The Current Observation and Challenges of Tourism Development in Batur Global Geopark Area, Bali Province, Indonesia

A. Rosyidie¹, S. Sagala¹, M. M. Syahbid², M. A. Sasongko²

¹Department of Regional and City Planning, Institut Teknologi Bandung, Bandung, West Java, Indonesia
²Resilience Development Initiative, Bandung, Indonesia

Corresponding author: ariefrosyidie@yahoo.com

Abstract. Geopark is a designated physical landscape with a geological heritage value. It is one of the approaches to combine both conservation and sustainable economic development. Geopark aims to attract tourists that ultimately bring impacts to the development, especially to the local governments and communities. The first global geopark in Indonesia, which is recognized by UNESCO, is Batur Geopark. Batur Geopark is in Kintamani, Bangli District, Bali Province. The main purpose of Batur Global Geopark development is to balance between the geology, environment, social-culture, economic, and conservation. Creating geoparks as tourism destination would achieve not only scientific and natural resource preservation, but also the development of tourism. Since Geopark is considered as a new concept in Indonesia, the main question is: does geopark indeed boost tourism? If so, how significant is it compared to other tourism in a particular area, such as Bali? What are the challenges faced in the development of geopark? Having the above questions, this study 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. A framework to do this assessment is set up using geopark criteria developed by UNESCO as well as trend analysis since the establishment of Batur Geopark in 2012. To get a comprehensive picture, we conducted a field survey in Batur Geopark and asked questions to the local community, local champions, businessmen, tourism actors, local government agencies and scholars in tourism development, and we also explored the potential and the challenges of the tourism development of Batur Global Geopark. The findings indicate that developing Geopark as ecotourism is a complicated issue. Geopark is seen in various and different perspectives by different actors. While the aim of geopark is to trigger tourism development, some contra-geopark and tourism activities exist, such as sand mining that makes environmental and infrastructure problems. Other activities include farming that does not fit well with the geopark aims. To address the challenges in the development of geopark, a number of activities should be considered, as follows: (i) Socialization and awareness raising on the importance of conservation in the area’s geological heritage, (ii) Batur Global Geopark needs improvement, thus it creates sense of pride of local community toward their region, (iii) Creation of local enterprises, new jobs and high-quality training courses to support the economy. Meanwhile, the development of Batur Global Geopark should be coordinated with all stakeholders from local communities, local entrepreneur, local non-governmental organization and local government.
1. Introduction
The Batur UNESCO Global Geopark (BUGG) located in northeast Bali and designated in 2012 with an aim to promote sustainable development in local communities is the first UGG in Indonesia. Covering an area of 370.5 km², at an altitude of 920-2152 m, BUGG includes two volcanic calderas and presents a complete volcanic landscape. Between 1804 and 2000, Mt. Batur erupted at least 22 times forming a strato-volcano which is one of the 127 active volcanoes in Indonesia, and a component of the Pacific “ring of fire”. With double-calderas and a crescent-shaped volcanic lake (7 km long, 1.5 km wide), Batur is known as the finest caldera in the world. This uniqueness, endemic flora and fauna, and original Balinese culture reflect an impressive combination of Earth heritages [1-2]. Batur GG, known in Bali as the Geopark Kaldera Batur (GKB), is occupied by 15 villages within the district of Kintamani, Bangli Regency. The local economy is based on agriculture and tourism. Geo-products include Kintamani sweet orange and civet coffee, wooden craft, bamboo and wood carving products. The Kintamani dog, native to the island of Bali, originates from Sukawarna Village, Batur.

The Global Geopark Network (GGN) recognized BUGG in 2012 making it Indonesia’s first UGG with an aim to promote the sustainable development of local communities. This objective corresponds to the main GGN goals. The Global Geoparks Network (GGN) formed in 2004 by UNESCO aims to improve coordination of the world's geological heritage through cooperative management. According to [3] the main objectives of a geopark are (1) protection and conservation, (2) tourism-related infrastructural development and (3) socio-economic development.

The success of geopark is reliant upon local communities benefiting and participation in building harmony between people and nature. The direct involvement of local communities leads to local empowerment allowing for free expression of traditional local wisdom that reinforces local identity and cultural protection. Furthermore, geopark emphasizes inclusiveness, especially by local community involvement in conservation efforts engaging ownership of resources and locations which contribute positively to livelihoods and quality of life. UGG should holistically integrate conservation initiatives that consider sustainable resource utilization, provision of infrastructure and local socio-economic development, along with well-being (Figure 1) [4].

