Original Article

Analysis of Facts and Expectations for the Development of Smart Villages in Ara Bulukumba Village

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Abstract - A smart village is a concept that builds villages that are able to solve their own problems. The study of smart villages is still an interesting study for two reasons. First, this is a new study, so in the future, it is believed that it will be able to add new studies regarding village development. Second, there are still many gaps between conceptual and theoretical studies on smart villages and the implementation of smart village programs in Indonesia. Smart villages are identified as being developed through a smart government system that is digitalized and utilizes village resources. This type of research uses qualitative descriptive research, which is analyzed using Nvivo 12 software. This research aims to identify the existing conditions of Ara village so that researchers are able to analyze the form and condition of facilities and infrastructure, as well as identify the economic and socio-cultural conditions of the Ara village community. Furthermore, researchers have identified the conditions that exist in the development of the smart village dimension; the development of Ara village refers to the village Medium Term Development Plan' RPJMDes' with the factual conditions that occur in Ara village (its existence) so that a gap in smart village development is identified. In developing the Ara smart village, the government and village stakeholders need to maximize the potential of their village resources.

Keywords - Smart village, Ara Bulukumba, Sustainable development.

1. Introduction

Villages are at the forefront of government in determining the direction of national policy and development. For this reason, strengthening rural areas is something that must be prioritized. The government has the responsibility to elevate rural areas to become the axis of human, infrastructure, economic and social development. Village Ministry Regulation no. 6 of 2014, article 78 explains the concept of a smart village as a way of connecting social, physical and economic infrastructure using ICT (Information and Communication Technology) technology, which can integrate all elements in these aspects and create a village or region that more efficient and livable (Fitriana, 2021). Ara village, located in Bonto Bahari District, Bulukumba Regency, South Sulawesi Province.

This research identifies the existing conditions of Ara village so that researchers can analyze the form and condition of facilities and infrastructure, as well as identify the economic and socio-cultural conditions of the Ara village community. Ara tourist village is a tourist village in the Bonto Bahari sub-district, Bulukumba district, which is approximately 37.8 kilometers from the centre of Bulukumba. Ara village is one of the villages directed by the Bulukumba Regency government to become a tourist village because Ara village has natural, cultural and artistic potential. Seeing the various potentials it has, the Ara tourist village is worthy of being developed as a tourist village. The wealth of tourism potential that Ara village has is a main value that is characteristic and attracts tourists and the surrounding community to visit Ara village.

The local government has made efforts to maximize the potential of Ara village, as one of the favourite tourist attractions in Ara village is the Apparalang Cliff, which has succeeded in attracting the attention of both local and foreign tourists. The village community really maximizes the potential and opportunities for economic activity in the Apparalang Area in maximizing their economy. Apart from the wealth of natural tourism, the people of Ara village are consistent in maintaining and preserving the wealth of cultural dances, such as the Salonreng Dance.

Table 1. Tourism Potential of Ara village

No	Type of Tourism	Potency
1	Natural tourism	Apparalang Beach, Goa Passohara, Mandala Ria Beach
2	Culture tour	Phinisi Shipbuilding Center, Tari Salonreng

Source: Bulukumba Regency Tourism, Youth and Sports Office, 2020

Apart from that, the Ara village government still maintains the teachings and traditions of *pinisi* shipbuilding. Remembering DPDTT Regulation No. 8 of 2022 concerning Priority Use of Village Funds in 2023, namely the Priority Issue of Using Village Funds for Tourism Villages, this is intended to help focus the development of tourist villages in order to achieve the Sustainable Development Goal, but the reality is that currently the potential has not been developed maximally (Huda, 2020). This research has identified the existing conditions and hopes for Ara village to become a smart village.

This research aims to provide information regarding the development and existing conditions of Ara village as a smart village that has carried out activities and services in the village according to smart village standards set by the village ministry. The rural development target in the 2020 - 2024 RPJMN is that there will be developments in the status of village development, where the number of independent villages will increase by 9,115 villages, and the number of developing villages will increase by 5,588 villages. The number of disadvantaged villages will decrease by 15,920 villages, so it is hoped that the poverty rate will decrease from 12.9% (2019) to 9.9% (2024)(Gift, 2020). A smart village is a concept adopted or a derivative concept from a smart city.

