal education institutions [25], [39]
		the availability of village libraries [13], [25]
		scholarship programs [R4]
	health services [5], [9], [10], [14], [17], [25], [26], [30]–[32]	health facilities and infrastructure [13], [26]
		health assistance programs [25]
	Welfare service [R5]	Poverty Services [R2, R5]
		Disability Assistance [R2]
		Community Empowerment [R1]
Economy	BUMDes [23, 49]	Capital Loans [R2, R7]
		Tourism Management [R2]
		Distribution of Aid Funds [R2]
		Community Product Marketing [R3]
		Serving financial transactions [R3, R4]
		Procurement of goods [R4, R7]

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Domain	Aspect	Indicator
	local economic services [5], [10]	economic training[9], [13], [14], [18], [24], [25]
		product marketing [14], [17]
		access to economic institutions [15], [17], [19], [21], [25], [28]
		Business Assistance [R2]
	local economy potential [41]	entrepreneurship [8], [10], [11], [18], [19], [22], [24]
		local commodities [5], [8], [25], [30]
Infrastructure	security and convenience environment [25], [34]	security facilities [13], [19], [37]
		waste management [10], [15], [19], [21], [26], [30]
		the availability of street lighting [17], [21]
		the existence of environmental care activities [11], [25], [30]
	Access to Public facilities [R1]	Roads and bridges [5], [19], [22], [34], [35]
		drainage [15], [19], [26], [30]
		sanitation [13], [15], [19], [21], [26]
	Supporting public facilities [R1]	Access to green open space facilities [22], [30]
		Village Hall Facilities [R2, R6]
		Sports Facilities [R2, R6]
Resources	natural resources [5], [20]	Availability of Clean Water [32]
		Utilization and Availability of energy [5], [20]
		soil conditions [5], [20]
		Natural resource management [5], [20]
	human resources [5], [20], [23], [24]	participation in society [11], [13], [22], [24]–[26],
		openness to information and technology [10], [26], [27]
		ability and level of education [5], [8]–[11], [24], [26]
		Improvement of Human Resources for Village Staff
Tourism	village potency [5]	traditions and culture [34]
		tourism destinations [5], [11]–[13], [30], [38]
		the creation of village identity [13]
	village branding [12]	village branding platforms [11]
		annual festival activities [13]
		Promotion Activities Through Competitions [R2, R4]
	Village Innovation [R4]	Village best product [R3, R4, R7]

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IV. CONCLUSION

As a result, the smart village model consists of 6 domains, 17 aspects, and 55 indicators. The domain consists of (1) governance, (2) basic village services, (3) village resources, (4) economy, (5) infrastructure, and (6) tourism. Government governance, namely the role of government in providing services to the community, providing access to public transparency, and the ongoing policy-making process. Essential village services are services provided by the village to support the lives of rural communities; these services are education, health, and welfare services. In smart villages, the economy depends on the BUMDes, which are the most important economic institution and must be owned by the village. Resources are the availability of natural resources owned by the village and the role of human resources in village development. Infrastructure includes the ease of public access to primary and supporting infrastructure to create security and comfort for the community. Tourism is a village's potential in many ways, and the value of local wisdom will be a hallmark in the development of smart villages. Each of these domains is supported with the help of appropriate technology to be developed in the village.

REFERENCES

[1] R. K. Yin, Case Study Research Design and Methods. Washington: COSMOS Corporation, 2002.

[2] J. W. Creswell, Research Design: Qualitative, Quantitavie, and Mixed Methods Approaches, Second Edi. United State of America: SAGE Publications, 2002.

[3] Arikunto, Metodologi Penelitian Suatu Pendekatan Proposal. Jakarta: PT. Rineka Cipta, 2002.

[4] A. A. Aziiza and T. D. Susanto, "The Smart Village Model for Rural Area (Case Study: Banyuwangi Regency)," in IOP Conference Series: Materials Science and Engineering, Jan. 2020, vol. 722, no. 1. doi: 10.1088/1757-899X/722/1/012011.

