Planning Road Map For Infrastructure Development Based SDGs Program In Sidan Village

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Abstract. Sidan Village is one of the localities located in Bali's Gianyar Regency. Sidan Village is a tourist village that is presently undergoing development in the form of tourism-related infrastructure. Development that continues from year to year will have both positive and negative effects on the development of Sidan Village as a tourist village. Development that focuses solely on meeting market needs without regard for environmental impacts will result in the gradual erosion of Sidan Village's natural potential. One programme is presently being echoed in the development of sustainable tourism, namely the SDGs programme. SDGs, which stands for Sustainable Development Goals, is a programme that prioritises sustainable development. The 17 Sustainable Development Goals (SDGs) are extremely concerned with sustainability, where environmental conservation is the primary requirement for programme implementation. The SDGs-based Potential map was created to assist Sidan village in achieving the SDGs-based classification of "modern village." Designing an SDGs-based potential map commences with a webinar between Warmadewa University and Sidan Village Government Officials, Master Student Thesis Results, Undergraduate Student TA Results, Lecturer Research Results, and SDGs-related village PKM from 2020 to 2022. The objective of this PKM is to design a 2030-targeted village infrastructure development road map based on the Sustainable Development Goals. Swot Analysis on the potentials in Sidan Village with the target as a village base map, designing methods in preparing village potential maps, and planning a village infrastructure development roadmap based on SDGs-based village potential maps in Sidan Village are the research methods employed in this study.

Keywords: Infrastructure Development, SDGs, Road Map;

Introduction

The Sidan Tourism Village is in Sidan Village, Gianyar District, Gianyar Regency, Bali Province. Sidan Village is designated as a tourism village with pilot status in accordance with the Gianyar Regent's Regulation No. 707/E-02/HK/2019 on Tourism Villages in the Gianyar Regency for 2019. Due to its location in the hills, Sidan Village provides natural, attractive, and calm natural scenery as its tourism potential. In addition to its natural beauty, this village is renowned for its archaeological attractions of ancient remnants and the singularity of its culture and history [1].Sidan Village has begun to develop, but its growth has been inconsistent due to its location in an area that serves as a transit route for tourists travelling to Kintamani or Gianyar. Due to the village's location between two prominent tourist destinations, very few tourists visit Sidan Village. To increase the

number of tourist visits to Sidan Village, it is necessary to contemplate a village development plan and programmes that support tourism, welfare, and sustainability.

When developing the village programme, the programmes in the Village SDGs should be considered in light of the government of Sidan Village's needs and objectives. The Sustainable Development Goals (SDGs), a global long-term programme, consists of 17 primary programmes founded on optimising the resources owned by each country or region. The 17 Sustainable Development Goals (SDGs) are a long-term global programme to maximise each country's potential and resources.Understanding that no single actor can resolve the challenges of sustainable development is thus central to the SDGs agenda.Village tourism is one of the programmes that accelerate the revitalization of a village's tourism industry [2], [3]. Village community empowerment will always be the primary objective of the tourism village, so that the village becomes a superior village in accordance with the community's conditions and requirements [4], [5].

Partners does not have experts who understand the mechanism of planning village programme infrastructure based on SDGs. As a result, the village lacks valid data that can be input into the SDGs programme or the digital village software. The lack of this data has prevented partners from maximising the potential and organising the potential based on the Village Programme. Problems in the managerial sector are a result of the shift in the direction of sustainable village development and the advent of the digital village era. As a result, partners have been unable to implement digital village programmes, sustainable-based village programmes, and the marketing of Sidan village as a tourist village. Due to a lack of understanding from the village apparatus, the development of tourism activities in Sidan tourist village is currently stagnant or in place. As a result, partners are unable to attract investors to Sidan village to invest in the tourism sector in Sidan village. This community service is intended to assist the village in identifying its potentials and incorporating them into an SDGs-based potential map.

Method

The first step in implementing this community service entails conducting interviews with relevant parties to elucidate the issues at hand. Then, conduct a field survey in the form of an inventory of field data and documentation of village potential, involving a team of surveyors, the surrounding community, and the village administration, in order to determine the boundaries and objects of Sidan Village's tourism potential. Data collecting process including focus group discussion, UAV and GCP mapping, and seminar. Then, the obtained data is processed by the research team involving the village government to determine the compatibility between village programmes and SDGs programmes that will be included, followed by discussions on the results of the draught road map that has been obtained to be discussed again with related parties and receive feedback so that it can be processed to finalise the road map of the Sidan tourism village. In this circumstance, the partner serves as a facilitator and aids in field investigations.