![Figure 1. The Geopark and its main components](image)

Local community involvement and subsequent benefits are integral and essential to sustainable tourism development in Batur Global Geopark. The implementation of ecologically sustainable tourism safeguards ecosystems and enhances local societies and economies through ecotourism initiatives. Ecotourism encompasses the social and economic dimensions in addition to the environmental dimensions with local initiatives being influential [5-6]. Local and indigenous communities practice ecotourism as tools for biodiversity conservation, sustainable livelihoods and
cultural preservation [7]. The International Ecotourism Society (TIES) refers to ecotourism as responsible travel to natural environments with actions for conservation and the sustainability of local communities’ wellbeing, which are accompanied by practices of interpretation and the education of staff and visitors. Non-consumptive and non-extractive behaviors are inherent to ecotourism and foster ecological consciousness while holding eco-centric values and ethics [8]. Sustainable Tourism (ST) concerns the conservation of natural resources and social culture while distributing benefits widely among stakeholders and communities and is an important public agenda for all stakeholders in order to benefit the economy through employment, new educational opportunities and improved quality of life [5,9].

Creating geoparks as sustainable tourism destination would achieve not only scientific & natural resource preservation, but also the development of tourism. Since Geopark is considered as a new concept in Indonesia, the main question is whether geopark indeed boosts tourism? If so, how significant is it compared to the other tourism in a particular area, such as Bali? What are the challenges faced in the development of geopark? According to those issues, this study aims to explore and identify the main challenges of sustainable tourism development in Batur Global Geopark Area. This study also tries to recommend strategies for geopark as a sustainable tourism development in the specific context of Batur Global Geopark and Indonesia. Therefore, our research purpose is to identify what challenges should be recognized and what strategies should be created for geopark as a sustainable tourism development in the specific context of Batur Global Geopark and Indonesia, which is regarded as the first global geopark in Indonesia and recognized by UNESCO Global Geopark Network.

2. Methodology
The research was conducted with surveys and in-depth study in Batur Global Geopark Area, Bangli Regency (see Figure 2). The survey was conducted between July and August 2017. The surveys were conducted by interviewing forty-one key respondents, 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. In collecting data, it was divided into 5 cluster regions, which are a group of tourism destination zones grouped into five clusters based on location, geographical condition, and socio-cultural conditions of the community.

The collected data were then analyzed to know the following aspects that contribute to the sustainable development tourism referring to sustainable tourism as encompassing the ecological, social and cultural and economic sustainability dimensions. Ecological sustainability basically focuses on development compatible with maintaining essential ecological processes, biological diversity and resources. Social and cultural sustainability ensures that development increases people’s control over their lives that is compatible with their cultural values, and strengthens community identity. Economic sustainability fosters the economically efficient development and sustainable resources management to support future generations [10]. Furthermore, according to [11], sustainable tourism should ensure socio-cultural and environmental impacts which are neither permanent nor irreversible. Sustainable tourism is an approach that can be used to make all types of tourism more environmentally, socially, culturally and economically sustainable [12].

In this research we will scope the tourism sustainable development of Geoparks from three aspects, they are scientific research, local socio-economic development and environment protection.
3. Literature Review

3.1. Sustainable Tourism and Ecotourism Development defined

The establishment of sustainable tourism, green tourism, and ecotourism was closely followed the emergence of sustainable development and grassroots approaches to development in the early 1980s [6]. There was a consensus at World Commission of Environment and Development in 1987 regarding sustainable tourism, defined as a form of tourism which meets the needs of tourists, the tourism industry, and host communities in the present time without compromising the ability of future generations to meet their own needs [14]. [10] referred sustainable tourism as a method in which encompasses the ecological, social and cultural, and economic sustainability dimensions. Ecological sustainability basically focuses on development compatible with maintaining essential ecological processes, biological diversity and resources. Social and cultural sustainability ensures that the development process is compatible with their cultural values and aims to strengthens community identity. Economic sustainability fosters the economically efficient development and sustainable resources management to support future generations [10]. According to [11] sustainable tourism should ensure socio-cultural and environmental impacts which are neither permanent nor irreversible. In their study on ecological sustainability indicators, [12] view sustainable tourism as an approach that can be used to make all types of tourism more environmentally, socially, culturally and economically sustainable.

