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Exploring sustainable tourism development in mountainous Guizhou Province, China

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In ecologically fragile but aesthetic mountain areas of Guizhou province, China, ecotourism has been opted as an optimal regional development model to raise living standards of local ethnic minorities with rich cultural heritage. This paper undertakes first a brief theoretical review exploring the substance of sustainable tourism and intrinsic values of nature aesthetics as the basis of tourist attraction and economic exploitation. Using ecotourism in Libo County as a case study, the triangular relationship of nature conservation, livelihood improvement of minority groups via ecotourism and their culture preservation which make up the crux of sustainable tourism is evaluated and analyzed. The key finding is that achieving a perfect state of equilibrium in these three elements of sustainable tourism is illusionary. The gain in one element is the loss of another. Their coexistence is found to be in the state of a compromised rapport and outcome.

Key words: Aesthetic value, culture and nature conservation, ecotourism, ethnic minorities, mountain areas, sustainable tourism.

INTRODUCTION AND BACKGROUND

Regional economic policy and tourism

Since the economic reforms in the 1980s, China has aimed at narrowing spatial disparities between more developed coastal regions and lagging inner provinces. One of the key objectives of such a regional policy is to consolidate state capacity as a vector for modernization and strengthen integration or nation-building in ethnic minority dominant areas characterized by poverty, poor infrastructure and disadvantaged by social and economic capacities (health, welfare, education services (Goodman, 2004; Cornet, 2015). Handicapped by comparative and competitive advantages, the inner provinces, especially

those in the mountainous southwest China, were in no good position to promote industrial development by duplicating that of the Pearl River and Yangtze River Deltas. Guizhou, a historically impoverished and an ecologically fragile mountainous region with a rich diversity of minority groups is typical of such a lagging inner province. Until the mid-1990s, Guizhou had experienced very little success with rural industrialization and its state-run industries much focused on defence and resource extraction had suffered low productivity. The province's Total Factor Productivity index was found to be only about 84, much lower than coastal Guangdong, Jiangsu and Zhejiang provinces enjoying all over 125

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Figure 1. Location of Libo County **Source:** Downloaded from Google Earth Map

(Oakes, 1999; Wu, 2008).

With reforms also came the government-led decentralization policy implemented since 1994 which has been more an institutional formality than in the effectiveness of administration and promotion of local ethnic leadership (Cornet, 2015). With decentralization, Guizhou's rural sector has suffered the adverse effect of fiscal decline as the central government cut down subsidies by transferring a large proportion of financial responsibility to provincial and local governments. Under these circumstances, Guizhou's ethnic tourism with rich traditional costumes, folk dances and other artistic performances are perceived to have great potential to become one of the province's pillar and marketable industries. Ethnic tourism represents equally in South-west China a new opportunity for preserving ethnic identity in a Han dominating socio-cultural environment whilst promoting regional economic growth (Oakes, 1999).

The advantages of cash-generating tourism development are multiple. First, tourism when turned into ecotourism is its environmental protective and friendly "green economy". Secondly, it has potential to broaden sources of revenues in economically lagging mountain regions in Guizhou where local farmers have been traditionally and overwhelmingly dependent on subsistence farming on poor lands, and collection of forest products that bring mediocre incomes. For decades, high population growth rates in Guizhou have created tremendous amount of rural surplus labour in the province's rocky topography barely suitable for agricultural expansion. Its 3% low-lying lands are predominantly found in isolated and narrow valleys

interspersed between tall karst mountains. About 40% of its land area is vulnerable to moderate and severe erosion. Thirdly, since the end of the 1990s, land protective measures such as forest conservation and "return of farmland to forest or grassland" (*tuigenghuanlinhuancao*) have led to shrinking of farmland sizes. To some extent, farm mechanization and commercialization have also reduced rural workforce demand. Consequently, more peasants have been driven to the cities where they have few formally trained urban-based skills to offer (Xu, 2009; Studley, 1999; Fang, 2002; Liu et al., 2004; Oates, 1999). Hence, ecotourism has turned out to be a viable option in minority areas where their cultural assets and local knowledge as well as the natural aesthetics inherent within their living environment have provided them with relatively low entry level of tourism participation.

