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Revitalization Of The Jeneberang River Watershed (Das) As An Urban Economic Driving Area For Gowa Regency

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A B S T R A C T

This writing aims to revitalize the Jeneberang River Watershed (DAS) in Gowa Regency so that this area can drive the urban economy. This study uses a qualitative methodology combined with a descriptive approach. It uses primary and secondary data. The results obtained are that the revitalization of the Jeneberang River Watershed (DAS), if carried out in stages, will produce environmental development opportunities that are in line with the idea of sustainable development, which makes green, nuanced public spaces that are friendly to the physical and ecological conditions of the Jeneberang river. Then, the results of this revitalization can be developed into an urban economic driving area by developing tourism potential by improving components that support tourism, such as infrastructure, information systems, environmental quality, urban forests and developing culinary tourism as a source area for producing raw food ingredients, such as freshwater fish and shrimp. In this way, we can make the Jeneberang River area a tourist area to encourage economic growth in Gowa Regency.

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1. INTRODUCTION

National development over the last three decades has brought significant changes, not only to the socio-economic life of the community but also to land use patterns, which have had a genuine impact on the function of river basins and the hydrological response of river basins (Noviyanti & Sutrisno, 2021). A number of cases of land use change in several river basins in Indonesia are presented with a discussion of the cause-and-effect relationship from the hydrological aspect of the river basin, especially regarding the carrying capacity of the river basin and flood frequency (Amin et al., 2018). The definition of a river basin (DAS) is the entire control area (regime) of a river, which is the main drainage channel (Suryani, 2017). The definition of the watershed is equivalent to the term in English: *drainage basin, drainage area, and river basin*. So watershed boundaries are shadow lines along mountain ridges or cliffs/hills that separate one flow system from another (Harisagustinawati et al., 2020).

One of them is the Jeneberang River Delta Area, located west of Makassar city at the mouth of the Jeneberang River. The Jeneberang River itself is one of the large rivers in South Sulawesi with a dendritic flow pattern (M et al., 2022). The Jeneberang River Watershed (DAS) is an area used for urban settlements which are dominated by non-agricultural activities with the location of residential areas consisting of resources, for example, social locations, housing, urban facilities and other public facilities (Campbell, James B ., 2012). The Jeneberang River Watershed (DAS) is used as a residential and agricultural area which supplies food for the population, especially those living nearby (Arifin et al., 2023).

The Jeneberang River Watershed (DAS) area is also an area designated for cultural tourism, such as the Old Katangka Mosque, the tomb of Sultan Hasanuddin, and Balla Lompoa. There are also artificial tourism areas, such as eating places in Kota Baru and Sungguminasa Pattallasang Urban Area (Campbell, James B., 2012). There are several plans for space utilization in the Jeneberang River estuary area; for example, the use of this area is such as multifunctional business space, which covers 68.73% of the area. Low-density settlements, green open spaces, rivers, lakes, trade and service areas, and tourist attractions are also there (Ali et al., n.d.2017).

Currently, the Jeneberang River Basin (DAS) is also not optimal due to several problems, such as inadequate and not well-managed waste management, the drainage system is not well integrated between the environmental and urban scales, secondary drainage sedimentation, and access to fire protection—narrow neighbourhood streets (Danial et al., 2020). With a dense population and errors in land use, the Jeneberang River Basin is also considered prone to flooding. Infrastructure is damaged by repeated floods, causing a shortage of clean water and causing health problems due to the polluted environment (Arifin et al., 2023).

Based on the problems experienced, it is necessary to revitalize the River Watershed (DAS). A series of efforts to revive areas that have declining physical and non-physical quality, increase the value and strategic relevance of the area, and revive urban bond areas so that they have an impact on the quality of life of residents and the quality of the surrounding environment is called revitalization. In simple terms, it is the physical, economic and social improvement of an area (Rukayah, 2020). The revitalization method is able to identify and exploit environmental potential (Bintang et al., 2020).