Local community involvement and subsequent benefits are integral and essential to sustainable tourism development. The implementation of ecologically sustainable tourism safeguards ecosystems and enhances local societies and economies through ecotourism initiatives. Ecotourism encompasses the social and economic dimensions in addition to the environmental dimensions with local initiatives being influential [5-6]. Local and indigenous communities practice ecotourism as tools for biodiversity conservation, sustainable livelihoods and cultural preservation [7]. The International Ecotourism Society (TIES) refers to ecotourism as responsible travel to natural environments with actions for conservation and the sustainability of local communities’ wellbeing, which are accompanied by practices of interpretation and the education of staff and visitors. Non-consumptive and non-extractive behaviours are inherent to ecotourism and foster ecological consciousness while holding eco-centric...
values and ethics [8]. ST concerns the conservation of natural resources and social culture while distributing benefits widely among stakeholders and communities and is an important public agenda for all stakeholders in order to benefit the economy through employment, new educational opportunities and improved quality of life [5,9].

3.2. Geopark and geotourism as functions of Sustainable Tourism, Ecotourism and Community Based Tourism

Geotourism is a form of educational tourism with a focus on geology and landscapes including an appreciation of indigenous cultures, thus challenging the tourist to respect the preservation of local cultures and the environment [15-16]. Geotourism aims to impact on natural resources negligibly while simultaneously promoting the economic growth of indigenous communities. Geoparks are geographical areas which aim to integrate the preservation of geological heritage, biodiversity, and cultural resources through strategies for regional sustainable socio-economic and cultural development through geotourism activities [3,15,17-19].

Sustainable development of the geotourism industry requires geo parks maintained by minimal intervention with native habitats. Such undisturbed environments provide surrounding communities with vital resources for rural tourism industry development, thereby it can address rural unemployment and minimize effects from urbanization [20]. [21] found that the implementation of traditional knowledge in geotourism destination management correlates positively with the sustainability of these environmentally sensitive regions. Local and indigenous people often link their landscapes to natural phenomena, cultural artefacts, skills and customs shared through ancestral knowledge. This helps to maintain their connections with the landscape, in the context of everyday work, religious practices and common rituals. Local and indigenous peoples’ involvement in geotourism destinations is integral to long-term environmental and social sustainability [21]. Recent administrative strategies encourage sustainable development of the geoparks themselves to enhance socio-economic development of local communities through their participation. Ecotourism in geoparks has been found to stimulate local economic growth and enhancements to community welfare by providing employment opportunities, improving local facilities and infrastructure and encouraging the production of local products [22].

GGN aims for environment conservation, geosciences awareness and sustainable growth and development of local economies with sites possessing sound management and economic development strategies enabling sustainable development especially through sustainable tourism in the form of geo and eco-tourism. Feasibility and success of geo parks will only be realised if local communities benefit and participate in building harmony between people and nature [4]. Geoparks’ management plans should emphasize on inclusive elements, particularly in engaging local community involvement in conservation efforts to take ownership of resources and locations that are deemed to contribute positively to their better living [23]. Geoparks can, therefore, be pathways to achieve SDGs by promoting the holistic integration of conservation initiatives that consider sustainable resource utilisation, provision of infrastructure and local socio-economic development and well-being.

4. Result and Discussion

4.1. Current Development of Batur Global Geopark

Batur Geopark was officially accepted as a member of Global Geopark Network (GGN), supported by UNESCO on September 20, 2012 in Portugal. On November 18, 2015, it was then officially renamed to be “Batur UNESCO Global Geopark”. Administratively, the Geopark is located in the district of Kintamani, Bangli Regency, Bali Province. The regency itself comprises of four sub-districts (Susut sub-district, Bangli sub-district, Tembuku sub-district, and Kintamani sub-district).

The landscape of double-calderas, active volcanic cones, lake, lava flows, cinder cones and maar is a unified volcanic morphology which is a history of the dynamics of volcanism phenomenon over tens thousands years ago to present time. Batur volcano, which is still active has a unique phenomenon, named "caldera in caldera" that is rarely found elsewhere. The Batur UNESCO Global Geopark is a
tool to develop the area in a sustainable manner, mix and match among components of geology, biology and culture for the purpose of conservation, education, growth of local economic value and sustainable development. Based on the Progress Report of Batur UNESCO Global Geopark for the year 2012-2016, GGN has 366.4-kilometer square with population by about 192,681 people, spread over 15 traditional villages. An area of about 2,075 hectares in the Geopark region is the Natural Tourism Park. This conservation area was established by decree of the Minister of Agriculture No. 321/Kpts/Um/11/1982.

