Identification of Demographic at Penglipuran Village's in Realizing The "Siperan" Prototype Model

Riza Wulandari[1]

[1] Information System Departement, Institut Teknologi dan Bisnis STIKOM Bali, Bali, Indonesia
rizawulandari26@gmail.com

Abstract. This research aims to identify the demographic conditions of the Penglipuran Tourism Village population in order to implement tourism village development through infographic digitisation data. The method used in this research is qualitative with data collection techniques in the form of observation, indepth interviews and documentation studies and the technique of determining informants using Snowball Sampling. The target number of informants was 47 people selected based on the classification of family status and 1 person from related stakeholders. The results of this study conclude that the demographic identification of the population consists of the type of government system, population, livelihoods, tourism, education and religion. There are 3 government systems owned by Penglipuran Village, namely customary institutions, offices and tourism organisations. Data from the population in Penglipuran Village amounted to 1,026 residents who inhabit 47 traditional houses. The livelihoods of the people living in Penglipuran Village such as farmers, craftsmen, civil servants, foreign workers, self-employed to home creative industry actors such as Bamboo Crafts, Livestock and food and beverage industries. n the type of education, the majority are junior high school graduates and some schools in big cities ranging from secondary education to universities. Another demographic type found is religion where the Penglipuran Tourism Village community emphasises the harmony of life based on Tri Hita Karana. Furthermore, the prototype of 'Siperan' (Penglipuran Resident Information System) contains information on members of the angkul-angkul traditional house with attention to the confidentiality of personal data.

Keywords: Demographics, Identification,   Model Prototype, Penglipuran Tourism Village

1   Introduction

The development of information and communication technology is currently cannot be avoided in life. Every year, this development shows extraordinary progress. The benefits of technology occur in all lines, starting from education, economics, agriculture, tourism, animal husbandry and even medical have felt the benefits of technology. Futurologist Alfin Toffler also emphasized that this is the information era.

Starting at the end of the 20th century, humans mastered information and mass communication in a modern way, in other words, mastery of media and information can be identified as agents who have the power to control the world (Susanto 2018).

The presence of technology in the current era is not only enjoyed by city dwellers. Various regions in Indonesia, especially villages, have begun to develop village areas by utilizing information technology. Both in terms of village introduction, population data collection, and its relation to village funding management. There is a model for the development of tourism villages for the government in the Province of Bali, which is the Penglipuran Traditional Village. This village is located in Kubu Village, Bangli District, Bangli Regency. As a tourist village, Penglipuran has an attraction for the formation of village spatial patterns, and spatial architecture that reflects the traditional architecture of the native Balinese houses. As the one of recommended places for various domestic and foreign tourists, Penglipuran village needs to continue to be appreciated to develop towards sustainable tourism, one of which is by utilizing information technology. The local government has an important role in including village development, not only from the economic side but also the demographic conditions that need to be considered. Up-to-date and easily accessible data also need to be considered by the local government in developing a village.

As a research conducted by Siti Asmaniya Mardiyani, it is said that one of the effort to improve village quality is by digitalizing the villages (Mardiyani et al., 2020). Seeing the development of Penglipuran Tourism Village which is quite impressive from year to year, many researchers have conducted scientific studies on the digitalization of this village from a tourism perspective. Budiarta, et al. (2023), research Penglipuran tourism tittle is development of Penglipuran tourism village to become a sustainable tourism village. Field results show that the development of Penglipuran Tourism Village was carried out by providing English language learning in schools and entrepreneurship counseling for the younger generation (Budiarta, 2023).

Unfortunately, based on the results of a literature study on Penglipuran Tourism Village, the average is only focuses on tourism. Meanwhile, according to Syaharuddin, the development of a tourism village can be maximized with the unity of information and promotion (Syaharuddin, 2017). Information is obtained based on historical and demographic conditions of the population in the area, and promotion is taken from the captures of beautiful side images of a village. Thus, village development is not only biased towards promotion, but accurate data collection information is also an important entity. In addition, releasing observation data that has been carried out in Penglipuran Village, it was found that one of the efforts that has not been carried out to develop Penglipuran Village is the digitization of updated and well-documented population data. If a village does not have demographic data, it is difficult to determine the population growth rate that occurred in the past and the future. As the condition of Penglipuran Village has become a tourism village, where every corner of the room and even the residents' houses are also used as tourist attractions.

