A System Dynamics Approach to Exploring Sustainable Tourism Development

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Abstract: *Tourism is an important industry in many developing countries. In the past few decades, the issue of how to minimize the negative effects of tourism on natural and cultural environments and maximize its positive effects on economic development has been a major topic for tourism researchers and practitioners. Successful tourism-related policies not only can deliver economic benefits to communities, regions, and countries, but also can facilitate their sustainable economic, environmental, and cultural development. Within this context, it is important for policy-makers to incorporate sustainable initiatives into tourism-related policy making. The question of how policy-makers can incorporate sustainable initiatives into tourism-related policy making in a way that will allow them to develop implementable policies and achieve sustainable tourism is, however, not a simple question to answer. Since tourism practices are depicted as processes that reflect different competing interests and values, in order to incorporate sustainable initiatives into tourism-related policy making and achieve sustainable tourism, the first step should be understanding different competing interests and values and their possible contributions to sustainable tourism. This study is aimed at contributing to this area by investigating tourism stakeholder groups' interests and values and their influences on tourism development through a system dynamics approach.*

Keywords: Sustainable Development, Tourism, System Dynamics, Policy, Case Study

1 Introduction

Tourism is an important industry in many developing countries. On the one hand, it brings economic benefits by increasing employment, income, and revenues, especially for poor and disadvantaged communities (de Oliveira, 2003; Simpson, 2008). On the other hand, it could be a source of culture collapse and environmental degradation. In the past few decades, the issue of how to minimize the negative effects of tourism on natural and cultural environments and maximize its positive effects on economic development has been a major topic for tourism researchers and practitioners (Nyaupane and Timothy, 2010). Nowadays, experts are calling for

sustainable tourism to benefit developing countries in the long run. Successful tourism-related policies not only can deliver economic benefits to communities, regions, and countries, but also can facilitate their sustainable economic, environmental, and cultural development. Within this context, it is important for policy-makers to incorporate sustainable initiatives into tourism-related policy making. The question of how policy-makers can incorporate sustainable initiatives into tourism-related policy making in a way that will allow them to develop implementable policies and achieve sustainable tourism is, however, not a simple question to answer.

Since tourism practices are depicted as processes that reflect different competing interests and values (Hall, 1994), in order to incorporate sustainable initiatives into tourism-related policy making and achieve sustainable tourism, the first step should be understanding different competing interests and values, and their possible contributions to sustainable tourism. This research is aimed at contributing to this area by investigating tourism stakeholder groups' interests and values, and their influences on tourism development through a case study in an underdeveloped area.

The remaining part of this paper is organized as follows. The second section is a review of studies in the field of tourism-related policy-making research. In this section, the goals of this study are set based upon research gaps identified in the literature. The third section is an overview of the research design and methods. The fourth section introduces the systems dynamics model built based upon the selected case. The fifth section summarizes important model behaviors and lessons learned through simulations and experiments. The sixth section concludes findings and implications derived from lessons learned. The last section is a brief conclusion of the work up to this point and talks about future research plans.

2 Literature Review

Through reviewing studies in the field of tourism-related policy-making research, it can be found that there is a consensus in this field, that is, tourism-related policy making is a complex and dynamic process. This process is relevant to various interest groups and involves complex issues including economic, political, cultural and environmental issues. To cope with the complexity and change, two different strategies for understanding and developing improved policy-making frameworks can be identified. One strategy puts the emphasis on policy objectives and roles of different key stakeholders. The other chooses to concentrate on 'micro processes' of policy making (Schofield, 2001), trying to understand negotiations and collaborations through communications among stakeholders. By using the second strategy, researchers have assumed that tourism-related policies are developed and enacted through negotiations and collaborations, and successful negotiations and collaborations can lead to successful tourism policies. For these researchers, they are less likely to distinguish different roles and responsibilities of stakeholders.

Researchers who use the second strategy build conceptual frameworks based upon mutually compatible theories in three fields. They are interorganizational collaboration, communicative approaches to planning, and citizen participation. General theories of interorganizational collaboration are used to understand and examine how tourism stakeholders may collaborate to maximize benefits (Jamal and Getz, 1997). Collaboration theory suggests that parties who lack resources or capacity may be excluded from the collaboration (Bramwell and Sharman, 1999). It

is also assumed that by involving all stakeholders, power imbalances can be diminished (Jamal and Getz, 1997). Communicative approaches to planning focus on the processes and communicative forms within collaboration. The relations among relevant stakeholders are built up through processes, and communicative forms are concerned with how stakeholders negotiate their interests and develop consensus (Bramwell and Sharman, 1999). The literature on citizen participation discusses the pro and cons of different techniques and the intensity of participation and involvement (Marien and Pizam, 1998).