The difference only lies in the location of implementation. If the smart city concept is implemented at the city level, the smart village concept is implemented at the village level. The smart city itself is interpreted as an intelligent city. A smart city is the concept development, implementation and application of technology to an area (especially urban areas) as a complex interaction between various systems within it (Herdiana, 2019). The discussion about smart villages is an interesting study because of 2 things.

Firstly, this is a new study, so in the future, it is believed that it will be able to add to new studies regarding village development. Second, there are still many gaps found between conceptual and theoretical studies about smart villages and the implementation of smart village programs in Indonesia. The proposed smart village model is analyzed based on journals and several selected village regulations. The smart village model consists of six dimensions: 1) Government, 2) Technology, 3) Resources, 4) Village Services, 5) Life, and 6) Tourism.(Reldianingrat, 2021).

2. Materials and Methods
2.1. Study Area
Ara village is located in the Bonto Bahari sub-district, Kab. Bulukumba, South Sulawesi Province. Ara village is located in the southeastern part of South Sulawesi and borders Bone Bay to the east, Tanah Lemo sub-district to the west, Darubiah village to the south and Esa Lembanna to the north. In Ara village, there are three hamlets: Bontona Hamlet, Bonto Biraeng Hamlet and Maroanging Hamlet. Geologically, the village of Ara has very unique characteristics; in the eastern part, it is lined with solid rocks/rock cliffs that waves have hit, and there is a traditional forest that is still being cultivated for generations.

Table 2. Demographic data for ara village

A. Total Population		
Amount	Gender	
	Man	Woman
Number of residents this year	1137	1191
Last year's population	1159	1289
Development percentage	-1.9 %	-7.6 %

Topographically, Ara village has a lowland area of 200.00 Ha, the hilly area has an area of 140.00 Ha, the highlands/mountains have an area of 750.00 Ha, and a beach area of 70.00 Ha. The average daily temperature is 32.00^{O}C. The height of the place above sea level is 118.00 meters above sea level. The distance from Ara village to the district city using a motorized vehicle is 0.61 hours, while the distance to the provincial capital is 210.00 km. (Village Profile, 2022).

2.2. Methodology Overview
The research method used by researchers is a descriptive research method or design with a qualitative approach. This research method emerged because there was a paradigm shift in viewing a reality or phenomenon. The type of data used in this research is primary data in the form of observations and interviews from informants who are directly and indirectly involved in the development of smart villages in this Ara village as well as secondary data through literature studies.

2.3. Data Collection
This research uses two types of research data, the first uses primary data and secondary data. Primary data was obtained through field observations and structured interviews with selected sources. In the interview matrix, researchers prepared questions based on the dimensions of smart villages.

Meanwhile, secondary data was obtained through international journals and supporting documents from the Ara village government, such as village development plans, village profiles containing village topology, and creating village location maps using Archgis.

2.4. Data Analysis
In this research, researchers carried out an analysis by identifying the factual conditions on the ground or the existing conditions of behaviour and implementation of smart village dimensions in Ara village. This analysis aims to identify whether the village government has met the criteria and standards for smart village living. By fulfilling the criteria for a smart village, village life can develop, realizing superior and independent human resource quality, and the hopes and dreams of sustainable development goals can be realized.

2.5. Limitations
The limitation of this research is identifying the criteria and indicators of smart villages in the social life of Ara village. Smart village in Kab. Bulukumba, South Sulawesi,

namely Ara village, was designated as a Smart village based on the decision of the head of village development and information, disadvantaged areas and transmigration, number 55 of 2022, concerning the designation of 1000 smart villages in South Sulawesi. Digitalization and tourism development are the limitations of this research analysis.

3. Results

In this research, researchers have found field findings regarding the social life of the Ara village community based on the dimensions of smart villages/tourism villages.

3.1. Dimensions of Governance

In identifying the facts and hopes of smart villages in the government dimension, the aspects that need to be reviewed are village public services, budget transparency and Ara village government policies in maximizing the social life of village communities and village progress. In this research, researchers have visualized data using comparative analysis in Nvivo software by comparing the results of field observations regarding existing conditions and hope for achieving smart village life. The results of this analysis can be seen in Figure 1.

