



The Implementation of Rinjani Lombok UNESCO Global Geopark's (RL-UGGp) Working Programs Based on Sustainable Development Goals in Sembalun Tourism Area

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Abstract. This research examines the implementation of the Rinjani Lombok UNESCO Global Geopark's (RL-UGGp) working programs in Sembalun, focusing on its alignment with the Sustainable Development Goals (SDGs). The research adopts a descriptive qualitative approach, utilizing interviews, observations, and document analysis to gather data. The findings reveal that the RL-UGGp's working programs in Sembalun effectively integrates the principles of sustainability and contributes to the achievement of the SDGs. The program's initiatives encompass environmental conservation, community development, cultural preservation, and economic empowerment, where those programs are divided into three main pillars, such as Education Pillars, Conservation Pillars and Community Economic Empowerment Pillars. The working programs are driven by a collaborative approach involving various stakeholders, including local communities, government agencies, and non-governmental organizations. Moreover, the research highlights the impacts of the programs' implementation, such as improved environmental awareness, enhanced livelihood opportunities, and the preservation of local traditions. However, certain challenges and obstacles, such as cross-border issues, resource limitations and the need for continuous capacity building, require attention to ensure the sustainability and long-term success of the programs. Overall, this research provides valuable insights into the implementation of working programs that based on sustainable development goals within the RL-UGGp, contributing to the broader understanding of effective strategies for achieving the SDGs itself.

Keywords: Rinjani Lombok, UNESCO Global Geopark, Sustainable Development Goals, Sembalun.

INTRODUCTION

The tourism industry is one of the most developed industries in Indonesia, which in turn has become a major source of tax and regional income [1]. One of the regions in Indonesia that relies heavily on its tourism industry is Lombok, West Nusa Tenggara

Province. Where the number of domestic and foreign tourists continues to increase from year to year. However, the COVID-19 pandemic that occurred certainly had a very significant impact on the development of regional tourism as seen from the significant decline in tourist numbers from 3,706,352 tourists in 2019 to 400,595 tourists in 2020 [2]. This will certainly have an impact on regional development and tourism destinations in Lombok, including the Sembalun and Rinjani areas. In the area there is Rinjani-Lombok UNESCO Global Geopark (which will be abbreviated as RL-UGGp) which has been recognized by UNESCO and became a member of the UNESCO Global Geopark on April 17, 2018. RL-UGGp itself has a role in developing regions and tourist destinations, where through this role RL-UGGp as one of the INGO actors is considered capable of supporting the achievement of Sustainable Development Goals (SDG's) through its various pillars and programs.

The aspects contained in sustainable development are reflected in the program objectives formulated by RL-UGGp. The three aspects of sustainable development are environmental, social-cultural as well as economic. In the environmental aspect, there is a conservation pillar which is the utilization and management of natural resources including wildlife, water, air, minerals, along with all renewable or non-renewable natural resources [3], [4]. In terms of conservation, RL-UGGp develops and implements various forms of work programs from 2019 to 2022, including: 1) Student Tree Planting Movement; 2) Geoconservation; 3) Sembalun Ecosystem - Clean water provision, integrated waste management, Adiwiyata Sembalun school; 4) Sembalun Traditional House Revitalization; 5) Documentation of Rinjani Flora and Fauna; 6) Documentation of Rinjani Geopark Cultural Heritage; 7) Local Wisdom-Based Water Source Rehabilitation & Sembalun School Conservation Center; 8) Making Biopore Holes for Zero Waste Center NTB Program; 9) International Day for Disaster Risk Reduction 2021 Event; and 10) Earth Workshop & *Fieldtrip Geotrail* [5][6][7][8].

Furthermore, in the Socio-Cultural aspect, in order to support sustainable development in the social aspect, RL-UGGp designs and runs various forms of work programs that can be grouped into educational efforts, such as 1) Geopark Goes to School; 2) Sustainable Development Research in Rinjani-Lombok Geopark and Internship Student Assistance; 3) Commemoration of International Day for Disaster Risk Reduction; 4) Pineapple Leaf Fiber Making Training; 5) Digital Marketing Training; 6) Bamboo Processing Training; 7) Interpreter Training and Certification; 8) Working Group Capacity Building; 9) Earth Workshop & Geotrail Fieldtrip; 10) Sembalun Ecosystem; 11) Making Biopore Holes for ZeroWaste NTB Program; 12) Wellness Tourism Workshop; 13) Rinjani Rim Micro small and Medium Enterprises (MSME) Business Incubator; 14) Establishment of Rinjani Geopark Youth Forum; 15) Rinjani Geopark as Local Content in Education; 16) Increased Digital Brand Awareness; 17) VCO Oil Making Training; 18) Permanent Plantation Training (Permaculture) Especially for Moringa Plants; 19) Training on Tourism Destination Management in the Rinjani-Lombok Geopark Area; and 20) Rinjani School of Literacy [5][6][7][8]

