

Who Gets the Benefits of Geopark Establishment? A Study of Batur Geopark Area, Bali Province, Indonesia

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Abstract. As one of the important sectors that contribute to the improvement of economic and social aspects within a community, tourism is an important economic sector which must be paid attention to its development. Tourism attractions, especially from nature based tourism, were proven to provide employments and significant contributions to both GDP and GNP of Indonesia. Various areas in Indonesia have various natural tourist attractions. One of the recent famous attractions of natural tourism in Indonesia is geoparks, which involves wide areas of protection and utilization of geological heritage. One of the geoparks that has been already recognized by UNESCO within Global Geopark Network (GGN) is Batur geopark, in the Bali Province of Indonesia. The development of a geopark area should consider local economic development aspects within its surrounding area. In addition, the further development of a geopark area that is included within Global Geopark Network must meet the criteria from the social and economic aspects that is already prepared by UNESCO. The establishment of these criteria is intended to ensure that the management of Geopark already made mutual beneficiary with the development of its local communities, and contribute positively to their sustainable development. Indonesia in fact is having a number of initiatives to have promote establishment of geoparks in several places of the country, such as Geopark Merangin, Geopark Ciletuh and Geopark Sewu. The most recent one to be considered is Toba Lake Area. Therefore, taking lessons learned from an existing Geopark regarding the economic impacts would be important. The existing Geopark in Indonesia is Batur Geopark in Bali Province. This study explores the positive and negative impacts within the local economic development after the inclusion of Batur geopark as part of Global Geopark Network of UNESCO and formulate the further recommendation in order to enhance the mutual linkage between tourism development and economic benefits to the communities. Prior to the analyses, literature review on best practice of geoparks is presented. Next, the analyses were conducted qualitatively by interviewing 41 stakeholders that were involved in tourism and local economic development in Bangli Regency of Bali. The study provides descriptive information about types of economic activities that have appeared after the establishment of Batur Geopark.

1. Introduction

Tourism has been one of fundamental sectors in economic development of many countries, as it has positive economic impacts on the balance of payments, generating employments and gross income of local community [5]. Many developing countries, such as Indonesia, Thailand, Philippines and Malaysia rely on tourism as one of main contributors to their gross domestic product. Tourism sector can generate multipliers. It has a role to increase regional revenue and increase the development of small and medium enterprises (SMEs) that support the tourism industries. In general, tourism has three major impacts, such as economic, environmental, and socio-cultural impacts that affect local community within the destination area [4]. Beside positive economic impacts, there are also negative economic impacts of tourism. Therefore, there is a need to have regulations by government to reduce the negative impact. The most important positive economic impacts of tourism are to increase budget revenues, local production expansion, stimulation of investments, and improvement of local population's welfare. Among the negative economic impacts of tourism are inflation, financial leakage, infrastructure costs, and economic dependence to tourist [12]. Identifying those positive and negative economic impacts become an important step that national and provincial government continually implement, monitor, update and improve policies and regulations regarding tourism, which designed to grow national/provincial income, personal income, and employment and tax revenues.

Recently, geotourism has been developing quite well. Geotourism focuses on geological resources and landscapes can be seen as a relatively new phenomenon [7]. One of the forms of geotourism concept is seen in geopark. Even though it is still relatively new, most of influential academia and international organizations accept that geotourism and geopark as a tool for rural development, local community participation, and poverty reduction that could be applied in developing countries with abundant of geological resources. As the development of a geopark area should consider local economic development aspects within its surrounding area, thus the concept of geotourism and geopark play an important role in local economic development of rural area, in which most of geological resources are abundant in nature. One of the best-known examples of geopark area that implemented Community Based Tourism (CBT) in Indonesia, is in Geo-park Batur, Bangli Regency, Bali Province of Indonesia. The study on identifying positive and negative economic impacts selects Batur Geopark as a case study and assesses to what extent Batur Geopark contributes to the tourism development in Bangli District and Bali Province. To get comprehensive picture, we conducted field survey in Geopark Batur and ask questions to the local community, local champions, businessmen, tourism actors, local government agencies and scholars in tourism development, and we also explore the potential and the challenges of the tourism development of Batur Global Geopark. This is followed by a timeline analysis to show the sequence of economic activities and the explanation why the trend appears. Further information about the origin of the business actors is also discussed. The result shows that the development of geo-park as tourism destination does not affect the whole area of Batur Geopark, but contribute significantly only in selected sub-districts, such as Batur, Suter, Kedisan, Trunyan, and Songan Subdistricts. Unfortunately, those areas only represent a small portion of Batur Geopark Area. Therefore, the challenge remains on how to increase the economic benefit of the geopark to the areas in the district while also maintaining the function of geopark. This study comes up with a set of recommendations and strategies to increase the economic impact of geopark. This set of recommendations is later to be connected with the tourism development plan of Bangli Regency and Bali Province in general.