In order to explore and understand the collaboration and negotiation process, network theory is often used in the relevant studies. Networks are defined as formal or informal social relationships that form collaborative actions among government, industry, and communities (Dredge, 2006; Howlett and Ramesh, 1995; Rhodes, 1997). Network approaches are frequently used to diagnose the structure and dynamics of relationships to improve the understanding of the collaboration actions (Dredge, 2006; Watts, 2009). There are different emphases when using network approaches. Some studies simply use them to understand the structure of relationships and thus to identify and diminish structure fragmentation (Watts, 2009). Others argue that to diagnose the static structure is not enough to understand the policy-making process due to its dynamic and context-specific nature. Therefore, more concentration should be given to the dynamics of relationships. For example, Dredge (2006) has used a network approach to investigate local public-private tourism partnerships over time in order to better understand policy-making processes in tourism planning and development. Stevenson and Miller (2008) have used network approaches to explore how tourism policy making is developed and enacted from the perspectives of policy makers, believing that "policy communities" consist of people who interact within networks (John 1998).

For studies associated with both trends, either with the emphasis on policy-making objectives or processes, power relations and community participation are two commonly discussed issues. Although power relations have been identified as a factor that might influence the collaboration or the roles of different stakeholders, and thus affect the achievement of policy objectives, most studies suggest that the barriers caused by power inequities can be overcome by involving all stakeholders through reallocation of resources or capacity building (Bramwell and Sharman, 1999; Dredge, 2006; Simpson, 2008; Stevenson and Miller, 2008; Watts, 2009). Nyaupane and Timothy (2010) suggest a different view to look at power relations in tourism policy making. In their study, they have examined Bhutan's tourism policy by using power relationship frameworks and regionalism concepts, and have found political motives for tourism control are highly influential, and Bhutan's "low-volume, high-yield tourism policy" was formed by power and regional politics rather than a vision for sustainable development. These divergent viewpoints might be explained by the context-specific nature of tourism policy making. For many small developing countries, tourism-related policies are often strongly affected by regional geopolitical relationships (Nyaupane and Timothy, 2010).

There is also a controversy found in the literature regarding the issue of community participation. Some studies (Kontogeorgopoulos, 2005; Li, 2006) have found that communities' sense of ownership and their feelings of being responsible for tourism, and their actual involvement in tourism policy making are not necessary and sometimes even detrimental to achieving a satisfactory outcome. Here, satisfactory outcome is defined as benefits delivered to communities. Nevertheless, these studies do highlight the importance of always addressing communities' needs.

In comparison, other studies, particularly studies with an emphasis on policy-making processes, suggest that communities' ownership, control and involvement in tourism policy making is a critical factor that will likely influence the policy-making outcome (Bramwell and Sharman, 1999; Dredge, 2006; Stevenson and Miller, 2008; Watts, 2009). The evidence provided by the first group is not so convincing to demonstrate the trifling role of community ownership and involvement in tourism policy making due to inaccuracy in defining the scope of community benefits and the short-term measure of community benefits. The rationale of the second group is mainly based upon previous general theories. But they have not provided evidence to show that the theories are applicable in the tourism context. Therefore the influence of community participation on tourism policy making still remains unclear.

To summarize, studies of tourism-related policy making can roughly be divided into two trends with respective emphases on policy objectives and policy-making processes. These two trends are complementary to each other. Policy objectives can guide policy-making processes and set standards for policy assessment. Improved understanding of policy-making processes can in turn help to achieve policy objectives. However, studies associated with each of these two trends are often isolated from each other. Studies with an emphasis on the objectives seldom consider the processes, and studies with an emphasis on the processes often neglect the objectives. Therefore, in order to improving the understanding of tourism-related policy making, there is a need to conduct studies that use justified policy objectives as a guidance to examine tourism-related policy-making processes. In addition, essential to understanding and improving tourism-related policy making is studying relevant stakeholders, either their different interests and values or their collaborations and actions shaped by the structure and dynamic relationships. Moreover, controversies emerge during the process of studying tourism stakeholders, which include different opinions about the application of network approaches, the influence of power relations, and the role of community participation.

The purpose of this study is, therefore, to improve the understanding of tourism-related stakeholder groups' interests and values and these stakeholder groups' possible contributions to sustainable tourism development in underdeveloped areas.

3 Research Design and Methods

3.1 Case Study Design

Considering the context-specific nature of tourism practices, this research is designed as a case study. A case will be selected according to the following criteria. First, the selected case should be in underdeveloped areas, a city, or a county in a developing country. Second, the selected place should have adopted tourism as its major strategy for development. Third, since sustainable tourism development includes both cultural and environmental dimensions of development, the selected place should have both distinctive cultural and natural sceneries that attract tourists. Fourth, the selected case should be complex enough, which means that the case includes several stakeholder groups including governments, discernible indigenous residents, discernible foreign residents, and tourists, which are typical stakeholder groups in underdeveloped areas. Fifth, the selected case should be manageable, which means there is only one dominant culture that is the indigenous culture in the selected place, and there is only one dominant industry – tourism. Sixth,

for convenience reasons, the selected place should use a language that the researcher can understand.