Finally, in the economic aspect, RL-UGGp has the following work programs: 1) Strengthening of Tanak Beak Geotourism Development; 2) Geotourism Development (Tourism Product Development); 3) Geotourism Festival 2020; 4) Indonesia Investment Day (IID) Bank Indonesia; 5) Establishment of Tourism Service Management Group in Tete Batu Village, Sikur District, East Lombok Regency; 6)

Establishment of Women's New Entrepreneurship (WUB) Fiber from Pineapple Leaves in Jurit Baru Village, Masbagik District, East Lombok Regency; 7) Provision of "Bale Oleh-Oleh" location in Tetebatu; and 8) Provision of various other events [5][6][7][8]. Based on the work program, the efforts made by RL-UGGp in community economic development are to develop and implement the concept of geotourism. Where with the existence of geotourism, indirectly the tourist area community will be motivated to utilize natural resources more efficiently, not only that, the community will be more aware of how important it is to maintain and preserve the wealth of these resources for the common good.

However, with so many events and work programs, people in the Sembalun area and near RL-UGGp are still unfamiliar with it. Those parties and communities who are already aware of the existence of RL-UGGp and its activities are unaware of the benefits of RL-UGGp activities. Unfortunately, in simple terms, RL-UGGp events are frequently viewed as a formality and a ceremonial agenda solely. Even achieving the SDGs' targets were said as an unrealistic goal. This is due to a number of factors, including the natural disaster of the earthquake (in 2018) and the Pandemic. This situation consequently presents a barrier for RL-UGGp in implementing the Geopark development pillars. Whereas compiling and carrying out efforts to accomplish the SDGs is likewise a difficult challenge. This makes it interesting to observe the efforts and methods of executing RL-UGGp program based on SDGs for the development and development of sustainable tourism in the Sembalun Area, East Lombok, West Nusa Tenggara.

LITERATURE REVIEW

There are various contemporary issues in the dynamics of international relations studies that were originally more technical in nature, but have developed into a political agenda that has implications for the establishment of new patterns of international cooperation, where in the development of the most recently international relations do not simply pay attention to aspects of relations between countries, which merely encompass political, economic, cultural, and other classic aspects to support sustainable growth, the tourism area, which is classed as complex, will not be separated from numerous other components such as political policy, economic development, and socio-cultural impacts.

This then will not be separated from the tourism design strategy itself, where Dwi Hardoyo, et.al. in his work entitled "Planning for Educational Tourism Activities in the Lombok Rinjani Geopark Area Based on Environmental Support Capacity (Aik Berik Area Study)", explained that Aik Berik, which is in the Lombok Rinjani Geopark area, has geological sites that can be used as educational facilities through educational tourism activities for school children, but it is necessary to study the carrying capacity of the environment so that these activities do not cause disturbances to the ecosystem and the comfort of students in carrying out activities. Dwi Hardoyo's research aims to determine the carrying capacity value of the Aik Berik tourist attraction environment so that it can be used to plan / determine the right time to carry out educational tourism activities [9].

Furthermore, other research related to RL-UGGp has also been conducted by Ayu Puspa Kartika and Bambang Hari Wibisono in their work entitled "Management Effectiveness of Rinjani-Lombok Geopark on Geotourism Track", emphasized that multistakeholders are responsible for managing the Geopark. To be effective, stakeholders must work together in a balanced way. This research aims to evaluate the effectiveness of Geopark management on Geotourism tracks with specific themes. The method used in this research is a descriptive quantitative approach, with the help of a rating scale to analyze the assessment and management partially, as well as on each aspect and as a whole. This research was conducted in the Rinjani-Lombok Geopark which focused on Geotourism Trail 2: Ancient Volcanic Mountains Trail in Sembalun Valley and Geotourism Trail 3: Youngest Volcanic Mountain, Rinjani. Respondents were selected using a non-probability-sampling method, namely purposive sampling. Consisting of Geopark management, government, local residents, and tourists. As a result, it was seen that the management effectiveness was considered average, and also found some imbalances between the aspects. The education aspect has the lowest efficiency, while the other aspects are at an average level [10].

The third research related to UNESCO Global Geopark in the Mount Rinjani area has also been conducted by Indriani Rahmasari and Puti Parameswari, with the title "The Indonesian Government's Strategy to Obtain UNESCO Recognition as a UNESCO Global Geopark Case Study: Mount Rinjani Region 2013-2018". In his work, the author shows that the efforts and strategies carried out involve several actors in the process of building and developing Rinjani Geopark towards UNESCO Global Geopark. The actors involved consist of the government acting as official actors or state delegates which include the central government and local governments. In addition to state actors, non-state actors also play a role in the establishment and development of this geopark. The government and other stakeholders have implemented various effective strategies by establishing management bodies and their respective duties to control the development process of Rinjani Geopark. Research conducted in the Rinjani-Lombok Geopark area aims to develop tourism and human resources to prepare for international tourism destinations [11].

