Challenges for Community Based Rural Tourism Continuity and Resilience in Disaster Prone Area: The Case of Mesilou, Sabah

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Abstract. There is no doubt that the tourism sector has become one of the major contributors to development and considered as agent of change for many parts of the world. The strengths of tourism (or community based rural tourism, CBRT in this context) are described in various forms; as a tool in economic and physical development and as means to enhance the social and human capital development and conservation of natural environment. In rural areas especially in developing countries, tourism development had been eagerly embraced as a panacea for revitalising the rural economy, hence many government agencies, particularly tourism-related bodies, have also invested heavily to promote more sustainable forms of community-based tourism in rural areas. Under normal situation i.e. where CBRT is operated outside disaster prone areas or with notion of less considerations on reducing disaster risk in operating a tourism business, CBRT might flourish in rural areas, and in return would be able to secure local job creation, stable income generation, curbing outmigration among youths and workers, protecting natural resources and local culture, etc. As for CBRT programmes which are operating in disaster-prone areas, their operators might not share similar opinions as they have to cope with different issues and challenges, which in this context, challenges in generating sufficient income for sustaining their operation and also in reducing disaster risk and potential losses to their business. This paper will discuss possible challenges in sustaining CBRT programmes in disaster-prone areas based on the findings from data analysis of a case study of homestay operators in Mesilou Village in Sabah, Malaysia, particularly after the 2015 earthquake.

1. Introduction

Extreme climate, rapid urbanization, and environmental degradation substantially increase our exposure and challenges to natural hazards and disaster risk particularly in developing tropical countries. With the spirit underlying the Sendai Framework on Disaster Risk Reduction 2015-2030 adopted in the United Nations General Assembly 2015, this paper presents a community-based platform for disaster risk reduction (DRR) emphasizing on empowerment and sustainability of community based tourism business in facing those emerging challenges. The development of community based rural tourism (CBRT) was an outcome of the federal government’s to strengthening household income through diversified the rural economic activities, since agriculture sector alone is no longer holds the key to rural development [1,2].
Under this initiative, a more sustainable form of tourism is being promoted in rural areas, with government heavily investing into infrastructure development, training and promoting of CBRT. These efforts have in turn, been supported and eagerly embraced by communities involved as a panacea for revitalising the rural economy [3].

Operation of any CBRT particularly under normal situation i.e. tourism that operated outside disaster prone areas or with the notion of lesser need for reducing disaster risk in a tourism business, might flourish in rural areas and will foster local job creation, stable income generation, curbing outmigration among youths and workers, protecting natural resources and local culture, etc. However, the operators of CBRT programmes in disaster-prone areas, might not share similar opinions as they have to cope with different issues and challenges; which in this context, challenges in generating sufficient income for sustaining their operation and also in reducing disaster risk and/or potential losses to their business. This paper will discuss possible challenges in sustaining CBRT programmes in disaster-prone areas based on the findings from data analysis of a case study of homestay operators in Mesilou Village in Sabah, Malaysia, particularly after the 5th of June 2015 earthquake.

2. Community Based Rural Tourism in Disaster Prone Area

2.1 The nature of CBRT

Ever since the concept of sustainable development came into the development and conservation debate, many government agencies, particularly tourism-related bodies, have invested heavily to promote more sustainable forms of tourism in rural areas. The term ‘sustainable tourism’ has come into tourism literature as an extension of the idea of sustainable development, but with more focus on tourism needs – “a tourism development that meets the needs of the present without compromising the ability of future generations to meet their own needs” [2]. What is Rural Tourism? At first glance, a simple answer can be given: rural tourism is tourism, which takes place in the countryside [4]. The reality of rural tourism, however, is more complex as many early commentators have pointed out on deeper consideration where a simple definition of rural tourism is inadequate for many purposes [2,5]. Equally, it is difficult to produce a more holistic definition which could be applied to all rural areas in all countries. Researchers in tourism (refer to [4–8]) have suggested some key elements that can be used in characterising rural tourism:

1. Located in rural areas and functionally rural – built upon the rural world’s special features of small-scale enterprise, open space, contact with nature and the natural world, heritage, ‘traditional’ societies and ‘traditional’ practices.
2. Rural in scale – both in terms of buildings and settlements and, therefore, usually small-scale.
3. Traditional in character – growing slowly and organically, and connected with local families. It will often be very largely locally controlled and developed to benefit the immediate area in the long run.
4. The complex and varied patterns of rural environment, economy, history and location result in differing kinds of rural tourism.
5. A high percentage of tourism revenue benefits the rural community.
6. Permits participation in the activities, traditions and lifestyles of the local people.
7. Provides personalized contact with the rural community.