3.2 Case Background

Based on sampling criteria, the Gucheng District of the City of Lijiang has been chosen as the case study location. Lijiang is a prefecture-level city on the edge of the Tibetan plateau, in northwestern Yunnan Province, China. It is rich in cultural diversity and biodiversity. Lijiang hosts three United Nations Educational, Scientific and Cultural Organization (UNESCO) heritage sites, which are the Old Town of Lijiang, Dongba Literature, and Three Parallel Rivers. Gucheng District is the administrative center of the city of Lijiang and the place where the Old Town of Lijiang is located. There are more than five ethnic groups living in Lijiang region. For the Gucheng District, Naxi people constitute the majority of its population, in contrast with dominant Han Chinese in other parts of Lijiang or China. Naxi people have a long history. Their ancestors were a nomadic tribe who migrated from north to south about 1400 years ago and arrived at the upper reaches of Yangtze River, the longest river in Asia. Naxi people built the Old Town of Lijiang about 800 years ago. It was the political, economic, cultural, and educational center of Lijiang region before 1950 and once was an important center for trade between China and India via Tibet and Burma.

Lijiang was opened to foreign tourists in 1985. It was designated as a provincial-level historical and cultural site by the provincial government of Yunnan in 1986. The construction of the local airport started in 1992, and the airport started operating in 1995. In 1994, the provincial government held the first tourism planning conference of Lijiang and launched the World Heritage application. In 1997, the Old Town was included on the World Cultural Heritage List, one year after being hit by an earthquake with magnitude of 7.0 (Food and Agriculture Organization of the United Nations, n.d.).

3.3 Procedure and Methods

This study can be roughly divided into two stages. In stage one, a system dynamics model of the selected case is constructed. The goal of building the model is to explore major factors that influence tourism development over time and possible policies that can achieve sustainable tourism. Model building materials consist of case studies of Lijiang found in the literature (McKhann, 2001; Ning and He, 2007; Wang, 2007; Yamamura et al.,2006; Zhao, 2010), concepts and theories in anthropological literature on tourism and historical data retrieved online (governments' websites, United Nations' websites, etc.). In stage two, semi-structured interviews will be used to collect the data relevant to the interests of different tourism stakeholder groups and the values of indigenous residents, temporary residents and tourists. Based on the interview data, objective functions for sustainable tourism development will be set and policies to yield optimal values of these objective functions will be explored. The current paper reports findings of the stage one.

4 System Dynamics Model

4.1 Model boundaries

The time horizon of the model is the period of 1990 to 2100. Excluded factors include industrialization, globalization, natural environmental change, natural population growth or decline and political environment. Endogenous elements include population (i.e., indigenous residents, temporary residents and tourists), business activities, natural resources (i.e., water resources), cultural resources (i.e., vernacular houses) and culture. Exogenous elements include special events (e.g., world-heritage-site nomination) and local tourism-related regulations and policies.

4.2 Problem Focus and Reference modes

Residents During the period from 1990 to 2008, the population of Gucheng District grew from 25,379 to 35,058, a growth of 38% compared to the provincial population growth rate of 18% (Zhao, 2010). In 2000, the number of Naxi indigenous inhabitants in the Old Town was slightly more than the number of external temporary residents. By 2004, the number of external temporary residents had become almost two times of the number of Naxi residents in the Old Town (Yamamura et al., 2006). More and more Naxi residents have rented their houses to external temporary residents and moved to a new town.

Tourists The number of tourists in the Old Town grew from 160,000 in 1990 to 3.1 million in 1999, and continuously grew to approximately 4.2 million in 2008, with a total growth rate of 2548% from 1990 to 2008 (McKhann, 2001, as cited in Wang, 2007). In best tourist seasons during 2008, the population density of the Old Town, where most of buildings were only one or two stories' high, was approximately 32,000 persons per square mile of land area, compared to the population density of 67, 000 persons per square mile in Manhattan, New York City (Zhao, 2010).

Guesthouses and Tourism shops In an area of 3.8 square kilometers that the Old Town occupies, there was hardly any guesthouse before 1990. By 1999, the number of guesthouses increased to 129 (Wang, 2007). Indigenous Naxi people owned 90% of 87 registered guesthouses in 2001 (Wang, 2007). Tourist shops increased from 18 in 1995 to 264 in 2004, with a growth rate of 1388.9%, compared with a general shop growth of 178.1%, that is, from 32 in 1995 to 89 in 2004. By August, 2004, about 33% of the shops (112 shops), including both tourist and general shops, were operated by Naxi people, while around 58% of the shops were managed by external immigrants who were mainly Han Chinese.