Since designated as a Global Geopark in 2012 until now, the Geopark area of 366.4 km square is unchanged. Batur Geopark become a National Geopark in 2010 and was assigned as Global Geopark in 2012. Since then, its development has been started and it has experienced significant improvement until now. The advancements can be seen from the growth of local economy value via tourism, as well as education through “Geopark to School” and “School to Geopark” programs, and conservation aspects. Regarding education in Geopark, the Regent of Bangli ordered the integration of Geopark concept within school’s curriculum in Bangli (Regulation of Bangli Regent Number 18 Year 2013 on June 14, 2013 in the integration of Geopark material into the curriculum of primary schools, junior high schools, senior high schools and vocational schools;). In 2011, the Geological Agency of Ministry of Energy and Mineral Resources built “Batur Volcano Museum” at Panelokan area. This building is also functioned as Geopark Information Center. The advanced stage of development in 2013-2015 was the establishment of previous museum as “Batur Geopark Museum”.

In term of tourism activities, since Batur has been designated as a Global Geopark in 2012, a number of tourists continues to increase. Significantly, the four-top tourist destinations (Batur/Panelokan, Penulisan, Terunyan Village, Batur climbing/P3GB area) have contributed to the number of Geopark tourists, either local or foreign tourists. The comparison between domestic and foreign tourists is 2:3. Foreign tourists are more interested to carry out their activities in Batur area such as climbing to the top of Batur active volcano. The data were obtained through tickets sale to four-main areas as mentioned earlier.

![Figure 3. Number of tourists in 4 major tourist destinations [13]](image)

Batur UNESCO Global Geopark (BUGG) is connected by geological paths or geotrails as the main attraction. Through this provided geotrails, visitors can explore the entire Geopark region. Some geotrails are managed by the local community groups, and some geotrails are guided by local community who live around Geosite and have been adequately trained. Training on guiding was conducted by Geopark Manager, in collaboration with Ministry of Tourism as well as Ministry of Energy and Mineral Resources. Sites of biology (bio-sites) and culture (cultural-sites) are dispersed in
BUGG, especially in areas of Payang Hill and Batur Lake Natural Park and in Subak Cultural Landscape which were designated by UNESCO into Cultural World Heritage site in July 2012. Twenty-one geological heritage sites (geosites) are accommodated in BUGG, both geological sites (rocks, stratigraphy) and geomorphological sites (caldera-walls, craters, lake, cinder cones, maar, volcanic-landslide). The BUGG weather is very good and clean; everything can be seen clearly from Panelokan view-point located at an elevation of outer-caldera wall. To be more effective, geosites will be grouped according to applicable terminology, after the first revalidation was completed in 2016.

![Figure 4. Geotrails within the Batur UNESCO Global Geopark [13]](image)

The strengths and weaknesses of Batur Geopark in this region is its area and population. Therefore, the Ministry of Culture and Tourism of Indonesia together with Bangli regency government tried to re-arrange the area by involving the community in fifteen villages in one cluster Destination Management Organization (DMO). The fifteen villages include Batur Selatan Village, Central and North, Kintamani Village, Suter, Blandingan, Sukawana, Songan A Village and Songan B, Trunyan Village, Buahan, Kedisan, Abang Songan Village, Suter and Abang Batu Dinding Village.

Based on Destination Management Organization (DMO) program formed a Local Working Group (LWG) in five regions in BUGG area. Of the fifteen villages located in Bangli Regency, there is a group of tourism destination zones grouped into five clusters based on location, geographical condition, and socio-cultural conditions of the community. The five LWGs was then functionalized as janitor and guard for geosites by the regent of Bangli (Regent Decree No. 430.05/38/ 2015 dated January 2, 2015 for tourist destination development activities of the fiscal year 2015. The appointed janitors include five Local Working Group coordinators (Abang Erawang, Manuk Jambe Tarumenyan, Ulun Danu Muncar, Batur Kalang Anyar, Singa Mandawa). Each officer works in geological and non-geological heritage sites (including Geopark facilities in the form of information kiosks in five locations). Their responsibility is to maintain hygiene, safety and preservation of geological heritage sites. It is be noted that Local Working Group is a group of local people (mostly indigenous) who live around the geological/non-geological heritage sites and serve as the executor of Destination Management Organization activity or program created by the Ministry of Tourism since 2012.
4.2. Challenges of Batur Global Geopark Development

