



Initiation of Smart Village Development in Lerep Tourism Village

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Abstract: Lerep Village, West Ungaran District, Semarang Regency is a tourist village that is widely known regionally and nationally. In the post-covid 19 pandemic era, the development of the Lerep tourism village has begun to rise. Along with the PPKM policy, this Tourism Village must be able to utilize information and communication technology (ICT) in order to be able to promote tourism objects to the wider community. The existence of the Smart Village concept is expected to be able to encourage the development of the Lerep Tourism Village, without eliminating local wisdom. Implementation of smart village through an approach that includes smart government, smart community, smart living, smart economy, smart environment, and smart mobility. The problem is the readiness and ability of the community and officials have not fully implemented the concept. The purpose of this research is to identify and analyse Smart Village initiatives in the management of the Lerep Tourism Village. The research was conducted in Lerep Village, West Ungaran District, Semarang Regency. with rationalistic qualitative deductive methods, descriptive analysis techniques. Conclusion Lerep Village already has an initiation of its smart village elements by not abandoning the local wisdom system at every village event.

Keywords: initiation; smart; village; tourism

1. Introduction

The Law Number 6 of 2014 concerning Villages which gave birth to a policy regarding village funds and resulted in a significant increase in the development of village innovation. Especially in the development of the Lerep Tourism Village, in the post-Covid 19 pandemic period, the tourism subsector is starting to revive by implementing the health protocol policies set by the Government. This encourages tourism object managers or operators to innovate to increase visitor attraction.

The current village innovation trend is trying to adopt the smart village model which is a derivative of Smart City. Smart villages are rural areas and communities that build on their existing strengths and assets as well as new opportunities to develop added value and where traditional and new networks are enhanced through digital communication technologies, innovation and better use of knowledge for the benefit of the population [9].

Initiation of development begins with an analysis of the prospects and needs for a smart village. The implementation of smart villages is based on an exploration of the competencies possessed

by village officials and BUMDES management. The approach includes smart government, smart community, smart living, smart economy, smart environment, and smart mobility.

The scope of the research area is Lerep Village, West Ungaran District, Semarang Regency. This research is important to carry out, in order to provide direction for the development of Tourism Villages towards smart villages. Lerep Village in the modern era of technology in developing the tourism sub-sector has not yet fully innovated optimally, especially in the use of Information and Communication Technology (ICT).

The research objective is to identify and analyse Smart Village initiatives in the management of the Lerep Tourism Village, West Ungaran District, Semarang Regency.

Smart village is a service that utilizes information technology to carry out village activities managed by village communities effectively and efficiently. Smart village or smart village is the development of a concept where village people are in a community that overcomes regional problems by utilizing the potential resources they have intelligently, wisely and efficiently as well as highlighting local customs and culture, as well as applicable norms [1].

A model for developing the Smart Village concept where this development pattern has been initiated by community groups with the aim of ensuring that villages can utilize information technology for the progress of their villages. Therefore, the development model includes 4 pillars. Smart villages have 4 (four) main pillars, namely: 1) Smart People (smart society), 2) Smart Governance (smart village governance), 3) Smart Economy (smart economy) and 4) Smart Environment/Living (Smart environment).[5]

The existence of a tourist village is a form of combination of attractions, accommodation and supporting facilities in an area that has applicable procedures and traditions. The important components in a tourist village are attractions and accommodation, both of which are expected to provide satisfaction for tourists. The unique thing is that tourist village areas as tourist destination areas also need to be supported by facilities to make it easier for tourists when making tourist visits to the tourist village area. The facilities provided by tourist village areas include transportation, telecommunications, health and accommodation or lodging facilities in the form of tourist lodges or homestays, so that visitors can experience the natural rural atmosphere supported by adequate tourist facilities [10].

2. Research methods

The research was carried out using a rationalistic qualitative deductive approach with descriptive analysis techniques [8]. Primary data collection was carried out through in-depth interviews with selected respondents from the local government and the community in Lerep Village.

Table 1. Variables, indicators and research parameters

Variable	Parameter	Indikator
Smart Village	Smart people	Community participation in developing tourist villages
	Smart goverment	IT-based public services
	Smart economy	Village economic potential, innovative, creative economy
	Smart environment/ living	Overcoming various environmental problems, including sanitation, air cleanliness, waste, global warming, carbon emissions and availability child-friendly public spaces, availability of parks.
	Smart promostion	Utilization of Information and Communication Technology in marketing tourist villages

Source: Compiler Analysis, 2022

3. Results and Analysis

3.1. Analysis of Smart People Implementation

Smart people are the main figures in policy formulation and village development, which is not only the goal of government administration and village development. Rural communities are required to be active in the village development process in order to feel the benefits of a government program [4]. The development and use of information technology needs to be utilized by the community as an opportunity to optimize its role and contribution in village development. Smart people are intelligent people, in tourism development the most important thing is the elements of society that are able to support tourist village activities [3].