2. Methodology

The purpose of this study is to assess the positive and negative impacts within the local economic development after the inclusion of Batur Geopark as part of Global Geopark Network of UNESCO, which then regarded as the first global geopark in Indonesia, and formulate the further recommendation in order to enhance the mutual linkage between tourism development and economic benefits to the communities. The research was conducted with surveys and in-depth study in Batur Global Geopark Area, Bangli Regency. The survey was conducted between July and August 2017. Surveys were consisting of interviews 41 respondents that were involved in tourism and local economic development

in Bangli Regency of Bali Province, such as local communities, farmers, local vendors, local businessmen, leaders of Local Working Group (LWG), local and provincial government agencies, scholars in tourism development, and other tourism actors.

The collected data then analyzed to know the economic impacts of Batur Geopark development, and to know who are the stakeholders that get the benefits from the products. Economic impact analysis basically focus on question: “*what is the contribution of geotourism activity to the economy of the region?*”, and it will trace the tourism bussiness activities, local product development and promotion, income trends, employment/recruitment conditions, and tax revenues/local government income that have either direct, indirect, or induced effects to local economy stakeholders (consisted of other businesses, households, and government) [15]. In this research we will focus the economic impact analysis from three aspects, respectively they are local bussiness activities (investment condition, proportion of business by sector, etc), income trends (both local communities and government), and employment conditions (proportion of jobs by sector, unemployment rate, skills improvement effort, etc).

3. Literature Review

2.1 The definition and scope of geopark

The Geopark is a concept derived from sustainable development for developing a region that integrates three parts of diversities: geodiversity, biodiversity, and cultural diversity. The geopark aims to build and develop the welfare of local communities based on conservation of the three aforementioned diversities [6]. The Geopark is a good example of geological conservation in which covers whole spatial plans and integrates all natural and cultural resources around the site, and empower local communities and give them the opportunity to develop cohesive partnerships to promote the area’s significant geological processes, features, historical aspects linked to geology, or outstanding geological beauty [6][20]. A geopark achieves its goals on sustainable development and fostering local economic development through a three-pronged approach; conservation, education, and geotourism [17].

The initial geopark programme was established within Agenda 21, which was sounded at United Nations Conference on Environment and Development (UNCED) held in Rio de Janeiro, Brazil in June 1992. The Global Geopark Network (GGN) was established in 2004 by UNESCO, that actively promotes the activities around geoparks, which include geo-tourism and conservation, and also encourage the research and development that would benefited the local communities within geopark area. The organization also seeks the membership geoparks, and had set criteria must be met for a geopark in the selection process. Several of the criteria based on UNESCO are [18]: (1) it has a territory encompassing one or more sites of scientific importance, not only for geological reasons but also by its archaeological, ecological and cultural values, (2) it has management plan designed to support the sustainabe development of socio-economic aspects within the local community, (3) it will demonstrate methods that able to conserve and enhance the sustainable use of geological heritage and provide knowledge on geoscientific and environmental disciplines, (4) joint-proposals submitted together by various stakeholders from government and private authorities, that formulate sustainable development strategies, (5) it will be part of a global network which will able to share best practices regarding sustainable development strategies to other members. The evaluation based on that criteria is carried out every two years by the Geopark Committee in International Conference on Geopark, that was held first in 2004.

2.2 Geotourism as tools of sustainable rural tourism marketing

The root of geotourism could be traced back in 1990's when there was an initiative on the development of geoparks by UNESCO that were supported by many countries, that they were agreed on conservation plan of various geological heritage and past civilization relics. According to Farsani (2011), the establishment of geoparks can generate new job and economic opportunities and additional sources of income, especially in rural areas [9]. In grassroot level, geopark development encourage the small and medium enterprises to produce local products and handicrafts involved in geotourism. Nowadays, geotourism has been introduced as the best form of sustainable rural tourism marketing compared to other approaches [9][10][11]. One of the methods that distinguished geotourism with other approaches, is the existence of a form of cooperation between different stakeholders, range from the government, private sectors, academics, local businesses, local people, outdoor companies, tour agencies, restaurants, and accommodations within geotourism development. This partnership is welcomed because it makes good economic sense and can benefit all partners [7]. There is an emerging process to create new products, new jobs, and new recreational activities for local communities within geopark area to foster the local economic development [13].