4.2.1. The perspective of local community on social and economic impact of Geopark Development. Most of local communities in Batur Geopark area believe that Geopark is part of the massive development of tourism infrastructure. The results of interviews with local farmers in some villages of Batur Geopark area thought that the development plan of Batur geopark since 2012 has not yet provided changes in the economic improvement for the farmers. The marketing and distribution process of agricultural products have the same pattern as the time before the area of Mount Batur was still integrated as part of Global Geopark Network (GGN). Despite the lack of impact to native communities livelihoods, such as farming and mining, local communities in Batur Geopark area are generally familiar with the arrival of tourists in their area. The attitude of local people in Batur Geopark area are very welcoming to both local and foreign tourists.

“In general, the public has not been aware of existence of geopark. Maybe because most people are farmers, so they do not feel the impact of GGN directly. So those who understand GGN can feel it, for example, I am also a farmer, and I feel the impact, such as I can sell vegetables more easily.”

“The Education Agency has incorporated geopark into the curriculum, with the Geopark to School, School to Geopark program. We educate them from elementary school as well, so that the elementary school children can deliver the information to their parents.”

Local people in the Geopark area prioritize education for the next generation, which also emphasize education on local environmental and tourism knowledge. The current problem that the local people want to solve is the lack of geopark education, especially to local people who are not part of Local Working Group. This condition was clearly seen during various interview session with local people (non part of Local Working Group) and local merchants around Jalan Penelokan. A deeper knowledge of the geopark is still limited only to the Local Working Group members and local leaders.
However, there is an increasing effort on geopark education programmes in local schools around Batur Geopark area, notably in SMKN 1 Kintamani, a vocational school that has a newly established tourism major. Also, SMKN 1 Kintamani has made an agreement with the local hotels, resorts, and tours regarding further employment opportunities for its students.

4.2.2. Deteriorating environment and natural resource quality. There are ongoing waste problems faced by local people regarding the lack of garbage dump in their neighborhood area, as they still prefer to dispose of their garbage in some spots in gardens, forests, or unused lands. This garbage problem was aggravated by garbage fleet that could not accommodate the volume of existing waste produced by local communities around Batur Geopark area. So, the current waste processing is mostly done by self-burning, due to the lack of waste transportation service. It causes environmental damage, especially for water and soil. Because water in some parts of Batur is contaminated with chemicals so that it can not be used for drinking. While the land use of septicide and mining reduces soil fertility.

“There is still a problem of garbage transportation here. Garbage fleet only comes 3 days a week, because the capacity of the fleet is not enough. Garbage fleet currently only passes one direction, from Kintamani to Penelokan, it does not pass by other villages. The people themselves who transport the garbage, for example, I usually drive a carry car to bring garbage to the garden. There (in the garden) I sort the garbage, some is used as fertilizer and the rest is taken to the landfill.”

There is ongoing mining activity located in Songan A and B villages in Batur Geopark area. Most of the miners confess that they do not have any other option to fulfill their livelihood needs, being a miner. The government so far could not overcome the problem of mining because the activity is done on private land communities. Mining communities themselves have not been able to move to tourism since tourism gives less economic benefits than mining activities.

“Communities involved in excavation type-C are aware of the negative impacts of these activities, but there has been no substitute for their main livelihoods, the benefits of tourism are also not evenly distributed so that they can not replace the activities of excavation type-C. In areas where economic benefits such as Batur Village, Kedisan, and others, the community strongly opposes the activity of excavation. Because they do get more benefit from tourism.”

One of the problems faced in the Batur Geopark area is that the sand truck lanes are still same as the tourist path (despite government prohibitions and regulations), which makes it quite dangerous especially around Penelokan area where is crowded pedestrian traffic. The main route becomes a meeting place for tourist buses and sand trucks causing congestion on weekends. As an initial development of a separated pathway for tourist, villagers in the southern region of Lake Batur responded positively to the inauguration of the tourist route so that trucks carrying sand and rocks no longer passed through their area. There is also a trend of reduced sand excavation activities in the Songan A-B villages, the only problem for current excavation activities is that they are carried out by people on their private land.