[5] S. Ella and R. N. Andari, "Developing a Smart Village Model for Village Development in Indonesia," in International Conference on ICT for Smart Society (ICISS), 2018, pp. 1–6. doi: 0.1109/ICTSS.2018.8549973.

[6] Fajrillah, Z. Mohamad, and W. Novarika, "Smart city vs smart village," Jurnal Mantik Penusa, vol. 22, no. 1, pp. 1–6, 2018.

[7] P. Gerli, J. Navio Marco, and J. Whalley, "What makes a smart village smart? A review of the literature," Transforming Government: People, Process and Policy. Emerald Group Holdings Ltd., 2022. doi: 10.1108/TG-07-2021-0126.

[8] M. Mishbah, B. Purwandri, and D. I. Sensuse, "Systematic Review and Meta-Analysis of Proposed Smart Village Conceptual Model : Objectives, Strategies, Dimensions, and Foundations," in 2018 International Conference on Information Technology Systems and Innovation (ICITSI), 2018, pp. 127–133. doi: 10.1109/ICITSI.2018.8696029.

[9] Pemkab Banyuwangi, Peraturan Bupati Nomor 18 Tahun 2016 tentang Integrasi Program Kerja Berbasis Desa/Kelurahan Melalui Smart Kampung. 2016, pp. 1–13.

[10] D. Rahmawati, H. Sulistyarso, P. G. Ariastita, M. Yusuf, and D. A. Paramasatya, "Smart kampung for Surabaya smart city : Criteria redefined," in IOP Conf. Series: Earth and Environmental Science 202, 2018, pp. 1–7. doi: 10.1088/1755-1315/202/1/012068.

ISSN: 2580-409X (Print) / 2549-6824 (Online)
DOI: https://doi.org/10.29407/intensif.v7i1.18898

[11] A. D. Santoso et al., Desa Cerdas: Transformasi Kebijakan dan Pembangunan Desa Merespon Era Revolusi Industri 4.0. Yogyakarta: Center for Digital Society UGM, 2019. [Online]. Available: http://cfds.fisipol.ugm.ac.id

[12] Kementrian Kominfo, Buku Panduan Penyusunan Masterplan Smart City 2017, ORGANISASI. Jakarta, 2017.

[13] R. Rachmawati, "Pengembangan Smart Village Untuk Penguatan Smart City Dan Smart Regency," Jurnal Sistem Cerdas, vol. 01, no. 02, pp. 12–18, 2018, doi: 10.37396/jsc.v1i2.9.

[14] A. Hussain and S. Qazi, "Development of E-Village in Pakistan," in 7th International Symposium on High-capacity Optical Networks and Enabling Technologies, 2010, pp. 242–246. doi: 10.1109/HONET.2010.5715782.

[15] R. Somwanshi, U. Shindepatil, D. Tule, A. Mankar, and N. Ingle, "Study and development of village as a smart village," International Journal of Scientific and Engineering Research (IJSER), vol. 7, no. 6, pp. 395–408, 2016, doi: 10.2307/475120.

[16] T. Kamal, F. J. Tuli, M. Hassan, T. H. Rupam, and B. W. Habib, "Information , Innovation and Implementation Center (IIIC): Concept towards Smart Village," Researchgate, 2018.

[17] B. Heap, Smart villages New Thingking for off-grid Communities Worldwide. Cambridge: Banson, 2015.

[18] T. van Gevelt and J. Holmes, "A Vision for Smart Villages," Smart Villages New thingking for off-grid communities worldwide, vol. 5, pp. 1–6, 2015, [Online]. Available: www.e4sv.org

[19] A. Singh and M. Patel, "Achieving Inclusive Development Through Smart Village," PDPU Journal of Energy and Management, vol. 3, no. 1, pp. 37–43, 2018.

[20] R. Novi and S. Ella, "Pengembangan Model Smart Rural Untuk Pembangunan Kawasan Perdesaan di Indonesia," Jurnal Borneo Administrator, vol. 15, no. 1, pp. 41–58, 2019, doi: 10.24258/jba.v15i1.394.

[21] P. Abinash and J. Josephine, "Internet of Things (IoT) for Smart Village," in International Conference on Advancements in Engineering, Technology and Sciences (ICAETS), 2018, pp. 813–819.

