Mobility Dilemmas: Conflict Analysis of Road Constructions in a Tibetan Tourism Community in China

Xiangjun Liu [a], Shiqin Zhang [b]* Mingjie Ji [c]

[a] *School of Tourism Management, Guangzhou University, Guangzhou, China;*

[b] *School of Hotel and Tourism Management, Hong Kong Polytechnic University, Hong Kong;*

[c] *Oxford School of Hospitality Management, Business School, Oxford Brookes University, United Kingdom*

* Corresponding author. E-mail: shiqin.zhang@connect.polyu.hk (ZHANG, Shiqin), zhangshiqin37@163.com (ZHANG, Shiqin); Tel.: +852 55795337; Address: 17 Science Museum Road, TST East, Kowloon, Hong Kong.

Xiangjun Liu is a PhD and Lecture of School of Tourism Management at Guangzhou University (Guangzhou 510006 China, Email <liuxj_525@163.com>). His research interests are community tourism, tourism impacts, tourism mobility, sustainable tourism.

Shiqin Zhang is a PhD candidate of School of Hotel and Tourism Management at the Hong Kong Polytechnic University (17 Science Museum Road, TST East, Kowloon, Hong Kong. Email <shiqin.zhang@connect.polyu.hk>). Her research interests are tourism management, tourism and social space, greenway tourism, sustainability.

Dr. Mingjie Ji is a senior lecture in the Business School at Oxford Brookes University (Headington Campus, Oxford, UK. Email< mji@brookes.ac.uk >). Her research interests are tourist behaviour modelling and embodied experiences.

Mobility dilemmas: Conflict analysis of road constructions in a Tibetan tourism community in China

Road construction offers a unique lens through which to investigate tourism mobility. To date, research has focused on the socio-cultural effects of road construction, such as its influence on tourists' movements and its hindrance to tourism development, with less use of systematic methods to analyze road construction-related conflicts. Accordingly, this study comprised a systematic analysis of road construction-related conflicts in Yubeng, China, and potential strategies to solve the underlying mobility dilemmas. A geo-historical trajectory of conflicts was examined, and road construction conflicts were categorized as involving resource competition, tourism dilemma, modern anxiety, or protection paradox. Then, formal conflict analysis and an evolutionary game model were used to analyze these different conflict categories and develop a general pattern of strategies by which the dilemmas might be resolved. The theoretical implications and practical insights of the findings for tourism development, as well as other social conflict contexts, were also investigated.

Keywords: road construction conflicts; geo-historical analysis; formal conflict analysis; evolutionary game model; conflict strategies; sustainable tourism

Introduction

The tourism industry is highly dependent on the mobility of people, material and ideas (Hannam, Butler, & Paris, 2014). Extant research on tourism mobility has focused on

increasing movements, such as the spatial tracks of visitors and their transport modes (Beckmann, 2004; Buckley, 2012). Yet improved mobility may also be deleterious, resulting in global dedifferentiation, placelessness, and cultural degradation (Harrison, 2017; Keeling, 2008; Urry, 2012). These are key points of discussion in tourism literature, particularly surrounding the utility of road construction (Hall, 2005; Hannam, 2008).

Roads are a fundamental part of infrastructure, enabling spatial mobility and tourist flows, yet their construction has increasingly led to controversies (Bonelli & González Gálvez, 2018). In contrast to the long-standing rationale of "the more, the better" (Kreutzmann, 1991; Nepal, 2005), many studies in the last decade have highlighted the negative consequences of road building (Bao & Chu, 2012). Specifically, road construction may considerably shorten the length of time that visitors stay in an area, thus detracting from tourism and other social development (Albalate, Campos, & Jiménez, 2017), or may lead to the destruction of destinations (Bonelli & González Gálvez, 2018) or a decline in traditional agriculture (Hussain, Fisher, & Espiner, 2017). However, the existing literature has focused on the social impacts of road construction (Wang, Niu, & Qian, 2018), and thus there is a need for a logical investigation of the types of road construction conflicts that inform mobility dilemmas, to develop a general pattern of strategies to minimize these conflicts and thereby contribute to sustainable tourism development.

Systematic conflict analysis is a developing area in tourism research (Yang, Zhang, & Ryan, 2016). Conflict analysis is based on the theory of social conflict,

originally suggested by Karl Marx and further developed by other sociologists, such as Randall Collins (Collins, 1975). This theory holds that societies are perpetually in conflict owing to the constant competition for limited resources (Dahrendorf, 1958; Rubin, Pruitt, & Kim, 1994), thereby rendering conflict analysis as critical in interpreting social relationships and advancing social development (Coser, 1956). Effective tools such as formal conflict analysis and an evolutionary game model have been developed in social science research for use in different contexts. However, these have yet to be unified in a systematic framework for comprehensive investigations of dilemmas (Bartos & Wehr, 2002; Wild, Woodward, Field, & Macmillan, 2018).

Thus, in this study a systematic conflict analysis process was utilized to answer the following questions: (1) what are the main types of conflicts surrounding road construction? and (2) what strategies can be used to resolve the conflicts in the context of Yubeng, a Tibetan community in China that is dependent on tourism? The analysis process began with an examination of the geo-historical process of road building in Yubeng to identify the details of various conflicts, followed by a formal conflict analysis and development of an evolutionary game model to determine the logical solutions for different types of conflicts (Roger, 1991; Von Praun & Gross, 2003). Yubeng was selected because the construction of a transit road to the village was halted for years owing to various contradictory views. The conflicts and dilemmas facing Yubeng were comparable with those in other tourism communities,

making the findings applicable to efforts to develop tourism and solve modern mobility dilemmas in other areas.

This study makes two main theoretical findings contributions. First, its specific findings regarding mobility dilemmas such as types of road development-related conflicts, and strategies to deal with them, enrich the existing research on tourism mobility. Second, it involved the application of a systematic conflict analysis process that can be used generally to address conflict situations. A comprehensive understanding of tourism mobility dilemmas will enable designers and residents to better predict, control and manage conflicts, to ultimately achieve harmonious social development.

Literature review

Tourism mobility and road construction

The "new mobility paradigm" has become increasingly important in social science research and tourism studies (Harrison, 2017; Sheller & Urry, 2006). The exploration of mobility begins at the level of socially produced motions, including physical movements (e.g., walking and vehicle transport) and intangible movements via media communication and technologies (e.g., image transfer and virtual travel) (Cresswell, 2006; Sheller & Urry, 2006; Urry, 2002).

Tourism is an important context in which to interpret mobility because it encompasses a complex combination of movements involving various factors: people, objects, capital, information, memories, and performance (Hannam et al., 2014). Moreover, tourism depends on various types of mobility. The movement of people

and objects (cars and aircraft), capital and images "all go into 'doing' tourism" (Sheller & Urry, 2004, p. 1). Therefore, apart from studying the movements in tourism to determine trends in mobility, understanding the development of mobilities is also meaningful for tourism development (Faist, 2013; Hannam, Sheller, & Urry, 2006). Whereas previous studies on tourism mobility have focused on movements, such as visitors' spatiality (Iaquinto, 2011), transport modes (Clarke, 2011; Niavis & Tsiotas, 2018), and mobile technologies (Dickinson, Hibbert, & Filimonau, 2016), the determination of optimal social strategies for mobility-enhancing factors such as road construction has been a relatively new focus in the literature (Li & Hu, 2018).

It has been stated that contemporary mobility is inseparable from the infrastructure and technologies that support it (Dalakoglou, 2012; Hussain et al., 2017; Khadaroo & Seetanah, 2007, 2008; Nepal, 2005). Road-based transportation is an essential medium for the movement of people and goods (Pender, 2016). In tourism development, roads have long been regarded as the connection channel for the host destinations and tourist origin countries (Leiper, 1979), and the important relationship between roads and tourism mobility has been recognized (Bonelli & González Gálvez, 2018; Dalakoglou & Harvey, 2012).

Building roads has long been accepted as a positive, desirable occurrence that transforms the social and economic aspects of tourism-dependent communities in multiple ways (Bonelli & González Gálvez, 2018; Kreutzmann, 1991), such as by forming a linkage with the outside world (Hussain et al., 2017), increasing tourist numbers (Cass, Shove, & Urry, 2005), or increasing economic growth (Wang et al.,

2018). However, there has been a growing awareness of and interest in the complex conflicts surrounding road construction (e.g. Harvey & Knox, 2012). For example, Wild et al. (2018) highlighted the conflicting interests in the case of building cycle lanes. The positive effects of improved mobility on the number of visits have also been questioned in a Spanish community (Albalate et al., 2017). Increased geographic mobility has been criticized for worsening resource competition in tourism-dependent communities (Zhang & Cole, 2016), causing cultural destruction of communities (Chhabra & Kim, 2018), and generating conflict among stakeholders (Balkmar, 2018). Moreover, reshaped spatial and social relations may disrupt social structure and environmental value (Dickinson, Robbins, & Fletcher, 2009; Tucker, 2001).

These consequences not only highlight the negative impacts of road construction, but also illustrate the dilemmas inherent to enhancing tourist mobility. A systematic investigation of the road construction-related conflicts and logical solutions is critical to enable the sustainability of ongoing tourism and the development of social harmony (Bonelli & González Gálvez, 2018).

Previous research efforts have investigated tourism stakeholder conflicts (Bartos & Wehr, 2002; Lulofs & Cahn, 2000). Yang et al. (2016) developed a conflict analytic framework to discern the effects of social conflicts on the tourism community. This framework categorized stakeholder conflicts as in-group or out-group and concerned their effects in shaping the community's structure and boundaries. This stakeholder-based classification focused on static-interest competitions (discussed in next section) that arose during the tourism development

process. However, other types of conflicts and strategies for different conflicts were overlooked.