Since geotourism and geopark development are opportunities for local economic development, they gave prospects to fostering employment and reducing poverty through engaging local communities in various geopark initiatives. To support the goals on local economic development, tourism and geopark authorities have to adopt regulations and policies to stimulate the participation of local people. According to Farsani (2011), various geopark authorities have adopted some policies toward stimulating locals' participation for local economic prosperity and preservation of natural resources, with a positive result on local economic indicators and conservation progress within geopark area [9]. Recent trend shows the increasing interest on research and understanding on the supply side of geotourism and geopark development, but still there is relatively less known about the demand side for the products [13]. Therefore, there is a need for further research and investigation on the impacts of geotourism and geopark development, and local communities responses towards the geopark products in their area.

4. Result and Discussion

4.1 Regional Overview

Batur Global Geopark was accepted as a member of UNESCO Global Geopark Network (GGN) on September 20, 2012 at Auroca Global Geopark, made Indonesia as the 91th country in the world and third in Southeast Asia which become the member of GGN. The official inaugurated name was "Batur UNESCO Global Geopark". Batur UNESCO Global Geopark (BUGG) is situated in the northeastern part of Bali Island, and 70 km north of Denpasar geographically. The caldera is bounded by latitudes 8°05'00'' and 8°40'00'' S, longitudes 115°11'00'' and 115°30'00'' E. Administratively, BUGG is located in Kintamani districts, Bangli regency, Bali province. There are approximately six routes of access to BUGG that can be attained from Denpasar and one route from Singaraja.

Geologically, Batur Geopark area has an important position within the geological history of Bali island itself. Past geological process in Mount Batur and Mount Agung deposited various types of rocks in the sea and then uplifted it to become mainland of Bali. According to Purbo-Hadiwidjojo (1971), due to past geological process, the morphology of Bali island generally has a north-south cross-section that is not symmetric, with slopes more prevalent in the south than in the north [6][14]. The very long time span of geological process has been presenting the Batur Geopark area as we see now. At least 25 eruptions of Mount Batur were recorded and well documented in year 1849, 1888, 1904, 1905, 1921, 1926, 1963, 1968, and 1974.. A number of geoheritage sites within Batur Geopark area become the basis of the development of BUGG concept that applied there. One of the most well known hallmarks of Batur Geopark area is the whole panorama of the geopark can be seen from Penelokan. Combined by the view of lake and Mount Batur itself, this active volcanic area is rich with elements of macro and micro-volcanic landscapes, besides volcanic rocks. In local Balinese philosophy, Mount Batur are believed for

having four main elements of the earth; soil, water, fire, and air as the important spiritual aspects of nature. Many temples were built along the slopes as worship place for local communities.