[22] P. Ranade, S. Londhe, and A. Mishra, "Smart Villages Through Information Technology – Need Of Emerging India," IPASJ International Journal of Information Technology (IIJIT), vol. 3, no. 7, pp. 1–6, 2015.

[23] Ramachandra, G. Hegde, S. C. M. D, T. A. Kumar, and V. Swamiji, "SMART Ragihalli: Effort towards Self-reliant & Self-sufficient system empowering Man power (rural youth) with Appropriate Rural Technologies," Bangalore, 2015.

[24] R. Santhiyakumari, N., Shenbagapriya, M., Hemalatha, "A Novel Approach in Information and Communication Villages," Humanitarian Technology Conference (R10-HTC), 2016 IEEE Region 10, 2016, doi: 10.1109/R10-HTC.2016.7906843.

[25] Kementerian Desa Pembangunan Daerah Tertinggal dan Transmigrasi, Indeks desa membangun. 2015.

[26] S. Bhavita and S. S. Malek, "A Recapitulation on Exigency of Smart Villages in Indian Ambience," International Journal of Advance Engineering and Research (IJAERD), vol. 5, no. 3, pp. 1–8, 2018.

[27] E. Riva Sanseverino, R. Riva Sanseverino, and E. Anello, "A Cross-Reading Approach to Smart City: A European Perspective of Chinese Smart Cities," Smart Cities, vol. 1, pp. 26–52, 2018, doi: 10.3390/smartcities1010003.

[28] N. Viswanadham and S. Vedula, "Design of Smart Villages," 2010. Accessed: Jan. 27, 2023. [Online]. Available: https://gtl.csa.iisc.ac.in/nv/Mypublications/C/z.pdf

[29] K. Kaur and R. Kaur, "Internet of Things to promote Tourism : An insight into Smart Tourism," International Journal of RecentTrends in Engineering and Research, vol. 2, no. 4, pp. 357–361, 2016.

[30] N. S. Ristianti, "S.M.A.R.T. Eco-village for Hazardous Coastal Area in Bedono Village, Demak Regency," Procedia Soc Behav Sci, vol. 227, pp. 593–600, 2016, doi: 10.1016/j.sbspro.2016.06.120.

[31] R. Limaye, R. K. Choudhary, A. Upadhyay, and H. Yu, "Smart Village Planning Framework Using Extenics Theory," in 10th International Conference on Software, Knowledge, Information, Management & Application (SKIMA), 2016, pp. 105–109. doi: 10.1109/SKIMA.2016.7916205.

[32] J. Holmes and M. Thomas, "Introducing the Smart Villages Concept," The International Journal on Green Growth and development, vol. 1, no. 2, pp. 151–154, 2015.

[33] R. Giffinger, "Smart cities Ranking of European medium-sized cities," Centre of Regional Science, Vienna University of Technology, vol. 16, no. October, pp. 13–18, 2007, doi: 10.1016/S0264-2751(98)00050-X.

[34] A. Visvizi and M. D. Lytras, "It's Not a Fad : Smart Cities and Smart Villages Research in European and Global Contexts," Sustainability, pp. 1–10, 2018, doi: 10.3390/su10082727.

[35] J. Ahlawat, "Smart Villages , Information Communication Technology and Geographical Information System," International Journal of Current Trends in Science and Technology, vol. 7, no. 8, pp. 20232–20238, 2017.

[36] E. Shcherbina and E. Gorbenkova, "Smart City Technologies for Sustainable Rural Development," in IOP COnf. Series Materials Science and Engineering, 2018, pp. 1–8. doi: 10.1088/1757-899X/365/2/022039.

[37] K. Kaur, "The idea of Smart villages based on Internet of Things (IoT)," International Research Journal of Engineering and Technology (IRJET), vol. 03, no. 05, pp. 165–168, 2016.

[38] E. Syaodih, "Smart Village Development," in The 9th International Conference of Rural Research and Planning Group, 2018, pp. 22–33.

[39] Presiden Republik Indonesia, Undang-undang Nomor 6 Tahun 2014 Tentang Desa. 2014, pp. 1–103.