4.2.3. Inconsistency of policy and regulation for development of Batur Global Geopark. The development of tourism in destinations throughout Batur Geopark area is partial. Rapid development takes place only in areas with great appeals, such as Penelokan Area. Meanwhile for hotel and resorts around Penelokan Area, most of the visitors only come during the lunch time, because Batur Geopark area is located around provincial street connecting southern and northern area of Bali Province; therefore most of the visitors in Batur Geopark area have limited time to stay, and prefer to continue
their journeys to northern (Singaraja) or southern (Ubud, Tabanan, Denpasar, and Airport) of Bali Province.

“The most advanced and well-known area for those people is Penelokan area in Batur Village. People used to know Kintamani only in Penelokannya area, well then HPI members (Himpunan Pramuwisata Indonesia) asked what else could be developed in Kintamani. Well this is a challenge for people to develop other Geopark spots.”

The development of tourism in geopark indeed has provided economic benefits, although it is not significantly distributed equally with all parties. Tourism development from the government and tourism industry still focuses on product diversification and physical infrastructure development, while community building capacity is still not a priority. Based on the dossier of Batur Geopark that was developed together by Bangli Regency Government and UNESCO in 2012, Geopark tourism development in the short term (2012 - 2016) still focused on physical development. The physical development plan was also included in Bangli Regency Spatial Plan (2013 – 2033). Most of the critics from scholars are addressed on the physical development focusing on quantity targets; meanwhile, several media interpretation on BUGG does not function optimally. BUGG Museum as the gateway of the region has a minimal number of visitors, the interest of visits from local communities is still low, and there is nothing to sell inside the souvenir shop. The BUGG information board at Penelokan view point can not be accessed because the building was collapsed and had not been fixed for several months.

In addition to the conflict of authority, it still lacks of government coordination (between local authorities and the government above): the provincial government argues the lack of coordination from the district; on the other hand, the district government says that the provincial government gives minimal attention to the development of BUGG. In addition, government control is still weak, especially related to land use that is not in accordance with its provisions; such as Excavation Type-C mining activities and restaurants around penelokan area built on landslide-prone land (pyroclastic soil structure).

“For restaurant ownership, most of them are owned by the locals, only 30% are from investors, for example Cutong Restaurant whose owner is from Surabaya. Honey Sari, Gunung Sari, and Lake View are owned by the locals. In the upper area, there are still a lot of restaurants owned by local residents, while in the lower area of are owned by foreign investors.”

Regarding the regulation in the business world, business ownership such as restaurant, bike rental, homestay, hot water bathing is mostly owned by local people or managed by BUMDES. The community considers licensing affairs in Batur Regency is quite complicated, especially in the business world, resulting in the lack of business investment coming from outside Bangli regency (local and foreign). Local cultures indirectly slow down the rate of foreign investment because land and property sales policies in some places have to go through the approval of indigenous villages (Desa Adat). There is also a problem with the construction of restaurants around Jalan Panelokan mostly built on vulnerable zones/areas along the slope facing directly to Mount Batur.

4.2.4. Weak of partnership and government control to local community. When observations were made in June 2017, of five Local Working Groups (@ three villages) were established and they are still running today. Only one LWG (Cluster Abang Erawang) is considered optimal based on its performance. The government states that socialization and coaching were often directed to involve LWGs, but most of LWGs argued that the government's role was minimal (compared to the academicians involved), and the government only provided socialization without optimal coaching, especially since the focus of BUGG development from the Central Government gradually reduced.
Compared to physical development, four other LWGs need more education and mentoring from the government due to the lack of local initiatives related to tourism development.

The high conflicts of interest among pokdarwis (local tourism initiatives), especially in the management of climbing routes. Pokdarwis (local tourism initiatives) P3GB of Desa Songan at the time of observation in June 2017, still monopolized the climbing route of Mount Batur, so that other pokdarwis (such as TCM Desa Batur) could not open their own climbing pathway. However, the P3GB group has its own management under certain parties (although it still has the legality from BKSDA to manage the climbing routes). In consequence the conflict with other Songan A and B villagers arose due to the economic benefits that exclusively P3GB only got more. The Bangli District Government, which previously provided infrastructure assistance in the P3GB area, is still unable to resolve the conflicts of interest that occur due to the absence of a special BUGG management agency.

"Many of us would like to open a trekking guide business, but almost all channels are currently managed by P3GB. They have legalization as a trekking track manager from the BKSDA, which manages the conservation area of Mount Batur."