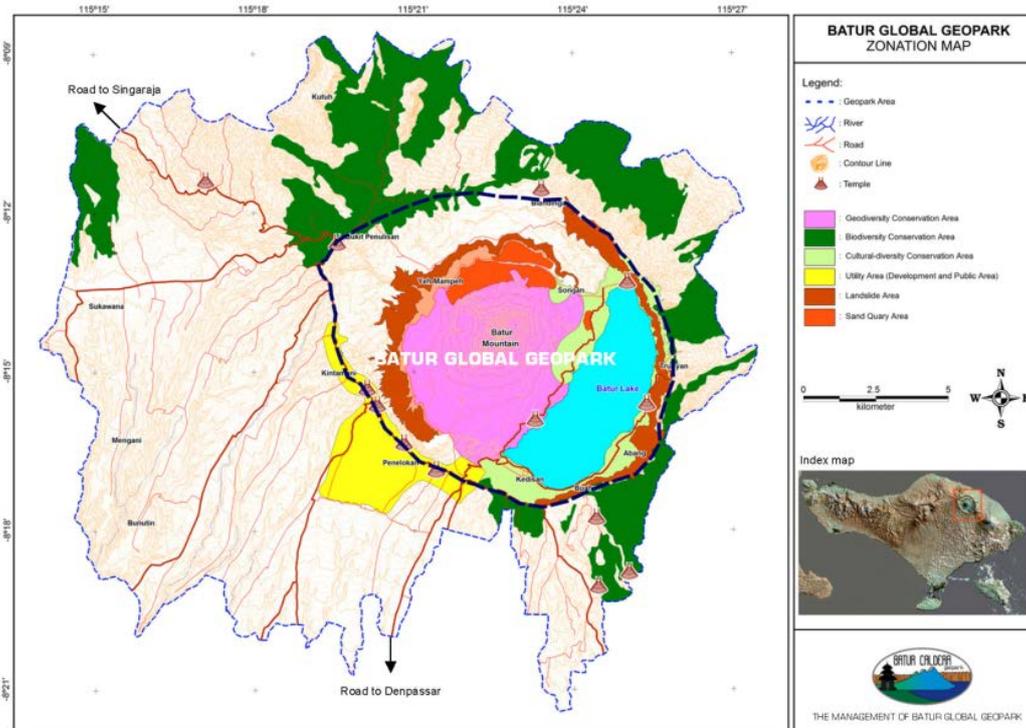


Figure 1. Map of Batur UNESCO Global Geo-park

Source: Bangli Tourism Agency, July 2017

Batur Geopark area has a considerable biodiversity within its Natural Tourism Park. Species of vegetation are mostly forest plants, including Puspa (*Schima noronhaea*), Tusam (*Pinus merkusii*), Ampupu (*Eucalyptus urophylla*), Mahogany (*Swietenia macrophylla*), Sengon (*Paraserienthis falcata*), Sonokeling (*Dalbergia latifolia*), Acacia (*Acacia decurens*), Segawe (*Adenanthera paronina*), Pine (*Casuarina equisetifolia*), Hibiscus (*Hibiscus tilaceous*), and Dadap (*Erythrina variegata*). For the faunas, Batur Geopark area has approximately 30 species, including Green junglefowl (*Gallus varius*), Cuckoo (*Streptopelia chinensis*), Terocok (*Gouvier ahalis*), Kacer (*Copsycus saularis*), Ferret (*Paradoxurus hermaphroditus*), Porcupine (*Hystrix branchura*), Trenggiling (*Manis javanica*), Squirrel (*Tupaia javanica*), and Monkey (*Macaca fascicularis*). Batur Geopark area designated as a nature reserve area through decree of the Head of Geological Agency, Ministry of Indonesian Energy No. 37.K/73/NGL/2012.

Culturally, the Batur Geopark area which cover an approximately area of 100 square kilometers, in which included Mount and Lake Batur presenting the process and products of cultural diversity around them. The most famous and important point of interests that had attracted many visitors around the Batur Geopark area are Trunyan Village, Pula Hulun Danu Batur, Pura Ulun Danu Songan, Pura Dalem Balingkang, Subak, and Barong Berutuk. In terms of education on economic value of local communities, there are some programs manifested through the interpretation of protected geological sites, establishment of a geopark museum, information center, geotrack, a guided trip, simple delivery media making such as popular books, maps, educational materials and displays, and others. There are several community development programs, one of them is creating professional guides that could explain about volcanology, landscape, and human culture to visitor of Batur Geopark area.



Figure 2. Landscape Panorama from Panelokan area

Source: Observation, July 2017

Geotourism is tour activities utilizing geological phenomena, mixed with its beauty, uniqueness, rarity, as well as its environment as the main attraction [6]. The growing trend of geotourism in Batur Geopark area became an alternative tourism based on the use of natural resources (geological resources) safely and sustainably. As of 2014, there are 21 geosites located in Batur Geopark area. They became the objects of tourist attraction in geotourism activities, such as geotrekking. Scenic viewpoints regarded as the most popular location for tourist enjoying natural landscape of an area, that mostly located at hill, slope, or highest part of the region that represents the beauty of an area in a comprehensive way. In Batur Geopark area, the representative scenic viewpoint for seeing whole panorama is located at Penelokan. The Penelokan area always filled by merchandize sellers every day, and on the edge of the slopes local businessmen began to built various restaurants and hotels. However, in the rising trend of geotourism, most of local communities felt that the benefit of tourism had not distributed equally to all villages in Batur Geopark area. Based on observation in July 2017, major livelihoods as a farmer is still much occupied, even case of children drop out of school to help their parents to work in the field is still prevalent within local communities. Also geotourism is not so influential and had minimum impacts in several villages that still depend on extractive sectors, such as excavation type-c in Songan A and B villages. There is also classic reason for the difficulty of finding a job makes many children who drop out of school after graduating from junior high school to pursue work in the field. Though much potential of geotourism that can be developed in Batur Geopark area if it can be managed properly. All of these conditions require a solution to empower the local community as a manager that could manage their abundant of geological resources to increase their livelihood standards and utilize their local economic potentials within sustainable development framework.