Table 3. Overview of the work

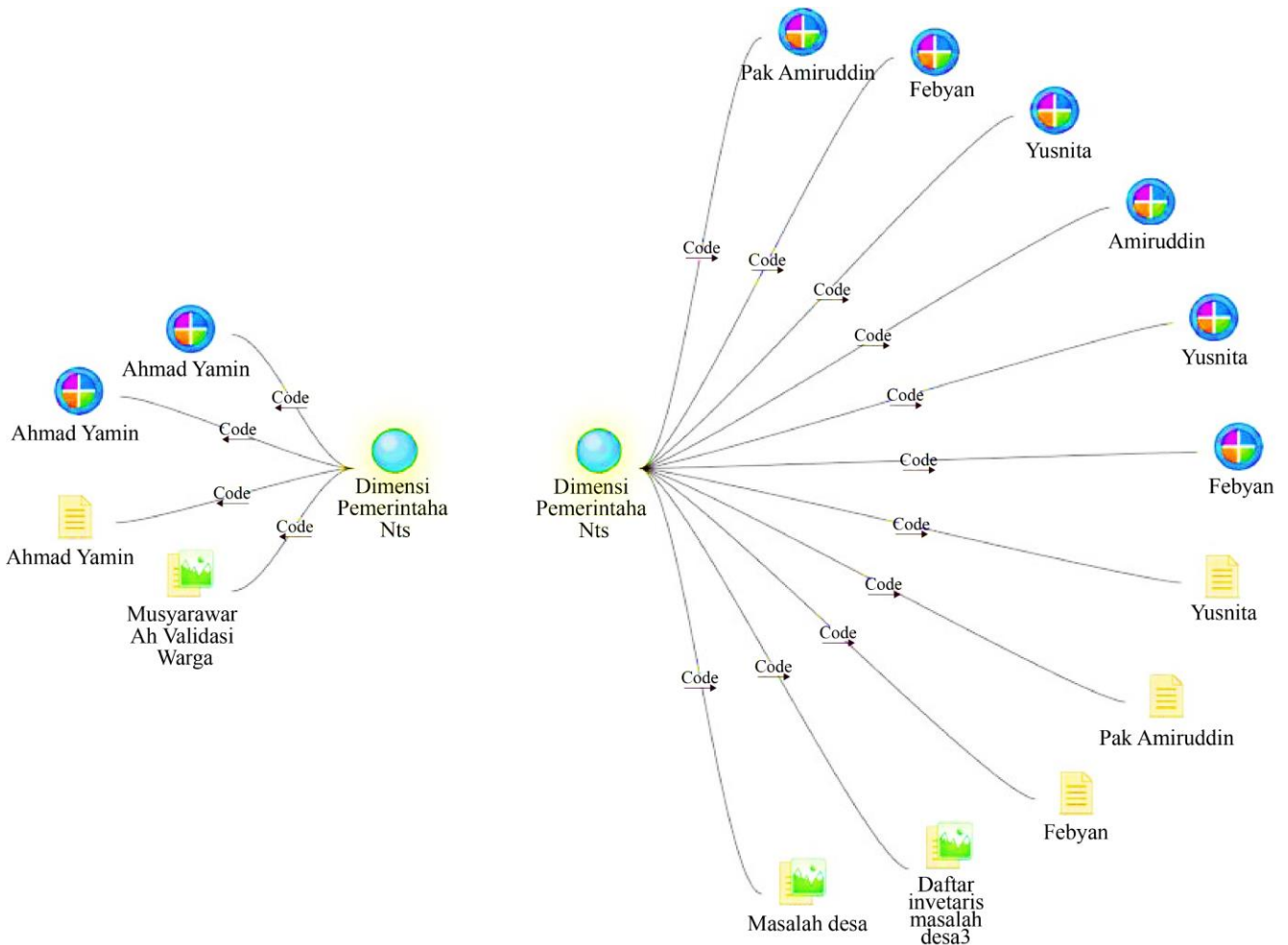|	
Objectives	Analysis of existing conditions as well as facts and hopes of smart villages in Ara village, based on the dimensions of smart villages.
Input (variables)	Indicators/dimensions of smart villages, smart government, smart technology, smart environment, human resources, tourism.
Data collection method	Observations and interviews.
Respondents	Ara village government and village community leaders.
Data analysis and tools	Conduct structured interviews, then carry out data analysis by comparing field conditions and dimensions of smart villages in Nvivo 12 software.
Output	The results of this research are to identify the facts and hopes of Ara village in meeting the criteria for a smart village/tourist village.