This research was conducted in order to describe the use of natural resource land from the Jeneberang River Alisarn Region (DAS), both in terms of the spatial structure plan of Gowa Regency, the spatial pattern plan of Gowa Regency, strategic area planning and the potential of the Jeneberang River. Based on the problems described above, the researcher will prepare

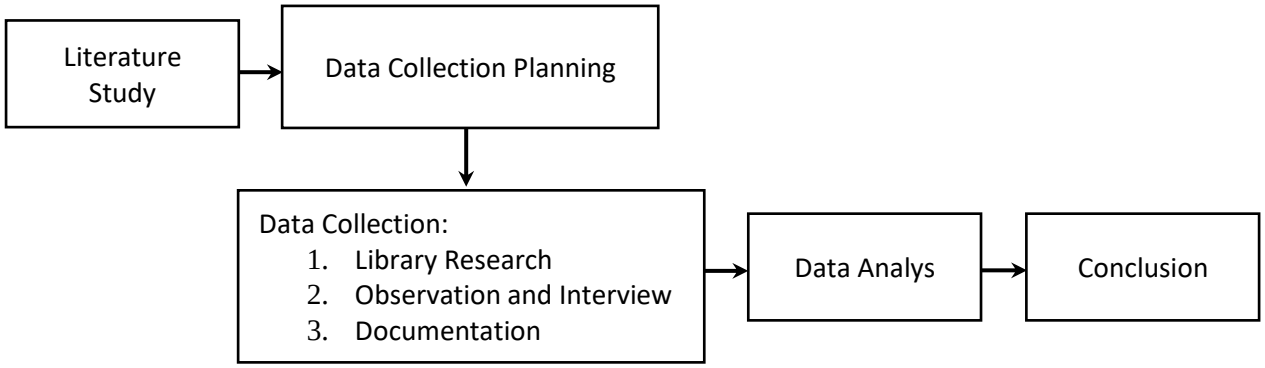
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a scientific work on "Revitalization of River Watersheds (DAS) as Urban Economic Driving Areas in Gowa Regency"

2. RESEARCH METHOD

The researcher used a qualitative approach combined with a descriptive approach in this research (Sugiyono, 2015). The data used are primary data and secondary data (Fauras et al., 2024). The data collection method is carried out in stages:

a) Library Research: Data collection in the form of searching for materials that can be used as references for this research, for example, photos, notes and applicable laws, government regulations, books, journals, articles and official websites that present relevant data. accurate (Roby Dwiputra et al., 2022).
b) Observation and interviews: observing field problems, describing phenomena, then analyzing and presenting them with systematic facts to facilitate reasoning and drawing conclusions (Pratama, Indah Arry, 2020). Interviews with native people of the area and related parties such as traders, sub-district and sub-district officials, as well as visitors to tourist attractions at the study location (Puteri & Arsandrie, 2023).
c) Documentation: collecting data through written or electronic documents from the research location. This documentation is needed to support the completeness of the researcher's data (Sugiyono, 2018).



Graph 1. Flow of Research Methods
Source: Author's Analysis, 2024

3. RESULT AND DISCUSSION

3.1 General Description of Research Locations

The administrative area of Gowa Regency consists of 18 sub-districts and 167 villages/sub-districts. One of the 18 sub-districts in Gowa Regency is Pallangga. The central location of the Jeneberang River Basin (DAS) crosses Pangkabinang Village (Presiden, 2012). The Jeneberang River Basin (DAS) connects Makassar City with Gowa Regency. This river is 75 km long with a watershed area of 727 km2. The Jeneberang watershed covers an area of 9,331 km2, with a surface water potential of 13,229 million 3 per year and groundwater potential of 1,504 million 3 per year (Ali et al., n.d.)