The study area: Libo County

Libo County is located some 200 km south of Guiyang City, the provincial capital of Guizhou province. As an established scenic ecotourism centre, it is highly accessible from Guiyang City (Figure 1). Dominated by ecologically fragile karst mountains and ethnic minorities, the county covers an area of 2430 square kilometres, of which only 8460 hectares (3.5%) are farmland. The county is endowed with two national class resort areas, Zhangjiang and Maolan Nature Reserves where forest coverage is over 95%. In 1994, in recognition of its invaluable nature heritage, the State Council approved the county with a national level scenic resort status. As early as 1996, Maolan's karst ecological system

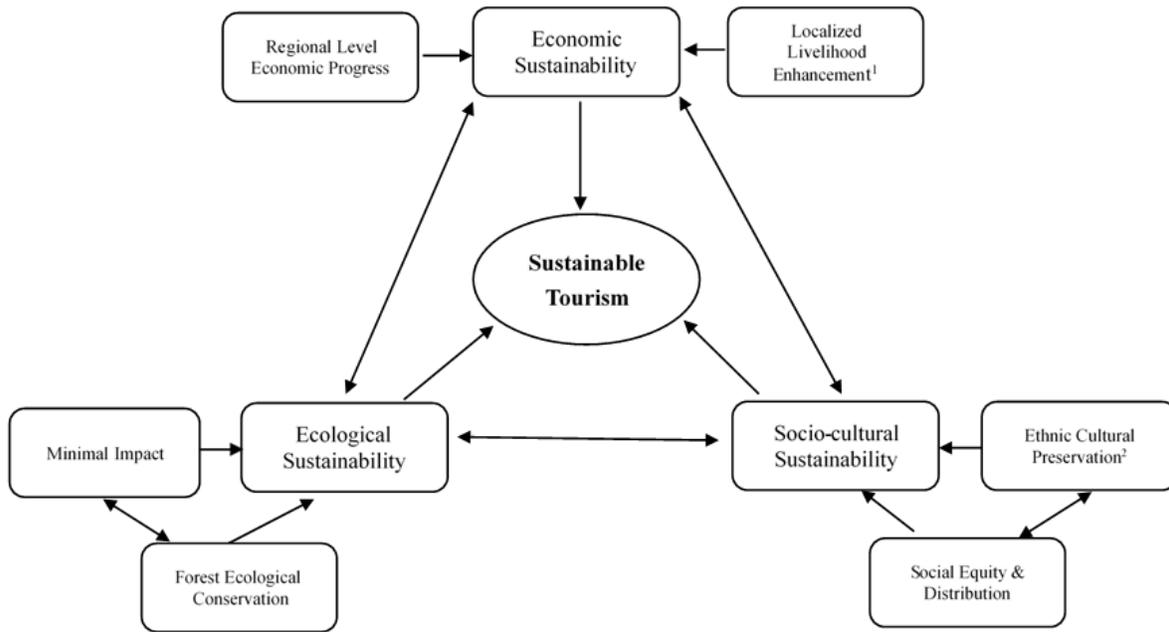


Figure 2. Sustainable Tourism Linked to Localized Sustainability Development
 Source: Conceptualized by author: 1. Cultural performance, localized cuisine and catering, and other services. 2. Traditional habitat, ethnic dress, songs and dances, festive celebrations.

including its wetlands was elected by the UNESCO and listed in its “Biosphere Reserve Network”. In June 2007, the Libo nature site was further declared in the World Nature Heritage Conference held in New Zealand as the sixth World Nature Heritage of China. In January 2014, Libo’s Zhangjiang ecological resort was elected by the National Tourism Board as a National Ecological Tourism Demonstration Site (Aoyang, 2014; Chen, 2014; Baidu Wenku, 2014).

Since Libo was enlisted a World Nature Heritage site in 2006, such brandish effect has helped attract an increasingly large number of tourists to visit its aesthetic landscape and ethnic cultural features (Mou and Yang, 2014). Endowed with multiple waterfalls, streams and limestone caves, the resort area is also called “Green Jade of the Planet” and has great potential for ecotourism development.

This paper uses the Libo County as a case study to explore the triangular relationship of ecotourism, ethnic cultural preservation and nature conservation in the conceptual context of sustainable tourism. More specifically, it investigates how these three key elements interact and create an outcome mutually compromisable to the different stakeholders pursuing respectively the economic sustainability (ecotourism), socio-cultural sustainability (ethnic cultural preservation) and ecological sustainability (nature conservation). As these three elements are undergoing active interactions in the ecotourism activities in Libo, two key questions

associated with the anticipated change that need to be addressed are: a) how have ethnic cultural practices adapted themselves to meet the tourist demand?; and b) how has nature conservation compromised itself when ecotourism is conducted in a massive scale in response to rising numbers of tourists? These two questions are dealt with in the Libo case study below.

RESEARCH METHOD

In this study, a hypothesized model is conceptualized to test the Libo ecotourism where the relationship between ecological sustainability, economic sustainability and socio-cultural sustainability is examined. This model is graphically displayed in Figure 2 which shows that the three levels of sustainability are associated respectively with forest conservation (natural ecology) against impact, localized nature and ethnic-based activities (regional economic source of revenues) and preservation of ethnic identity and culture (human cultural ecology). They are important sustainability factors which serve to reach the “idealistic” goal of win-win sustainable tourism. The hypothesis is presumed to be a compromised process in which some win-lose situation would result following their interactions and negotiations over different levels of constraints.