This study aims to identify demographic data of the population of Penglipuran Tourism Village to implement the development of a village from an infographic perspective. This study is also strengthened by the conditions of Penglipuran Tourism Village in practice involving the community as tourism actors both in terms of socio-

cultural conditions and house layout so that it is necessary to identify demographics that can later be documented digitally. One of the sociologists who emphasized his attention to population growth factors, namely Emile Durkheim, stated that an area with high population density could result in a population growth rate as a form of maintaining life (Wang, et al., 2018). This sociologist's perspective explains that to win the competition in the social order of life, humans will try to improve their education and skills and take certain specializations. So this effort is an important point for making a demographic classification of the population. The use of demographics is quite broad, demographics can be used together with sciences such as economics, sociology, geography, psychology, politics, medicine, and others (Priya & Rao 2023). So in this case, studies on demography are often referred to as interdisciplinary implementation.

As a reference in this study, the condition of Penglipuran Village will be identified by taking the most important demographic characteristics, which are age and gender. After that, the next demographic identification process is on the composition of the population according to social characteristics. This will be seen from the school-age group and school participation. It is also important to look for the composition of the population grouped by education level and marital status. In the future, this research is expected to provide recommendations for stakeholders to develop Penglipuran Tourism Village optimally, not only in terms of the physical form of tourism but also the institutional progress of the residents, who in this case are the actors who play the most important role in the Tourism Village.

2   Methodology

The purpose of this study is to identify demographic data on the population of Penglipuran Village so that it can be used as a database in creating a population information system for Penglipuran Village (SIPERAN). In addition to literacy, this study will also examine the factors that influence the progress of the population of Penglipuran Tourism Village. The use of qualitative methods of the phenomenological type is considered most appropriate in finding the demographic identification of the population in Penglipuran Village. Qualitative research is a research that use a natural setting to interpret a phenomenon that occurs and is carried out by involving various existing methods. Qualitative research seeks to discover and describe narratively the activities carried out and the impact of the actions on them. Data collection through in-depth interviews is very appropriate with the phenomenological approach, namely the dissection of detailed matters in the research subject (Gill, 2020). Meanwhile, data analysis was carried out using Miles Huberman's interactive analysis (Miles, M.B & Saldana, 2014). This following is the classification of informants in the research process can be seen in Table 1.

Table 1. Research informants

Data collection	Description
Observation	The direct observation of this research object is Penglipuran Tourism Village.
Indept interview	Classification and Number of Participants**:** 1. Custom clan of Penglipuran Village (1 person) 2. Householder of Penglipuran Village (47 Householder)
Documentation	Collection of archival data, photo and video documentation related to demographic of Penglipuran Tourism Village's population

3   Result and Discussion

3.1   Result

Demographic Identification of Penglipuran Tourism. As of May 2019, Penglipuran village has total population of 1,026 people who are members of 240 families. The residents of Penglipuran village have various livelihoods including as farmers, bamboo craftsmen, construction workers, carpenters, traders, civil servants, entrepreneurs, and many people who work as workers abroad. The people of Penglipuran Village also have quite a lot of creative home industries such as bamboo crafts, food and beverage industries including *loloh cemcem*, *loloh kunyit (turmeric), loloh teleng, kelepon ketela* or donuts made from cassava. In addition, the development of tourism in Bali, especially in Penglipuran village, has made many people switch to the tourism sector such as souvenir sellers, food and beverages, or providing accommodation facilities. In terms of education, the people of Penglipuran Village have an advanced level of education and the majority have at least graduated from junior high school. Moreover, quite a lot of residents go to school in big cities such as Denpasar, Singaraja, or Badung, even outside Bali to pursue higher education.

The entire Penglipuran village community adheres to Hinduism and has a community forum called *Banjar Adat* which is a place for several religious, environmental, and social activities. Therefore, Penglipuran village highly upholds customs in daily life, cooperation, and the principles of family relationships and cooperation. Penglipuran Village adheres to Hinduism which is rooted in the harmony of *Tri Hita Karana* that is found in everyday life. *Tri Hita Karana* can be interpreted as three paths to achieve physical and spiritual well-being. The three parts of Tri Hita Karana include *Parhyangan, Pawongan,* and *Palemahan.*

Parahyangan is a representation of human relations' harmony with God Almighty. The second is Pawongan, which is a representation of harmony between humans and other humans (Rosalina et al., 2023). Next is Palemahan which is interpreted as the harmony of humans with the universe or the surrounding environment. In addition to Tri Hita Karana as the foundation of life, the order of life of the Panglipuran Village Community is bound by *awig-awig* or customary regulations that must be obeyed by its people. As a village that has strong beliefs and customs.