4.2 The current local economic development of Batur Global Geopark



Figure 3. Restaurant and Souvenir Shop in Panelokan area

Source: Observation, July 2017

Since the inaugurement of Batur UNESCO Global Geopark in 2012, Batur Geopark area itself has experienced significant improvement in terms of economic and infrastructure development.

Advancement can be seen from the growing of various restaurants, hotels, and other accommodations especially around Penelokan area. Most of already built restaurants, hotel, and other accommodations utilize landscape panorama view from Penelokan as main attraction for the visitors. Most of visitors from both local and international prefer one day trip to visit Batur Geopark instead of stay overnight, as Batur Geopark area located between the connecting lane of southern and northern Bali. Several points of interests for the visitor in Batur Geopark area are *adat villages* (traditional custom villages) and hot springs. Some attractions in the Batur Geopark area, including hot spring, are managed daily by the adat village. Revenue from tourism management is used by adat villages for common purposes, such as environmental management, preparation of prayer equipment, and for some adat ceremonies. One example of adat villages in the area of the geopark area is the Panglipuran Adat Village and Batur Adat Village. For Batur Adat Village, it currently employs more than 100 employees from local villages (North Batur, Central and South Batur Village). Batur Adat Village has a form of professional operational and financial management, and has set the allocation of income for the construction of supporting infrastructure, operations and salaries of employees, as well as maintenance of Ulun Danu Batur Temple which is one of the main temples in Bangli region and Bali itself.

“At this time, revenue from here (customary village management) is still used for the construction of supporting infrastructure in hot springs owned by Banjar Batur in the lower regions. The details of the revenues are used for the following: 30% for employee salary, 30% for Banjar Batur's, 30% for operational cost, and 10% for maintenance of Ulun Danu Batur Temple”

– I Wayan Gede Wiradana (Person in Charge of Tourism Information Center, Batur Adat Village)

Beside of adat villages, there are several hotels and hot springs that are mostly owned by local businessmen. One of the most notable hotels and hot springs owned by local businessmen is Toya Devasya that located in Toya Bungkah area, Songan B village. Toya Devasya currently employs approximately 200 employees that 99% of them came from local people of Batur Geopark area. Toya Devasya had signed agreements with local tourism educational institutions regarding employment opportunities for the graduates. Other than local people, the employees came from other cities in Bali, and several came from Java and Sulawesi. Some workers from outside the island are employed because of cultural problems where the Balinese culture does not want to work in the hygiene field particularly to clean the bathroom.

“Workers here 99% are local resources that we absorb from several tourism education institutions in Bangli District. The remaining 1 from Bogor and 1 from Manado and some from Denpasar. These workers occupy all levels of staffs.” – Ketut Marjana (Owner of Toya Devasya Hot spring)

In term of geotourism, since the establishment of Batur UNESCO Global Geopark (BUGG) in 2012, number of tourists continues to increase. The increasing number of tourists proportionate with the increasing number of street merchants that flocked several spots in Batur Geopark area, such as Penelokan, Batur Lake Port, and around main road in Batur Villages (North, Central, and South Batur Village). However, the souvenirs they sold mostly made outside Batur Geopark area/ Bangli Regency. Those non-local made goods trading by street merchants shows that the local craftsmen were still less preferred. This is probably due to the absence of special and unique crafts itself in Batur Geopark area, so there is no special demand for local crafts. Also for the plantation products such as oranges, the street vendors tend to prefer to sell oranges from Java than from local commodities. They choose Javanese oranges for reason of cheaper price and sweeter taste (Kintamani oranges tend to have a sour taste). In addition, the problem of the management of the plantation products in Kintamani area is still difficult to manage the production chain and the selling price of the plantation products, especially for local orange

commodities. The condition is causing many local sellers prefer to sell the results of plantations imported from other regions.

“There are coffee, oranges, but the added value of the commodity is not here. Coffee for example, has added value in Surabaya. So we only produce raw coffee then we bring it out. Outsiders who enjoy the added value. In addition to the orange commodity, we lost competitiveness with oranges from the island of Java. Orange from Java is cheap, and sweet. We have no certainty from the side of the production chain. If there is an agencies that specifically manage the production of those commodities, we can start to make strategic plans, for example to set which area is the best to sell our production commodities.” – Putu Sucite (Youth activist from Central Batur Village)