It is within this theoretical framework centred on the triangular relationship between mountain ecology

protection, ethnic culture preservation and localized livelihood resulting from ecotourism that this paper is built on. The paper first provides a conceptual review on ecotourism and esthetic value in sustainable development of tourism in the context of mountainous nature areas possessing an aesthetic asset appealing to tourists. Aesthetic values play a crucial role in sustainable tourism and is considered a key economic component supporting ecotourism development. This is followed by a discussion of the practices of sustainable tourism development taking place in Libo County.

Much reading is made of published sustainable tourism material from Western perspectives from which relevant theoretical framework and interpretations are extracted. The material selected suits well the Chinese market-oriented tourism economy following reforms. Using a wide range of Western and Chinese sources for a synthetic analysis, the setting serves the purpose of integrating their essence for an appropriate interpretation. This fits into the real situation in relation to the sustainable tourism issue of the Libo case study which has undergone a somewhat neo-liberal and market-led tourism development.

The Chinese tourism-based economic development has its own characterization and outlook. In the Chinese language sources employed, they are largely managerial-, problem solving- and business-oriented studies that have followed closely the pragmatic public policy notions initiated by the state to promote regional economic growth and alleviate incidence of poverty in ethnic minority dominating mountain regions in China. The Chinese state's macroeconomic policy for Guizhou has preferred tourism to pollution-prone manufacturing as a powerful service-based economy in ecologically fragile mountain areas, despite its social adverse effects. Survey results of Chinese sources are selectively used to reflect the perceptions of host communities about themselves, their traditions, change in livelihood and nature conservation. Official publicity materials are avoided as far as possible. With the above borrowed and personal conceptualization, the study is supported by an on-the-spot observation trip in May 2014. The trip conducted informal interviews with local petty traders, taxi drivers and restaurant managers about their perceptions of livelihood change and views towards tourists, the difficulties they encountered in making a living after leaving farming and about their own future. This effort has helped writing the article with a deeper sense of understanding.

ECOTOURISM AND ESTHETIC VALUE IN SUSTAINABLE DEVELOPMENT: A CONCEPTUAL REVIEW

Profit-led ecotourism business is often accused of

destroying ecological systems and causing loss of localized cultural heritage. Such business which may be disguised under the publicly appraisable slogan to preserve ethnic culture and nature could be a marketing ploy to attract the morally conscious tourists (Lansing and De Vries, 2007). In essence, ecotourism is limited in scope as its primary concern lies with protection and preservation of nature resource on the premise of low impact and environment-sensitive travel (O'Neill, 2002). Sustainable tourism, however, is conceptually much more comprehensive in coverage than just ecological protection. Based on the United Nations' perspective, sustainable tourism is defined as "tourism that takes full account of its current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment and host communities" (UNEP and UNWTO, 2005). The coverage of this definition includes sustainability of economic operations, ecological preservation and cultural conservation and is inclusive in particular depth about the complexities, belief systems, social interaction, rules and regulations towards strangers and other elements that make up culture (Burns, 1999; Francis-Lindsay, 2009).

In more concrete terms, sustainable tourism should, *inter alia*: a) maintain essential ecological processes and conserve natural heritage and its biodiversity; b) respect the socio-cultural authenticity, cultural heritage and traditional values of host communities; and c) ensure viable economic operations with fair distribution of socio-economic benefits to all stakeholders including poverty alleviation efforts to host communities (UNEP and UNWTO, 2005). Murphy's (1995, p.279) interpretation of sustainable tourism encompasses even more. It covers the management of all resources that fulfill economic, social-cultural, ecological and aesthetic needs. Murphy's inclusion of aesthetic value is considered an important element subsumed under the economic pursuit of sustainable tourism that will be discussed in greater detail of its conceptual content later.

By sustainability principles, sustainable tourism should embody a practical and feasible characterization. That means, they have to strike a right balance between ecological, economic and social-cultural pursuits, and they are inextricably interwoven in such a way that economic progress as the key activator has to gauze itself against the potential loss of natural ecology and ethnic cultural heritage. In the world of rapid social change and internationalization of tourism, there is a win-lose situation in which the latter two are practically at the mercy of economic progress. The question is how minimal impact could be achieved vis-à-vis the ecology and ethnic culture in the process of mutual interactions and tolerance. To convert such sustainability principles to an implementable sustainability instrument, Lansing and De Vries (2007) suggested that an internationally recognized governance body with a specific task of

drafting up a rating system be set up. In its operations, they recommended that United Nations World Tourism Organization (UNWTO) and the tourism industry be assigned with the authority to ensure and enforce the rating system's reputation, and prestige.