On the other hands, community based rural tourism (CBRT) is an extension of the sustainable rural tourism paradigm which emphasised on the management and ownership of business by the community with funding and assistance from government agencies or NGOs, for the community, with the purpose of enabling visitors to increase their awareness and learn about the community and local way of life [9]. Based on a study by Kamarudin [3] on the sustainability of CBRT in the East Coast of Malaysia, he suggested the following criteria to be used in guiding the development of a CBRT:

1. Based on activities and services are developed through partnerships with all relevant parties, and enhanced by engaging a broad range of local stakeholders.
2. Managed and owned by a formal community group (termed the CBRT committee) rather than by individuals or specific interest groups within a community.
3. Empowered local people to define and represent their own communities based on local or traditional knowledge and skills.
4. Involve an equitable distribution of benefits and costs among all participants in the activity.
5. Promote sustainable community development and establish a balance between economic, environmental, social and cultural sustainability goals.
6. Offer high level of tourist satisfaction through activities which utilise the local or surrounding attractions (natural, cultural and human).
7. Enhance local development capacity (local leadership and the local CBRT committee or organisation).
8. Involve constant monitoring of impacts to ensure a continuous and long-term sustainability of CBRT programmes.

2.2 Dynamics of rural tourism and natural hazards

According to UNEP, there are more than 200 million people affected at a global level every year by disasters associated with natural hazards including droughts, floods, cyclones, tsunamis, earthquakes and wildfires/bushfires [10]. The impacts of disasters on the livelihoods of the affected are greater with the issues of growing populations, environmental degradation and global warming. Such phenomenon posed a clear indication that the global community is now highly vulnerable to these types of disasters and therefore, finding and implementing better mitigation procedures to protect the victims and the environment is becoming more urgent. The sustainability of tourism destinations in rural areas are very much dependent on the ability of tourism players, host communities and other stakeholders to gain more knowledge on how to effectively manage natural disasters and adapt their planning and management practices accordingly while taking into account the impacts of climate change.

Since rural tourism has always been regarded as the impetus that brings in new business opportunities and economic development for various parts of the world, there are several key factors that have impacted the sustainability of tourism businesses, both positively and negatively. One of these factors is the emerging concern on natural disasters and climate changes that occur in tourism destinations unexpectedly. Minimizing losses of life, livelihoods, tourism infrastructure and property during a natural disaster is generally an indicator of the destination’s capacity to adequately prepare for and effectively manage disaster events. For many communities, the huge challenge is to make the tourism businesses more resilient to disasters through community-based initiatives.

3. Lifeline Model – Linking between Resilience Rural Community, CBRT and SDGs

The authors using the lifeline model to explain the concept of rural community resilience towards disaster (Figure 1). To guide the discussion, the authors created two assumptions, firstly, by formulated three different scenarios using different colour strings (and by assuming under all three scenarios, the community possess similar capital and functions) namely; Line “1” (green string) represents the community progress towards Sustainable Development Goals (SDGs) without disturbances (disasters) i.e. without taking the element of disasters into equations. Line “2” (blue string) showing the community’s progress towards SDGs with element of disasters and by taking into account the resilience concept which was instilled in the community. Line “3” (red string) on the other hands, represents the progress towards SDGs with inclusion of elements of disturbances (disasters) but by excluding the concept of community resilience.

Second assumption was that for each coloured string (green, blue and red) has the same length. These green, blue and red strings will be placed accordingly in horizontal axis to represent the SDGs 2030 target achievement i.e. improving the community livelihoods while tackling climate change and conservation of natural resources. The blue and red strings then were pulled down in vertical axis to represent distortion i.e. the disasters which impacted the community functions and productivity. Using simple comparative on the length of each string, it becomes obvious that the green string (Line 1) will
stretch all the way to year 2030 (i.e. achievement of SDGs) in normal progress without taking into account any disaster elements. On the other hands, for the red string which experienced severe systemic impacts and distortion by disaster (the string was pulled down dramatically) and the community will fall behind for a few years as compared to Line 1 (indicating a slower recovery process of capital and functions), thus will require longer time to improve their functionality and productivity to achieve SDGs target.