The study aims to look at the government's strategy in seeking the Mount Rinjani area to be designated as one of the UNESCO Global Geoparks. The research conducted by Indriani Rahmasari and Puti Parameswari was conducted on tourism management efforts in the Mount Rinjani area. While this research focuses on the development carried out in the development of existing tourism to identify the development patterns carried out. located on objects around the North Lombok area and not only focuses on sustainable development that maintains scientific heritage, but also refers to the 3 pillars of Sustainable Tourism development. The benefits of the above research are that it can help develop the discussion in this study to identify the concept of sustainable tourism in the development that is sought in making the area part of one of the UNESCO global geoparks.

CONCEPTUAL FRAMEWORK

This research will use several conceptual frameworks that will help the research team in seeing the RL-UGGp phenomenon and become an analysis tool for the implementation of the RL-UGGp work program and its impact in the Sembalun area. The first concept used is the concept of geopark. Where UNESCO has defined geoparks as unified geographical areas that have international geological sites and landscapes then managed holistically, including conservation, education, and sustainable development. Geoparks use geological heritage as well as natural and cultural wealth to increase public awareness and understanding in terms of sustainable use of the earth's resources, reduce the impact of climate change and reduce the risk of natural disasters [12],[13]. Furthermore, in its development, Geoparks must be based on three main pillars, including nature conservation, education and sustainable community economic development [12].

Conservation as the first pillar is closely related to efforts to utilize existing resources wisely and without destroying them in order to achieve sustainability. Conservation is also interpreted as an effort to maintain and preserve the earth's heritage by integrating natural and cultural conservation activities. The earth's heritage referred to in this case is geological diversity (abiotic), flora and fauna diversity (biotic), and cultural diversity [12]. Meanwhile, the second pillar, community development, in this case becomes a key player, because the existence of the earth's heritage in an area depends on how the community maintains and preserves it. Therefore, in this community development, it is necessary to strengthen "Shared Values" [12]. The last pillar, economic development in geopark development can be pursued by implementing the concept of Geotourism which is part of creative economic development.

Therefore, this geopark development effort is very relevant to the goals in the SDGs, which are global goals for countries that are members of the United Nations. The UGG in this case develops geoparks using a Bottom-up approach. This approach is intended to involve all relevant local and regional stakeholders and authorities in the area (landowners, community groups, tourism providers, indigenous peoples, and local organizations). This concept will then help researchers to see, describe and classify work program activities and their implementation in RL-UGGp on the basis of SDG's in Sembalun Area.

Another concept used by researchers is the Sustainable Development Goals Concept, where The World Commission on Environment and Development (WCDE) defines SDG's as development that can meet all the needs of people today without having to reduce or sacrifice the ability of future generations to meet their own needs [14]. In addition, according to Blewitt, sustainable development is defined as an effort made to protect and preserve the planet's natural environment and promote social justice and economic equality among countries in the world [15]. Within the framework of the concept of sustainable development, there are three aspects that are inseparable and interrelated with one another, such as the environment, social and economy. Regardless, the increasingly complex problems require concrete steps as a joint and continuous effort, both by developed and developing countries. The goal is to realize the welfare of the economy and society without sacrificing the existence of the environment. Therefore, the concept of SDG's will be used as a basis to analyze

the strategies of RL-UGGp in developing geoparks through its work program in Sembalun area.

RESULTS AND DISCUSSION

Rinjani – Lombok as UNESCO Global Geopark

Rinjani Lombok UNESCO Global Geopark (RL-UGGp) is one of 195 UNESCO Global Geoparks in the world [16]. Where UNESCO Global Geopark itself is a single integrated geographical area that has an internationally important geological landscape and is managed with a holistic concept of protection, education and sustainable development. UNESCO Global Geoparks use their geological heritage in conjunction with other aspects of natural heritage and cultural areas to raise awareness and understanding of key issues facing society, such as using the earth's resources sustainably, reducing the impact of climate change and reducing risks associated with natural hazards [16]. The early development of Geoparks began with the formation of a nongovernmental organization (NGO) that aims to protect geological heritage in various European countries called the European Geopark Network (EGN) in 2001 [17]. UNESCO then facilitated and formed an organization that was able to accommodate more member countries until the formation of the Global Geopark Network (GGN) in 2004 and continues to grow until now [17].

This is then in line with what has been conveyed by McKeever and Zouros, which states that geoparks are an integration of conservation, education and sustainable development with geological landscapes that have rich natural resources and biodiversity. If examined through the word structure, the word "Geo" which comes from Greek means Earth, then geopark can be interpreted as a location chosen because of its geological uniqueness and various aspects of the site intended for academic and community activities that are sustainable so that they can be passed on for the future [18].