Aesthetic value in sustainable tourism

Developing ecotourism in forested mountain areas, by its very virtue, is to conserve a natural area as far as possible to its original state and landscape by maintaining its aesthetics, wilderness, and biodiversity whilst keeping damages resulting from human activities to the minimum. The prerequisite should be that the natural state of commodified landscape must be sustainably maintained so that opportunities of future generations to appreciate such aesthetics are not compromised. In other words, aesthetic conservation has to be incorporated within the context of biodiversity and wildlife conservation (Saunders, 2013) that serves also the long-term objective of economic pursuit of tourism.

Aesthetic values are derived from human sensory experiences supplemented by cultural and cognitive perception. Deep appreciation is a superior form of knowledge production (Parsons, 2002), and this desire of appreciation is vital in motivating people to dedicate themselves towards conserving the natural ecosystems and biodiversity. Industrial growth from late 18th century Britain first saw nature-led leisure seeking by rising middle classes. Andrews (1989) gave an admirable description of travelers in late 18th century Britain who were attracted by "picturesque" landscape. Often, paintings and drawings of "beautiful-picturesque sites" were used as a reference for choice of visits. Austin (2007, p. 631) interpreted the love for walking in the midst of nature by travelers in late 19th century England as an "aesthetically-centred idea of foot travel" where open air could be consumed and transformed into a "pleasurable and respected aesthetic experience".

Indeed, nature has always been perceived as an aesthetic object in and of itself in human feelings. Nature appreciation became a commodified product only in modern times where the "admiration of scenery as an innate, unlearned faculty" was turned into an "everybody's business" (Ely, 2003). And this business spread at the post-World War II era from the prosperous West to the developing world. In China under reforms, "scenic spots" with aesthetic values have been deployed as a regional balancing tool, as stated earlier, to stimulate growth in economically weaker areas rich in ethnic cultural traditions, and local attractions. Such nature spots also provide an increasingly large and affluent Chinese population with holiday making and leisure opportunities (Nyiri, 2006).

The notion of ecological aesthetics embraces both

subjective and objective judgments of natural beauty; the objective views being rational including the universal environmental need to conserve biodiversity (Carlson, 2004). This means conservation interventions are necessary when natural habitats are threatened with extinction. Carlson (2004) has gone further to link ecological aesthetics beyond nature to include science because scientific knowledge of ecology contributes towards nature conservation and prevents ecological catastrophe with irreversible damages of nature. Similarly, conservation and aesthetic appreciation of nature sites by tourists is also the territorial representation of social equity which needs land use control. This control is in the public interest in terms of access as ecotourism is accessible by all. This accessibility forms the basis of social legitimacy of nature conservation and its management is essentially important.

Ecological and aesthetic management

In mountain areas in southwest China, due to land fragility and topsoil erosion vulnerability, ecological consequences can be serious if land use management measures are not effectively applied and sustainably maintained. In promoting ecotourism in mountain areas, it is crucial to undertake ecological risk assessment measures to examine the ecological effects and implications. Project appraisals technically require at least two forms in approach: a) macro-level environmental-cum-ecology-oriented approach aimed at achieving long-term sustainable development; and b) micro-level physical planning and design approach that meets the macro-level ecology-based approach. Indeed, one even needs to go beyond site-specific boundary in a regional context, in order to plan for long-term and unexpected events (Bourgeron et al., 2001; Demurger et al., 2009).

In China, shortcomings in management of protected areas were widely known under the administrative style of the highly centralized state before the 1980s reforms. Then, many protected areas appeared only on paper and conservation measures were rarely met. Impressive improvements have since been made largely due to the implementation of the deregulation and devolution strategy which allowed local governments to play a more proactive and assume greater responsibility (Jim and Xu, 2004). After the severe droughts in 1997 and massive Yangtze River floods in 1998, tough ecological protection measures and generous conservation and reforestation funding were initiated.

By 2004, over 2000 nature reserves had been designated nation-wide, despite weaknesses in management and planning. A characteristic feature of populous China's nature reserves is that there are often villages and hundreds or thousands of farming dependent villagers found within their boundaries (Herrold-Menzies,

2006). Stringent forest and soil conservation has provided strong legal support to develop ecotourism resources. Several national scale forestry and conservation projects saw over 700 billion yuan being allocated for a 10-year period (2000-2010) (Li et al., 2011; Fang, 2002).

In promoting nature conservation, China has started from the early 2000s to provide financial support to rural households who accept to convert ecologically fragile farmlands back to less erodible natural vegetation cover. This budgetary allocation was made possible from the consistent expansion of urban economy and high GDP growth rates, supported by trade surplus (Deng et al., 2010). Known as "Sloping Land Conversion Program (SLCP) launched in 2000, it is a key component of the payment for ecosystem services (PES) which provides grain and cash subsidies in exchange for the cooperation of the low-income rural households. In the ecologically fragile upper reaches of the Yangtze River, farmers agreeing to convert their sloping lands to ecological forests and economic forests were compensated in 2004 an average of 2250 kilograms of grain (at 1.4 yuan per kg) and 300 yuan in cash for each hectare given up (Wang and Lu, 2010; Li et al., 2011).