Figure 4. Street Merchants in Penelokan area

Source: Observation, July 2017

Table 1. The Conditions and Descriptions of Local Economic Development

No	Conditions of Local Economic Development	Descriptions
1	The growing of various restaurants, hotels, and other accomodations especially around Penelokan area.	Local entrepreneurs tend to open restaurants and hotels around penelokan area, because of its landcape panorama attraction, despite of prohibition from Bangli Regency Government due to its vulnerable conditions being on the edge of cliff. Meanwhile, many restaurant and hotel buildings on the west side of the street are abandoned by their owners.
2	Some attractions in the Batur Geopark area, including hotspring, are managed daily by the adat village.	Revenue from tourism management is used by adat villages for common purposes, such as environmental management, preparation of prayer equipment, and for some adat ceremonies.
3	Most of hotels,hot springs, and other bussinesses in Batur Geopark area owned and operated by local businessmen, and employ local people.	Local businessmen already have agreement with local tourism education institutions, consist of LPKs (course institutions) and SMKs (vocational schools), regarding employment opportunities for local human resources. Some workers from outside Bali Province also work in local hotels and restaurants.
4	The increasing number of street merchants around Penelokan area and several tourism spots.	Street merchants flocked several spots in Batur Geopark area, such as Penelokan, Batur Lake Port, and around main road in Batur Villages (North, Central, and South Batur Village). They came from Bangli and other parts of Bali Province.
5	The souvenirs and plantation products (such as oranges and coffees) sold mostly came from outside Bangli Regency.	Local craftsmen were still less preferred. This is probably due to the absence of special and unique crafts itself in Batur Geopark area, so there is no special demand for local crafts. Also for the plantation products such as oranges, the steet vendors tend to prefer to sell oranges from Java than from local commodities.
6	Difficulties to manage the production chain and the selling price of the plantation products.	Most of farmers and plantation businessmen argue that the one that regulates the prices of plantation products came from outside Batur Geopark area, or even outside Bali Province.

Source: Analysis, January 2018

With those complex conditions of Batur Geopark area, it is clear that local economic development has not been implemented evenly and in accordance with the original purpose of Geopark, which emphasizes the sustainability and empowerment of the entire local communities. Thus, appropriate strategies are needed for the development of the tourism sector to benefit all parties involved.

4.3 The economic impacts of geotourism to local communities and stakeholders in Batur Geopark

The influence of the development of Batur Geopark region has been felt several areas located in the south and southwest of Mount and Lake Batur. Some villages experiencing rapid development of areas such as North Batur Village, Central Batur, South Batur, Buahon, Trunyan, Kedisan, and Toya Bungkah area in the village of Songan B. While other villages such as Kintamani Village, Pinggan, and Sukawarna considered not yet get significant benefits from the development of tourism area in Batur Geopark. Some of these villages did not get significant benefits due to their relatively distant position from the main road passing through the Batur Geopark area, as well as the number of tourist objects that have not been commercialized.

“Geopark has benefited some villages, such as Toya Devasya in Songan Village that has good development, also in Batur there is Batur Natural Hot Spring. If this geopark is successful then who will enjoy here are buahon, trunyan, kedisan, toya bungkah. But for kintamani, pinggan, and sukawarna, they did not get significant benefit. So if the question is whether the geopark has brought change (in terms of local economic development), the answer is yes, significant or not, I would say not yet. This geopark program is like a nutrition that educates people” – Putu Sucite (Youth activist from Central Batur Village)

Geotourism activities in the Batur Geopark area also provide benefits for young people who will become the next generation. Many young people in the Batur Geopark area are currently studying, both in primary, secondary, and vocational schools, who take the time to work part-time jobs as freelance guides or informant services for tourists. These activities can improve their softskill skills in tourism, including English language skills. In addition, these activities also motivate students to improve the level of education.

“Some of our students are either freelance guides outside school hours, or simply offering services and information to tourists for hot showers or climbing. Some of them are using free time outside school to become daily worker in some inn or restaurant in this Songan A Village area. I think it motivates our students to raise their level of education to a higher level because they already have clarity from their field experience on how this Batur Geopark area can be utilized to generate income for themselves.” – Ketut Kade (Headmaster of SMKN 2 Kintamani (Vocational school))

However, some economic sectors such as mining have a negative impact from geo-tourism activities in the Batur Geopark area. Several mining activities conducted in Songan A and B villages currently begin to be restricted by local regulations, with fines as punishment. The miners think that the tourism sector in Batur Geopark area, although growing rapidly, but not yet accessible by all community groups. For example, for trekking activities in the natural conservation area of Mount Batur, the existing track has been monopolized by P3GB, a local initiative that has been legalized by BKSDA as the institution that manages the Batur mountain conservation area.