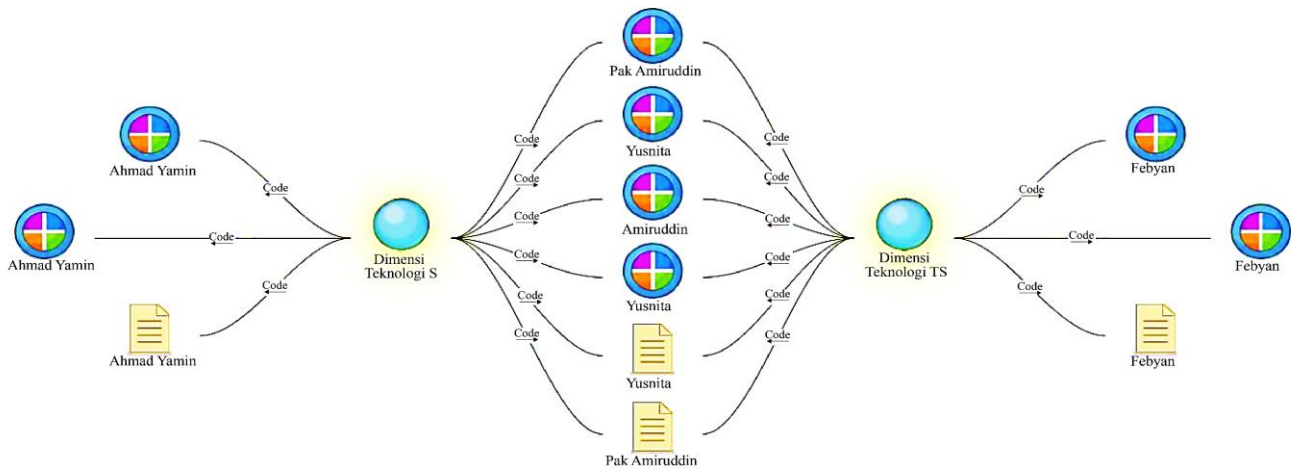**Fig. 1 Comparison diagram of government dimensions**

Fig. 2 Diagram analysis comparison

Source: Software Nivovo

Researchers have examined five sources that have their respective roles in developing smart villages. In this government dimension, researchers have conducted structured interviews with the Ara village government and community leaders. Based on the results of research on the dimensions of Ara village government, there are still several aspects that need to be optimized properly. The Ara village government has implemented policies towards developing human resources well, the service process for communities who need maximum village services, and village budget transparency has also been carried out optimally by the Ara village government.

The village government uses the SISKUDES website. village governments use the SISKUDES website to carry out budget transparency and monitor village budgets. Likewise, Banyuwangi village uses e-village budgeting in terms of planning and managing the village budget. In smart government, or this dimension of government, the village government needs to maximize the use of digitalization in village government services, and the availability of IT infrastructure also needs to be improved. In order to be in line with the smart governance found in several other smart villages, such as the Telagasari smart village, which has maximized excellent government services by using SID (village information system), this is done to foster the enthusiasm of the government and village community in increasing motivation and enthusiasm for change (Huda et al., 2020). In the Ara village government, services have used IT facilities such as computers and printers well. Access to WiFi services is also available in Ara village, but this is different from Telagasari village, which has maximized services with the village information system; in Ara village, it still delivers information online, manually at the nearest mosque or via WhatsApp social media, in developing smart governance in villages. Ara village governments need to increase awareness and motivation to optimize village services in order to achieve good progress.

3.2. Technological Dimensions
In the smart dimension, technology is the key to change in a smart village; mastery of digitalization and mastery of

social media and technology in society are the ideals or hopes of a smart village. In several smart village concepts, the rapid development of the digital world today has made people dependent and carry out many activities using digital technology. In a smart village, in order to improve the quality of village services to the community and avoid being left behind by modern progress, digitalization technology is always used in government services and the social life of the community. (Sulistiani, 2022)

The Ara village government and its community have maximized digital technology in village services and as support for their social life; however, based on the results of direct field observations and interviews with selected sources, a gap can be found in its implementation, the Ara village government has not optimally utilized digital technology in the village service process. Based on the comparison analysis image processed via Nvivo, it can be seen that Ara village has maximized dimensions *of smart technology* in the social life of its people. Almost 80% of the people in Ara village have a smartphone. In the current digital era, smartphone users know no age, children and adults already know about smartphones and even carry out various activities with the help of smartphone devices. Likewise, in Ara village, government services and economic activities of the village community have used digital technology; the Ara community does this to achieve efficiency and is a form of change from being left behind with the times.