Sustainable tourism development in Libo County: A case study

This section examines how ethnic cultural practices have adapted themselves to meet the tourist demand, and how nature conservation has compromised itself when ecotourism is conducted in a massive scale in response to rising numbers of tourists. The second issue is related to the hypothesized model that economic, ecological and socio-cultural sustainability pursuits would have to end up as a compromised outcome.

Adaptation of ethnic cultural practices

At the public policy level and in the interest of China's centralized state, ethnic tolerance could contribute towards social harmony conducive to domestic political stability. On one hand, facilitating peaceful coexistence between the Han majority and ethnic minorities living in peripheral or frontier zones plays a significant role in national unity and integration. Thus, over the last two decades, Chinese central state policies have been increasingly orientated towards a more inclusive ecosystem approach linking more closely nature with indigenous cultures. For ethnic minority groups, forests and their natural habitat are multi-functional and multi-scalar in meeting their basic needs such as source of food and medicine, building and artifact materials, spiritual services, as well as place of recreation and

leisure (Xu et al., 2006; Xu, 2009). On the other hand, self-enhancement efforts of ethnic minority groups to improve their own economic status via ecotourism would also serve to strengthen their cultural identity and safeguard indigenous knowledge, paving an inter-generational transfer of traditional beliefs and practices. In economic terms, therefore, cultural attributes of ethnic minorities can be turned into valuable social capital with potential to be made into marketable products (Xu et al., 2006).

There are however trade-offs inherent in ethnic cultural conservation projects (McShane et al., 2011). On one hand, local resistance sometimes occurs against conservation programs initiated by public policy makers. A good lesson could be learnt from Guizhou's Caohai experience where local villagers fought violently against nature reserve officials enforcing fishing ban to protect the local wetland habitat during the late 1980s and early 1990s (Herrold-Menzies, 2006). In 1993, the "Integrated Conservation and Development Project-ICDP", a local-cum-international NGO cosponsored institution, was set up to reconcile between local and conservation interests. The final resolution included alternative strategies to improve local incomes from non-protected resources, as well as compensatory infrastructure development and through environmental education (Herrold-Menzies, 2006). Other conflict resolution experiences comprise components such as direct compensation, tourism development, revenue sharing from tourism and hunting, alternative incomes, small loans, agroforestry and local infrastructure provisions (Newmark and Hough, 2000).

On the other hand, local acceptance to use natural aesthetics for ecotourism has to bear a cost which is normally paid by local communities exposed to threat of diluting cultural traditions, higher cost of living, loss of hunting and fishing grounds, and farmlands. In a study conducted by Jie Li and his partners in 2007 (Li et al., 2011), it was found that economic improvement was generally common when local villagers were involved in ecotourism and non-farming businesses or jobs. But they also observed that traditional farmers' ability and chances in engaging themselves in higher skill occupations have remained a challenging task. There is therefore an urgency to organize more skills training for indigenous groups in Guizhou as local peasants are increasingly driven towards ecotourism as an alternative livelihood, particularly since the adoption of the Forest Protection Law in 1998 which has taken potential revenues away from the forest-dependent peasants (Qi et al, 2003).

Tourism growth and local socio-economic change

In Guizhou, tourism is a fast expanding sector which in 2012 received some 214 million tourist trips (GPBS, 2013). As Table 1 shows, its service sector made a four-

Table 1. Growth of Tourism and Service Sectors in Guizhou Province, 2004-2010

Year	Total Service Sector Output (Million Yuan)	Proportion of Services in Total GDP (%)	Tourism Sector Output (Million Yuan)	Proportion of Tourism Sector in Total Services (%)
2004	54313	34.12	16760	30.86
2005	75999	39.13	25114	33.05
2006	89253	39.36	38705	43.37
2007	110900	40.92	51228	46.19
2008	137684	41.30	65313	47.44
2009	186516	47.90	80523	43.17
2010	216358	47.10	106123	49.05

Source: Adjusted from Ji, 2012, Table 2. <http://wenku.baidu.com/view/6b0f2d00e87101f69e319557.html>.

Note: As of March 2015, 1 US dollar was equivalent to 6.2 Chinese yuan.

fold growth over the period 2004-2010 during which income revenues derived from tourism were even more spectacular, recording a 6.3 times growth. In terms of percentage over the whole service sector, tourism increased from 30.9% in 2004 to 49.1% in 2010 (see Ji, 2012). In 2011, the tourist number accounted for 5.37 million, creating a total revenue of 3.29 billion yuan (Peng and Wang, 2011; Mou and Yang, 2014).

Though no data are specifically found in ecotourism growth in Guizhou, one will not disagree that its growth is particularly impressive. As a point for reference, over the period 1998-2002, for example, domestic tourists to mountain resorts increased over four-fold, triggering up the demand for hotels, and other supplies (Zhang et. al., 2004). A 2012 report also revealed that over the next decade, investment on ecotourism in the province could reach 2 to 3 trillion yuan (Qianzhannet, 2012).