“In relation to geopark, if seen from the territorial bases of activities more to home industry activities, such as handicrafts. So geopark is like a tourism area in general actually. But also with the existence of protected areas, it becomes less profitable for the local community as well (especially the farming and mining). As before, there are extravation type-C mining in

sonian area, since the establishment of BUGG they began to be restricted by Bangli government. So, economically, there is also a declining sector as well. We see it from the whole” – Cok Gede Agung Panji S.H (Head of Industrial-relation, Cooperatives and Labor Agency of Batur Regency)



Figure 5. Excavation Type-C Mining Site in Songan B Village, and Sand Truck in Penelokan
Source: Observation, July 2017

In terms of employment, the majority of the business world engaged in geotourism generally employ local residents as their employees. The increase of regional economic level is seen from the rapid increase of minimum wage every year. In addition, several Bangli District government offices seek to foster local Small and Medium Enterprises (SMEs) through entrepreneurship training. This is one of the strategic steps to increase local economic growth, considering that UMKM sector is the largest proportion in terms of number of entities in Bangli Regency, especially in Batur Geopark area.

“We can only nurture through entrepreneurship training, especially for SMEs. Based on the data of 2016, our minimum wage (UMK) is approximately 1,957,734, always increasing rapidly every year since 2012 (the year of BUGG establishment).” – Cok Gede Agung Panji S.H (Head of Industrial-relation, Cooperatives and Labor Agency of Batur Regency)

Various efforts have been made by the various parties involved in the development of Batur Geopark region at this time, even though not yet has benefits for all. However, these steps is a part of gradual efforts to achieve goals from the development of Batur Geopark area, which put forward the principle of sustainable development by empowering the community local area.

Table 2. The Economic Impacts of Geotourism Activities and Descriptions

No	Economic impacts of geotourism	Descriptions
1	The benefits of geopark development are not felt thoroughly by all villages in Batur Geopark area.	Some villages experiencing rapid development of areas such as North Batur Village, Central Batur, South Batur, Buahon, Trunyan, Kedisan, and Toya Bungkah area in the village of Songan B. While other villages such as Kintamani Village, Pinggan, and Sukawarna considered not yet get significant benefits from the development of tourism area in Batur Geopark.
2	Geotourism activities in the Batur Geopark area also provide benefits for young people.	Many young people in the Batur Geopark area are currently studying, both in primary, secondary, and vocational schools, who take the time to work part-time jobs as freelance guides or informant services for tourists. These activities can improve their softskill skills in tourism, including English language and communication skills.
3	Some economic sectors such as mining and farming have a negative impact from geo-tourism activities in the Batur Geopark area.	Geotourism in Batur Geopark area, although growing rapidly, but not yet accessible by all community groups. Several geotourism activities, such as trekking within conservation area, are monopolized by several groups.

No	Economic impacts of geotourism	Descriptions
4	The increase of regional economic level is seen from the rapid increase of minimum wage every year	Bangli District government offices seek to foster local SMEs through entrepreneurship training. This is one of the strategic steps to increase local economic growth, considering that UMKM sector is the largest proportion in terms of number of entities in Bangli Regency, especially in Batur Geopark area

Source: Analysis, January 2018

4.4 Recommendation strategies for Batur Global Geopark's local economic development

Table 3. The Observed Problems and Recommendations

No	Observed Problems	Recommendations
1	<ul style="list-style-type: none"> - Difficulties to manage the production chain, set the selling price, and marketing strategies of the local crafts and plantation products. - Some economic sectors such as mining and farming have a negative impact from geo-tourism activities in the Batur Geopark area. - The increasing number of street merchants around Penelokan area and several tourism spots. 	The need to stipulate a special law that regulates the economic development of geopark. The authorities within the special law should include local handicrafts and commodities management, including the setting of strategies for business diversification, pricing, promotion, and marketing. This law also has authority to manage local street merchants within Batur Geopark area.
2	The souvenirs and plantation products (such as oranges and coffees) sold mostly came from outside Bangli Regency.	A regulation is required that can promote economic benefits for the community. This is for example by creating a guideline to train people within geopark to be able to play an active role. For example, besides they can keep the geopark, they can also guide, make products, or also other attractions.
3	Overlapping authorities between government institutions regarding the management of conservation area.	The need for strengthening coordination, so that the role between central, provincial, district also well established, and they could support each other. This can overcome governmental affairs that are cross border / administration.
4	The benefits of geopark development are not felt thoroughly by all villages in Batur Geopark area.	The establishment of special geopark management body/institution. This special management of Geopark will also create a new benchmark for all Geopark regions in Indonesia as we all know that many of the new national Geoparks recently have rapid development in Indonesia.
5	The growing of various restaurants, hotels, and other accomodations especially around Penelokan area, despite of prohibition from Bangli Regency Government due to its vulnerable conditions being on the edge of cliff.	Synchronize Batur Geopark area planning with planning documents, such as Spatial Plan and Detailed Spatial Plan. Synchronization with planning documents becomes important for establishing land use maps, which will facilitate the permit process within Batur Geopark Area.