The tourism management in Penglipuran Village was initially managed by the traditional village. However, considering the heavy burden of the traditional village officials related to complex customary activities and problems, while tourism management needs to be managed professionally in line with the increasing number of visits and increasingly complex problems, then on January 1, 2012 in the Decree: 556/557/DISBUDPAR/2012 it was determined that the management of tourism in Penglipuran village would be handed over to a management group also called *POKDARWIS* with 23 members. All members of the group are indigenous people of Penglipuran village. This tourism management institution is a new institution under the auspices of the traditional village and is fully responsible to the traditional village which has an equal position with other traditional institutions such as *Sekaa Baris, Sekaa Gong, Sekaa Peratengan, Sekaa Pecalang and Sekaa Teruna* and the Village Credit Institution which means that this tourist attraction is not owned by a group, but is managed by the village which has an extension, namely the tourism manager itself. Despite having a special mandate in tourism management, the policies to be taken are still decided by mutual agreement through a traditional meeting process attended by 78 krama pangarep who are representatives of the entire Penglipuran Village community.

The massive development of tourism in Penglipuran Village is also accompanied by various activities or events, and receiving awards by Penglipuran Village, such as the holding of 6 Penglipuran Village Festivals, and the *Penglipuran Berbunga* (Flowering Penglipuran) program which is routinely held every year, precisely in December. On the other hand, Penglipuran Village has also received many awards in various fields, including:

1. Kalpataru Award in 1995.
2. Citra Pesona Wisata (CIPTA) Award in the Management of Environmentally Conscious Cultural Tourism Attractions at the National Level in 2013.
3. Indonesia Sustainable Tourism Award (ISTA) as the Winner of the Green Gold - Cultural Preservation Category in 2017.
4. Kampung Iklim Utama by the Ministry of Environment and Forestry.
5. Rank number II of Tourism Village Manager by the Ministry of Tourism in 2014.
6. ASEAN Tourism Standard for the Homestay category in 2016-2018 and the
7. ASEAN Community-Based Tourism category in 2017-2019.

As a village that has strong beliefs and customs, the government system in Penglipuran Village can be classified into three, which are:

Customary Institution. Penglipuran Village uses the customary governmental system, namely *hulu apad*. The village customary government consists of *prajuru hulu apad* and *prajuru apad*. Prajuru hulu apad consists of *jero kubayan, jero kubahu, jero singgukan, jero cacar, jero balung* and *jero pati*. *Prajuru hulu apad* is automatically held by those who are the most senior in terms of their marital age but have not *ngelad*/retired. *Ngelad* or retirement occurs when all children are married or one of the grandchildren is married. The newly married couple sits at the bottom of the *apad* village membership ladder. The customary institution of Penglipuran Village is led by a customary head and assisted by two *penyarikan*. The customary institution is an autonomous institution that has no structural relationship with the government.

Traditionally, customary institutions are detailed in the vertical structure of customary village government and horizontally consist of certain professional or functional groups, they are:

1. *Sekaa Gong* is a group that functions or tasked with playing *gamelan* during religious ceremonies.
2. *Sekaa Baris* is a group of dancers.
3. *Sekaa Mebat* is a group of cooks.
4. *Sekaa Pecalang* is a group tasked with maintaining security.
5. *Sekaa Truna Truni* is a group of youth from Penglipuran village.

The function of traditional institutions is related to the implementation of traditional religious ceremonies (*yadnya*) as well as the construction and maintenance of holy places of worship (temple). The duties and obligations of traditional village residents are contained in the customary laws, *awig-awig* of Penglipuran traditional village.

Official Institution. Penglipuran village is administratively as the part of Kubu urban village and one of the three neighbourhoods in those urban village. As an neighbourhood area, Penglipuran Village is led by a Neighbourhood Head and assisted by a deputy. Neighbourhood Head is tasked and functioned to provide administrative services to its citizens and also being an extension of government officials.