Where on April 17, 2018 UNESCO announced and officially designated RinjaniLombok as one of the UGGp with an area of 280,000 hectares [6]. Rinjani-Lombok itself is designated as one of the UNESCO Global Geoparks because Rinjani is one of the world heritages that has been determined through the UNESCO session. Rinjani is considered to have its own distinctiveness which is reflected in the form of geological heritage in the form of the Segara Anak caldera and various other geological reserves. Biological heritage in the form of endemic Rinjani flora and fauna, as well as cultural heritage formed as a result of the interaction between humans and Rinjani nature which forms the Rinjani cosmology in customs, traditional rituals and traditional building architecture [19]. Obtaining the status as one of the UGGp, Rinjani-Lombok also gets benefits, including branding in introducing geological, biological and cultural advantages with all its diversity; Rinjani Lombok can be promoted on an international scale under UNESCO directly; the opening of opportunities for research programs and community empowerment to the development of tourism and MSMEs; and the opening of cooperation opportunities both domestically and abroad. RL-UGGp is then classified as a non-profit oriented

INGO. This is due to RL-UGGp does not have a profit orientation in carrying out Geopark development activities. Instead, RL-UGGp's focus lies on achieving community economic development through a conservation agenda that is often implemented through an educational approach as the instrument used.

In maintaining this status, RL-UGGp must still pay attention to several criteria listed in the Self-Evaluation Checklist for aspiring UNESCO Global Geoparks (aUGGp) document. This document consists of 101 questions that become a quick self-evaluation checklist scorecard based on the UNESCO Global Geopark (aUGGp) candidate quality criteria set out in the UNESCO Global Geoparks Operational Guidelines, section 3 (viii). [20]. The details of the criteria are as follows [20]

Criterion i

An UGGp should be a single, unified geographical area (iA) where sites and landscapes of international geological significance (iB) are managed with a holistic and sustainable concept of protection (iC), education (iD), research (iE) and development (iF). UGGp must have clear boundaries (iG), be of sufficient size to fulfill its functions and contain geological heritage of international significance (iH) independently verified by scientific professionals.

Criterion ii

The UGGp should use such heritage, in conjunction with all other aspects of the region's natural and cultural heritage, to raise awareness of key issues facing society (iiA) in the context of the dynamic planet we live on, including but not limited to increasing knowledge and understanding of: geoprocesses; geographical hazards; climate change (iiB); the need for sustainable use of the earth's natural resources; the evolution of life and empowerment of indigenous peoples (iiC).

Criterion iii

The UGGp must be an area whose management body has a legal existence recognized under national laws and regulations (iiiA). The management body must be adequately equipped to manage the UGGp area as a whole (iiiB).

Criterion iv

In cases where the area applying overlaps with another UNESCO-designated site, such as a World Heritage Site or Biosphere Reserve, the request must have a clear rationale and evidence must be provided as to how UGGp status will add value by being branded independently and in synergy with other designations (ivA).

Criterion v

The UGGp should actively engage local communities and indigenous peoples as key stakeholders in the Geopark (vA). In partnership with local communities, comanagement plans (vB) should be developed and implemented that meet the social and economic needs of the local population, protect the landscape in which they live and preserve their cultural identity. It is recommended that all local and regional actors and authorities are represented in the management of the UGGp (vC). Local and indigenous knowledge, practices and management systems should be included, along with science, in the planning and management of the area (vD).

Criterion vi

UGGp is encouraged to share experiences and advice and undertake joint projects within the GGN (ViA). GGN membership is mandatory.

Criterion vii

The UGGp should respect local and national laws relating to the protection of geological heritage. Certain geological heritage sites within the UGGp should be legally protected prior to any application (ViiA). At the same time, the UGGp should be used as a tool to promote the protection of geological heritage locally and nationally. The management body should not participate directly in the sale of geological objects such as fossils, minerals, polished rocks and decorative rocks of the type commonly found in "rock shops" within the UGGp (regardless of their origin) and should actively discourage unsustainable trade in geological materials as a whole (ViiB). If clearly justified as a responsible activity and as part of the most effective and sustainable site management efforts, this could allow the sustainable collection of geological materials for scientific and educational purposes from naturally renewable sites within the UGGp. Trade in geological materials under such a system may be tolerated in exceptional circumstances, provided that it is clearly and publicly explained, justified and monitored as the best option for the Global Geopark in light of local circumstances. Such circumstances are subject to approval by the UGGp Board on a case-by-case basis.