In 2011, Libo had a population of 175,030, of which 92.7% were ethnic minorities (predominantly Bouyei, Shui, Yao and Miao). About 22.5% of its inhabitants were engaged in non-farm sectors, and heavy dependence on tourism was noticeable as over 22,750 people were directly involved in the sector. In 2011, 537,000 visitors were recorded, with tourism revenues reaching 3.29 billion yuan in the same year which was 80.9% increase over 2007 (Libo Bureau of Statistics, 2012; Baidu Wenku, 2014).

Tourism, more specifically ecotourism, has attracted large numbers of indigenous people to abandon their infertile, tiny and patchy farms and part-time hunting-cum-fishing traditions. Many have been employed by travel agencies, hotel business while many have also turned themselves into petty traders, handicraft makers and dance/singing performers in resort sites. For example, Bizuo village within the Maolan Nature Reserve has transformed itself into a "Specialty Tourism" village where all 38 households have joined the ecotourism chain of business such as beverage catering, restaurants, travel guides etc. They all reported a

substantial improvement in cash income. As part of the national policy aimed at poverty reduction in remote and lagging regions, the villagers have also received strong support from Guizhou's Provincial Finance Department which hired handicraft consultants to train the villagers in handicraft making and tourism-related skills. Overall in Libo, more than 400 had been trained till 2013 (Aoyang, 2014).

Within a span of less than 20 years, Libo villagers have gone through three aspects of social change, namely a) change in living environment (from self-confinement to exposure to the outside world); b) livelihood change (from nature dependent subsistence farming to nature dependent ecotourism services); and c) enhancement of consciousness towards nature protection (from free exploitation to self-restraint and limited exploitation of natural resources). This self-restraint may be interpreted as self-imposed as livelihood change towards ecotourism has renewed villagers' reliance on nature conservation from which they have now made an improved livelihood. At this point, further analysis is needed on the ways in which local ethnic groups have adapted themselves as a result of impacts from visitors and their own services commodified to meet market demand in ecotourism.

Impacts of Ecotourism

Demand side effect: The visitors

From the supply side of Chinese city visitors, ecotourism provides them with an opportunity to recover their losses from working in compact urbanized "concrete jungles" and busy lifestyle cut off from nature. The commodifiable cultural difference of minorities transformed in the form of exotic ethnic performances has a strong appeal to the metropolitan Han consumers (Oakes, 1999 p.25). For many, it is an outlet to reconstruct their lifestyle balance by walking into the forest and mountains, and relax for a

short while before returning to routine work. This renewed relationship between human beings and their natural environment or “back to nature” behavior is phenomenal in Chinese cities. Since the economic reforms in the 1980s, major Chinese cities have experienced high growth rates and rising affluence in three dimensions: physical expansion, population growth and economic progress.

With economic progress, ecotourism demand has created enthusiastic local responses from the receiving end, the nature forest reserves in mountain areas. Participants, especially local ethnic minorities have benefited from this tourism expansion, with a price. In many ways it is a blessing as they forego their traditional subsistence lifestyle and move into a modern and exposed world with improved incomes and other opportunities. The price includes ecological consequences as well, given that exposed nature to massive human engagements cannot rule out totally adverse effects, a universal feature in China and other countries.

First, hotel and catering business, access pedestrian paths and “green cars” require clearing of forest to cater to the basic needs of city visitors. Large-scale use would cause loss of biodiversity through species decimation, an important process of environmental change. Rise in use intensity in protected nature sites is a form of ecological impact in the long-term, though effective management skills could mitigate the extent of impact (Buchholz, 1993; Farrell and Runyan, 1991). Steps of visitors, rolling of transport vehicles have tightened soil compactness, lowering its permeability that affects regeneration of plant species. A case of Snake Island off the coast of Lushun, Liaoning province, cited by Su and his partners (Su et al., 2010) is most illuminating. Visits from the populous mainland to the snake island rose rapidly from the 1990s. Human interference in different ways which affected the reproduction capacity of island snakes had led to their extinction.

Indeed, coexistence of tourism and nature conservation has required a form of symbiosis resolution which combines protection of the environment and needs of local communities through involvement of local stakeholders to make decisions as to how to achieve ecological sustainable development (Torn et al., 2008). Such a community-based, bottom-up approach and its applicability may have difficulties if implemented in high-density areas in southwest China.

Supply side effect: Local ethnic cultural services

Libo ecotourism is highly representative of the controversial socio-cultural and ecological issues raised in this paper. Endowed with rich forest resource, such nature asset is highly valued especially after 1998 by the Chinese government when it began to be more serious about protecting its rare nature reserves which covered only seven percent of China’s territory. Forests are

important in China’s ecosystems for their biodiversity, and goods (fresh oxygen, water supply and thick topsoil vegetation cover) and services as moderator of climate, absorber of pollutants, and regulator of carbon, nutrient, and hydrologic cycles, vital to human living (Harkness, 1998).