The aims of this study were to systematically analyze and comprehensively interpret tourism mobility dilemmas that had arisen in road construction conflicts on the basis of conflict theory, which conceptualizes conflicts as the core of social development (Dahrendorf, 1958; Lulofs & Cahn, 2000).

Conflict theory

Marx's classical conflict theory brought conflicts into focus in the 19th century. The theory's primary contention is that perpetual conflicts occur among classes in society competing for resources (Coser, 1956; Marx, 1948). In this regard, conflicts are defined as social struggles for varying interests, such as power or scarce resources (Rubin et al., 1994). In *Conflict Sociology: Approaching an Illustrative Science* (1975), Collins further argued that social conflict is central to society and played a vital role in advancing social development (Collins, 1975). Conflicts are ubiquitous in social life, but the topic has been marginalized in research owing to the popularity of structural functionalism, which stresses the importance of sustaining social integration and social order, and thus classes conflicts as abnormal (Parsons, 1940).

However, conflict theory considers instability as essential for the development and evolution of social structure (Ritzer & Stepnisky, 2016). It necessitates the evolutionary analysis of the forms, causes, constraints, impact, and strategies of conflicts for interpreting society (He, He, & Xu, 2018). Thus, a geo-historical analysis was conducted in this study to classify conflicts about new roading developments

because it best reflects the evolving nature of conflicts (Gaigals & Leonhardt, 2001) and enables the mapping of conflict trajectories and associated causal relationships (Fioretos, Falleti, & Sheingate, 2016; Thelen, 2002).

Although social conflicts vary with context, they may be classified as being one of two main types: static competition or dynamic trade-off (Roger, 1991; Von Praun & Gross, 2003). Static competition refers to the "fight" for resources between particular parties in which the outcomes for those parties are considerably predictable (Von Praun & Gross, 2003). In contrast, dynamic trade-off arises from external imposed changes where outcomes for the parties of the conflict are unpredictable and change over time (He et al., 2018).

To analyze static competition between at least two players, Fraser and Hipel (1982) proposed the method of formal conflict analysis. This method seeks to "reconstruct, in a systematic and rigorous fashion, each step in the decision-making process, identify which decisions were most influential and what options were available and viable," and "clarify both their impact and their connection to other important decisions" (Capoccia & Kelemen, 2007, pp. 354-355). Most notably, its full use of information for logical consequence prediction (i.e., all the possible outcomes for parties involved) and comparison of the many possible combinations facilitates scientific and thoughtful decision-making (Von Praun & Gross, 2003).

To analyze dynamic trade-off conflicts, an evolutionary game model can be used. This involves using a logical reasoning process to identify stakeholders' interests and corresponding payoffs over time, ensuring that the evolutionary optimal

strategy of certain phases can be distinguished (Weibull, 1997). For instance, He et al. (2018) utilized an evolutionary game model to explore a strategy for the effective transformation of mass tourism into "green tourism." By constructing a dynamic model that calculated the payoffs for stakeholders depending on different choices (green tourism or mass tourism), these workers devised an optimal strategy for encouraging all stakeholders to adopt a green tourism approach. The key to such an evolutionary game model is to determine the payoffs of different choices over time and the logical reasoning process against a changing context (Wie, 2005).

Methodology

Case introduction

Yubeng village is located at the center of the Meili Snow Mountain Scenic Area (MSMSA) in Deqin County, Diqing State, Yunnan Province, P.R. China (see Figure 1). Yubeng is a popular location for travelers en route to the Mysterious Lake. Prior to the 1990s, the village and the MSMSA were surrounded by mountains, so access was possible only by foot (hiking) or horse. Local residents followed the Tibetan religion and lived a self-sufficient and peaceful life (Guo & Huang, 2010).

In 1991, a Chinese–Japanese hiking team was struck by an avalanche on Meili Snow Mountain, and the news coverage of this fatal event introduced the area to the world (Pan, Li, & Cong, 2015). The natural beauty and well-preserved Tibetan ethnic culture also led to increased tourist growth (Li, 2015). Over the last three decades, the area has been transformed from an autonomous community-based tourist site into an official regional tourist area (Pan et al., 2015). The MSMSA Management Bureau (the

Bureau) was established in 2004 as an official authority to plan and manage tourism in the area. In 2010, the MSMSA Exploitation and Operation Company (the Company) replaced the Bureau.

By 2007, Yubeng received 26,000 tourists annually,[1] which posed an immense challenge to road infrastructure. Thus, road building became critical for tourism growth. However, it also generated various conflicts (Weng & Peng, 2014). The roads to Yubeng were categorized on one of three scales (see Figure 1): (1) "outer scale"—roads from the outside areas to the visitor center, which is located in Deqin County; (2) "transit scale"—roads connecting the visitor center to Yubeng ; and (3) "inner scale"—roads within Yubeng. At present, three main types of roads can be identified in this area: (1) national or provincial roads built by the state or provincial governments and suitable for all vehicles (red roads in Figure 1); (2) asphalt roads built by county-level governments for motorbikes and limited numbers of cars and trucks (green roads in Figure 1); and (3) paths for hiking and horseback riding (blue roads in Figure 1).

The road construction conflicts around Yubeng involved the nearby villages of Mingyong, Sinong, Xidang, and Yongzong (see Figure 1), which compete for the same tourist resource, notably Mysterious Mountain. Yubeng and Mingyong attract more visitors than Sinong, Xidang and Yongzong because they are closer to the two main scenic spots—the Mysterious Lake and the Mingyong Glacier. However, in comparison with the temporarily abandoned and partially constructed transit road to

[1]Data were provided by the MSMSA Management Bureau.

Yubeng, the transit road to Mingyong village has been improved since 2015. Therefore, the transit road to Mingyong was included in the analysis as a reference to inform a comprehensive understanding of the road construction conflicts.

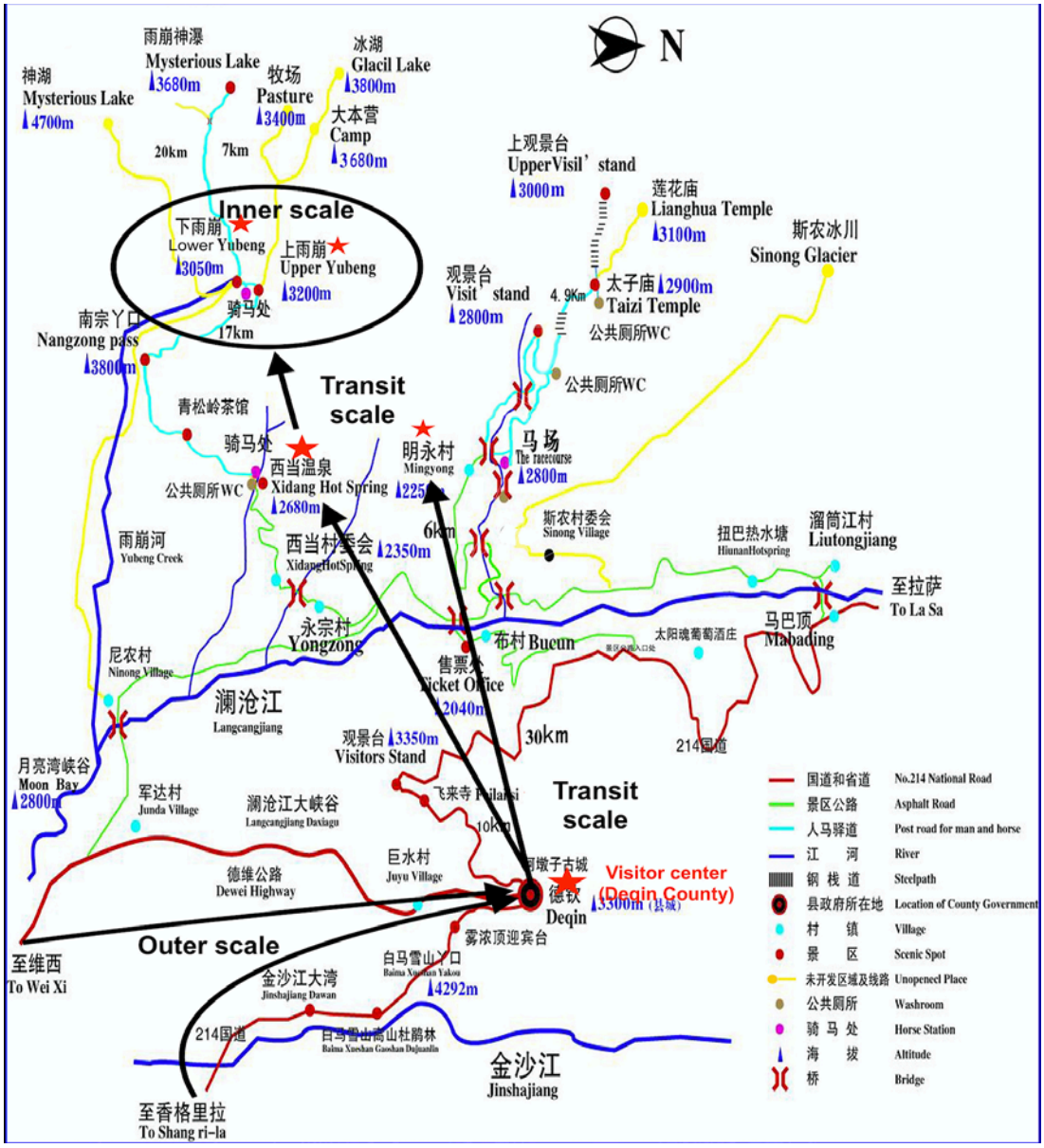

Figure 1. A map of Meili Snow Mountain (Source: The Bureau).