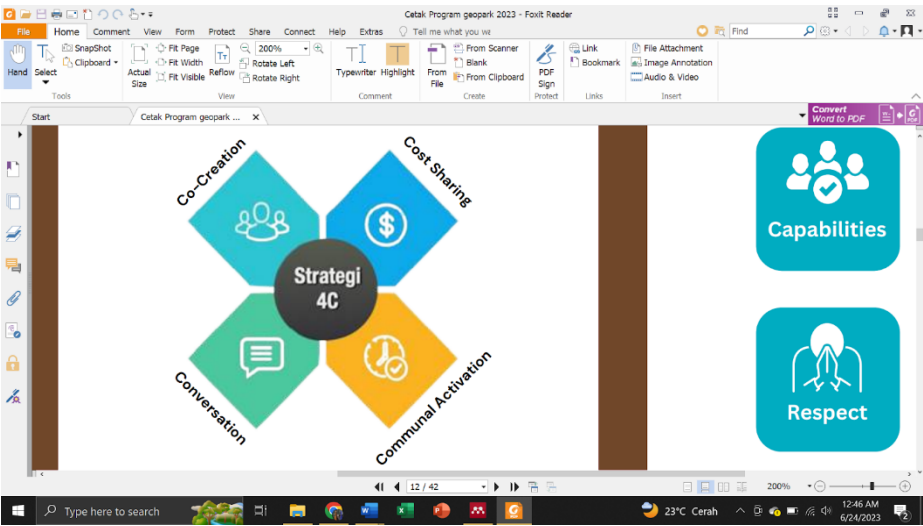
Furthermore, based on Government Regulation of the Republic of Indonesia Number 36, 2010 concerning Nature Tourism Business in Wildlife Sanctuaries, National Parks, Botanical Forest Parks and Nature Tourism Parks, it shows that the authority of the National Park Office can overlap with the authority of geoparks in terms of conservation and geotourism development. RL-UGGp is considered to have implemented several rules in the development of a sustainable and world-class climbing management system, such as the implementation of climbing quotas based on carrying capacity and capacity to prevent damage to natural resources to maintain the quality of the experience of visitors and climbers in enjoying the natural beauty of Mount Rinjani.

In addition, in 2023 there are seven policy directions which are then translated into 77 regional development priority targets with the ultimate goal of increasing the NTB development index [19]. From 10 NTB strategic programs that have been launched in 2019, NTB targets various macro indicators such as HDI (70.09), inflation rate (3.0-4.0%), economic growth (4.5-5.6%) and poverty rate (<10%) can be achieved [19]. Among those 10 strategic programs implemented by the NTB government, almost all are in line with the 16 focus areas of geopark development that became the RL-UGGp Management Agency. In the matrix planned and implemented over the past 2 years, the compatibility of the NTB Government's strategic programs identified from the needs of the community with the RLUGGp Management Agency's program is able to provide superior values in the transformation of inclusive and sustainable economic verification [19].

The development concept in the RL-UGGp area is carried out through a bottom-up approach. The concept of community-based development has 4C principles, namely cocreation, conservation, cost sharing and communal activation. RL-UGGp then designs, implements and monitors the program through communication in accordance with local cultural values in a transparent and accountable manner. RL-UGGp itself is run by a Management Agency established by the NTB Provincial Government through Governor Regulation No. 51/2018. BP RL-UGGp itself consists of 3 boards, namely the Advisory Board, Steering Board and Executive Board [19]. Where the

RL-UGGp Governing Board also develops a culture of Capabilities, Action Oriented, Respect and Enthusiast (CARE) in order to bring BP RL-UGGp to care and be close as one unit in the Rinjani Geopark and with the local community to have the same vision.

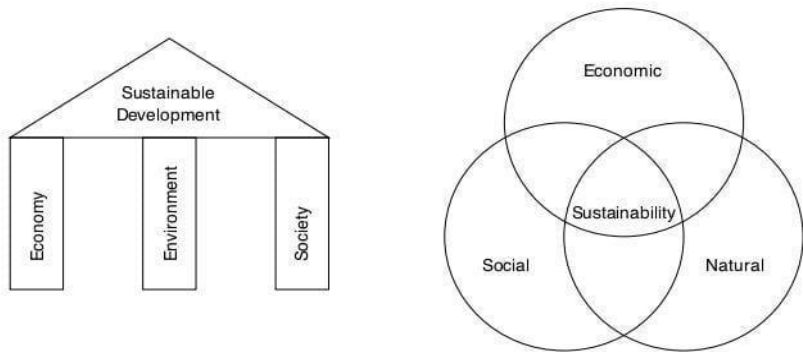
Figure 1. Geopark Development Concept based on Bottom-Up Approach



Sustainable Development Goals and RL-UGGp Development Framework

The term Sustainable Development was first introduced through the Brundtland Report, which was a report published by the World Commission on Environment and Development (WCED) under the auspices of the United Nations (UN) in 1987. After the publication of this report, the term "Sustainable Development" has been widely spread around the world and has become an important agenda in policies in various countries. Furthermore, the Brundtland Commission, published a book entitled "Our Common Future" in 1987. In the book, they provide a definition of Sustainable Development as a form of development that can meet the needs of society today without compromising the ability of future generations to meet their own needs, or in other words, Sustainable Development means efforts to combine in a sustainable manner three important aspects: economic sustainability, social welfare, and environmental sustainability [14].