The Libo nature site is also capable of offering travelers access to ethnic cultural assets. Until some 30 years ago, local ethnic groups led a frugal and highly nature-dependent livelihood on ecologically fragile karst mountain valleys. Life of ethnic minorities took a sharp change in the late 1980s when economic reforms brought in modern developments and large numbers of tourists attracted by the region’s nature beauty and colourful ethnic cultural performances.

Ecotourism in populous China is typically characterized by massive numbers of visitors, in particular during long vacations. Mass tourism provides strong business temptation as its economies of scale justify mechanized transportation, easy accessibility and high levels of services to attract more particularly “passive” ecotourists who seek better comfort, or due to old age, less walking and less taxing tours (O’Neill, 2002). In the process, ethnic cultural traditions, instead of acting as a roadblock to “modernity”, have been converted to a capital-based marketable element contributable to the growth of local gross domestic product. Libo’s local ethnic cultural performances, publicized as heritage tourism had become a key revenue generating channel in the county. With different cultural values and different tastes, tourists’ response and feedback tended to act as a superimposing force towards hybridized change of cultural performances and commodified objects and products (Kuang, 2013; Peng and Wang, 2011). Hybridization of traditional ethnic culture and tourist-cum business-led performances is a degraded form of heritage of cultural practice as it tends to adapt to suit constantly stakeholders’ changing needs. These stakeholders comprise the state tourism agency as promotor of economic growth, travel agencies as business operators and tourists as consumers. Effective implementation of tourism policy is a decisive factor determining success or failure, especially in a country where the government is highly bureaucratic and plays an overwhelming role in it (Airey and Chong, 2010). Opposite to hybridized heritage tourism is tourism of authenticity in which there is original cultural creativity and distinctive heritage products representative of a place (Francis-Lindsay, 2009). But this authenticity is difficult to achieve in Libo’s ethnic-based tourism under strong influence of sinicization which will be further dealt with later.

With ecotourism picking up momentum from the mid-1990s, many households in Libo County were resettled from the nature sites to work in hotels, restaurants, and other entertainment centres. For the ethnic villages in Libo County, the expansion of tourism business and other

associated services has increased the diversity of their income sources. As the author observed and learned from local residents during his fieldtrip to Libo in May 2014, livelihood had shifted much from traditional subsistence farming to another form of service-based subsistence living characterized by petty trade (catering, souvenir objects, children selling boiled eggs etc.). Opportunities thus arising have inevitably driven able-bodied and enterprising villagers in search of new fortunes either locally or in nearby towns. In the social process of transformation which has witnessed the services expansion linking ethnic cultural traditions with the regional economic change, communal inequalities have emerged as more financial rewards would go to those more business-minded and highly responsive to market demands, as against those who are less inclined to. For the latter group, the resultant climb in property prices and basic cost of living, which is a natural consequence of capital and tourist-driven developments made them even worse off (Feltault, 2006). As a result of contacts with tourists who are consumers on local products and services, local economies have grown with in-coming revenues and job opportunities but have also become more dependent on tourist spending (Peng and Wang, 2011; Stronza, 2001). On the cultural front, tourists seem more interested in nature beauty than local ethnic performances. A survey conducted by Peng and Wang (2011) on 348 tourists in Libo nature site in 2010 showed that about three-quarters cited they were attracted by its "dense karst forests, pure water quality and ideal ecological quality". Only one out of four were really interested in the ethnic minorities and their cultures. Peng and Wang's (2011) finding reflects an inquiry as to whether this is attributable to the fact that the minorities are highly sinicized, thus having lost noticeably their authentic ethnic identity!

Local Libo folklorists have nevertheless argued that commodified cultural performances should be taken as an opportunity to conserve the already lost ritual practices. By reconstructing the traditional marriage ceremony of the Yao ethnic group to visitors, and lodging them in the traditional Yao houses to watch and participate in the event, for example, would help conserve such traditional cultural practices (Yu, 2013; Yang, 1992). From the perspective of the local population, improved living standards was seen as the most important motivation. A research by Gao (2008) indicated that Libo villagers strongly welcome the influx of tourists. Of his 300 interviewees, 83.3% expressed that the more the tourists the better it would be for them, and 71% were openly supportive of the government's efforts to promote tourism in their area.

Concluding remarks

This study has attempted to evaluate the triangular

relationship between the economic, ecological and socio-cultural sustainability aspects and its feasibility for an "ideal equilibrium paradigm" in the mountainous southwest China where the vast frontier region is inhabited by ethnic minority groups. The contribution of the case study in tourism study can be summed up by revisiting the hypothesized model and interpreting their compromised relationship and outcome.