The Lerep village community already has good human capital. categorized as good because the community has high participation in developing the Lerep tourist village. Community institutional forms include POKDARWIS (Tourism Awareness Group), BUMDES, Karangtaruna and PKK. This institution has an active role in each of its main tasks. The community also has a unique skill base, namely making “Ndeso snacks” which are local wisdom. The community is also able to process coffee, milk and make various "chips" as souvenirs typical of the Lerep Tourism Village. Every day on the "Sunday Pon" market, the community holds a “Ndeso” market. Many people are involved in opening local snack stands. This activity is an attraction of the Lerep tourist village, which has been implemented for approximately 5 years and is able to attract the interest of visitors.



Fig. 1. Citizen participation in organizing village snack markets

Source: Primary survey, 2022

3.2. Analysis of Smart Government Implementation

The use of technology in government aims to increase effectiveness and efficiency, increase community participation, openness of public information and reduce opportunities for corruption [8]. Apart from that, currently the system being built is only web-based, so in the future it is hoped that an Android-based application can be built to make it easier for the public to report problems that occur in the village environment [2].

For the needs of developing the Lerep Tourism Village, they formed a Village-Owned Enterprise (BUMDES), a Tourism Awareness Group (pokdarwis), a Climate Village Program (Proklim), a Village Consultative Body (BPD), Village Community Empowerment Cadres (KPMD) and Karangtaruna. The management of tourist villages is carried out by Pokdarwis and BUMDes. The village government provides services to the community using computer devices and the internet, which the community can access by opening the service via WhatsApp for questions and answers or confirmation. So that the required correspondence service process runs optimally and efficiently. Complaint services can be requested via the WhatsApp application or SMS. The following is an illustration of the use of ICT in the Lerep Village government.



Fig.2. Use of ICT in the BUMDES Office and Lerep Village Office
Source: Profile of Lerep Tourism Village, 2022

3.3. Analysis of Smart Economy Implementation

An important point in realizing a smart village is the effort to create a 'smart' economy. Smart economy is closely related to the first element, namely smart people. This means that an intelligent society is needed to be able to build a smart economy [9]. In the smart economic management in Lerep Village, it can be seen that there are efforts to build smart economic conditions, including efforts to increase the value of local community potential, namely in the processing of coffee, chips and milk. The following are smart economic activities in Lerep Tourism Village, including:

1. Tour packages, tour packages are intended for visitors to tourist villages. Usually carried out by community groups or school students. The activities include out-of-school education, basic leadership training, gathering /friendship, field trips, live ins and programs, educational tours offered include making milk candy, learning farming/gardening, making souvenirs from waste, and learning arts and culture. Tour packages are promoted via social media IG, WA and YouTube. Reservations are made by visitors with the manager online, transactions are carried out by QRIS.
2. The Tourism Village is equipped with 34 Homestay/lodging facilities, with an average price of IDR 50,000/night, facilities in the form of a bed, bathroom and wardrobe. 13 homestays have received permission to implement CHSE from the Tourism Department. With the ease of booking accommodation in the Lerep Tourism Village, several homestays have been connected with online booking applications such as OYO or order by chat with the WA number listed on the map location point on Google. Reservation payments can be made using mobile banking transfer or QRIS.
3. Culinary tourism. The Lerep village area has several restaurants and cafes that have carried out transactions with QRIS and m-banking. Village market activities selling traditional snacks already provide QRIS, but many people still pay in cash.



Fig. 3. Application of Smart Economy to facilitate payments
Source:Primary survey,2022

Figure 3 is an example of the application of smart economy in Lerep Village in terms of making payments easier and accessing information and booking rooms at homestays in Lerep Village. The implementation of cashless in Lerep Village is still relatively common so not all types of businesses in the village use the cashless system or other digital money. At the morning market

"Ndeso snacks" already has QRIS, but the implementation of the cashless system does not run smoothly because the payment system cuts admin fees too much for each transaction so it is quite unprofitable and inefficient because you have to take the money to the bank to get the cash back.

In implementing the smart economy in Lerep Village, ICT has been implemented in the cashless transaction process. The following is a table of types of businesses that already use cashless payments.

Table 2. Type of Business Payment

No	Type of Business	Payment	
		cashless	Cash money
1.	Watu Gunung Resto	v	v
2.	BLI (Swimming pool Bukit Lerep)		v
3.	Embung Sebligo (Sebligo reservoir)	v	v
4.	Curug Lawe (Lawe Water fall)		v
5.	Hills Joglo Villa		v
6.	Fried chicken Skrikil Dua	v	v
7.	Guest House Langen Werdhasih	v	v
8.	Kala Coffe		v
9.	Diawan		v
10.	Laman Coffe		v
11.	Mr. Ngopi		v
12.	Centre of snack Bu Muanah		v
13.	Karangbolo Shop		v
14.	Oyo Lerep	v	v
15.	Griya Inggil (House of Inggil)		v
16.	Staal of Gunung Cipto Roso		v
17.	Rossa V Desa Lerep	v	v
18.	Villa Bukit Ngeso	v	v
19.	Centre of snack Laris		v
20.	Center of snack Ibu Kasanah		v
21.	'Peyek' Suka Rasa		v
22.	Selera		v

Sources: Primary survey, 2022

The implementation of the smart economy has been carried out by the local community by starting businesses with Shopee partners and independent agents and BRI links that already exist in Lerep Village. With efforts from the community to open businesses that serve various types of online payments, people are aware of the ease of online transactions so that local people do not need to go far to make payments every month. However, in its implementation in Lerep Village, the existing internet signal network is still not evenly distributed so that using the online system is still hampered in these transactions.