Data collection

Longitudinal ethnographic fieldwork formed the basis of this study, with ground investigations used to gather information about the evolution of the community (Zhang, 2014). From 2007 to 2018, the lead author visited the MSMSA eight times,

participated in local planning projects, and conducted research for different topics (see Appendix I). These eight visits enabled the lead author to make comprehensive observations of the village, as both a planner and researcher. Through this longitudinal fieldwork, the lead author thus developed an extensive understanding of the history of Yubeng and the surrounding scenic area.

Empirical data were primarily collected through semi-structured in-depth interviews with key respondents, i.e., stakeholders in Yubeng, such as the villagers, business migrants, tourists and governors at different levels (Deqin County government, the Bureau, the Company, and the Yubeng Village Committee). To achieve a comprehensive view, villagers from the competing areas were also interviewed as indirect stakeholders. In addition, members of non-governmental environmental protection organizations like the Nature Protection Association (hereafter referred to as "the NGO") were included, as they opposed the road construction on the basis of protecting local wildlife. Participants were recruited using a snow sampling technique, which was efficient and effective given the scenario and its context (Bennett & Elman, 2006). The interview questions canvassed three main issues: (1) How have the roads changed over the last 30 years (from 1990 to 2018)? (2) What conflicts have been created surrounding road construction? (3) To what extent do you agree with the road construction to Yubeng (or the opposing view)?

A total of 78 key participants were interviewed in the longitudinal fieldwork and 31 of these participants were interviewed more than once (see Appendix II). All of the interviews from previous trips—conducted for planning purposes—are

included in the appendix, as these contain the focus questions. The interviews lasted between 30 minutes and 3 hours. When information saturation was reached during the final two trips, two additional participants were interviewed (Denzin & Lincoln, 1994).

All of the interviews were audio-recorded with the participants' consent, transcribed by the leading author and analyzed in Chinese. To avoid translation errors in the reporting stage, the findings and certain quotations were checked by the authors through a translation-back-translation technique to ensure accuracy (Taylor, Bogdan, & DeVault, 2015). The interviewees' identities were coded for anonymity by number, sex and age. Thus, the code "01M45" means the first interviewee, who was male and 45 years old. In addition, observational and secondary data were used to triangulate the findings from the primary data (Flick, 2004). The details of community development, tourist arrivals, and government plans came from the Master Plans of the MSMSA, Deqin government reports and the Chronicle of Deqin County.

Data analysis

A four-stage process was adopted in this study to enact a systematic conflict analysis (see Table 1). The first stage was a three-step deductive content analysis to interpret the data using the qualitative data analysis computer software package NVivo 10 (Elo & Kyngäs, 2008). The transcripts were coded and grouped into main themes for subsequent analysis. The second stage involved an analysis of the geo-historical trajectory of road construction conflicts in Yubeng (Antonescu & Stock, 2014). Thereafter, a formal conflict analysis was performed to address the static competition

conflicts, and, finally, an evolutionary game analysis using the three steps in Table 1 was performed to examine the trade-offs of conflict. The fundamental aspects of these last two steps were the logical reasoning process and discussion of optimal strategies for different conflicts (He et al., 2018; Lupu & Sloman, 1997; Von Praun & Gross, 2003).

Table 1. The systematic conflict analysis process.

Aims	**Analysis method**	**Procedures**
Data interpretation	Content analysis	(1) Prepare the data for analysis (2) Organize and categorize the data into main themes (3) Report the data for further analysis
Conflicts identification	Geo-historical analysis	(1) Identify the time and location of road construction (2) Identify the temporally and geographically changing mobilities (3) Identify the conflicts during the process of road construction at varying time frames and spatial scales
Solutions for static competitions	Formal conflict analysis	(1) Process the preliminary information on conflict events (2) Create a tabular form to include the five main elements (3) Conduct stability analysis to achieve "satisfactory" solutions
Solutions for dynamic trade-offs	Evolutionary game analysis	(1) Build a dynamic model (2) Clarify the payoff effects for each side (3) Perform logical and systematic analysis to achieve the Nash equilibrium solution

Findings

Geo-historical analysis of conflicts

The geo-historical process of road construction in Yubeng from 1990 to 2018 was mapped out on four geographical scales, as shown in the vertical axis in Figure 2. This highlighted the corresponding relationships between road construction, mobility, and tourism development according to annual tourist arrivals (Table 2).

The green and red vertical lines in Figure 2 represent the start and end times, respectively, for all road construction events on the spatial scales. Over the last three

decades, significant effort has been made by the villagers and governments to improve the road conditions; however, this has caused multiple complex conflicts between the attitudes of parties involved or events during road construction. All of the conflicts are numbered, and those that have been solved are marked with a green "X," while those that have yet to be solved are denoted by a red "X." The degree of improved access for tourists varied according to the type of new road built, and geographical constraints and village regulation also hampered tourist mobility. Therefore, mobility was classified on the basis of the roads' main use: hiking and horseback riding, motorbike, truck, or free (where the latter indicated that there were no limits to the type of transportation available to tourists).

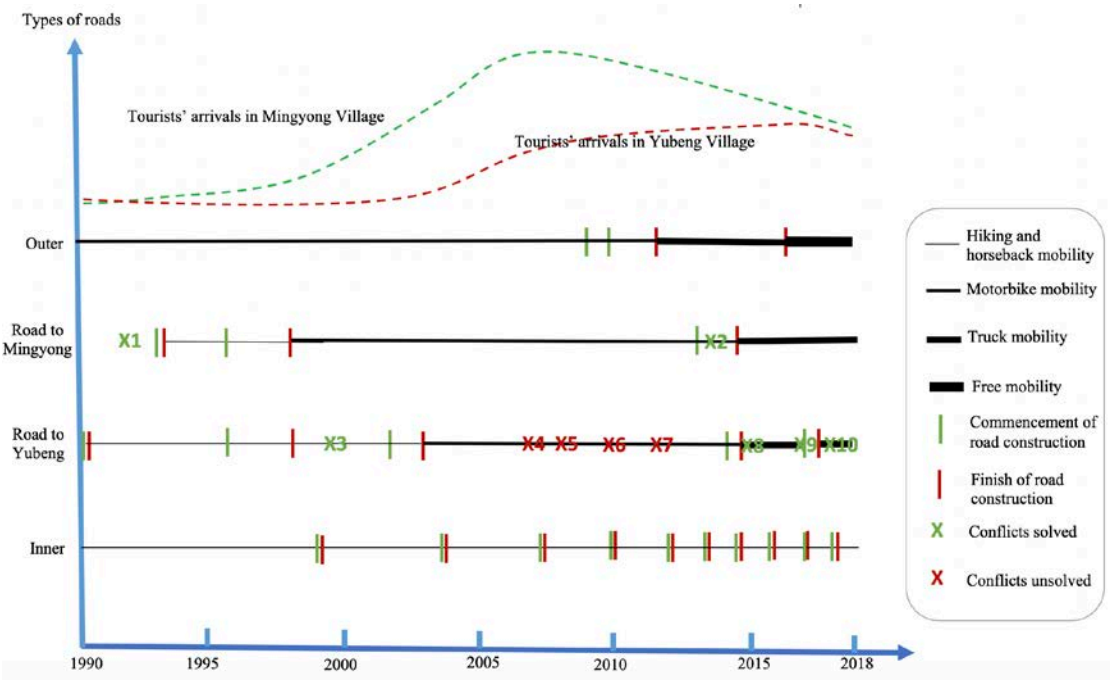

Figure 2. The geo-historical process of road construction around Yubeng village.

Table 2. The annual number of arrivals in Yubeng and Mingyong villages (source: Deqin Government reports).

	2007	**2012**	**2017**	**2018**
Yubeng	26,000	28,167	31,000	22,000
Mingyong	54,800	40,217	36,000	22,815

Outer scale: No conflicts on road construction from outside to visitor center in Deqin County

The visitor center for the MSMSA is in Deqin County. Most of the tourists visiting Deqin come from Weixi and Shangri-La counties (see Figure 1), both of which are adjacent to Lijiang City, which is the most famous tourist destination in Yunnan Province. Prior to 2012, mobility between Deqin and Weixi on an asphalt road was limited to motorbikes because the mountainous terrain prevented transport by car or truck. From 2009 to 2012, a province-level modern road was constructed to facilitate more car, bus, and truck transport. However, this road passed through the mountains at an altitude of 4,230 meters, thereby necessitating a daunting 8-hour journey. Thus, in 2016, after six years' effort, the national road No. 214 from Shangri-La County to Deqin County was completed, incorporating the White Horse Snow Mountain Tunnel to shorten travel time from 8 to 2 hours, and improving access to the free mobility level.

No conflicts occurred regarding the construction of these outer scale roads to Yubeng because the road provided the basis for the tourism development of the entire Meili area: *"All people, including the villagers and the government, supported the*

road construction to Deqin County because it could benefit the whole area and everyone" (51M50).

Transit scale: Conflicts (X1 and X2) regarding road construction between the visitor center and Mingyong village

The first conflict (X1) occurred between Mingyong and Deqin in 1991, when the Deqin government planned to develop its glacier tourism. To maximize the tourism benefits to many villages, the Deqin government initially planned to construct a road to Mingyong Glacier through the villages of Sinong and Mingyong: *"We would like the visitors to enter Mingyong through Sinong Village so both villages would benefit"* (54M40). However, the residents of Mingyong were concerned that the plan would provide substantial benefits to Sinong at the expense of their own glacier tourism trade. Consequently, in 1993 Mingyong villagers created a path directly linking Mingyong to Deqin. This path facilitated tourists' direct access to Mingyong village, thereby encouraging subsequent government investment from 1996 to 1998 to build an asphalt road to Mingyong. Sinong village was thus excluded from the tourism development: *"Mingyong villagers are cleverer than us to take the chance first. We are left behind"* (46M60).