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Table 1. Physical Conditions of the Jeneberang River Watershed (DAS)

No	Criteria	Description
1	Building Condition	• Irregular building. • Building density. • *Percy's* building engineering is not suitable.  **Figure 1. Building Condition** Source: Author's Analysis Results and Documentation, 2024
2	Road Conditions	• Environmental road service coverage. • Neighbourhood roads are of poor quality and have narrow alleys.  **Figure 2. Road Conditions** Source: Author's Analysis Results and Documentation, 2024
3	Mapping Drinking Water conditions	• Availability of safe access to drinking water. • Drinking water is not available.  **Figure 3. Mapping Drinking Water Conditions** Source: Author's Analysis Results and Documentation, 2024
4	Drainage Conditions	• Water runoff cannot be drained. • Drainage is not available. • Disconnection with the city drainage system. • Drainage is not maintained. • It damaged drainage construction.  **Figure 4. Drainage Conditions** Source: Author's Analysis Results and Documentation, 2024

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5	Wastewater Conditions	• Non-compliance with technical standards in the wastewater management system. • Not by technical arrangements related to wastewater management infrastructure and facilities.  **Figure 5. Wastewater Conditions** Source: Author's Analysis Results and Documentation, 2024
6	Waste Conditions	• Waste infrastructure and facilities do not comply with technical requirements. • Waste management system that does not comply with technical standards • Waste management, in this case, facilities and infrastructure are not well-maintained  **Figure 6. Waste Conditions** Source: Author's Analysis Results and Documentation, 2024
7	Fire Protection Conditions	• Fire protection, in this case, is not available • Fire protection means are not available  **Figure 7. Fire Protection Conditions** Source: Author's Analysis Results and Documentation, 2024

3.2 Revitalization of the Jeneberang River Watershed (DAS)

Revitalization of an area is a process of physical, social and economic improvement. Danisworo said that revitalization could identify and exploit the potential of the surrounding environment, for example, the location's meaning, image, and history. Revitalization itself must include improving overall physical beauty, as well as increasing income. Revitalization of an area is a process of economic and physical improvement of buildings and urban spaces. A short-term strategy to increase economic activity is physical revitalization. Physical revitalization is considered to improve the city's physical condition, such as public spaces, but will not be successful in the long term (Bintang et al., 2020). Therefore, it is necessary to increase economic activity, which can be improved by achieving socio-cultural and environmental goals. This is important because productive use is expected to form a system that monitors city facilities and infrastructure continuously.

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Revitalizing the Jeneberang River, Gowa Regency is an effort to restore the condition and function of the Jeneberang River as a drainage channel and raw water that helps millions of people in Gowa Regency and its surroundings. In this way, the idea will be formed that the riverbank will be used as a public space that can be used as a pedestrian area, public recreation area, and possibly a tourist location. This concept aims to fulfil human needs while preserving and developing environmental quality and conserving natural resources like rivers.

Making Biringje'ne (Je'neberang River Bank) a new destination in the Gowa district that is integrated with residential flood management by:

a. Relocation of slum settlements along the banks of the Jeneberang River.
b. Concrete roads, secondary drainage, and sluice gates will be constructed as final drainage channels for city drainage and residential areas.
c. Development of TPS3R (reduce reuse, recycle).
d. We are improving the quality of environmental roads and sanitation.
e. We are improving wastewater management facilities and infrastructure.
f. It improved waste infrastructure and facilities.
g. Construction of roads and parking areas for car access and fire engines to collect water from the river.

Next, area development is carried out by:

a. We are arranging the riverbank as a conservation area, organizing it into a Public Open Space, and planning to build flats in 2025.
b. Arranging Public Open Space (RTP) along rivers, RTP along rivers can prevent the growth and development of slum settlements along rivers.
c. Arrangement of Public Open Space for culinary tourism
d. Provision of festival areas and riverside platforms
e. Arrangement of primary market and traditional market areas
f. Revitalization of the Balla Lompoa Heritage Area

The revitalization of the Jeneberang River is carried out by various Regional Apparatus Organizations (OPD), which the Gowa Regency Government supervises. The Gowa Regency Regional Apparatus Organization comprises the Gowa Regency Spatial Planning and Environmental Service. These two regional apparatus organizations have different tasks and strategies to revitalize the Jeneberang River in the Gowa Regency.