Economic Growth Local tourism revenue increased from 2 million US Dollars in 1992 to around 163 million US Dollars in 1999 (McKhann, 2001). It was continued to grow from 313 million US Dollars in 2001 to around 829 million US dollars in 2007 (Zhao, 2007).

Water Pollution According to statistics published by the Environment Protection Bureau of Lijiang from 2000 to 2006, the quality of the drinking water for people living in Gucheng District deteriorated, and its quantity shrunk rapidly. Experts said that the changing was mainly caused by the growing water demand and a dramatic increase in the amount of domestic wastewater (Ning and He, 2007).

Based on these historical data, reference modes that focus the study are depicted in Figure 1 to Figure 11.

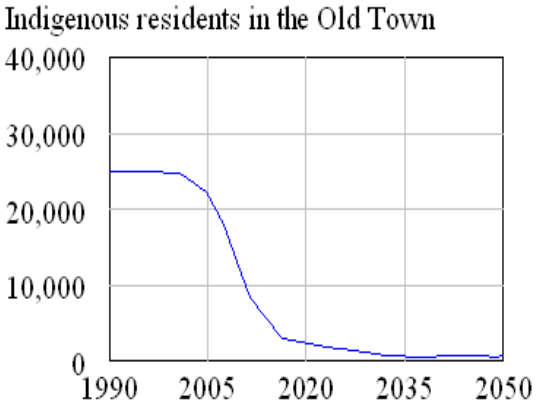

Figure 1. Old-town indigenous residents

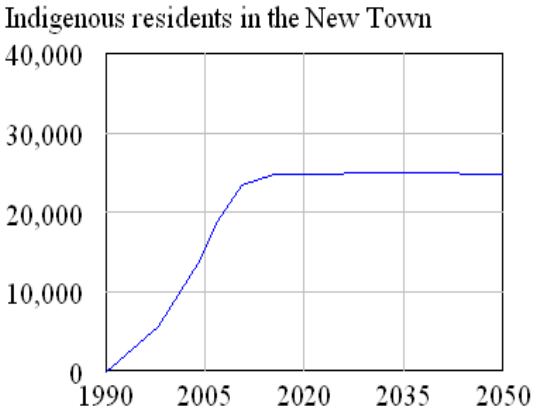

Figure 2. New-town indigenous residents

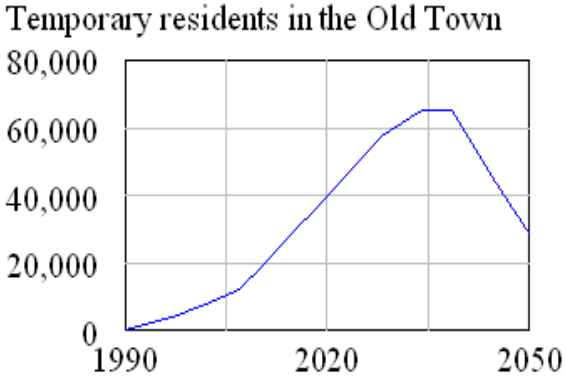

Figure 3. Old-town temporary residents

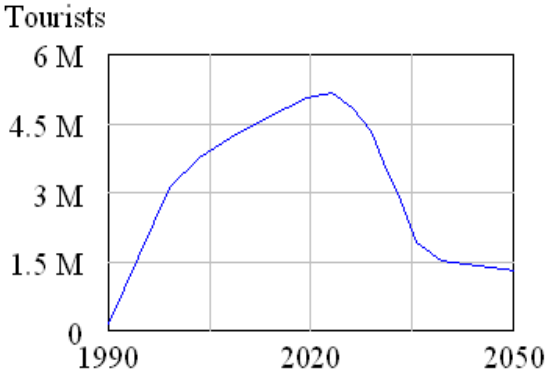

Figure 4. Tourists

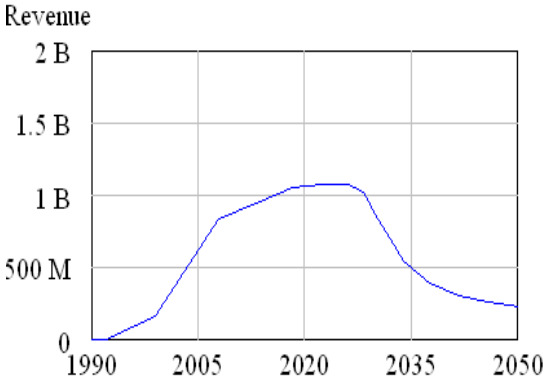