Figure 2. Sustainable Development Framework



The figure above indicates that to achieve sustainable development, the three pillars need to interact in a balanced manner. It is important to pay great attention to the implementation of development that always seeks to maintain a balance between economic, social and environmental impacts. This confirms that sustainable development is not limited to physical aspects alone, but also includes increasing the capacity and ability of human resources in maintaining and using natural resources that have limited quantities, in order to meet current and future human needs.

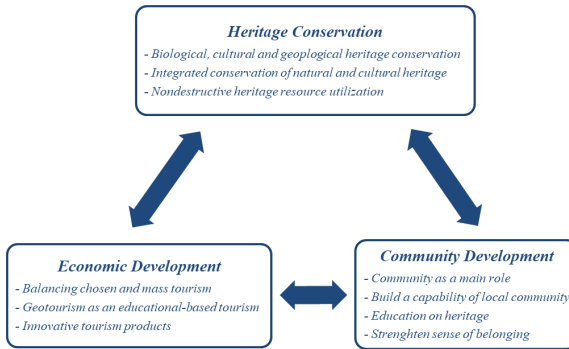
Furthermore, the sustainable development is divided into 3 aspects of understanding, first, economic sustainability refers to development that is able to sustainably produce goods and services to maintain the continuity of government and prevent sectoral imbalances that have the potential to damage agricultural and industrial production. Second, environmental sustainability includes systems that maintain stable resources, avoid exploitation of natural resources, and maintain the absorption function of the environment. This includes maintaining biodiversity, stabilizing air quality, and other ecosystem functions. Finally, social sustainability refers to systems that achieve equality, providing social services, such as health, education, gender equality, and political accountability. The SDGs then become the basis that must be integrated in every UGGp work program, including the RLUGGp which can be seen in the following figure [21]

Figure 3. SDGs Integration in UGGp Work Program



The SDGs concept is then used as one of the foundations of the work program owned by RL-UGGp which is divided into three pillars, including the pillars of education, conservation and community economic empowerment in line with the Presidential Regulation of the Republic of Indonesia Number 9 of 2019 concerning Sustainable Development of Earth Parks (geoparks) [22]. This then will not be separated from the RLUGGp development framework both in governance and work programs. As a form of realization of professional Geopark governance, the suitability of the institutional form that runs is certainly a special concern and study that requires mutual agreement, as well as continuous and consistent evaluation in ensuring the process can run optimally, so geoparks require several considerations in the form of management [17]. First, managed through existing structures such as through the management of national parks; second, managed under the authority of local governments such as Bappeda or related agencies; third, managed by third parties either under the government or under NGOs; finally, managed simultaneously between the government and NGOs and the community but still under government supervision. In its development, geoparks are required to be based on 3 main pillars, namely conservation, education and sustainable community economic development. The 3 pillars ultimately have a relationship with one another which causes geopark development to not be based on one of the pillars. The relationship between each pillar can be seen in the figure below [18].

Figure 4. Geopark Development Framework



Conservation in the picture above shows that in an effort to utilize existing resources, it requires full awareness and wise actions without damaging the existing nature. Conservation is also interpreted as an effort to preserve and maintain the earth's heritage through the integration of natural and cultural conservation activities. Furthermore, the second pillar of development is community development. In this case, the community has a key role in this because the existence of natural heritage in an area depends on how the community maintains and preserves it. Therefore, in community development, it is necessary to strengthen "Shared Values" that teach the values of togetherness in everyday life.

This is very important to raise public awareness of the importance of preserving this natural heritage so that it is preserved from one generation to the next. Furthermore, in order to strengthen the "Shared Values", steps that can be taken are through education or education related to natural and cultural heritage, the benefits associated with the heritage, and the impacts that may arise if the heritage is not maintained and preserved. In addition, geopark development also serves as an educational tool to raise awareness and spread knowledge about the importance of nature conservation, as well as introduce the community to ways of carrying out these conservation efforts. In geopark development, economic development can be achieved by applying the concept of Geotourism, which is part of creative economic development. The concept of Geotourism combines aspects of tourism, education and sustainable development, with the aim of encouraging community creativity in creating innovations in geotourism-based activities and products. Through this concept, it is hoped that people can be more aware of the importance of preserving the environment while increasing awareness.