Table 2. Jeneberang River Watershed (DAS) Development Concept

	The residential area is integrated with the central business district, with the people's port as the central area for activities.
	The residential area is integrated with the Sungguminasa market, Balla Lompoa heritage area, and culinary tourism.

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	We are integrating dense residential areas with market areas and the minasa maupa terminal.



Figure 8. Integration Of Regional Scale And Environmental Scale
Source: Author's Sketch,2024

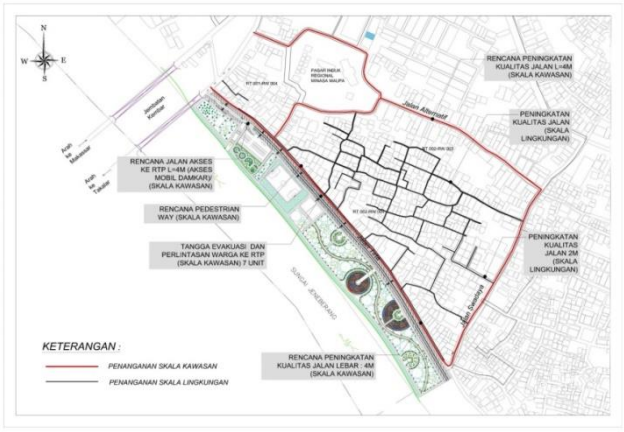


Figure 9. Road Network Plan Map
Source: Author's Sketch,2024



Figure 10. Drainage Plan Map
Source: Author's Sketch,2024

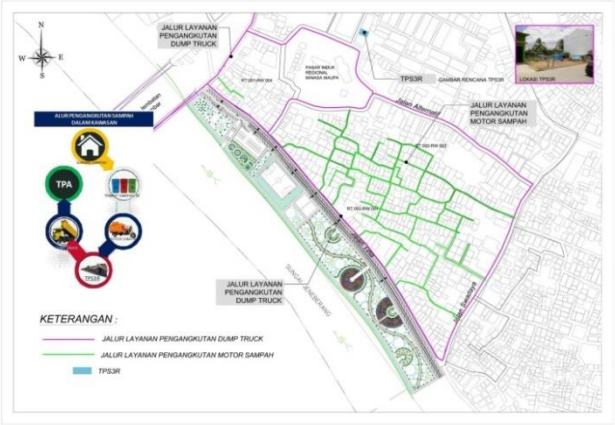


Figure 11. Solid Waste System Planning Map
Source: Author's Sketch,2024



Figure 12. **Drinking Water Network Map**
Source: Author's Sketch,2024

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Before/After Illustration for Handling the Jeneberang River Basin (DAS), Gowa Regency



Figure 13. Jeneberang River Bank Public Open Space
Source: Author's Sketch,2024



Figure 14. RTH with conservation plant types for security
River Border Area Against Flooding
Source: Author's Sketch,2024



Figure 15. Roads and parking area as available used as fire engine access fire to get water from the river
Source: Author's Sketch, 2024



Figure 16. Secondary drainage and water gaters as the final connection channel for drainage cities and residential environments
Source: Author's Sketch, 2024



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Figure 17. Road, Drainage and Pedestrian Illustration
Source: Author's Sketch,2024



Figure 18. TPS-3R
Source: Author's Sketch,2024

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3.3 Daerah Aliran Sungai (DAS) sebagai Kawasan Penggerak Ekonomi Perkotaan

Several impacts are expected from the revitalization of the Jeneberang River. As an economy that depends on industry and trade from the potential of the Jeneberang River to produce raw food ingredients, such as freshwater fish and shrimp, using a cage system. This potential can be developed by developing culinary tourism in river areas, public recreation areas and green areas with the hope that economic growth will increase in the future in Gowa Regency. Then, the development of potential that can be done to encourage economic growth is tourism potential. Tourism support must be improved to turn tourism into a leading industry in the Jeneberang River area, including infrastructure, information systems and environmental quality.