Tourism Organizational System. Since 1992, Penglipuran village has been a tourist attraction. It has become one of the support of Bangli Regency in obtaining income in the tourism sector apart from the Kintamani area. Penglipuran village has tourism revenue levies which are divided into two where the 60 percent is deposited to the Bangli Regency Culture and Tourism Office, while the remaining 40 percent is managed by Penglipuran Village. The income received by the village is divided again where the 20 percent is for tourism management. For examples, to pay ticket officers, security officers, gardeners, etc. and the other 20 percent goes into the village treasury. However, starting in 2021, there has been a change in the distribution of levies where the 60 percent is managed by Penglipuran Village while the Bangli Regency Culture and Tourism Office receives 40 percent. The results of the levy are obtained from the sale of entrance tickets to Penglipuran Village, which are IDR 30,000 for adult foreigners, IDR 25,000 for child foreigners, IDR 15,000 for adult Indonesian citizens, and IDR 10,000 for child Indonesian citizens. However, since the COVID-19 pandemic, Penglipuran Village has not imposed tickets for visited tourists but only compile for voluntary donations. The grouping of demographic conditions of Penglipuran Village can be seen in the Table 2 below.

Table 2. The grouping of demographic conditions of Penglipuran Village

Demographic Type	Descriptions
Population	1. Number of residents: 1.026 2. Number of heads of family: 240 3. Number of traditional houses: 47
Livelihood/Profession	1. Farmer 2. Bamboo craftsman 3. Construction workers 4. Carpenter 5. Trader 6. Civil servant 7. Self-Employed 8. Overseas workers 9. Home creative industry (Bamboo crafts, food and beverage industry)
Tourism	1. Souvenir seller 2. Food and beverage provider 3. Accomodation & facilities provider
Education	1. Majorities are junior high school graduates 2. Some of them are going to school in the big cities and outside Bali for higher eduacation
Religion	Hindu (Based on the concept of Tri Hita Karana which emphasizes harmony in daily life

Supporting and Inhibiting Factors. The progress of Penglipuran village cannot be separated from supporting and inhibiting factors both from internal and external sides. The following is a description of these factors can be seen in Table 3.

Table 3. Description of these factors

Inhibiting factors	Supporting factors
Limitation of human resources (guides) due to young men and women who go to school and work outside Penglipuran Village.	Awareness and willingness of local communities to preserve Penglipuran Tourism Village.
Conflict occurs when there are differences in perception in managing Penglipuran Tourism.	Strengthening the economic, environmental, socio-cultural potential in Penglipuran Village as a form of existence.
Lack of cooperation between institutions to create optimal management efficiency.	Receipt of grants from various governments that have an impact on the progress of Penglipuran Tourism Village.
Place of worship for non-Hindu tourists.	Accommodation, amenities, accessibility and transportation that make it easier for visitors.

3.2   Discussion

Demographic provides benefits for developing causal relationships between population growth and various aspects of social, economic, cultural, political and security development. (Hojnik, et al., 2023). In addition, by thoroughly examining demographics will provide projections and anticipation of possible consequences of

population growth in the future. This population growth is also seen from the number, composition, distribution and changes that occur in an area. Determination of population data to map the demographic conditions of a region is taken from two sources, namely primary and secondary. This primary involves all original records or data obtained from the population directly. Meanwhile, secondary data is obtained from official sources. In the scope of demographics, changes in population over time are caused by developments in the fields of knowledge, economics, technology and social issues, resulting in changes in life expectancy. In addition, Shryock and Siegel (1976) divide the understanding of demography into narrow and broad. In a narrow sense, the focus of demography is the number, distribution, structure, and growth. In a broad sense, all aspects of the population, including culture, social, and economic, are included in demographic (Alma, 2019). As a tourist destination, determining the demographic identification of the population is crucial. Given that the government is currently actively seeking data that can later be used as a reference for the demographic bonus. Mapping the demographic conditions of an area will make it easier to determine the direction of government policy by looking at the potentials of a population. The population is also one of the main factors in the success of development. By digitizing population data based on demographic conditions, it can aim to integrate population variables with the National Long-Term Development Plan and Indonesia's Sustainable Development Goals.