RL-UGGp adopts a Bottom-up approach in their geopark development. This approach aims to involve all relevant and interested parties, including landowners, community groups, tourism providers, indigenous peoples, and local organizations, at both local and regional levels. It requires strong commitment from local communities, local partnerships with longterm public and political support, and the development of a comprehensive strategy that can meet multiple community objectives, such as introducing, protecting and preserving the natural heritage of the area. The RL-UGGp combines three main interrelated elements, namely geological heritage, biodiversity and cultural heritage. The synergy between these three elements forms the basis of conservation, education, and sustainable economic development of the community.

Implementation of RL-UGGp Work Program in Sembalun Tourism Area

RL-UGGp has organized various events such as Geotourism Festival & International Convergence, geotourism guide interpretation workshop, sports tourism development, thematic geotourism development, geotourism youth education camp and women geoadventure camp providing an excellent verified picture of economic value, local community empowerment and sustainable tourism. This is then in line with the top 16 focus areas of the UGGp such as sustainable tourism, capacity building activities, networking, sustainable development, and so on. These programs are then considered to have an impact on the macro indicator targets that have been planned by the NTB government. So that RL-UGGp is considered capable of contributing significantly to the SDGs. In 2021 and 2022, RL-UGGp has organized various activities where 18 programs out of 50 activities in 2021 and 17 programs out of 55 activities in 2022 have shown the productivity of the management body. The comprehensive development of geotourism in the Rinjani-Lombok geopark itself began in 2015 facilitated by the Ministry of Tourism. Geotourism development in the RinjaniLombok Geopark since 2020 has increased sharply and is more independent (not dependent on central government programs).

Pillars of the RL-UGGp Work Program

Educational Pillar

In this pillar, RL-UGGp has developed and implemented various activities as an effort to increase capacity building and share values aimed at increasing awareness of the importance of protecting nature. This pillar is aimed at improving education and information dissemination in raising awareness of geopark development and increasing the capacity of stakeholders in geopark development and management [21].

In addition, this pillar also provides opportunities for local communities, especially those in the Sembalun area, to participate in decision-making and implement the joint decision. This is done on the basis that it is the community that understands the situation and conditions of the area where they live. These activities are in the form of [5]-[8]:

- 1) Geopark Goes to School
- 2) Research on Sustainable Development in Rinjani-Lombok Geopark;
- 3) Commemoration of International Day for Disaster Risk Reduction 2019;
- 4) Digital Marketing Training;
- 5) Bamboo Processing Training;
- 6) Interpreter Training and Certification;
- 7) Training of Rinjani Rim Tourism Business Actors;
- 8) Soft skills and hard skills training for Pokja Rinjani-Lombok UGGp;
- 9) Earth Workshop & Geotrail Fieldtrip;
- 10) Establishment of Woman & Conservation Community;
- 11) Capacity Building Workshop for Adiwiyata School Team in Sembalun sub-district;
- 12) Workshop & International Seminar on 'Woman & The Earth';
- 13) Establishment of the Rinjani Geopark Youth Forum;

- 14) Development of Edutourism "Spice for Life"; and
- 15) Other training activities and workshops

Conservation Pillar

The second pillar is the conservation pillar, where in this pillar, environmental aspects are the main concern. This is inseparable from one of the main focuses on the principle of Sustainable Design [23]. The work program on this pillar aims to protect, save, preserve and sustainably use the diversity of geological heritage, cultural diversity, biodiversity and ecosystems and other life support systems [21]. The activities in the work program that have been carried out are [5][8]:

- 1) Tree Planting Movement for Students;
- 2) Geoconservation;
- 3) Water supply;
- 4) Integrated Waste Management;
- 5) Revitalization of Sembalun Traditional House;
- 6) Documentation of Rinjani's rich flora and fauna;
- 7) Documentation of Rinjani Geopark Cultural Wealth;
- 8) Water Source Rehabilitation Based on Local Wisdom & Sembalun School Conservation Center;
- 9) Making Biopore Holes for Zero Waste Center NTB Program;
- 10) International Day for Disaster Risk Reduction event;
- 11) Earth Workshop & Geotrail Fieldtrip;
- 12) Development of Endemic Plant Seedling Center (Beboka Nursery); and
- 13) Assistance for Children's Participation and Role in Disaster Mitigation and Climate Change.