Conflict X2 occurred in 2013 between Mingyong and the Company regarding the development of Mingyong glacier tourism. As the number of tourists in Mingyong village had increased, the Company planned to replace horseback-riding services with electric vehicles. Mingyong villagers initially protested this decision because providing horseback-riding services was their main source of income. However,

Mingyong signed a contract with the Company in 2014 to give up its horseback business, in return for which every household in Mingyong would receive 55,000 yuan annually and one member would be allocated work in the Company*: "The tourism company promises to pay 55,000 yuan to every household every year, which will be increased by 2% to 8% after five years"* (55M50). Thereafter, the villagers could *"run their own businesses besides the one job in the tourism company"* (47M45). The improved transportation increased the transit mobility of Mingyong village to truck level by 2015.

Transit scale: Conflicts (X3 to X10) regarding road construction between the visitor center and Yubeng village

Tourism development in Yubeng started early in 1990 and was marked by the completion of a trekker path linking Deqin and Yubeng. This path traversed Yongzong and Xidang, so the residents of these village offered horseback-riding services to transport tourists from Deqin to Yubeng. Although an asphalt road was constructed between 1996 and 1998 from Deqin to Xidang village, the road from Xidang to Yubeng remained accessible only via horseback. Thereafter, conflict X3 arose, as Xidang and Yongzong competed for the horseback-riding business of tourists. This conflict led to a collective fight involving villagers from both sides in 2000, upon which Xidang won the absolute control of transportation for that segment of road: *"At that time, we usually had quarrels with each other due to the reception of tourists. Finally, it was solved by a collective fight. We won and Yongzong village gave up its horse-riding service"* (04F30).

In 2002, the Deqin government invested in the road from Xidang to Yubeng, widening it to 1 meter by 2003. Given the increase in the number of tourists, in 2007 some villagers from Yubeng began campaigning for an asphalt road to improve tourist mobility. However, this proposal was suspended because the Deqin government argued that *"it is in the best interest for Yubeng not to have an asphalt road"* (51M50) because *"the authenticity of Yubeng Village would be destroyed and no tourists would come"* (54M40). Trekkers in Yubeng corroborated this fear: *"if a modern road is constructed in Yubeng Village, we will not come here again because Yubeng will not be the same"* (68F30). This conflict (X4) represented the opposing sides of the argument about building a road to Yubeng: whether it would promote or destroy tourism in Yubeng.

In 2008, conflict X5 developed among Yubeng villagers. Some supported the construction of an asphalt road between Xidang and Yubeng. They believed such a road would bring modern life and convenience: *"In an avalanche in 2007, a tourist was seriously injured. He would not have died if he had been sent to the hospital quickly enough, and this necessitates the construction of a modern road"* (17M40). However, other villagers were worried about the destruction of traditional beliefs and nature: *"Our village as a whole worshipped Kawagebo and we believed ourselves blessed. Since the development of tourism, there have been fewer pilgrimages and more pollution. Consumption offended the God Mountain and we are punished by having more avalanches, mudslides, and landslides in recent years. Road construction will make it worse"* (14F38). X5 reflected the dilemma between modernity, as

represented by an improved road, and the preservation of religious traditions that may depend on the absence of such a road.

Conflict X6 arose in 2010, as a debate on whether the asphalt road construction between Yubeng and Xidang would increase or reduce waste. Tourism development in Yubeng produced a large amount of waste and increased timber consumption, thereby threatening the entire Meili Snow Mountain area. China News reported that *"in Yubeng Village a large amount of waste is produced daily. They are randomly stacking it on the roads, due to delayed cleaning. The roads within and connecting to Yubeng Village have the same problem"* (China News, October 13, 2014). In 2010, the Bureau supported the construction of an asphalt road to take the waste away, but the Environmental Protection Organization rejected the proposal. The Organization suggested that *"the waste cannot be controlled by road improvement. If a road were constructed, more waste would be generated because more tourists would come. Horse teams can do the clearing job and tourists can take their garbage out by themselves" (60M65).*

In 2012, representatives of Deqin County and some villagers challenged the Environmental Protection Organization, which resulted in conflict X7. They complained that the accumulated waste was exerting a substantially negative influence on the local environment: *"The biggest problem of Yubeng is the waste transportation. One horse can carry at most 45 kilograms. How many horses do we have to use to take out the 50 tons of waste produced last year?"* (52M55). It was also argued that increased mobility would facilitate the importation of materials, thereby

reducing the consumption of timber grown in Yubeng and simultaneously removing waste in an efficient manner. Like X6, X7 concerned the dilemma of environmental protection through road construction.

In 2015, conflict X8 occurred between the residents of Yubeng and Xidang villages, concerning widening the path between the villages to enable truck transport. This improvement benefited Yubeng by taking waste out and bringing living essentials in. However, Xidang's horseback-riding services were negatively affected: *"How would we survive without a horse-riding business? We can't give up on it unless the Deqin government compensates us"* (48M40). The Company helped to negotiate with Xidang village, which eventually provided Yubeng villagers with job opportunities in the truck service. Moreover, goods but not tourists were allowed on trucks, thereby enabling the horseback-riding business to continue.

Conflict between Xidang village and Yubeng recurred in August 2017 because of the collapse of a segment of road linking the two. Xidang villagers impeded the maintenance of transportation (conflict X9) to obtain additional benefits. Yubeng villagers were furious: *"Xidang villagers stopped the Company from repairing the road. They wanted higher compensation. This had a significant influence on our income because it stopped transport to our village"* (30M40). Internal negotiations in October 2017 led to a new agreement between Xidang and the Company. The collapsed road was repaired to preserve tourist transportation.

After National Day on October 1, 2017, conflict (X10) re-emerged between Xidang and Yubeng. Xidang villagers found discrepancies between their contract and

the contract the Company had made with Mingyong. Xidang villagers stopped trucks from delivering materials to Yubeng, and prevented visitors entering from Xidang. Instead, tourists had to take a long and dangerous route through Ninong village. In 2018, a draft agreement was reached that the Deqin government would improve the road and pay for the loss of the horseback-riding service to Xidang: *"Truck transportation is a possible means of clearing waste and bringing in essentials as well as tourists in the future"* (12M45). Nevertheless, the proposed road construction remains controversial.

Inner scale: No conflicts regarding road construction within Yubeng village

Constant road construction within Yubeng focused on building walking paths to meet the needs of hostels construction and the use of natural resources; however, mobility within the village remained at the hiking and horseback-riding levels.

Geo-historical analysis highlights the symbiosis of road construction, mobility improvement and tourism development. Thus, it was observed that road-building boosted tourism for Mingyong and Yubeng, where, by 2007, annual tourist arrivals had reached 54,800 and 26,000, respectively, compared with only hundreds of trekkers annually in previous years. Increased transit mobility played a vital role in promoting tourism growth. Mingyong and Yubeng villages entered a rapid tourism development stage in 1998 and 2003, respectively, when transit mobility reached motorbike level. However, this relationship was non-linear; although mobility continued to increase, arrivals in Mingyong declined to 40,217 in 2012 and 22,000 in 2017 because of the degradation of Mingyong Glacier. In contrast, tourist arrivals

growth in Yubeng remained steady, and reached 31,000 in 2017. The figure significantly declined in 2018, falling to 22,800, due to the conflicts surrounding the transit roads to Yubeng. The underpinning dilemmas must be examined and solutions determined to maintain the development of sustainable tourism in Yubeng.

The discussion of the aforementioned ten conflicts focused on transit scales because conflict at these scales directly influenced arrivals to the villages and involved parties with opposing interests. These conflicts were classified into four main types related to road construction and increased mobility (see Figure 3).

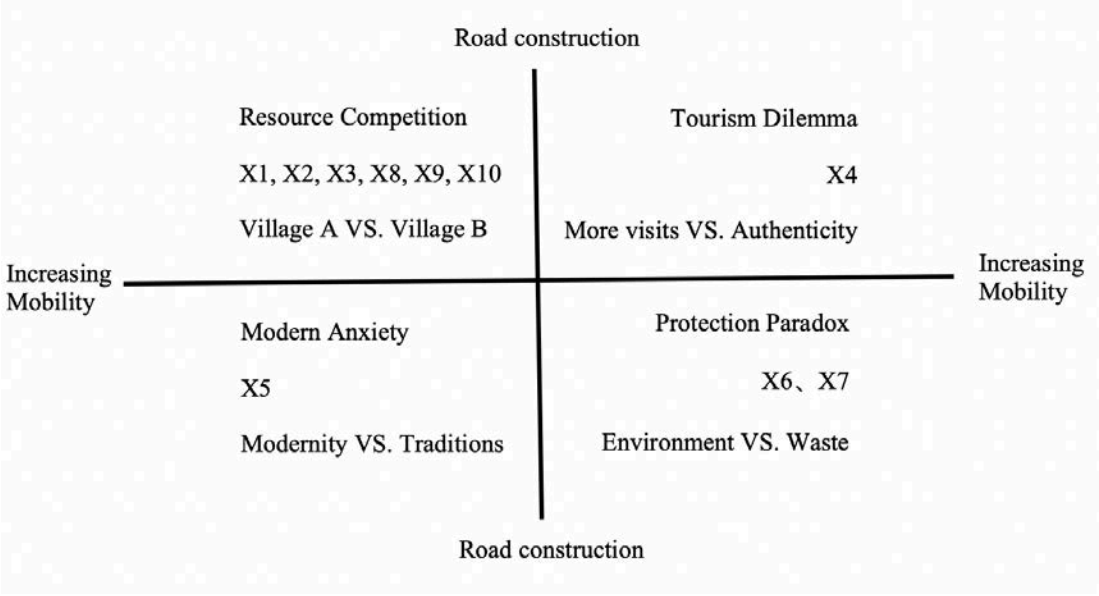

Figure 3. Conflicts in the road construction around Yubeng village.