First, it is the economic and socio-cultural compromise. The Libo case has shown that tourists are generally seen as a positive factor who have brought in revenues to the local community and improved their material livelihood. In trade off, however, traditional ethnic cultural habitat, songs and dances, festive celebrations, local ethnic cuisine and catering and cultural performances have all been transformed into commodified products. Ethnic minorities are found to have a stronger preference towards economic enhancement than concern about their cultural loss in an ecologically fragile but aesthetic mountain areas which are critically protected zones with developmental limitations. Living in relative poverty, ethnic minorities' traditional cultures are threatened by sinicization, acculturation and assimilation. After all, local ecotourism permits them to reconstruct their ethnic culture through commodified performances, albeit in a diluted and adaptive manner. Ecotourism is apparently a key compromised approach of poverty alleviation by providing localized jobs in which ethnic cultural heritage, knowledge and tourist-led performances have found a deserved place to contribute. The second compromise is situated between economic pursuits and nature conservation. It is understood that improving living standards of locals through off-farm activities will reduce their dependence on forests, and the extent of exodus to cities where they have few marketable skills. More ideally, as conceived by John Studley (1999) on the notion of sustainable endogenous paradigm, indigenous culture, livelihood and mountain environment may be achieved through ecotourism in combination with agro-forestry and integration of indigenous values, beliefs and knowledge into development plans. The expansion of ecotourism sector in China's southwest in recent years has helped develop skills of local indigenous people in small-scale business and other off-farm occupations. Consequently, having less dependence on land, and benefits in skills upgrading, the process has gained momentum in helping achieve a two-pronged socio-economic objective, namely nature conservation and narrowing income gaps between the dominating Han and ethnic minorities, which is constituent of social sustainability. The process of change has nevertheless reflected the complex sentiments of ethnic minorities who have been fighting on a double front: demand for a stronger self-identity and autonomy whilst having to expose themselves at a higher level of interactions with the outside world as a means of livelihood enhancement. It is the latter demand that puts

them in the passive position of negotiation as politically weaker groups. With sheer tourist numbers rising rapidly in an increasingly affluent nation like China, there is also a huge risk of unsustainable management of protected mountain areas despite stringent regulations and enforcement measures being taken by the public authorities. Local governments are often over-preoccupied with economic gains than their concern for genuine nature conservation. Often, management of world heritage sites and aesthetic sites is leased out by local authorities to profit-led tourist corporations (Zhang et al, 2004; Jim and Xu, 2004). "Over-development" which could lead to permanent landscape damages in mountain areas must be consistently monitored and authentic sustainable tourism will have to put into practice. Furthermore, as ecotourism is a relatively new product in China, ecotourism education directed towards tourists and promotion of environmentally responsible services are as important as management and planning matters. People as consumers and admirers of nature aesthetics must care first with a sustainability mindset.

Finally, with emphasis on community-oriented sustainable tourism, it is imperative that the local ethnic groups acknowledge and embrace the "intrinsic values" of their own tangible heritage and cultural traits which are inherently interwoven in their traditionally inhabited natural environment. It is also important to take note of the strong interdependency between the qualitative state of nature assets and the building capacity of ecotourism development. Logically, the degradation of the former will definitely affect the performance of the latter.

Sustainable tourism development requires the informed participation of all relevant stakeholders, as well as a strong political leadership to ensure wide participation and consensus building. Achieving sustainable tourism is a continuous process and it requires constant monitoring of impacts, introducing the necessary preventive and/or corrective measures whenever necessary. Ironically, tourists being the target service grouping bring in revenues with which basic infrastructure, maintenance and conservation expenses are made possible must neither be ignored. Thus, sustainable tourism should also maintain a high level of tourist satisfaction and ensure a meaningful experience to the tourists, raising their awareness about sustainability issues and promoting sustainable tourism practices among them (UNEP and UNWTO, 2005; Peng and Wang, 2011). Admittedly, ecotourism has upset the original state of ecological balance and cultural heritage in its economic pursuits jointly acted upon by a political-motivated imposing force from the central authority, and the ethnic minorities themselves in various forms of response. For the central state, narrowing regional development gaps and achieving poverty reduction in minority areas are a yardstick of good governance. For the poverty-stricken minorities, adapting to change and improving their

livelihood is also an imperative. Thus, the argument for achieving a perfect state of equilibrium in sustainable tourism is illusionary. On one hand, ethnic minority culture which in its natural state is rapidly disappearing in the globalization age and as a result of integrating with the main stream of national culture finds an opportunity to preserve it via a commodified and hybrid mode. On the other hand, once the natural ecology is disturbed in a massive manner, the ecological systems are no longer in their dynamically stable state. Thus, minimal impact whereby the resilient ecosystems would be able to return to some equilibrium point or steady state, is all we can ask for.

Conflict of Interests

The author has not declared any conflict of interests.

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