Figure 5. Revenue

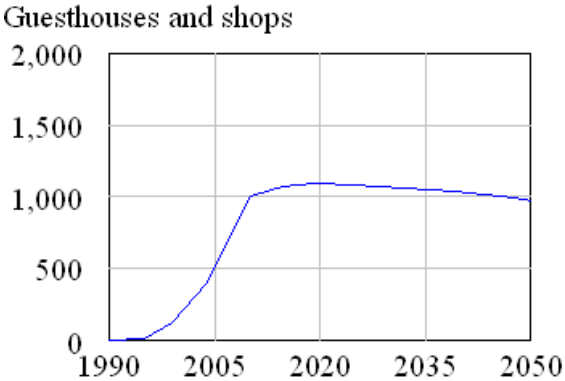

Figure 6. Guesthouses and shops

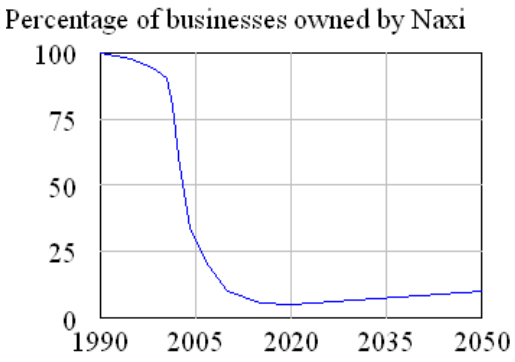

Figure 7. Naxi business activities

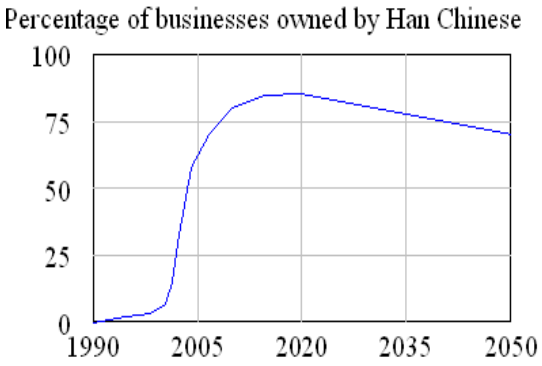

Figure 8. Han Chinese business activities

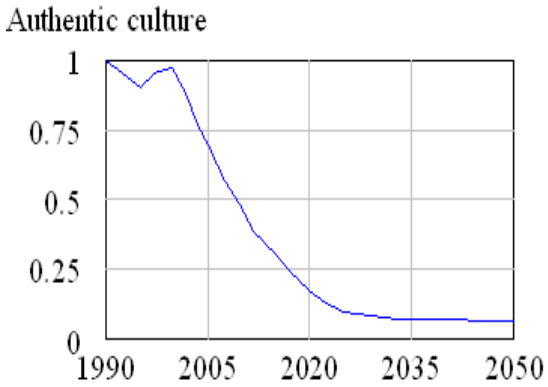

Figure 9. Authentic culture

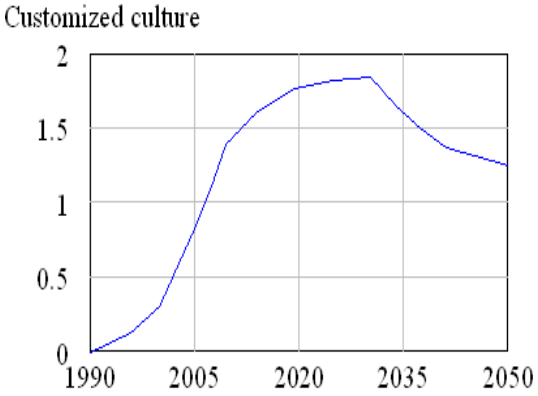

Figure 10. Customized culture

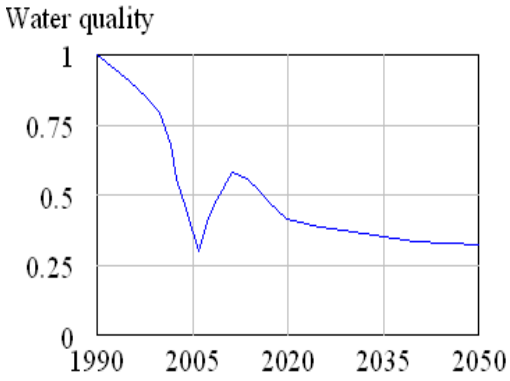

Figure 11. Water quality

4.3 Model Overview

The model has seven sectors, including "Indigenous Residents," "Temporary Residents," "Tourists," "Business Activities," "Natural Residents," "Cultural Resources," and "Culture". Stocks and in and out flows in each sector are represented in Figure 12. It is worth mentioning that the operationalization of culture is based on Zhang and Yamamura's economic framework for conserving authenticity of vernacular houses (2007) and Wang's notions of comfortableness, customized authenticity and constructed authenticity (2007). Model details, including detailed causal diagrams and equations are presented in supporting materials.