Conflicts X1, X2, X3, X8, X9, and X10 (see Figure 3) occurred because of resource competition. These conflicts shared three common features, namely a focus on economic benefit, the involvement of two key parties, and a satisfactory resolution. Evidently, improved mobility intensified the competition for resources when tourism was favored. The competition was “static” because both parties’ interests persisted

over time, and the action of one party had visible, predictable, and immediate effects on the other.

The other conflicts were classified as “tourism dilemma” (i.e., X4), “modern anxiety” (i.e., X5), or “protection paradox” (i.e., X6 and X7). X4 concerned authenticity associated with local, aboriginal, and exotic experiences, which are negatively related to mobility. X5 reflected the dilemma of modernity enhancing efficiency and convenience but likely also resulting in the loss of tradition. X6 and X7 focused on balancing environmental protection with road development. These conflicts were classified as dynamic trade-off dilemmas because they shared three features: they involved paired and opposing ideologies, they were common to all stakeholders, and they were difficult to solve.

Formal conflict analysis was utilized to identify a general pattern of strategies to resolve static resource competitions. An evolutionary game model was used to conduct a logical analysis of the dynamic trade-off dilemmas for optimal strategies.

Formal conflict analysis for resource competitions

The features of the resource competition conflicts were broken down into time duration, players involved, options, outcomes, preference vector, and strategy (see Table 3). To facilitate the identification of a general pattern of optimal strategies, the option vector was assumed to be (a, b), where “a” and “b” refer to the options of Party A and Party B, respectively. As the two parties competed for certain interests, their options were simply to win (“1”) or lose (“0”). The possible solution vectors could be win–win (1,1) through sharing interests, win–lose (1,0) or (0,1), or both lose (0,0).

To put this into the practical context, X1 occurred from 1991 to 1993 between two parties (Mingyong and Sinong villagers) competing to develop glacier tourism. The options were to have a dedicated road to a village (result "1") or for that village to lose its tourism market ("0"), as the then-limited budget meant that the government had to prioritize the interests of only one village. Consequently, the possible results were that the project would be awarded to either Mingyong (1,0) or Sinong (0,1) or neither (0,0). Both villages preferred to take the chance, and Mingyong won the project by building a path first. Subsequently, the local government had to continuously invest in Mingyong due to its increased popularity with tourists. The strategy of Mingyong to action first (i.e. enhancing access by building the path) excluded Sinong from the tourism market at the very beginning and thus achieved a long-term peace between the two villages. A similar conflict and win-lose solution happened in 1999 between Xidang and Yongzong regarding horseback riding (X3).

Table 3. Conflict analysis of resource competitions.

Conflict	Time	Players	Options	Outcomes	Preference Vector (a, b)	Strategy
X1	1991-1993	Mingyong Village (a)	Road to Mingyong (1); no tourism (0)	(1,0) (0,1) (0,0)	(1,0)	Monopoly (Mingyong took action earlier)
		Sinong Village (b)	Road to Sinong (1); no tourism (0)		(0,1)	
X2	2013-2014	Mingyong Village (a)	Make a contract (1); resist road improved (0)	(1,1) (0,0)	(1,1)	Collaboration (Contract was agreed by both)
		Tourism company (b)	Make a contract (1); loss of investment (0)		(1,1)	
X3	1999	Xidang Village (a)	Horse-riding service by Xidang (1); no tourism (0)	(1,0) (0,1) (0,0)	(1,0)	Monopoly (Xidang was the victor in the fight)
		Yongzong Village (b)	Horse-riding service by Yongzong (1); no tourism (0)		(0,1)	
X8	2015	Yubeng Village (a)	Make a contract (1); alternative route (0)	(1,1) (0,0)	(1,1)	Collaboration (Temporary contract)
		Xidang Village (b)	Make a contract (1); entry prohibited (0)		(1,1)	
X9	2017	Yubeng Village (a)	Make a contract (1); alternative route (0)	(1,1) (0,0)	(1,1)	Collaboration (Temporary contract)
		Xidang Village (b)	Make a contract (1); resistance to road connection (0)		(1,1)	
X10	2017-2018	Yubeng Village (a)	Make a contract (1); alternative route (0)	(1,1) (0,0)	(1,1)	Collaboration (Satisfactory contract for both)
		Xidang Village (b)	Make a contract (1); prohibit pass (0)		(1,1)	

In 2013, the Company proposed to introduce electric vehicles between Mingyong village and Mingyong Glacier to facilitate tourism growth. However, it was recognized that this would potentially damage the local horseback-riding business (X2). The two options for the villagers were to either resist the road improvement ("0") or obtain a compensation contract ("1"). The Company faced either losing its investment in the scenic spots ("0") or having to compensate the villagers ("1"). Among the four possible result combinations, only the lose–lose (0,0) and win–win (1,1) strategies were logical. In 2014, a win–win result was settled with a contract signed (as detailed earlier). Similarly, conflicts X8, X9, and X10 between Yubeng and Xidang were addressed through fair distribution of the benefits.

Two types of strategy to resolve resource competition conflicts can be identified (see Table 3): (1) monopoly through either taking the first action or relying on power, as shown in conflicts X1 (between Mingyong and Sinong) and X3 (between Xidang and Yongzong); or (2) collaboration, as shown in X4 (between Mingyong and the Company) and X8, X9, and X10 (between Yubeng and Xidang). Notably, win–win is not always the optimal solution, as the strategies for stability depend on the mobility stages. The monopoly strategy occurred at the beginning when mobility was poor, and therefore road construction represented an opportunity to gain the market. A collaborative strategy was used in the rapid growth or stable development stages when the parties were equally engaged; either the parties' interests were complementary, or one had to be sacrificed for the other.

The monopoly strategy indicates that an exclusive relationship involving few stakeholders had to be established at the beginning of tourism development. The collaborative strategy illustrates that a contractual relationship had to be enforced as early as possible to ensure that any conflict at a later stage could be prevented.

An evolutionary game model of dynamic trade-off conflicts

In contrast with a static resource competition, which has absolute solutions, the dynamic trade-off conflicts categorized as tourism dilemma (X4), modernity anxiety (X5) and protection paradox (X6 and X7) remained unsolved. The distinction lies in two main facts. First is that the former (static competition) have predictable outcomes, while the latter (dynamic trade-off conflict) are ambiguous in terms of gains or losses on both sides. Taking X4 as an example, it was difficult to quantify the extent to which the road construction would contribute to tourist arrivals and undermine village authenticity. Thus, the stakeholders' attitudes, such as those of the villagers, changed according to their perceptions and needs. Secondly, while resource competition focuses on interest distribution, the dynamic dilemmas concerned three facets of road construction: tourism growth, social development, and environmental protection. Therefore, even though agreement may be achieved on tourism growth to support road construction, conflicts may be complicated by social or environmental concerns. Disparate discussions on these points of contention inevitably led to long-standing arguments over road construction, such as those concerning proposed roads to Yubeng.

Thus, an evolutionary game model was constructed to unify these dynamic trade-off conflicts surrounding road construction between Yubeng and Xidang (see Figure 4). Moreover, the model facilitated the use of logical reasoning instead of numerical calculations to reach an optimal solution. The advantages regarding the three facets of the options were synchronously combined. That is, if Yubeng maintained the current path it could attract T tourists, thereby generating social benefits $S_0 = 0$ and environmental benefits $E_0 = 0$. The villagers would also experience increased living costs Lc owing to difficulties in obtaining living goods such as medicine, along with increased waste Wc. If Yubeng had an asphalt road built for cars and buses, then tourist arrivals would increase by Tm. This could lead to cultural degradation Cc and environmental destruction Ec, and further the development of an "inauthentic" tourist experience, which could eventually lead to decreased tourist arrivals Tc. Thus, the expected value added to Yubeng from the building of the asphalt road is expressed as:

$$St = T + Tm - Tc - Ec - Cc - (T - Wc - Lc) = Tm - Tc - Ec - Cc + Wc + Lc \quad (1)$$

The road construction would be supported if $St \geq 0$ or rejected if $St < 0$.

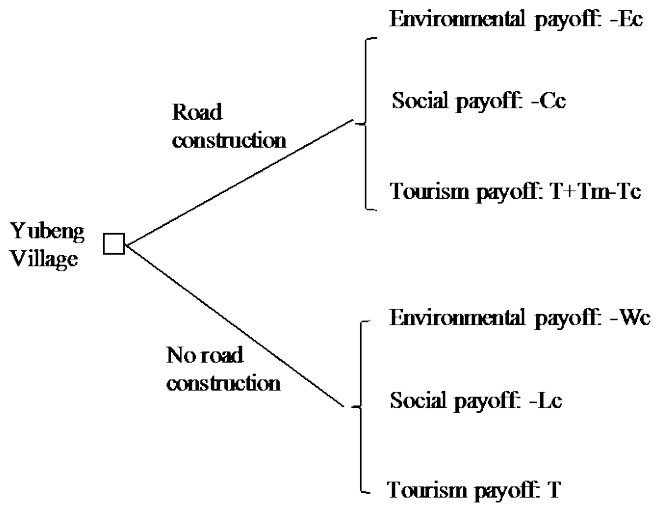

Figure 4. An evolutionary game model of road construction in Yubeng.

Table 2 and Figure 2 show that the tourist arrivals in Yubeng have remained relatively stable in recent years. This finding indicated that *Tm* should be ~ 0 if the stability were caused by the capacity of resource attractiveness, or > 0 if it were caused by the transportation capacity. In the current road situation, the increasing waste *Wc* and living cost *Lc* were visible, thereby suggesting that they were both > 0: *"Villagers in Yubeng live a tough life. Goods can only be transported by manpower or horses. One bag of cement from outside costs 40 yuan, while the transportation fee is 80 yuan, twice as much. Our profits are spent on transportation"* (27M60).