![Resilience concept as in lifeline model (using different colour strings)](source: authors, 2019)

As for the community that incorporated the resilience concept and DRR, they will experience minor systemic impacts, however shall maintain most of the vital functions and productivity for recovery. By developing capacity in dealing with distortion, local stakeholders should be able to mitigate all possible damages and speed up the recovery process and will less depending on the constant assistance and recovery towards SDGs 2030 (as compared to community represented by Line 3). In conclusion, the green string represents an ideal situation however it is almost impossible to be translated into a complex real world as we observed today (considering climate change etc.). On the other hands, the red string represents undesirable living condition and threat to livelihoods, and the blue string is the intended scenario which need to be nurtured so that the community could react accordingly in improving livelihoods (and their CBRT businesses in this case) with the occurrence of disasters.

4. Research Methodology
A total of 20 respondents participated in the survey conducted on 10th October 2018 consists of local stakeholders, particularly homestay operators, business people, and residents from within the communities who work in tourism-related sectors, i.e. both in farming and non-farming activities. The respondents were interviewed to represent their opinions and perceptions of the tourism business performance in Mesilou Village, and in relation to the concept of disaster risk reduction and community resilience in disaster-prone areas. As shown in Figure 2, the development of homestays project in Mesilou village can be explained based on spatial distribution. The lower section of the village (marked with red circle) is the cluster of early homestay projects which owned and operated by local people. Meanwhile, the upper section of the village (marked with yellow circle) is cluster of newer chalet and resorts developed and operated by investors both the local and nearby businesspersons. The newer tourism projects are more scattered as compared to the early homestay projects that is more concentrated and closed to one another. The survey of local stakeholders was conducted using questionnaire-guided interviews (to obtain quantitative data) and it is supported by qualitative information derived from a series of interviews and informal discussions with local informants, the youth group Mesilou Volunteer Club (MEVOC) and the head of the community. Personal observation of local tourism activities during the fieldwork has also been included.
Figure 2. Location of Mesilou village, Kundasang, Sabah & distribution of homestays (and other tourism enterprises) in Mesilou as observed and recorded during research fieldwork in October 2018 (Source: as stated on each image)

5. Results and Discussions

The popular tourism and major vegetable production areas of Ranau-Kundasang in Sabah in general, and Mesilou village in particular have come into the limelight after the 6.0-magnitude earthquake shook Sabah in June 2015. Many experts considered the earthquake as the strongest to affect Malaysia since the 1976 Sabah earthquake. Based on local news report, eighteen fatalities were recorded and all occurring on Mount Kinabalu. Many of the local tourism attractions and highland farming areas have been closed temporarily for repair works, however many are yet to recover due to severe and/or permanent damages particularly on the basic infrastructure (collapse bridges, water supply disruption and damaged main roads and farm roads) (Research Fieldwork [11]).

5.1 Profile of respondents and CBRT business in Mesilou village

Survey of local stakeholders as presented in Table 1 indicated the majority of respondents i.e. business persons are homestay operators (45%), followed by owners and/or workers in non-farming projects but to some extent, also support the local rural tourism development (40%). The remaining respondents are involved in tourism services as a tour guide/porter, farmer and an owner of a food-based small and medium enterprise (SME) respectively.

Table 1. Type of local businesses / services (n=20)

| Type of Business / Service                        | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------------------------------------------------|-----------|---------|---------------|--------------------|
| Homestay operators                                | 9         | 45.0    | 45.0          | 45.0               |
| Tourism-related (porter/tour guide)               | 1         | 5.0     | 5.0           | 50.0               |
| Agriculture-related (farmers, machine operators)  | 1         | 5.0     | 5.0           | 55.0               |
| Food-based SMEs                                   | 1         | 5.0     | 5.0           | 60.0               |
| Non-farming (transportation, catering, coffee shop, mini market, pasar tamu, etc.) | 8         | 40.0    | 40.0          | 100.0              |
| **Total**                                         | **20**    | **100.0**| **100.0**     |                    |

Source: research fieldwork [11]
Based on the survey findings in Table 2, more than 55% of the respondents have established their businesses before the 2015 Kundasang earthquake. It is also interesting to learn from Table 2 that local tourism businesses continue to grow even after the disaster. In 2016, two new CBRT businesses were established, followed by another seven new businesses established in 2017. This finding can be interpreted as a positive sign of the resilience of local tourism businesses after a major disaster. It also proved that a place with high tourism potential such as Mesilou is not defined by the earthquake. In this instance, a major disaster event did not deter local and nearby investors to continue developing tourism and other economic projects in the study area.