This community service employs the SWOT technique, Social Network Analysis (SNA), and Interpretive Structural Modelling (ISM) for analysing the data gather from disscussion, FGD, webinar. Analysis of strengths, weaknesses, opportunities, and threats is a method for formulating

research strategies. The logic underlying SWOT analysis maximises strengths, weaknesses, opportunities, and threats. SWOT analysis can also be interpreted as a comprehensive assessment of all strengths, vulnerabilities, opportunities, and threats. SWOT analysis is an analytical tool that can be applied to both internal and external environmental analysis [6]. It is founded on the premise that a successful strategy will be able to mitigate vulnerabilities and threats. This SWOT analysis will have a significant impact on the success of a design if employed correctly. Social Network Analysis (SNA) is an analytical method that identifies the social structure and explains the placement of key actors or priority programmes within a proposed design. SNA can assist in determining the relationship between two programmes, with the programmes represented by points and the relationship by lines. ISM (Interpretive Structural Modelling) is an analytical method that can be used to analyse the elements of a programme and divide them into graphical relationships that depict the direct relationship between two programmes as well as the level of hierarchy between programmes . This method can be classified as a structural method due to the fact that this ISM method will describe intricate problems in a programme, with the method's output consisting of a graphical system that describes the relationship between programmes.In Methods, Authors should state the methods which used in the research by very short literature survey in order to record the existing solutions/method. After the data and design has been finalised, the socialisation and transmission of the draught road map to the community and local administrators occurs.



Figure 1. Focus group discussion session



Figure 2. Mapping village area using UAV

Result and Discussion

The discussion yielded several significant findings concerning the challenges faced by Sidan Village, as revealed through consultations with stakeholders. These challenges include the absence of partnering organisations to support the implementation of an SDGs-based village programme, the lack of a comprehensive village base map, the absence of an inventory of data pertaining to the potential for SDGs-based development in the village, and the aspiration to integrate all 17 SDGs into the village programme while also evaluating the efficacy of these initiatives. In accordance with Regulation Number 13 of 2020 issued by the Minister of Villages, Development of Disadvantaged Regions and Transmigration, which pertains to the prioritisation of Village Funds utilisation in the year 2021, there exists a total of 18 development objectives and targets outlined within the framework of the Village Sustainable Development Goals (SDGs) therefore sidan village classifed them as : The concept of poverty-free villages, The concept of "Villages without Hunger" refers to a socio-economic initiative aimed at addressing food insecurity and poverty in rural communities, Villages characterised by good health and economic well-being, The provision of high-quality education in rural areas. 5. Promoting gender equality in rural communities, The village exhibits a commendable level of access to clean water and sanitary facilities., Rural communities implementing sustainable and environmentally friendly energy sources, The relationship between village employment and economic growth, The topic of discussion pertains to the innovation and infrastructure inside rural communities, The concept of villages devoid of inequity, Residential places designed with sustainability in mind, The topic of discussion is to the consumption and production practises inside a village that prioritises environmental consciousness, The topic of discussion pertains to climate change and its management in rural communities, The maritime ecology within the village, The terrestrial ecosystem within the village, The promotion of peace and justice within the village, The partnership for village development is a collaborative initiative aimed at promoting the sustainable development of rural communities, and study focuses on the examination of dynamic village institutions and the adaptive nature of village culture.

The pursuit of village Sustainable Development Goals (SDGs) amidst the COVID-19 pandemic presents significant challenges. Consequently, the allocation of 2021 village funds is primarily directed towards financing initiatives that facilitate the realisation of ten village SDGs. These goals are closely linked to national economic recovery endeavours, priority programmes at the national level, and the adoption of new village practises. The 10 Sustainable Development Goals (SDGs) that are relevant to the context of the Covid-19 Pandemic are as follows: 1. Eradicating poverty in rural areas. 2. Ensuring food security and eliminating hunger in villages. 3. Promoting the health and prosperity of rural communities. 4. Empowering women's participation in village development. 5. Promoting the use of clean and renewable energy sources in villages. 6. Fostering equitable economic growth in rural areas. 7. Encouraging environmentally conscious consumption and production practises in villages. 8. Promoting peace and justice in rural communities. 9. Facilitating partnerships for village development. 10. Cultivating dynamic institutions and fostering an adaptive culture in rural areas. As a result of joint discussions and analysis of field data, the integration of 18 programmes and 10 advanced SDGs programmes into the Sidan Village programme yielded the following SDGs-based infrastructure development road map.