Source: Analysis, January 2018

One of the important strategies that must be implemented so that the development of Geopark area can be optimal is the need to stipulate a special law that regulates the local economic development of geopark, apart from any institution and their own regulations that involved in the development of geopark area in particular. This law became important to regulates the management of commodities produced within geopark area, as well as criteria that must be met by the local bussinessmen, not only in Batur Geopark but also geoparks across Indonesia, in which it is necessary to consider the participation of all local communities. The authorities within the special law should include local handicraft and commodity management, including the setting of strategies for business diversification,

pricing, promotion, and marketing. This law should also have authority to manage local street merchants within Batur Geopark area. Also, a regulation is required that can promote economic benefits for the community. This is for example by creating a guideline to train people within geopark to be able to play an active role. For example, besides they can keep the geopark, they can also guide, make products, or also other attractions.

In addition, the development of Batur Geopark area is often bumped with bureaucracy or different rules from different agencies that have their own special authority, territorial rights, or land tenure, so that whatever strategy is applied as long as the agency does not support each other, it will be vain. For example, Geopark Batur is managed by the local government, but for the part of Mount Batur itself (conservation area) is managed by BKSDA and Ministry of Environment and Forestry using different guidelines, in which overlapping each other. Therefore, the need for strengthening coordination, so that the role between central, provincial, district also well established, and they could support each other. This can overcome governmental affairs that are cross border / administration.

One of the management strategies that can be done to enhance the development progress of Batur Geopark area is with the establishment of special geopark management body/institution. This special management of Geopark will also create a new benchmark for all Geopark regions in Indonesia as we all know that many of the new national Geoparks recently have rapid development in Indonesia. Networks among geopark management bodies in Indonesia are expected to help each other in solving the problems of geopark development through solutions proposed by groups or agencies that do have an intention in geopark. If a special body of geopark managers has been established that is reinforced by a special law, then the necessary is the empowerment of local communities through venues that support such specialized bodies, such as representatives / LWG, and the last is the improvement of budgeting capabilities, through training for stakeholders to increase their ability on budgeting for improvement and physical development.

Once the special geopark management body/institution is established, they could coordinate with local government agencies that related to spatial planning, such as Bangli Planning Agency, to synchronize Batur Geopark area planning with planning documents, such as Spatial Plan and Detailed Spatial Plan. Synchronization with planning documents becomes important for establishing land use maps, which will facilitate the permit process within Batur Geopark Area.

5. Conclusions

This paper has discussed the benefits that Batur Geopark area gain from local economic development of geotourism. We found that the perceived benefits of geotourism activities so far have not been felt thoroughly by all community groups. Geotourism has been seen through different perspectives by different actors. For local communities that engaged in farming and mining, they found out that geotourism activities tend to have negative impacts on their business, as the Bangli Government tried to limit their activities to make room for the development of geotourism. In addition to that, there is the fact that the current tourism sector is still monopolized by certain communities (e.g P3GB that monopolize trekking routes within conservation area of Batur Geopark). Other activities include farming and plantation which does not fit well with the geopark aims. However, most of stakeholders agreed that the development of Batur Geopark is a gradual process whose benefits will be felt in the future. The roles of local leaders and communities are obviously important within the grassroots development of Batur Geopark area. To address the challenges in the local economic development of Batur Geopark area, a number of activities should be considered, as follows: (i) Seminars and trainings, collaborates with local universities, research institutions, and associations such as PHRI, on the importance of entrepreneurial skills to local communities, (ii) establishing special geopark management body/institution, (iii) creating special regulations on the management of local economic development of

geopark area, that also regulates the strategies of promotion and marketing of local products, (iv) creating a guideline to train people within geopark to be able to play an active role, for example, besides they can keep the geopark, they can also guide, make products, or also other attractions, (v) creating participatory-planning activities that will engage local communities, (vi) establishing regulations that could strengthening coordination, between central, provincial, and district, (vii) synchronizing the plan of Batur Geopark area with government planning documents, such as Spatial Plan and Detailed Spatial Plan.

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