In developing smart villages, we do not just focus on the use of technology but also consider how this technology can be optimized so that it can help the needs of village communities in general. (Millennium, 2023). Ara village is an area that has good provider network coverage. Based on the results of observations from several sources, there are no network problems in the Ara village area, Wifi network or cellular network: district communications and information department. Bulukumba has made efforts to optimize the reach of the telecommunications network to Ara village so that this makes it very easy for the community to utilize available digital technology.

3.3. Environmental Dimensions

The environmental dimension is an indicator of the development of smart villages in Indonesia. The aspects measured or assessed in this environmental dimension are community safety, the comfort of the village area, and the public facilities and infrastructure available in the village. Environmental dimensions (*Smart living*) the achievement of a smart village, which refers to the quality of life and culture of the community, the availability of community needs, and ensuring the security and comfort of local communities is the goal of a smart village in the environmental dimension (*Smart living*). (Subekti and Damayanti, 2019). Based on the existing conditions, security in Ara village can be maintained, even without a visible patrol post or security post. The people of Ara village guarantee security in Ara village. Mobility is very important in human survival. Ara village can become popular among tourists because access to tourist attractions is easy to reach, with good road structures and clean areas, so it becomes an important value in increasing the comfort of village communities and tourists. Mobility in Ara village is also very easy because Ara village is easy to reach by public transportation. Road access to Ara village is very good, so it provides comfort for tourists and the local community. The availability of clean water is also adequate in Ara village. However, based on existing conditions, the availability of infrastructure for public facilities in Ara village still needs to be provided as a forum for the community to carry out social activities to increase the solidarity and productivity of village communities in various circles.

3.4. Dimensions of Village Services

Village services are one aspect that is no less important for the social life of village communities in order to achieve a better standard of living and the availability of economic services in an area or village, as seen from how much effort the village government makes in maximizing regional/village development. (Ella, S., & Andari, R. N. (2018). Ara village is a village that has superior human resources. The potential for human resources in the productive age is very large, and this is stated in the RPJMDes as shown in Table 1 of the demographic data for Ara village.

The Ara village government collaborates with the agricultural department to provide training in making compost fertilizer. This development activity collaborates with the Women's Farmers Group in Ara village in an effort to improve the *soft skills* and understanding of women farmers in cultivating compost fertilizer. Apart from the agricultural sector, the village government also supports the MSME group in Ara village by providing free land certificates for people who have trading businesses as business capital. Apart from providing business capital assistance to the MSME group, the government also provides a platform for trading to the Ara village community at the village tourist location. One of the tourism areas used by the local community is the Apparalang area. The village community uses the tourism area to carry out economic activities by trading in typical Ara village culinary delights. as well as other handicrafts that are used as the ole of Ara village. Many people use the platform/location to trade in the Ara village tourist area, so this can increase the village community's income.

3.5. Resource Dimensions

In fulfilling the hopes and dreams of realizing a smart village in a rural area, it cannot be separated from the quality of the resources the village has. The more resources the village has, the greater the village's potential in implementing and planning village development towards an independent village. Smart village dimensions in reviewing aspects of village financial resources, village natural resources, and human resources (Hidayat, W.N, 2023). Ara village is rich in natural resources; apart from being rich in limestone, Ara village has a cave, which is a source of water for the surrounding community. Apart from that, Ara village has a very clean beach called Mandala Ria Beach, which is to the east of Ara village.

Ara village has a large number of productive people, and this can be seen in secondary data on the development of Ara village in 2022. In identifying smart village life behavior in village communities, it looks at how active the community is in using social or digital technology in everyday life. The hope and ambition of a smart village is the use of technological media in people's lives to improve the quality of life and meet people's needs. Based on the results of field observations and direct interviews with resource persons, the people of Ara village in their productive age are all proficient in utilizing digital media, both for daily life and using social media for their economic activities. Economic actors in the industrial and household craft sectors have utilized digital technology to promote their wares.