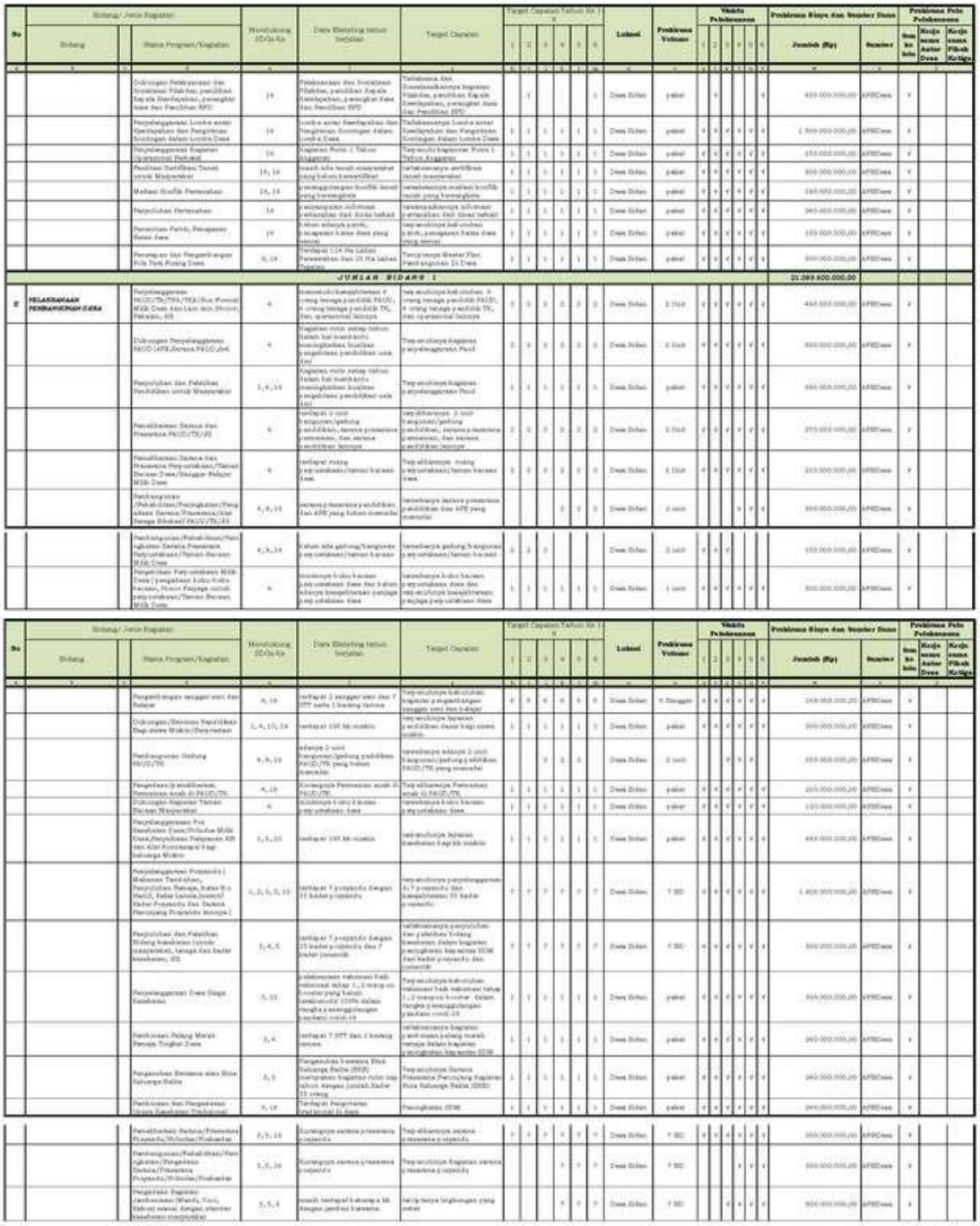


Figure 1. Road Map Program

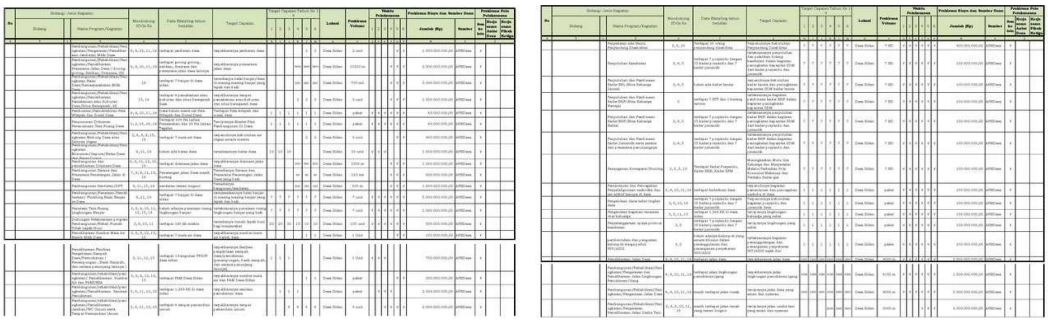


Figure 2. Road Map Infrastructure Program

Data collection from a UAV generates aerial photographs known as Orthophoto. Orthophoto is a geometrically corrected aerial photograph that depicts the actual condition of objects. Orthomosaic is a process for creating an orthophoto mosaic from a collection of aerial photographs with geometric coordinates. followed by Delineation as an endeavour to create boundary lines in order to group and identify an object or area in aerial photographs. The boundary line will be drawn using maps, both conventional and digital. The data processing generates a map of potential tourist attractions in the village of Sidan.



Figure 3. Map of potential tourist attractions

Conclusion

This road map planning is intended to improve the community's economy in the future. By conducting infrastructure planning, the community will be involved in development and will be aware of the direction of village development, allowing them to adjust and prepare to accept new job openings resulting from this infrastructure planning. The design of a village that satisfies the SDGs will always adhere to sustainable principles, ensuring that community agriculture is maintained and tourism village development continues, thereby providing the community with the economic benefits of agriculture and tourism. The implementation of the programmes outlined in the Draught Road Map for Infrastructure Development will prioritise village government input.The dissemination of information on typical sustainable and SDG-based villages is anticipated to be beneficial to partners.

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