3.4. Analysis of Smart Environment Implementation

The focus of the Smart environment is the natural environment which discusses natural resources, climate and management of environmental problems. Residential environmental management should consider local wisdom [8]

Smart environment aims to overcome various environmental problems. The environmental problems in question are sanitation, air cleanliness, waste, global warming, carbon emissions, the availability of child-friendly public spaces, the availability of parks, and so on. who face challenges in environmental planning and management to attract tourists [3]. Smart environment is a social interaction between humans, where IT is used to gather information that can be used to strengthen values, customs, culture and social ecosystems [9].

The results of observations on the implementation of the smart environment show that environmental management is still based on local wisdom. Residential environmental management is as follows:

a. Sanitation

Sanitation or household wastewater in Lerep Village uses a septic tank system where each house has its own septic tank channel without any prior management. However, Karangbolo Hamlet already has a Communal Waste Water Treatment Installation (WWTI) system where the IPAL accommodates ± 50 families who are connected to the Communal WWTI network.

b. Waste

Lerep Village has a solid waste network and rubbish bins available in every hamlet. The waste management system is carried out through transportation (Off Site). Garbage is collected daily using cars or three-wheeled motorbikes from house to house to the temporary disposal site (TPS). The waste at the TPS is then transported to the final disposal site (TPA) using a waste transport vehicle (truck) once a week. However, some houses still use an on-site waste system, such as burning or landfilling. The Lerep Village PKK group has a Waste Bank program. The public can deposit plastic and cardboard waste in the waste bank and have the exchange rate recorded by the management. The waste bank then makes a deposit with the waste collector. Revenues from the waste bank are used for the common good.

c. Clean water

Clean water in Lerep Village in the existing condition of the community predominantly uses PAMSIMAS piped clean water with raw water sources from mountain springs and groundwater sources.

d. Energy Utilization

The Lerep Village community uses electricity and LPG gas for daily needs. No more modern energy has been utilized.

3.5. Analisis Smart Promotion

In efforts to develop tourist villages, marketing efforts are important. Smart promotion can be done through branding of tourist areas which is promoted through social media [6]. So far, the Lerep Village management has been quite successful in doing this by promoting every tourist village activity through the social media Instagram, Facebook and available websites.

4. Conclusion

Lerep Tourism Village has implemented a smart village including smart people, smart government, smart economy, smart environment and smart promotion. The initiation of smart village elements shows active participation in supporting activities and development of tourist villages. Several economic business actors are already using IT in services and marketing of products, both services and goods. The Lerep Village Government is also trying to continue to strive for practical and efficient public services so that the service process runs well.

Reference

- [1] Baru, V. P., Djunaedi, A., & Herwangi, Y. (2019). Tahapan pengembangan smart kampung di Desa Ketepang Kabupaten Banyuwangi. *Buletin Sosial* (pp. 68–80).
- [2] Cantiga. (2022). Implementasi smart society melalui sistem layanan pengaduan warga. *Buletin Ribaat*, 19, 36–42.

- [3] Herdiana, D. (2019). Peran masyarakat dalam pengembangan desa wisata berbasis masyarakat. *Jurnal JUMPA*, 6(1).
- [4] Hanif. (2022). Village community and empowerment model in smart village perspective. *Jurnal Kebijakan Manajemen Publik*, 42–53.
- [5] Muzaqi, A. H., & Hanum, F. (2020). Model quadruple helix dalam pemberdayaan perekonomian lokal berbasis desa wisata di Desa Duren Sari Kabupaten Trenggalek. *Jurnal Sains Humaniora*, 4(2), 673–691.
- [6] Patnaik, S., Sen, S., & Mahmoud, M. S. (2020). *Smart village technology: Concepts and developments*. Springer Nature.
- [7] Prastowo, A. (2011). *Metode penelitian kualitatif dalam perspektif rancangan penelitian*. Yogyakarta: Ar-Ruzz Media.
- [8] Rachmawati. (2018). Pengembangan smart village untuk penguatan smart city dan smart regency. *Jurnal Sistem Cerdas*, 1(2), 12–18. <https://doi.org/10.1234/jsi.v1n2.1234>
- [9] Rokhman. (2021). Inisiasi pengembangan smart village berbasis kearifan lokal. In *Proceedings of the National Seminar and Call for Papers* (pp. 1–10). Purwokerto: Universitas Jenderal Soedirman. ISBN 978-602-1643-67-9.
- [10] Subekti, T., & Damayanti, R. (2019). Penerapan model smart village dalam pengembangan desa wisata: Studi pada desa wisata Boon Pring Sanankerto Turen Kabupaten Malang. *Government Science*, Universitas Brawijaya, Indonesia.