Table 2. Year of establishment of business (n=20)

| Frequency                  | Percent | Valid Percent | Cumulative Percent |
|----------------------------|---------|---------------|--------------------|
| Valid                      |         |               |                    |
| Early 2000 to 2010         | 20.0    | 20.0          | 20.0               |
| 2011 to 2015 (before earthquake) | 35.0    | 35.0          | 55.0               |
| 2016 (post-earthquake)     | 10.0    | 10.0          | 65.0               |
| 2017                       | 35.0    | 35.0          | 100.0              |
| Total                      | 100.0   | 100.0         | 100.0              |

Source: research fieldwork [11]

In terms of starting up their tourism business, the majority of the respondents specifically mentioned they were using their own money or money from their own savings (55%). On the other hand, about 20% of the respondents were reluctant to share any information related to business capital and their financial source for starting up their business. Another 15% of the respondents obtained funding via a bank loan, whereas “shared capital with partners” and “loan / financial assistance from government” comprises of 5% of the respondents each when asked about the source of their business capital (Table 3). A few respondents stated that they have started their business in an organic manner where they started small before growing into a bigger entity and along the way, they learned the ups and downs in business, accumulating valuable experience and skills to rejuvenate their business. It is the norm to expand homestay units only when they have sufficient cash or capital and most of the construction works have been carried out in-house (by the owners with the help of their relatives and/or children). By doing so, they are able to reduce cost and avoid unnecessary loans, thus ensuring the business can survive in the long run so that it can be passed on to their children in the future.

Table 3. Business capital (to initiate the business) (n=20)

| Frequency                              | Percent | Valid Percent | Cumulative Percent |
|----------------------------------------|---------|---------------|--------------------|
| Valid                                  |         |               |                    |
| Using own money / own savings          | 55.0    | 55.0          | 55.0               |
| Shared capital with partners           | 5.0     | 5.0           | 60.0               |
| Loan from bank / financial institutions| 15.0    | 15.0          | 75.0               |
| Loan / financial assistance from government | 5.0    | 5.0           | 80.0               |
| Others (not specify)                   | 20.0    | 20.0          | 100.0              |
| Total                                  | 100.0   | 100.0         |                    |

Source: research fieldwork [11]
5.2 Challenges for CBRT business continuity and resilience in Disaster-Prone Areas

As presented in Table 4, the majority of the respondents stated their businesses were directly and/or indirectly affected by the disasters, and mainly experienced once or two times of disruptions (80%). From this percentage, 15% of the respondents agreed that their business were disrupted many times by the disasters and the remaining 5% stated his business was spared from the disasters. Among the reasons given by the respondents for the low level of business disruptions is many of the homestays are located at the centre of the village which is located quite far from the Mesilou River, a high risk area due to the debris flow and mud flooding (refer to Figure 2). The earthquake, followed by debris flow wiped out the main bridges but most of the major infrastructures in the village remain intact and were spared from any serious damages.

| Table 4. Business disruption prior to disasters (n=20) |
|-----------------------------------------------------|
| Frequency | Percent | Valid Percent | Cumulative Percent |
|----------|---------|---------------|-------------------|
| Valid    |         |               |                   |
| Yes, disrupted many times                     | 3  | 15.0          | 15.0              | 15.0             |
| Yes, only once or twice                        | 16 | 80.0          | 80.0              | 95.0             |
| No disruption                                   | 1  | 5.0           | 5.0               | 100.0            |
| Total                                           | 20 | 100.0         | 100.0             |                   |

Source: research fieldwork [11]

In relation to business recovery challenges, the majority of the respondents (70%) mentioned that their business activities have fully recovered within a month after the disaster (refer Table 5). 30% of the respondents were able to resume their business operations just within 24 hours prior to disasters, followed by 20% needing less than a week and another 20% needing less than a month.

| Table 5. Length of business recovery prior to disasters (n=20) |
|-------------------------------------------------------------|
| Frequency | Percent | Valid Percent | Cumulative Percent |
|----------|---------|---------------|-------------------|
| Valid    |         |               |                   |
| Within 24 hours                                           | 6  | 30.0          | 30.0              | 30.0             |
| Few days but less than a week                              | 4  | 20.0          | 20.0              | 50.0             |
| Few weeks but less than a month                            | 4  | 20.0          | 20.0              | 70.0             |
| Few months, but less than 6 months                         | 4  | 20.0          | 20.0              | 90.0             |
| > 6 months                                                 | 2  | 10.0          | 10.0              | 100.0            |
| Total                                                      | 20 | 100.0         | 100.0             |                   |

Source: research fieldwork [11]