Community participation in village planning and development still needs to be increased; based on data, 50% of village communities are involved in the implementation and physical development of villages, as well as 80% of the percentage of community attendance in deliberation activities carried out at the hamlet and sub-district village levels. However, the people involved are adults and elderly, and the village government needs to make maximum efforts to be able to involve youth in village planning and development. The participation of village youth is currently a challenge for smart villages in fulfilling the hopes of developing smart villages. Based on research conducted by Hafny Asiatul Huda, Telagasari village, Telagasari village has actively implemented programs to maximize youth in village development planning. However, up to now, based on field results, the village government's efforts have not been said to be optimal. The Telagasari village government has collaborated with the private sector in increasing resources and opening up job opportunities. However, this program is unable to be a solution to overcoming the social problem of lack of participation by village youth. Likewise in Ara village, this is a challenge for the village government to be able to open a space or forum for village youth to be

able to participate in village development.(Huda, H. A., Suwaryo, U., & Sagita, N. I, 2020).

3.6. Tourism Dimensions

Ara village is a smart village that has marine tourism potential. Smart villages focus on tourism development, the indicators of development of which are village potential and village branding(Aziza and Susanto, 2020). Ara is a village rich in tourism potential, which is Mandala Ria Beach, Passohara Cave, and Apparalang Cliff Hill. Mandala Ria Beach is a white sand beach located to the west of Ara village. Road access is good, and there is no fee to enter this beach area, which is one of the things that attracts tourists. However, the lack of infrastructure, such as culinary areas and villas in this coastal area, is one of the targets for future village development plans. Passohara Cave is a cave in Ara village, but until now, this cave has not received special attention from the village community, so this cave does not have good access to get there.

However, many foreign tourists visit there because of the uniqueness of Passoara Cave. Next is the Apparalang cliff tour. This tourist area has become a favorite area for the people of Ara village. This area is managed by a foundation owned by the head of Ara village. People use this apparalang area for economic activities such as selling around tourist areas. However, access to this tourist area is not optimal and requires special attention from village managers and the government.

The head of the tourism awareness group, Mrs. Jusniati, said that the Pokdarwis group needed special attention in terms of developing the tourism potential of Ara village; they were not utilizing digital platforms to promote the village. Village communities need to pay more attention to developing tourism potential in Ara village. Apart from tourism potential, Ara village also maintains cultural riches such as the Salonreng Dance. The Salonreng dance is a dance that has high meaning, so this cultural richness is still well maintained by the people of Ara village. The art studio in Ara village is one of the village community's efforts to maintain their cultural wealth. The salonreng dance has been taught from generation to generation and is performed at village activities/events.

4. Conclusion

Smart villages are a development program implemented by the Ministry of Villages and Transmigration. Based on the law on village number 6 of 2014, which states that villages must strive to maximize their potential and independence to become independent villages in accordance with the ideals and hopes of Sustainable Development Goals. Ara village is a village located in Bulukumba district, Bonto Bahari sub-district.

Ara village has been named a smart village since 2021. The wealth of tourism potential makes Ara village one of the smart villages and tourist villages. However, in several studies on the development and implementation of smart villages, there are still many gaps and inconsistencies between theory and field facts in their implementation.

Based on the results of research on existing conditions regarding the implementation of smart village development in Ara village, researchers identified five dimensions of smart villages. Dimensions of government (*Smart Government*), Technological dimension *(Smart Technology),* environmental dimensions *(Smart Living),* resource dimension, village service dimension, and tourism dimension *(Smart tourism).* Ara village is a village that has superior human resources in the use of social media or digital technology. 70% of the people of Ara village are skilled at using social media to meet their daily needs. MSMEs in Ara village have utilized social media in marketing their products. The people of Ara village use digital technology to carry out economic activities. This went well because Ara village is an area that is supported by the availability of a good telecommunication network.

However, from the aspect of village services, the village government needs to provide adequate facilities and infrastructure. The village government also pays special attention to village services so that they can be more effective and efficient in providing services to the community.Apart from having superior human resources, the tourism potential of Ara village is one of the attractions and aspects that add value to village development. Tourism potential cannot stand alone; this is related to various sectors, such as the economic sector; therefore, the village government needs to give full attention to its tourism potential so that it can develop.

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