There are at least five climbing routes to the top of Mount Batur monopolized by one of the groups that has been allowed to manage the climbing activities for 20 years so that the other climbing routes managed by other groups are considered illegal. To anticipate the reshuffle or alteration in relation to the development process of the Geopark area, the P3GB Group conducted a legalization effort to BKSDA, which is responsible for land utilization and conservation in the area of Mount Batur. This is one of the real examples of partial tourism development in Batur Geopark area. The development of partial destinations produces “little kings” in geopark area. These “little kings” try to seek the legality of ensuring the existence of their organization if there is an institutional overhaul or arrangement within the Batur Geopark area.

4.2.5. Lack of leadership role in local community groups. Most of the local champion/other parties could not assist community capacity building and tourism development of BUGG because they were not interested/in managing the affairs. While BUGG Museum, Bangli Hotel and Restaurant Association, and other LWGs as a third party with high knowledge related BUGG were not involved because of the absence of their authority to manage those affairs. They considered other stakeholders/LWGs that should be involved more, in fact, have less initiative in the development of tourism objects in their respective villages.

“I am here as a trigger trying to give an understanding that developing the tourist destination is not with money first, but the important things are spirit and consistency. The people initially did not believe it. There were only five people participated including me, others were from Pecalangs (local Balinese police).”

4.3. Recommendation Strategies for Batur Global Geopark Development
Clearly, there is a need for additional strategies in the management of Batur Geopark area. One of the proposals currently under review is the establishment of centralized management from Batur Geopark, which has been implemented in several geoparks in Indonesia, such as the Dana Toba Authority Agency that manages Toba Geopark area. This management will assist the management of geopark areas, ranging from local revenue and funds, management of facilities, solving technical issues, setting up daily management system and strategies, regulating actors collaborations (academics, local business and entrepreneurs, local government authority, and tourism management bodies), setting up policies and regulations, regulation of local agricultural commodity prices, and other strategic programs. However, this management also has to be supported by education for the local communities and leaders regarding awareness on environmental and tourism impacts to their communities, and the
importance of their own participation in the further programme from the management authority of BUGG.

To address the challenges in the development of geopark, a number of activities should be considered, as follows:

(i) Socialization and awareness raising on the importance of conservation in the area’s geological heritage,

(ii) Batur Global Geopark needs improvement, thus it creates sense of pride of local community toward their region,

(iii) Creation of local enterprises, new jobs and high-quality training courses to support the economy.

(iv) The development of Batur Global Geopark should be coordinated with all stakeholders from local communities, local entrepreneur, local non-governmental organization and local government.

(v) Ensuring the implementation of educational programmes, such as Geopark to Schools is implemented evenly throughout schools in Batur Regency. Early education on environmental and tourism impacts of children’s respective villages is important to raise their awareness in the future.

Figure 6. Illustration on Strategies to Achieve Sustainable Tourism Development of Batur UNESCO Global Geopark (BUGG)

To reach sustainable tourism development of Batur UNESCO Global Geopark, both top-down and grassroot approaches are required to balance between the growth of tourism demand and capacity of local communities and leaders to participate within tourism development. The capacity of local communities and leaders could be driven up by sharing lessons and experiences from local and foreign expertises, training and education of local workforces especially in tourism services, academic exchange and research collaboration of local researchers to gain more knowledge and skills on
research process related to Batur Geopark and its management. From the top-down approaches, management of tourism revenue and funds, facilities, technical issues, management system, actor collaboration, policies, regulation, and strategies becomes the main steps to achieve good governance of Batur UNESCO Global Geopark, which constitutes collaboration between academics, local business entities, government bodies, and local tourism managements.

5. Conclusion
This paper has discussed the current challenges faced by Batur Geopark. We find that developing Geopark as ecotourism in Batur Global Geopark is still a complicated issue. Geopark has been seen through different perspectives by different actors. While the aim of geopark is to trigger tourism development, some contra geopark and tourism activities exist, such as sand mining that makes environmental and infrastructure problems. Other activities include farming that does not fit well with the geopark aims. The roles of local leaders are obviously important to engage the community. There is also a challenge due to negative perceptions of tourism development in the area that tourism is seen as nature exploitation. Local communities prefer to not to be involved in the tourism sector because they feel that tourism does not increase their income and quality of life. To address the challenges in the development of geopark, a number of activities should be considered, as follows: (i) Socialization and awareness raising on the importance of conservation in the area’s geological heritage, (ii) batur Global Geopark needs improvement, thus it creates sense of pride of local community toward their region, (iii) creation of local enterprises, new jobs and high-quality training courses to support the economy, (iv) the development of Batur Global Geopark should be coordinated with all stakeholders from local communities, local entrepreneur, local non-governmental organization and local government, and (v) ensuring the implementation of educational programmes, such as Geopark to Schools is implemented evenly throughout schools in Batur Regency.