Findings from the survey indicated that past and current disasters posed various challenges to the local tourism businesses. Based on the multiple choice answers given, many respondents mentioned their answers as in combination of few challenges. The highest percentage is the combination of three factors namely: (1) the closure of the main road to the village and main tourism attractions; (2) declining numbers of tourists visiting and; (3) higher booking cancellations (40%) (refer Table 6). Second most popular answer given is a combination of “closure of the main road to the village and tourism attractions, decline in numbers of tourists, temporary closure of local transportation and infrastructure damage” (35%).
**Table 6.** Effects of disaster to local businesses and community (n=20)

| Valid | Closure of main road & tourism attractions & decline in number of tourists & higher booking cancellations | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|------------------------------------------------------------------------------------------------|----------|---------|---------------|--------------------|
|       | Closure of main road & tourism attractions, decline in number of tourists, disruption of local transportation & damage in infrastructure | 7        | 35.0    | 35.0          | 75.0               |
|       | Closure of main road, high booking cancellations, damage in infrastructure & bring negative image and reputation | 3        | 15.0    | 15.0          | 90.0               |
|       | Decline in number of tourists, high booking cancellations, disruption of local transportation & damage in infrastructure | 1        | 5.0     | 5.0           | 95.0               |
|       | Not related                                                                                              | 1        | 5.0     | 5.0           | 100.0              |
| Total |                                                                                                           | 20       | 100.0   | 100.0         |                    |

Source: research fieldwork [11]

The most pertinent challenge mentioned by respondents is “decline in tourist arrivals” particularly for a few months after earthquake hit their village. Fear about their future safety, many tourists have cancelled their early booking and spreading of negative news (if not false news) in social media about the possible future earthquake had deter potential visitors to Mesilou (Research Fieldwork [10]). Figure 3 summarised the list of challenges facing by respondents in sustaining CBRT in Mesilou village, particularly after the 2015 earthquake. Despite challenges and disturbances caused by disaster to their business performance i.e. combination of various internal and external factors (Table 6 and Figure 4), many of local CBRT operators were able to persist and continue to accommodate new visitors within the first 30 days or less than three months. The result also can be linked to Figure 1 of this paper i.e. lifeline model (blue string: Line 2), whereby the CBRT business in Mesilou was affected by disaster, however majority of operators were able to bounce back and become resilient. The findings also in line with information on CBRT establishment in Mesilou (refer to Table 2), which indicated many new businesses were established after 2015-earthquake; sending clear massage there are huge potential and demand for CBRT in highland and disaster-prone area and disaster did not deter both tourists and investors from Mesilou village.
Figure 3. Effects of disasters to local tourism and community in Mesilou village (Source: research fieldwork [11])

6. Conclusion and The Way Forward
As Mesilou is one of the most popular tourist destinations in Sabah, the occurrence of a major disaster will inevitably impose certain challenges for CBRT businesses and will implicate the image and reputation of the business community in the village. In this light, the research has identified several challenges of a disaster to Mesilou’s image and reputation, and the extent to which these factors effected the CBRT performance and its ability to bounce back and becoming more resilient. As discussed in the analysis and findings section, the majority of the respondents stated that disasters imposed short-term negative implications to the tourism business community in Mesilou. However, the situation will improve over a short period of time i.e. visitors return within a month to three months after the earthquake. Furthermore, many of the respondents agreed that safety concerns about the village and surrounding attractions have always been a priority among visitors, as well as to the locals. Safety assurance is therefore very important to regain tourists’ confidence.

The advancement of CBRT business and increase interest from investors to develop new homestays and chalets in Mesilou is indeed a good news to local community as the projects will create more local jobs and encourage local people to remain in the village (i.e. curbing out-migration or working outside Kundasang area). Other than that, the popularity of Kundasang in general as gateway to Kinabalu Park, and Mesilou village in particular had drawn steady number of tourists arrivals hence allowed new form of farming-related projects including the aquaponic farms (semi-organic farming integrated with fish pond) to be promoted into local tourism ecosystem (Research fieldwork in 2018). Based on the field observation, many new areas (hilly and near to Mesilou river) have been cleared for future development. Although the land belongs to private owner, they have to bear in mind about the previous history of disaster that strike Mesilou and it would be wise to take precaution and apply certain degree of development control for high risk and environmental sensitive areas. As for the way forward, CBRT operators and local business entity in Mesilou village need to instil awareness to all local stakeholders about the importance of having a balanced development i.e. maintaining long-term economic gains from tourism, while continuously exercising disaster risk management measures and strategies with vision to reduce future risks.

Acknowledgement
The authors would like to thank Universiti Teknologi Malaysia (UTM) for funding this research under the Research University Grant (GUP-Tier 2, Ref. Num. PY/2017/01876: Q.K130000.2640.15J54).

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