The economic situation of a region is influenced by the location of the tourism industry, which has various effects. Of these multiple influences and consequences, two of the most prominent are related to the location of the tourism industry:

a. Establishing tourism facilities such as hotels and restaurants impacts residents, including employment, empowerment of local natural products, promotion of local culture, and development of supporting infrastructure.
b. Along with its growth, tourism also creates job opportunities directly and indirectly. For example, due to the development of the tourism industry, they also need experienced employees, such as tour guides, tourism drivers, and others.

So, it can be understood that integrating several elements creates a tourist area. These elements are resource attraction, connectivity (through building networks and diverse interactions), territorial cohesion, and access (material, institutional and financial). The attraction of no connectivity brings a region into a locked economic, social and political situation. Meanwhile, not having access to it brings social imbalance to the area. On the other hand, connectivity without attraction and access without cohesion make humans only virtual consumers without participation in territorial production functions (Rahawarin et al., 2021).

The socio-economic importance of tourism is demonstrated by the high number of international arrivals registered worldwide. Finally, tourism can offer opportunities for regional development based on territorial resources. At the same time, the impact of tourism on resource utilization and the organization of economic systems can negatively contribute to a destination's sustainability. As a tourism and financial asset, it must fulfil the principles of developing tourist areas, which are in line with the fundamental principles of developing tourist areas (M et al., 2022):

1. Does not conflict with the local culture or traditions of the local area. An area's social, cultural and economic aspects must be considered when turning it into a tourist area. The development of tourist attractions must be adapted to local customs, culture, and customs. Likewise, tourists who visit must adapt to local traditions and customs.
2. Physical development aims to improve environmental conditions in the region. The development does not change anything; instead, it is an effort to develop what is there and combine it to become a tourist attraction. Physical development means improving the environmental quality of the place so that tourists can visit and enjoy existing tourism, such as adding footpaths and providing clean water and sanitation facilities.
3. Pay attention to aspects of authenticity and locality. To reflect the authenticity of the local area, landscape patterns, building architecture and materials in the development process must highlight local characteristics. Materials and materials used for interiors, buildings, drinking and eating utensils, and other facilities must show locality and authenticity and provide a natural feel. To blend with the surrounding natural

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environment, natural materials such as wood, bamboo, shingles and pottery must dominate the atmosphere. In addition to increasing the attractiveness of these materials, the area also conforms to basic environmental ideas.

4. Empowering communities in tourist areas and involving local communities in every aspect of tourism are essential to developing tourist areas.
5. Consider capacity, carrying capacity and environment. The development of an area into a tourist area must consider its people's physical strength and readiness. Sustainable tourism must be the basis for developing tourist areas. Development exceeding the carrying capacity will significantly impact the local community's social and cultural life, reducing the area's attractiveness.

Revitalizing the Jeneberang River, which is carried out in stages, will create opportunities for environmental management, in this case in line with the idea of sustainable development, which will undoubtedly impact the development of pedestrian areas, community recreation areas and tourism potential. So, this area can be said to be a driver of the urban economy. This can be realized optimally if the responsibility of government authorities and local communities in revitalizing the Jeneberang River Watershed (DAS) is significant for the success of the integrated development of the Jeneberang River. A combination of all parties involved in revitalizing the Jeneberang River Watershed (DAS) to keep the Jeneberang River Watershed (DAS) ecosystem healthy, balanced and operational.

4. CONCLUSION

Based on the results of the explanation above, it can be concluded that the revitalization of the Jeneberang River Basin (DAS) in Gowa Regency, if carried out in stages, will produce environmental development opportunities that are in line with the idea of sustainable development which produces green public spaces that are friendly to physical and ecological conditions. Jeneberang River. Then, the results of this revitalization can be developed into an urban economic driving area by developing tourism potential by improving components that support tourism, such as infrastructure, information systems, environmental quality, development of culinary tourism and urban forests as source areas for producing raw food materials, such as freshwater fish and shrimp. In this way, we can make the Jeneberang River area a tourist area to encourage economic growth in Gowa Regency.

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