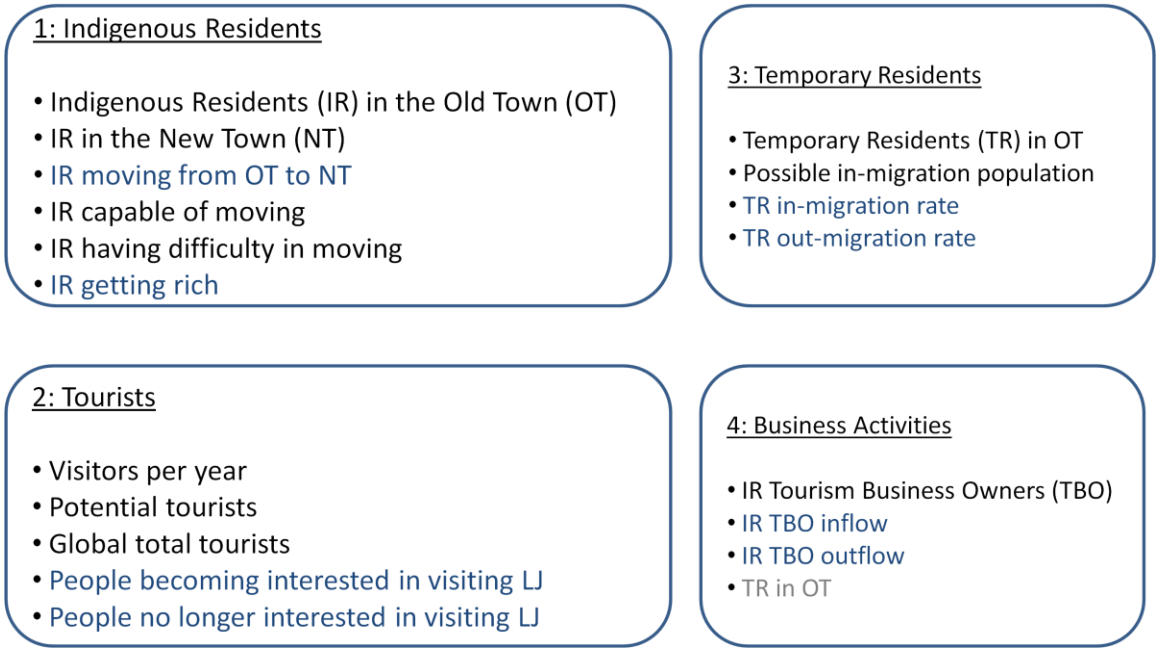

Figure 12-A. Model overview

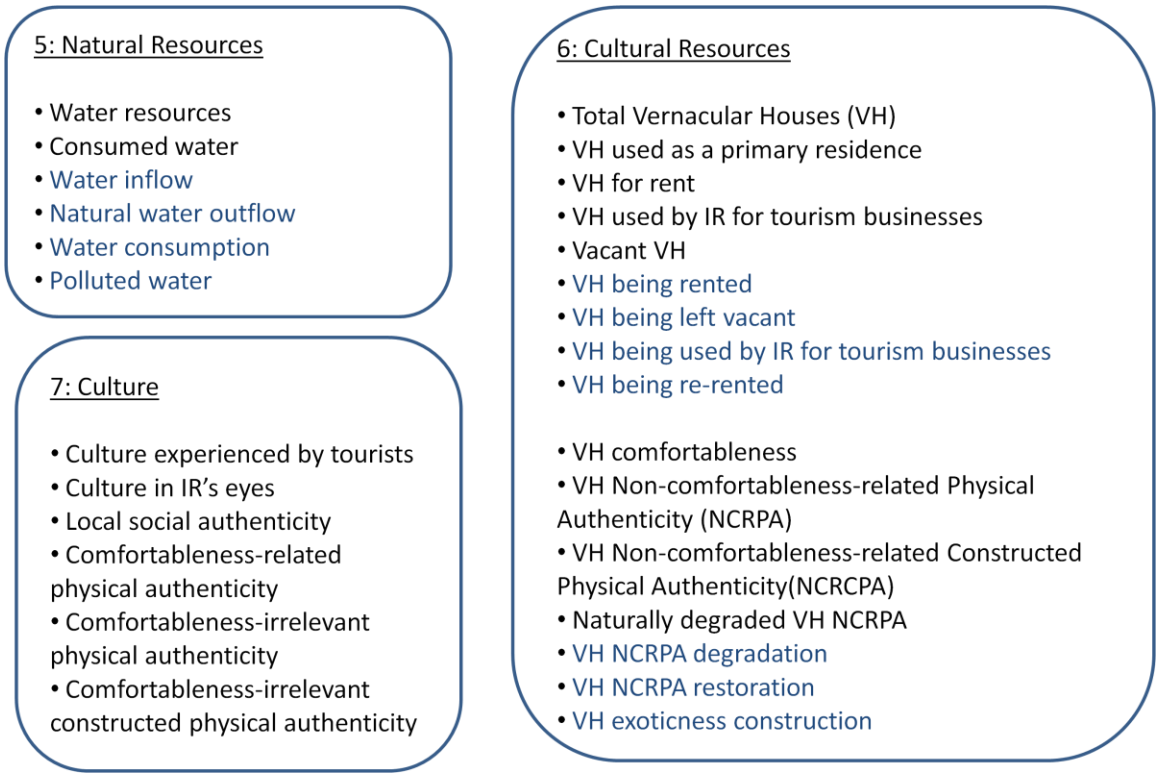

Figure 12-B. Model overview

5 Model behaviors and lessons learned

Lessons learned through simulations and experiments are summarized as follows.

Lesson 1: The great impact of word of mouth (Figure 13)

As shown in Figure 13, word-of-mouth is a very strong force for tourism development that it can make the number of potential tourists increase very rapidly within a short time period.

Lesson 2: Economic growth leads to rapid indigenous residents' out-migration from the Old Town (Figure 14).

Figure 14-A depicts the number of indigenous residents who move from the Old Town to the New Town every year without considering indigenous residents' business activities. Figure 14-B depicts the number of indigenous residents moving every year with considering indigenous residents' business activities. As shown in these figures, indigenous residents will get rich by running tourism businesses, but it will also make indigenous residents move out of the Old Town more quickly.