Community Economic Empowerment Pillar

In the pillar of community economic empowerment, there are 3 main focuses, namely the development of sustainable community and regional economies; the development of sustainable tourism and creative economy; and the development of geopark infrastructure and surrounding areas [21]. In developing the economy of the community in Sembalun, RL-UGGp develops and implements the concept of geotourism that will encourage the creative industry and innovation of tourism products. Some of the activities carried out by RL-UGGp are as follows [5]-[8]:

- 1) Organize various events that will attract domestic and foreign tourists;
- 2) Strengthening Geotourism Development
- 3) Tourism Product Development
- 4) Rinjani Rim MSME Product Development

RL-UGGp Work Programs' Implementation Strategy

Based on the work program that has been carried out above, it has been seen that RL-UGGp has been able to carry out and implement its SDGs-based work program in accordance with the GNN pillars in the Sembalun area. However, the implementation of future work programs certainly requires an implementation strategy related to managerial and applied actions. This will then relate to managerial

exercises in overseeing the implementation of ongoing strategies, improving the competencies used to implement them, and showing measurable progress in achieving targeted results.

In addressing cross-border issues in Sembalun such as water, waste and tourism (B. Mulya, Personal Interview, 29th March 2023), of course RL-UGGp cannot implement just any work program. The work program must be a sustainable project, therefore, RL-UGGp builds its own mechanism to be able to create its own bench mark. Either by making the program into smaller components that can be measured (B. Mulya, Personal Interview, 29th March 2023). In addition, one of the ways RL-UGGp implements the program is by looking at the landscape ecosystem that focuses on the environment, culture and social balance (B. Mulya, Personal Interview, 29th March 2023). In addition, RL-UGGp has a strategy to increase its productivity, namely by actively conducting local engagement (Y. Pratiwi, Personal Interview, 23rd May 2023)

Local engagement is used as an implementation strategy because the process of working collaboratively through groups of people affiliated with geographical proximity, special interests, and similar situations can overcome the same problems that will impact or affect the welfare of the local community. Local engagement also involves partnerships with the Sembalun Destination Management Organization (DMO) and other agencies that help mobilize resources and influence the system, change relationships between partners, and serve as a catalyst for implementing existing programs. Through local engagement, it is expected to be one of the strategies that can still be carried out in the implementation of work programs to deal with problems and challenges in the form of governance, technical, managerial, and other aspects encountered in the field.

In addition, RL-UGGp in 2023 also focuses on organizational transformation that is able to adapt quickly in accordance with environmental changes and needs in today's society. The main theme echoed in the geopark program is "Improving the Welfare of the Rinjani Rim Community through Inclusive and Sustainable Economic Verified Transformation" [19]. This is due to after the Covid-19 pandemic, the perspective on several aspects of development in an area has shifted. Where the economic aspect is one of the main aspects that is often used as a benchmark for the welfare of a region and even nation [19].

In supporting the future programs, the aspect of partnership and collaboration in geopark development, especially RL-UGGp, is an important thing to note. This collaboration is a very important part for stakeholders to be able to sit together in building mutual understanding and commitment and have a sense of responsibility in regional development based on sustainable development. Therefore, one of the strategies for implementing the 2023 work program, BP RL-UGGp uses an agile organization and designs 10 programs that are quality, innovative, inclusive, sustainable and focus on geopark-based economic verification in improving the welfare of the community in the RL-UGGp area [19]

CONCLUSIONS AND SUGGESTIONS

This research ultimately aims to analyze the implementation of the RL-UGGp work program based on the Sustainable Development Goals (SDGs) in the Sembalun Region, Lombok, West Nusa Tenggara Province. The tourism industry in Indonesia has grown rapidly and become one of the main sources of income in the region. Lombok, in particular, relies heavily on the tourism industry, with growth continuing to increase year after year. However, the COVID-19 pandemic in 2020 had a significant impact on regional tourism, resulting in a drastic decrease in the number of tourists. Amidst these challenges, the Sembalun and Rinjani areas have RL-UGGp recognized by UNESCO in 2018 plays an important role in the development of the region and tourist destinations, and contributes to the achievement of SDGs through three aspects of sustainable development, namely environmental, sociocultural, and economic.

The environmental pillar of sustainable development includes nature conservation, and RL-UGGp has run various programs, including the Student Tree Planting Movement and sustainable management of natural resources. The socio-cultural aspect includes community education through programs such as Geopark Goes to School and other trainings. The economic pillar includes geotourism development and local community empowerment. RLUGGp adopts a bottom-up approach in geopark development, involving various parties, such as communities, academics and local governments.

To overcome these challenges, RL-UGGp has adopted various strategies, including managerial and partnership with local stakeholders. The importance of local engagement in the implementation of these programs is to mobilize resources, transform partner relationships, and implement programs effectively. In addition, RL-UGGp focuses on organizational transformation that can adapt to changes and improve the quality of existing programs. RL-UGGp also continues to evaluate and improve to achieve the goals of the SDGs that have been set. The results of this study show that RL-UGGp is able to implement SDGs-based programs with a sustainable approach in the Sembalun area. However, challenges such as lack of public awareness and the impact of natural disasters remain a focus in efforts to achieve the SDGs. Strong commitment from various parties and improved strategies are needed to overcome these challenges in sustainable tourism development in Lombok, Indonesia.

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