Tc is positively related to *Ec* and *Cc*, but the relationships between these variables and tourism growth are unclear because they depend on varied contexts (Benckendorff & Zehrer, 2013). Some scholars have argued that tourism facilitates the protection of ethnic culture (Sun, 2004) and promotes environmental protection awareness (Woo, Uysal, & Sirgy, 2018). Thus, tourism with improved roads does not necessarily have negative impacts on the environment, culture, and tourist numbers (i.e. *Ec*, *Cc*, and *Tc* could be 0 or less than 0). This finding indicated that the overall

value added to road construction of Yubeng (*St*) could be positive if the environmental and cultural costs (*Ec* and *Cc*) were effectively controlled. Moreover, *Wc* and *Lc* could also lead to *Ec* and *Cc* even if no additional roads were built. In this regard, *St* could be:

$$St = Tm + Wc + Lc \quad (2)$$

which is also > 0, thereby supporting road construction. Therefore, building an asphalt road appeared to be an evolutionarily optimal strategy for Yubeng, with respect to the extant concerns of increasing waste and living costs.

Here, insights for mobility dilemmas must also be highlighted. The increasing mobility derived from road building in a tourist community may compound tensions between tourism growth and authentic experience, between modern life and cultural traditions, and between environmental protection and consumption. However, controlling mobility (no road construction being a "blocking strategy") is not the optimal solution to these dilemmas, because the high mobility needs in modern society would ultimately be at odds with the low mobility of the community, thus inducing further conflicts and resulting in $St > 0$ (as in Equation (2)). Thus an "evacuation strategy" (road building) is suggested because it offers the possibility of long-term benefits. The key to crossing the threshold ($St = 0$, Equation (1)) to positivity is to develop effective environmental and cultural protection approaches.

Discussion and conclusion

Against the backdrop of the mottos “to develop, build roads first” and “improving accessibility for tourism growth” (Kreutzmann, 1991; Nepal, 2005), building roads is critical for tourism communities, particularly in developing countries (Prideaux, 2000). However, road construction in Yubeng, a Tibetan tourism community in China has faced considerable conflicts, which illustrate the increasing dilemmas related to tourism mobility. These can be categorized into four main types: resource competition, tourism dilemma, modern anxiety, and the protection paradox. These dilemmas complicate the social effects of road building, thereby impeding destination advancement. Investigating these dilemmas to identify optimal strategies for their resolution benefits tourism communities and promotes sustainable social development.

Resource competition is a common dilemma in society, owing to the scarcity of resources. People continuously compete for their respective interests (Marx, 1948). This type of dilemma is static because both parties pursue predictable and maximum benefits. Although conflicts in this type are solvable, the win-win option is not always the optimal solution in tourism practices. The formal conflict analysis identified two optimal strategies for static resource competitions in the tourism mobility context: monopoly through first action or power advantages, and collaboration through a reasonable interest distribution mechanism. Monopoly was encouraged at the beginning stage of tourism development to build an exclusive stakeholder network,

while collaboration was found to be effective at the growth or stable stage for solving conflicts efficiently.

In contrast, the other three types of mobility dilemmas share a dynamic nature with unpredictable outcomes. These reflect the trade-offs and challenges of tourism development as a whole (Harrison, 2017). The tourism dilemma involved comparing and contrasting the advantages of a short-term increase in the number of tourists with the disadvantages of a long-term tourism decline owing to the high number of visitors having led to a degradation of authenticity. Modern anxiety and the protection paradox are the nexus between tourism development and cultural integration, and tourism development and environmental protection, respectively.

An evolutionary game model enabled the unification of the three trade-off dilemmas under the framework of sustainability, given that they related to the triple bottom line of sustainable tourism (Bramwell, 2015). The logical reasoning process supported the evacuation strategy (road construction) as an optimal solution because improved mobility would not necessarily lead to environmental and cultural degradation, whereas it was clear that the poor road was negatively affecting Yubeng's environment and culture (Woo et al., 2018). Thus, "blocking is inferior to evacuating"—the old wisdom of water control—is still informing the solutions to our current mobility dilemmas.

Furthermore, this study highlights the interplay between mobility (road construction), tourism development and the dilemmas. While tourism growth in terms of arrivals was determined to be dependent on the improvement of transit mobility,

the ten conflicts identified through the geo-historical analysis were all associated with road construction at the transit scale (e.g., visitor center to Yubeng and Mingyong). The improvement of transit mobility was matched by increasing conflicts, compared with the relative calm of outer and inner scales of road construction, which received substantial support and saw much collaboration between parties. This distinction arose because the social space at the outer and inner scales is relatively compatible; parties interested in road construction tend to be in agreement. However, the transit mobility connecting inner and outer space involves multiple stakeholders such as the governments and other villages, who tend to compete for varied benefits (Bao & Chu, 2012; Scuttari, Orsi, & Bassani, 2018). Thus, future research is required to optimize the improvement of transit mobility for all parties.

This study contributes to the tourism mobility literature by investigating mobility dilemmas and suggests a general pattern of strategies. Road construction was studied as a specific lens through which to focus on the challenges of tourism mobility. That is, while road construction has various positive effects on communities that are dependent on tourism, increasing negative consequences are also evident (Clarke, 2011; Gaigals & Leonhardt, 2001; Khadaroo & Seetanah, 2008; Scuttari et al., 2018). In addition to such concerns about the various consequences, attention should also be paid to the underlying dilemmas of improved mobility. Moreover, the findings of this study suggest that halting road construction will not resolve the conflict. Future research should thus examine approaches that minimize or prevent the

negative influence of increased tourism flows on the local environment and culture to promote sustainable tourism development.

The systematic conflict analysis used in this study contributes to conflict analysis in tourism research. In view of the dynamic nature and geographical movement of tourism, temporal and spatial dimensions should be discussed in tourism mobility. The geo-historical perspective provides an effective framework for unifying the two dimensions and achieving comprehensive views. For example, the important role of transit mobility in tourism development was identified through examining the interplay of tourism, conflicts and multi-scale road constructions over time. However, different conflict analysis methods must be used for various types of conflict. In this study, the use of formal conflict analysis and an evolutionary game model facilitated visual and logical analysis of qualitative data. These approaches also clarified the connection between different conflicts and incorporated them into comprehensive models, thereby yielding highly robust and referable results (Banyai, 2013; Mair, 2012).

The mobility dilemma analysis in this study has other practical implications for tourism-dependent communities. First, knowledge of the full scope of the stakeholder network and a well-planned interest distribution mechanism, particularly at the transit scale, could help to avoid resource competition in road construction projects. Second, practitioners should select distinct strategies (i.e. monopoly and collaboration) in different tourism development stages for conflict management. Finally, environmental and cultural protection should be a focus of consideration

within tourism development practices to ensure the sustainability of the tourism operation.

Although Yubeng is a single case, the analysis of the conflicts associated with improved roads and corresponding patterns of strategies could also be insightfully applied in other socially related contexts (Albalate et al., 2017; Wilson & Hannam, 2017). For instance, the four identified dilemmas can be widely observed in modern society. The increasing mobility of the modern world is creating similar controversies in the local-global nexus (Yang et al., 2016). Thus, the strategies developed in this study could be applied and explored in other social-conflict scenarios. Moreover, conflict interpretation is an effective perspective from which to explore social development issues. The 20th century prioritized structural functionalism and social orders as the framework for interpreting social development, thereby preventing a full examination of the dynamic nature of society. However, mobility and conflicts seem to be occur in parallel in social advancement (Dalakoglou, 2012; Ling, Jiuxia, & Xi, 2017). Therefore, future social research should focus more on conflict investigations for harmonious development.

Overall, a systematic conflict analysis approach was used in this study to comprehensively investigate road construction conflicts and enable reflection on the mobility dilemmas for the development of optimal management strategies and sustainable tourism. This process began with a geo-historical analysis to trace the entire process of road construction and categorize the main conflicts. Thereafter,

formal conflict analysis and an evolutionary game model were used to understand the logic of optimal strategies.

This study comprised a brief example of the utility of formal conflict analysis and an evolutionary game model, the results of which could be numerically verified in future research with quantitative data. Information on road construction and conflicts before 2007 was collected through the participants' memory recall. Future research in similar situations could collect photos and other images from the past to improve data accuracy.

Appendix I. Fieldtrips in Yubeng village and Meili Snow Mountain area.

Trip	Time and duration	Main aim
1	January 12–20, 2007	To participate in the "Detailed Constructive Planning of Yubeng village in Shangri-La Meili Snow Mountain National Park" held by the Institute of Tourism in Yunnan University
2	October 7–21, 2007	To participate in the "General Plan of Meili Snow Mountain National Park" held by the Institute of Tourism in Yunnan University
3	April 6–13, 2008	To participate in the Project "Analysis and Forecast of Tourism Market in Deqin County" held by the Institute of Tourism in Yunnan University
4	October 20–November 21, 2008	To explore the changes of tourism participation and policies of Yubeng village in the Meri Snow Mountain Area (Liu, 2009; Liu & Yang, 2009)
5	April 27–May 5, 2013	To explore the traditional culture inheritance and natural environment protection from the perspective of local knowledge (Sun & Liu, 2014)
6	June 5–July 16, 2014	To explore the impact of local knowledge on the natural environment protection in ethnic tourism villages (Liu, 2015; Sun & Liu, 2015; Liu & Sun, 2019)
7	August 21–23, 2016	To explore the impact of road construction on tourism development and related conflicts in Yubeng village
8	January 23–February 5, 2018	

Appendix II. Table of participants.