4   Conclusion

The research entitled Identification of Demographics of the Penglipuran Village's resident has produced findings in accordance with the formulation of the problem, namely Identification of Population Demographics seen based on the government system, population, livelihood, tourism, education and religion. The government system owned by Penglipuran Village consists of 3, which are traditional institutions, official institution, and tourism organizations. Data from the population in Penglipuran Village is 1,026 residents who live in 47 traditional houses. The livelihoods of the residents living in Penglipuran Village are farmers, craftsmen, civil servants, and economic actors. While the findings of the majority of education levels are junior high school graduates and some are schools in big cities. Field practice also found inhibiting and supporting factors in the progress of this village, including inhibiting factors (1) Limited human resources (guides) because young men and women who go to school and work outside Penglipuran Village (2) Conflict happens when there are differences in perception in managing Penglipuran Tourism Village. (3) Lack of cooperation between institutions to create optimal management efficiency. (4) Place of worship for non-Hindu tourists. Meanwhile, in the Supporting Factors (1) Awareness and willingness of the local community to preserve Penglipuran Tourism Village (2) Strengthening the economic, environmental, socio-cultural potential in Penglipuran Village as a form of existence. (3) Receipt of grants from various governments that have an impact on the progress of Penglipuran Tourism Village. (4) Accommodation, amenities, accessibility and transportation that make it easier for visitors.

References

Alma, L. R. (2019). *Ilmu Kependudukan*. Wineka Media.

Budiarta, I. W., Kasni, N. W., Pulawan, M., & Laksmi, P. A. S. (2023). Pengembangan Desa Wisata Penglipuran Menuju Desa Wisata Berkelanjutan. *Jurnal Abdidas, 4*(5), 389-397.

Gill, M. (2020). Qualitative Analysis: Eight approaches. *Phenomenological approaches to research. London: Sage*, 73-94.

Hojnik, J., Ruzzier, M., Ruzzier, M. K., Sučić, B., & Soltwisch, B. (2023). Challenges of demographic changes and digitalization on eco-innovation and the circular economy: Qualitative insights from companies. *Journal of Cleaner Production, 396*, 136439. https://doi.org/https://doi.org/10.1016/j.jclepro.2023.136439.

Yang, J., & Hui, N. (2024). How digital finance affects the sustainability of corporate green innovation. *Finance Research Letters*, *63*, 105314.

Mardiyani, S. A., Sari, D. N., Koti, S., Cahyati, R., Safitri, H., Aziz, M. A., ... & Sukmana, P. E. (2020). Digitalisasi Desa Untuk Meningkatkan Kualitas Layanan Dan Informasi. *Jurnal Pembelajaran Pemberdayaan Masyarakat (JP2M), 1*(3), 188-192. https://doi.org/10.33474/jp2m.v1i3.6533.

Mariani, N. W. R., Putra, P. R. D., Devanda, P. C. L., & Sunarto, I. P. (2022). Digitalisasi Pariwisata Berbasis Website Di Desa Wisata Penglipuran Bali. *Jurnal Mantik*, *6*(2), 2236-2244.

Huberman, A. (2014). *Qualitative data analysis a methods sourcebook. Edition 3*. USA: Sage Publications.

Priya, P. S. ., & Malleswara Rao, N. N. . (2023). An Aspect based Sentiment Analysis of Tour and Travel Recommendation Approach using Machine Learning. *International Journal of Intelligent Systems and Applications in Engineering*, *11*(10s), 754–762. https://ijisae.org/index.php/IJISAE/article/view/3330

Rosalina, P. D., Dupre, K., Wang, Y., Putra, I. N. D., & Jin, X. (2023). Rural tourism resource management strategies: A case study of two tourism villages in Bali. Tourism Management Perspectives, 49, 101194. https://doi.org/10.1016/j.tmp.2023.101194.

Setiawan, D. (2018). Dampak perkembangan teknologi informasi dan komunikasi terhadap budaya. *JURNAL SIMBOLIKA Research and Learning in Communication Study*, *4*(1), 62-72.

Syaharuddin, S., & Ibrahim, M. (2017). Aplikasi Sistem Informasi Desa Sebagai Teknologi Tepat Guna Untuk Pendataan Penduduk Dan Potensi Desa. *JMM (Jurnal Masyarakat Mandiri), 1*(1), 60-67.

Wang, F. Y., Yuan, Y., Wang, X., & Qin, R. (2018). Societies 5.0: A new paradigm for computational social systems research. *IEEE Transactions on Computational Social Systems, 5*(1), 2-8.