Acknowledgement
This research was supported by Research institutions and community service, Bandung Institute of Technology on Capacity Building Research Program. We thank our colleagues from Master Program of Tourism Planning SAPPK ITB, they are Muhammad Harits Insan Kamil and Sarita Novie Damayanti, who helped us on field survey to collect data. We also thank to Janelle Falconer who was involved in the data collection and literature review of geopark study conducted during her internship with Resilience Development Initiative.

References
[1] Batur Global Geopark 2017 https://www.baturglobalgeopark.com/
[2] UNESCO 2017c Batur UNESCO Global Geopark, Indonesia http://www.unesco.org/new/en/natural-sciences/environment/earth-sciences/unesco-global-geoparks/list-of-unesco-global-geoparks/indonesia/batur/
[3] Azman, Norzaini, Halim, Sharina A, Liu, Ong Puay, Komoo and Ibrahim 2011 The Langkawi Global Geopark: local community's perspectives on public education International Journal of Heritage Studies 17 261-279
[4] Halim SA, Komoo I, Salleh H and Omar M 2011b The Geopark as a potential tool for alleviating community marginality Shima: The International Journal of Research into Island Cultures 5(1)
[5] Swarbrooke J 2002 Sustainable Tourism Management (Oxon UK: CABI Publishing)
[6] Willis K 2011 Theories and Practices of Development 2nd (London: Routledge)
[7] Blangy S and Mehta H 2006 Ecotourism and ecological restoration Journal for Nature Conservation 14(3) 233-236
[8] The International Ecotourism Society (TIES) 2017 https://www.ecotourism.org/what-is-ecotourism
[9] ILO 2012 Kementerian Pariwisata dan Ekonomi Kreatif Republik Indonesia bekerjasama
dengan International Labour Organization 2012 Rencana Strategis Pariwisata Berkelanjutan dan Green Jobs untuk Indonesia (Jakarta and Geneva: International Labour Organisation)

[10] World Travel and Tourism Council World Tourism Organization and Earth Council 1995 Agenda 21 for the Travel and Tourism Industry: Towards Environmentally Sustainable Development (London: WTTC) Beech J and Chadwick S 2006 The Business of Tourism Management (Edinburgh: Pearson)

[11] Lozano-Oyola M, Blancas F, González M and Caballero R 2012 Sustainable Tourism Indicators as Planning Tools in Cultural Destinations Ecological Indicators 18 659-675

[12] Bangli Tourism Agency 2017 Brundtland G 1987 World Commission on Environment and Development: Our Common Future http://www.un-documents.net/our-common-future.pdf

[13] Dowling R K 2011 Geotourism’s global growth Geotourism 3(1) 1-13

[14] Farsani N T, Coelho C and Costa C 2011 Geotourism and geoparks as novel strategies for socio-economic development in rural areas International Journal of Tourism Research 13(1) 68-81

[15] McKeever P J an Zouros N 2005 Geoparks: Celebrating Earth heritage, sustaining local communities Episodes 28(4) 274

[16] Newsome D, Dowling R and Leung Y F 2012 The nature and management of geotourism: A case study of two established iconic geotourism destinations Tourism management perspectives 2 19-27

[17] UNESCO 2010 Guidelines and Criteria for National Geoparks seeking UNESCO’s assistance to join the Global Geoparks Network (GGN) http://www.unesco.org/fileadmin/MULTIMEDIA/HQ/SC/pdf/sc_geoparcs_2010guidelines.pdf

[18] Newsome D and Dowling R K 2010 Setting an agenda for geotourism (Oxfordshire: Goodfellow Publishers Limited)

[19] Pásková M and Dowling R K 2014 the Usage of Local and Indigenous Knowledge in the Management of Geotourism Destinations SGEM 2014 conference proceedings 2

[20] Khoshkam M and Jaafar M 2016 A Community-based Geotourism Entrepreneurship: A Case of Kilim Geopark Malaysia International Journal of Social Ecology and Sustainable Development (IJSESD) 7(4) 47-58McKeever P J 2009. The UNESCO global network of national geoparks: geological heritage and sustainability (Selangor: Universiti Kebangsaan Malaysia)Bali Provincial Tourism Agency 2017