Code	Sex	Age	Role	Times	Hostel operation	Ethnicity
01M45	Male	45	Head of Yubeng Village Committee	6	Yes	Tibetan
02M45	Male	45	Former accountant of Yubeng village	3	Yes	Tibetan
03M40	Male	40	Yubeng manager of the Company	4	Yes	Tibetan
04F30	Female	30	Yubeng villager	4	Yes	Tibetan
05M50	Male	50	Former Accountant of Yubeng village; passed away in 2016	5	Yes	Tibetan
06M40	Male	40	Yubeng villager, passed away in 2016	4	Yes	Han
07M60	Male	60	Former Head of Yubeng Village Committee	6	Yes	Tibetan
08M60	Male	60	Former Member of Yubeng Village Committee	4	Yes	Tibetan
09M40	Male	40	Migrants in Yubeng for business	3	Yes	Tibetan
10M45	Male	45	Former Head of Yubeng Village Committee	4	Yes	Tibetan
11M50	Male	50	Former Accountant of Yubeng Village	6	Yes	Tibetan
12M45	Male	45	Mingyong manager of the Company	5	No	Tibetan
13M60	Male	60	Yubeng villager	5	Yes	Tibetan
14F38	Female	38	Yubeng villager	2	Yes	Tibetan
15F30	Female	30	Yubeng villager	3	Yes	Tibetan
16F30	Female	30	Yubeng villager	4	Yes	Tibetan
17M40	Male	40	Yubeng villager	1	No	Tibetan
18M50	Male	50	Yubeng villager	4	Yes	Tibetan
19M30	Male	30	Yubeng villager	3	Yes	Tibetan
20F50	Female	50	Yubeng villager	2	Yes	Tibetan
21F40	Female	40	Migrants in Yubeng for business	2	No	Tibetan
22M40	Male	40	Yubeng villager	2	Yes	Tibetan
23F50	Female	50	Yubeng villager	2	Yes	Tibetan
24F25	Female	25	Yubeng villager	1	Yes	Tibetan
25F25	Female	25	Yubeng villager	2	Yes	Tibetan
26M50	Male	50	Former Member of Yubeng Village Committee	2	Yes	Tibetan
27M60	Male	60	Yubeng villager	1	No	Tibetan
28M40	Male	40	Head of Yubeng Village Committee	2	Yes	Tibetan
29M50	Male	50	Former Head of Yubeng Village Committee	2	Yes	Tibetan
30M40	Male	40	Yubeng villager	3	Yes	Tibetan

31F40	Female	40	Yubeng villager	3	Yes	Han
32M16	Male	16	Yubeng villager	1	No	Tibetan
33F30	Female	30	Migrants in Yubeng for business	1	Yes	Han
34F22	Female	22	Yubeng villager	1	No	Tibetan
35F20	Female	20	Yubeng villager	1	No	Tibetan
36F21	Female	21	Yubeng villager	1	No	Tibetan
37F30	Female	30	Migrants in Yubeng for business	1	Yes	Han
38F30	Female	30	Migrants in Yubeng for business	1	Yes	Han
39M50	Male	50	Mingyong villager	1	No	Tibetan
40M50	Male	50	Mingyong manager of the Company	3	No	Tibetan
41M50	Male	50	Mingyong villager	1	Yes	Tibetan
42M50	Male	50	Former member of Mingyong Village Committee	1	No	Tibetan
43F30	Female	30	Mingyong villager	1	No	Tibetan
44M60	Male	60	Sinong villager	1	No	Tibetan
45M45	Male	45	Head of Sinong Village Committee	1	No	Tibetan
46M60	Male	60	Sinong villager	1	No	Tibetan
47M45	Male	45	Xidang villager	1	Yes	Tibetan
48M40	Male	40	Xidang villager	1	No	Tibetan
49M30	Male	30	Yongzong villager	2	No	Tibetan
50M50	Male	50	Yongzong villager	1	No	Tibetan
51M50	Male	50	Former Member of Deqin County Government	1	No	Tibetan
52M55	Male	55	Former Member of the Bureau	2	No	Tibetan
53M50	Male	50	Member of the Bureau	3	No	Tibetan
54M40	Male	40	Member of Deqin County Government	4	No	Tibetan
55M50	Male	50	General Manager of the Company	4	No	Tibetan
56M30	Male	30	Member of the Company	5	No	Tibetan
57M30	Male	30	Member of the Company	2	No	Tibetan
58M45	Male	45	Member of the NGO	2	No	Tibetan
59M45	Male	45	Member of the NGO	2	No	Tibetan
60M65	Male	65	Member of the NGO	2	No	Tibetan
61M55	Male	55	Member of the NGO	1	No	Han
62F40	Female	40	Member of the NGO	1	No	Tibetan
63M45	Male	45	Member of the NGO	4	No	Han
64M30	Male	30	Tourist from Beijing	1	No	Han
65F35	Female	35	Tourist from Guangzhou	1	No	Han
66M28	Male	28	Tourist from Xiamen	1	No	Han
67F25	Female	25	Tourist from Guangzhou	1	No	Han
68F30	Female	30	Tourist from the United States	1	No	Han
69M60	Male	60	Tourist from Shanghai	1	No	Han

70F25	Female	25	Tourist from Guangzhou	1	No	Han
71F26	Female	25	Tourist from Shenzhen	1	No	Han
72F25	Female	25	Tourist from Hunan Province	1	No	Han
73F22	Female	22	Tourist from Chengdu	2	No	Han
74M40	Male	40	Tourist from Kunming	1	No	Han
75M28	Male	28	Tourist from Shanghai	1	No	Han
76F25	Female	25	Tourist from Changsha	1	No	Han
77F28	Female	28	Tourist from Foshan	1	No	Han
78M20	Male	20	Tourist from Wuhan	1	No	Han

References

Albalate, D., Campos, J., & Jiménez, J. L. (2017). Tourism and high speed rail in Spain: Does the AVE increase local visitors? *Annals of Tourism Research, 65*, 71-82.

Antonescu, A., & Stock, M. (2014). Reconstructing the globalisation of tourism: A geo-historical perspective. *Annals of Tourism Research, 45*, 77-88. doi:https://doi.org/10.1016/j.annals.2013.12.001

Balkmar, D. (2018). Violent mobilities: men, masculinities and road conflicts in Sweden. *Mobilities, 13*(5), 717-732.

Banyai, M. (2013). THE DRACULA DILEMMA: TOURISM, IDENTITY, AND THE STATE IN ROMANIA. *Annals of Tourism Research, 41*, 262-264. doi:https://doi.org/10.1016/j.annals.2013.02.006

Bao, J., & Chu, Y. (2012). *Tourism Geography* (third ed.). Beijing: Higher Education Press.

Bartos, O. J., & Wehr, P. (2002). *Using conflict theory*: Cambridge University Press.

Beckmann, J. (2004). Mobility and safety. *Theory, Culture & Society, 21*(4-5), 81-100.

Benckendorff, P., & Zehrer, A. (2013). A Network Analysis of Tourism Research. *Annals of Tourism Research, 43*, 121-149.

Bennett, A., & Elman, C. (2006). Qualitative research: Recent developments in case study methods. *Annu. Rev. Polit. Sci., 9*, 455-476.

Bonelli, C., & González Gálvez, M. (2018). The roads of immanence: infrastructural change in southern Chile. *Mobilities, 13*(4), 441-454.

Bramwell, B. (2015). Theoretical activity in sustainable tourism research. *Annals of Tourism Research, 54*, 204-218. doi:https://doi.org/10.1016/j.annals.2015.07.005

Buckley, R. (2012). Sustainable tourism: Research and reality. *Annals of Tourism Research, 39*(2), 528-546. doi:https://doi.org/10.1016/j.annals.2012.02.003

Capoccia, G., & Kelemen, R. D. (2007). The study of critical junctures: Theory, narrative, and counterfactuals in historical institutionalism. *World politics, 59*(3), 341-369.

Cass, N., Shove, E., & Urry, J. (2005). Social exclusion, mobility and access 1. *The sociological review, 53*(3), 539-555.

Chhabra, D., & Kim, E. G. (2018). Brand authenticity of heritage festivals. *Annals of Tourism Research, 68*, 55-57. doi:https://doi.org/10.1016/j.annals.2017.11.007

Clarke, A. (2011). Transport and Tourism: Global Perspectives. *Tourism Management, 32*(2), 457-458. doi:https://doi.org/10.1016/j.tourman.2010.01.003

Collins, R. (1975). *Conflict sociology: Toward an explanatory science*: Academic Pr.

Coser, L. A. (1956). *The functions of social conflict* (Vol. 9): Routledge.

Cresswell, T. (2006). *On the move: Mobility in the modern western world*: Taylor & Francis.

Dahrendorf, R. (1958). Toward a theory of social conflict. *Journal of conflict Resolution, 2*(2), 170-183.

Dalakoglou, D. (2012). 'The road from capitalism to capitalism': infrastructures of (post) socialism in Albania. *Mobilities, 7*(4), 571-586.

Dalakoglou, D., & Harvey, P. (2012). Roads and anthropology: Ethnographic perspectives on space, time and (im) mobility. *Mobilities, 7*(4), 459-465.

Denzin, N. K., & Lincoln, Y. S. (1994). *Handbook of qualitative research*: Sage publications, inc.

Dickinson, J. E., Hibbert, J. F., & Filimonau, V. (2016). Mobile technology and the tourist experience: (Dis)connection at the campsite. *Tourism Management, 57*, 193-201. doi:https://doi.org/10.1016/j.tourman.2016.06.005

Dickinson, J. E., Robbins, D., & Fletcher, J. (2009). Representation of transport: A rural destination analysis. *Annals of Tourism Research, 36*(1), 103-123.