[40] S. Fatimah, M. G. Judawinata, M. N. Barkah, L. Trimo, and Y. Deliana, "Towards Smart Village: A Case Study of Genteng Village Development in Sumedang, West Java, Indonesia," Society, vol. 8, no. 2, pp. 663–676, Dec. 2020, doi: 10.33019/society.v8i2.264.

[41] M. Dwi Nurfaisal, D. Mutiarin, H. A. Saputra, I. R. Latif, and M. Iqbal, "Smart Village Accountability: Comparative Study in Management BUMDes Tirta Mandiri and BUMDes Giritama As a Village Income Earner in 2018," JIP (Jurnal Ilmu Pemerintahan): Kajian Ilmu Pemerintahan dan Politik Daerah, vol. 5, no. 1, 2020, doi: 10.24905/jip.5.1.2020.20.

[42] N. Viswanadham and S. Kameshwaran, "Ecosystem-Aware Global Supply Chain Management," Ecosystem-Aware Global Supply Chain Management, 2013, doi: 10.1142/8802.

[43] D. Herdiana, "Pengembangan Konsep Smart Village bagi Desa-Desa di Indonesia Developing the Smart Village Concept for Indonesian Villages Penulisan Artikel di Jurnal Ilmiah View project", doi: 10.33164/iptekkom.21.1.2019.hal.

[44] Menteri Desa Pembangunan Daerah Tertinggal dan Transmigrasi Republik Indonesia, Permendes Nomor 5 Tahun 2015 tentang Penetapan Prioritas Penggunaan Dana Desa Tahun 2015. 2015, pp. 1–6.

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[45] Dyah Nurfarida, "Penerapan Smart Village Pada Pengembangan Bumdes Di Desa Selokarto Kecamatan Pecalungan Kabupaten Batang," Jurnal Riset, Inovasi, dan Teknologi Kabupaten Batang, vol. 4, no. 1, 2019, doi: 10.55686/ristek.v4i1.70.

[46] D. Guzal-Dec, "Intelligent Development Of The Countryside – The Concept Of Smart Villages : Assumptions , Possibilities And Implementation Limitations," Economic And Regional Studies (Sciendo), vol. 11, no. 3, pp. 32–49, 2018, doi: 10.22004/ag.econ.291913.

[47] W. A. Mir and R. Kumar, "A Study on Role and Applications of ICT in Development of Rural Areas," International Journal of Scientific Research Management (IJSRM), vol. 5, no. 8, pp. 6758–6763, 2017, doi: 10.18535/ijsrm/v5i8.24.

[48] M. Amin, "ICT for Rural Area Development in Indonesia: a Literature Review," Journal of Information Technology and Its Utilization, vol. 1, no. 2, pp. 32–37, 2018, doi: 10.30818/jitu.1.2.1881.

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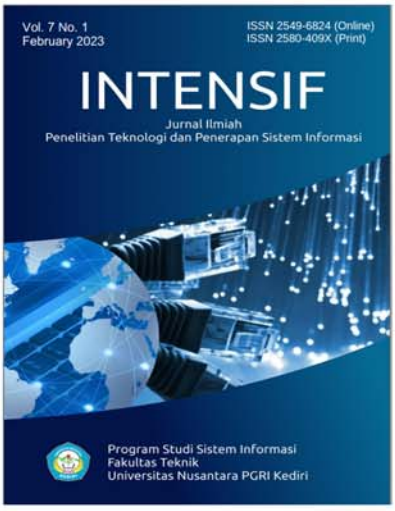

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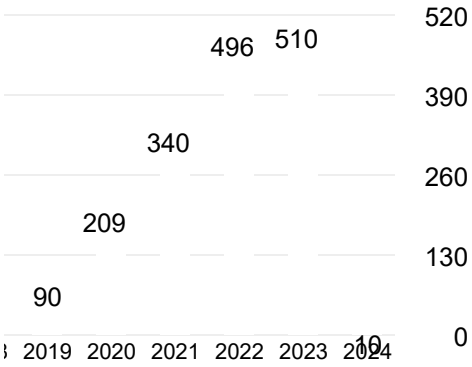

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