Elo, S., & Kyngäs, H. (2008). The qualitative content analysis process. *Journal of advanced nursing, 62*(1), 107-115.

Faist, T. (2013). The mobility turn: a new paradigm for the social sciences? *Ethnic and Racial Studies, 36*(11), 1637-1646.

Fioretos, O., Falleti, T. G., & Sheingate, A. (2016). Historical institutionalism in political science (pp. 3-30): Oxford University Press Oxford.

Flick, U. (2004). Triangulation in qualitative research. *A companion to qualitative research, 3*, 178-183.

Fraser, N. M., & Hipel, K. W. (1982). Dynamic modelling of the Cuban missile crisis. *Conflict Management and Peace Science, 6*(2), 1-18.

Gaigals, C., & Leonhardt, M. (2001). *Conflict sensitive approaches to development: A review of practice*: Saferworld.

Guo, W., & Huang, Z.-f. (2010). Study on the development of community power and functions under the background of the development of rural tourism——Based on the investigation of two typical cases in Daizu Garden and Yubeng Community, Yunnan Province. *Tourism Tribune, 25*(3), 76-83.

Hall, C. M. (2005). Reconsidering the geography of tourism and contemporary mobility. *Geographical Research, 43*(2), 125-139.

Hannam, K. (2008). Tourism geographies, tourist studies and the turn towards mobilities. *Geography Compass, 2*(1), 127-139.

Hannam, K., Butler, G., & Paris, C. M. (2014). Developments and key issues in tourism mobilities. *Annals of Tourism Research, 44*, 171-185. doi:https://doi.org/10.1016/j.annals.2013.09.010

Hannam, K., Sheller, M., & Urry, J. (2006). Mobilities, immobilities and moorings. *Mobilities, 1*(1), 1-22.

Harrison, D. (2017). Tourists, mobilities and paradigms. *Tourism Management, 63*, 329-337. doi:https://doi.org/10.1016/j.tourman.2017.07.002

Harvey, P., & Knox, H. (2012). The enchantments of infrastructure. *Mobilities, 7*(4), 521-536.

He, P., He, Y., & Xu, F. (2018). Evolutionary analysis of sustainable tourism. *Annals of Tourism Research, 69*, 76-89. doi:https://doi.org/10.1016/j.annals.2018.02.002

Hussain, A., Fisher, D., & Espiner, S. (2017). Transport infrastructure and social inclusion: A case study of tourism in the region of Gilgit-Baltistan. *Social Inclusion, 5*(4), 196-208.

Iaquinto, B. L. (2011). Beyond backpacker tourism: Mobilities and experiences. *Annals of Tourism Research, 38*(2), 735-737. doi:https://doi.org/10.1016/j.annals.2010.12.010

Keeling, D. J. (2008). Transportation geography–new regional mobilities. *Progress in Human Geography, 32*(2), 275-283.

Khadaroo, J., & Seetanah, B. (2007). Transport infrastructure and tourism development. *Annals of Tourism Research, 34*(4), 1021-1032.

Khadaroo, J., & Seetanah, B. (2008). The role of transport infrastructure in international tourism development: A gravity model approach. *Tourism Management, 29*(5), 831-840. doi:https://doi.org/10.1016/j.tourman.2007.09.005

Kreutzmann, H. (1991). The Karakoram Highway: The impact of road construction on mountain societies. *Modern Asian Studies, 25*(4), 711-736.

Leiper, N. (1979). The framework of tourism: Towards a definition of tourism, tourist, and the tourist industry. *Annals of Tourism Research, 6*(4), 390-407.

Li, Z. (2015). Glaciers Response to Climate Change in Southwestern China *Study on Climate Change in Southwestern China* (pp. 199-232): Springer.

Li, Z., & Hu, Q. (2018). Roads, Livelihoods and National Identity :Based on Benzilan Village Field Work in Yunnan Tibetan Area. *Journal of Northern Nationalities University (Philosophy and Social Sciences Edition)*(03), 43-52.

Ling, M., Jiuxia, S., & Xi, Z. (2017). Mobility, Tourism and Postmodernism: A Research Perspective and Spirituality Turn. *Human Geography, 32*(2), 146-151.

Lulofs, R. S., & Cahn, D. D. (2000). *Conflict: From theory to action*: Allyn and Bacon Boston.

Lupu, E., & Sloman, M. (1997). *Conflict analysis for management policies.* Paper presented at the Integrated Network Management V.

Mair, H. (2012). Political economy of tourism: A critical perspective. *Annals of Tourism Research, 39*(2), 1276-1277. doi:https://doi.org/10.1016/j.annals.2012.01.008

Marx, K. (1948). *Manifesto of the communist party*: Simon and Schuster.

Nepal, S. (2005). Tourism and remote mountain settlements: spatial and temporal development of tourist infrastructure in the Mt Everest region, Nepal. *Tourism Geographies, 7*(2), 205-227.

Niavis, S., & Tsiotas, D. (2018). Decomposing the price of the cruise product into tourism and transport attributes: Evidence from the Mediterranean market. *Tourism Management, 67*, 98-110. doi:https://doi.org/10.1016/j.tourman.2018.01.004

Pan, J., Li, J., & Cong, Y. (2015). Quantitative Geography Analysis on Spatial Structure of A-Grade Tourist Attractions in China. *Journal of Resources and Ecology, 6*(1), 12-20.

Parsons, T. (1940). An analytical approach to the theory of social stratification. *American Journal of Sociology, 45*(6), 841-862.

Pender, L. (2016). Introduction to Tourism Transport. *Tourism Management, 52*, 340. doi:https://doi.org/10.1016/j.tourman.2015.06.028

Prideaux, B. (2000). The role of the transport system in destination development. *Tourism Management, 21*(1), 53-63. doi:https://doi.org/10.1016/S0261-5177(99)00079-5

Ritzer, G., & Stepnisky, J. (2016). *Classical sociological theory*: SAGE Publications.

Roger, B. M. (1991). Game theory: analysis of conflict. *The President and Fellows of Harvard College, USA*.

Rubin, J. Z., Pruitt, D. G., & Kim, S. H. (1994). *Social conflict: Escalation, stalemate, and settlement*: Mcgraw-Hill Book Company.

Scuttari, A., Orsi, F., & Bassani, R. (2018). Assessing the tourism-traffic paradox in mountain destinations. A stated preference survey on the Dolomites' passes (Italy). *Journal of Sustainable Tourism*, 1-

17.

Sheller, M., & Urry, J. (2004). *Tourism mobilities: Places to play, places in play*: Routledge.

Sheller, M., & Urry, J. (2006). The new mobilities paradigm. *Environment and planning A, 38*(2), 207-226.

Sun, J. (2004). The Ethnic Identity and Ethnic Relationship in the Background of the Modernization: with an Example of the Hui People in Fenghuang Town of Sanya, Hainan. *Ethno-National Studies*(3), 61-68.

Taylor, S. J., Bogdan, R., & DeVault, M. (2015). *Introduction to qualitative research methods: A guidebook and resource*: John Wiley & Sons.

Thelen, K. (2002). The explanatory power of historical institutionalism. *Mayntz, Renate (Hg.): Akteure-Mechanismen–Modelle. Zur Theoriefähigkeit makro-sozialer Analysen. Frankfurt, New York*, 91-107.

Tucker, H. (2001). Tourists and troglodytes: Negotiating for Sustainability. *Annals of Tourism Research, 28*(4), 868-891. doi:https://doi.org/10.1016/S0160-7383(00)00084-0

Urry, J. (2002). Mobility and proximity. *Sociology, 36*(2), 255-274.

Urry, J. (2012). *Sociology beyond societies: Mobilities for the twenty-first century*: Routledge.

Von Praun, C., & Gross, T. R. (2003). *Static conflict analysis for multi-threaded object-oriented programs.* Paper presented at the ACM Sigplan Notices.

Wang, D.-g., Niu, Y., & Qian, J. (2018). Evolution and optimization of China's urban tourism spatial structure: A high speed rail perspective. *Tourism Management, 64*, 218-232. doi:https://doi.org/10.1016/j.tourman.2017.08.010

Weibull, J. W. (1997). *What have we learned from evolutionary game theory so far?* Retrieved from

Weng, S., & Peng, H. (2014). Tourism development, rights consciousness and the empowerment of Chinese historical village communities. *Tourism Geographies, 16*(5), 772-784.

Wie, B.-W. (2005). A dynamic game model of strategic capacity investment in the cruise line industry. *Tourism Management, 26*(2), 203-217. doi:https://doi.org/10.1016/j.tourman.2003.09.020

Wild, K., Woodward, A., Field, A., & Macmillan, A. (2018). Beyond 'bikelash': engaging with community opposition to cycle lanes. *Mobilities, 13*(4), 505-519.

Wilson, S., & Hannam, K. (2017). The frictions of slow tourism mobilities: Conceptualising campervan travel. *Annals of Tourism Research, 67*, 25-36. doi:https://doi.org/10.1016/j.annals.2017.07.021

Woo, E., Uysal, M., & Sirgy, M. J. (2018). Tourism impact and stakeholders' quality of life. *Journal of Hospitality & Tourism Research, 42*(2), 260-286.

Yang, J., Zhang, L., & Ryan, C. (2016). *Social conflict and harmony: Tourism in China's multi-ethnic communities*: Emerald Group Publishing.

Zhang, X. (2014). Tourism and the "villagers without history": the case of Yubeng. *Tourism Geographies, 16*(5), 741-756.

Zhang, Y., & Cole, S. T. (2016). Dimensions of lodging guest satisfaction among guests with mobility challenges: A mixed-method analysis of web-based texts. *Tourism Management, 53*, 13-27. doi:https://doi.org/10.1016/j.tourman.2015.09.001