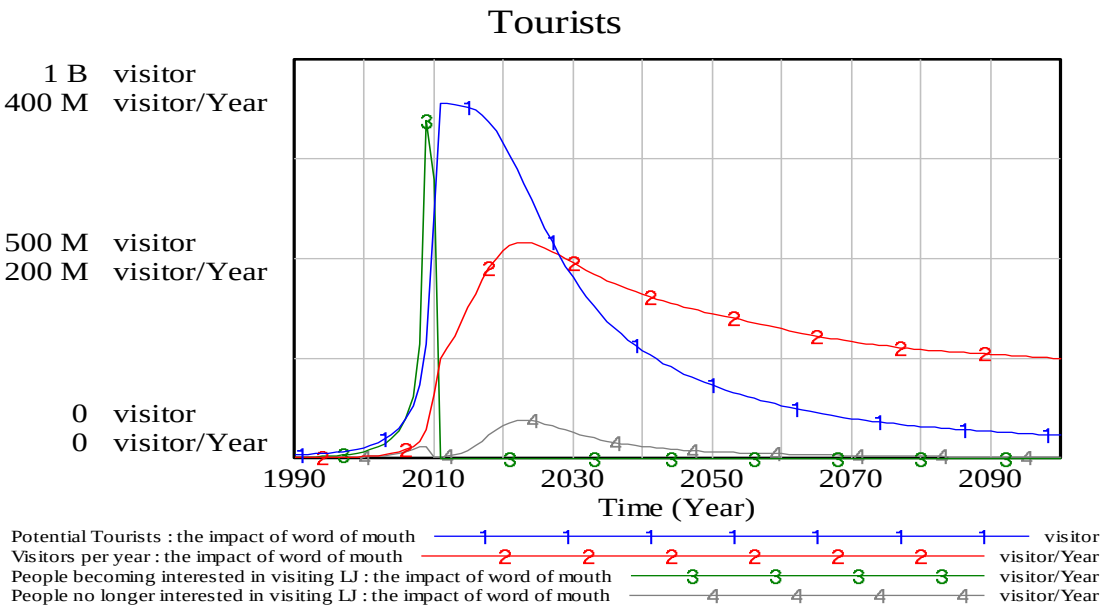

Figure 13. The great impact of word of mouth

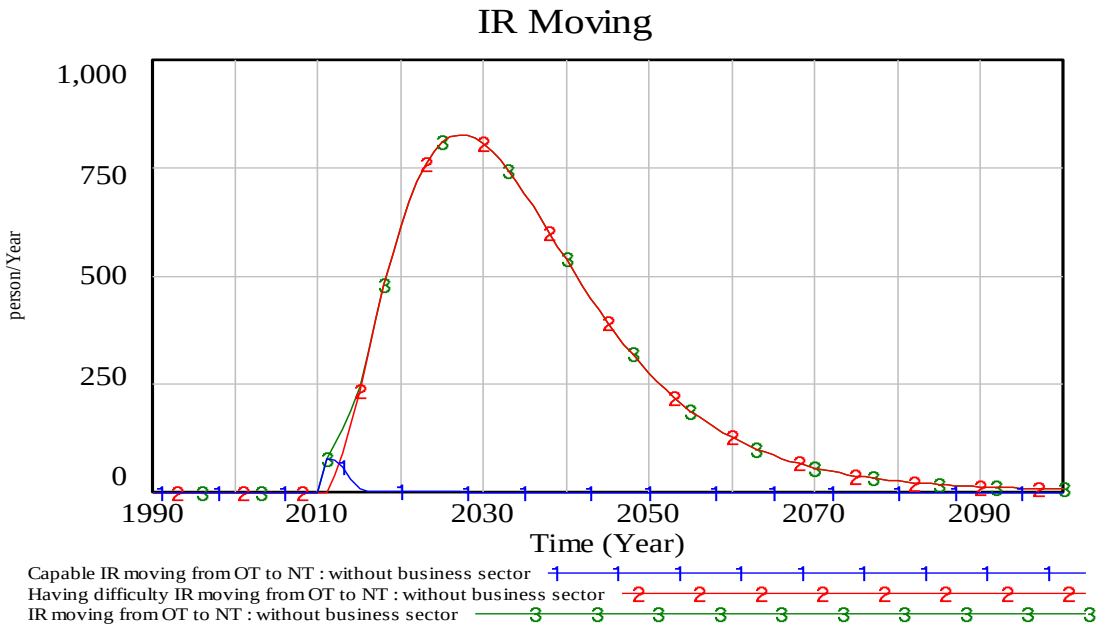

Figure 14-A. Indigenous residents' moving without the business sector

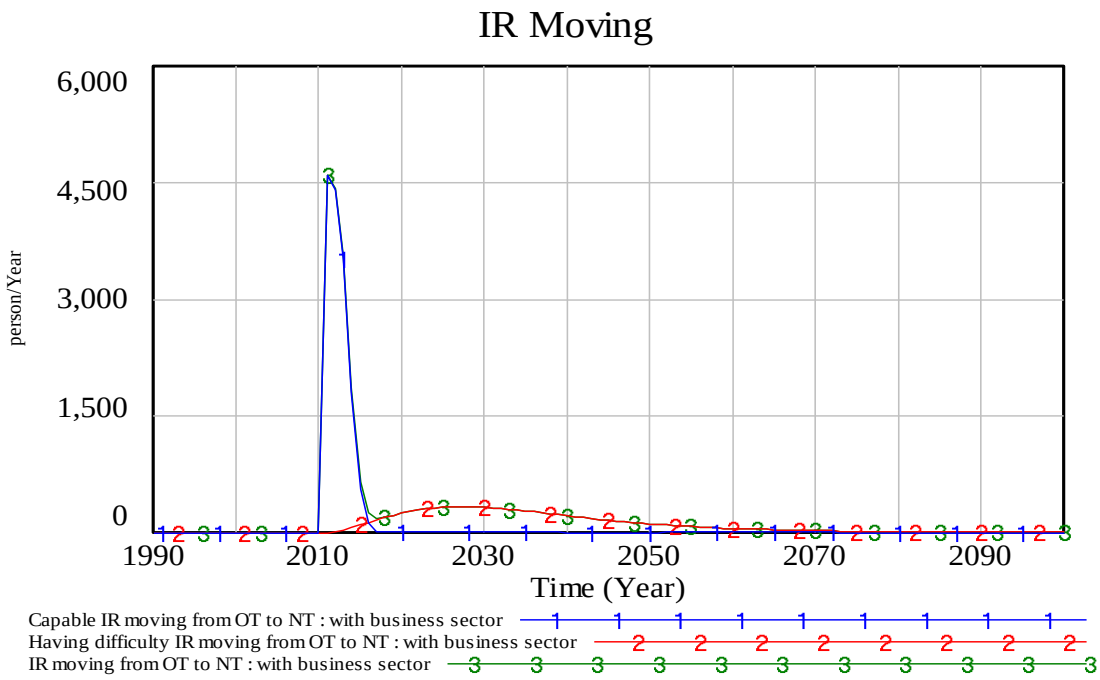

Figure 14-B. Indigenous residents' moving with the business sector

Lesson 3: Limited tourism-service capacity impedes tourist population growth (Figure 15).

Figure 15-A and Figure 15-B depict the numbers of tourists without and with the tourism-service capacity constraint respectively. As shown in these figures, limited tourism-service capacity would harm tourist population growth.

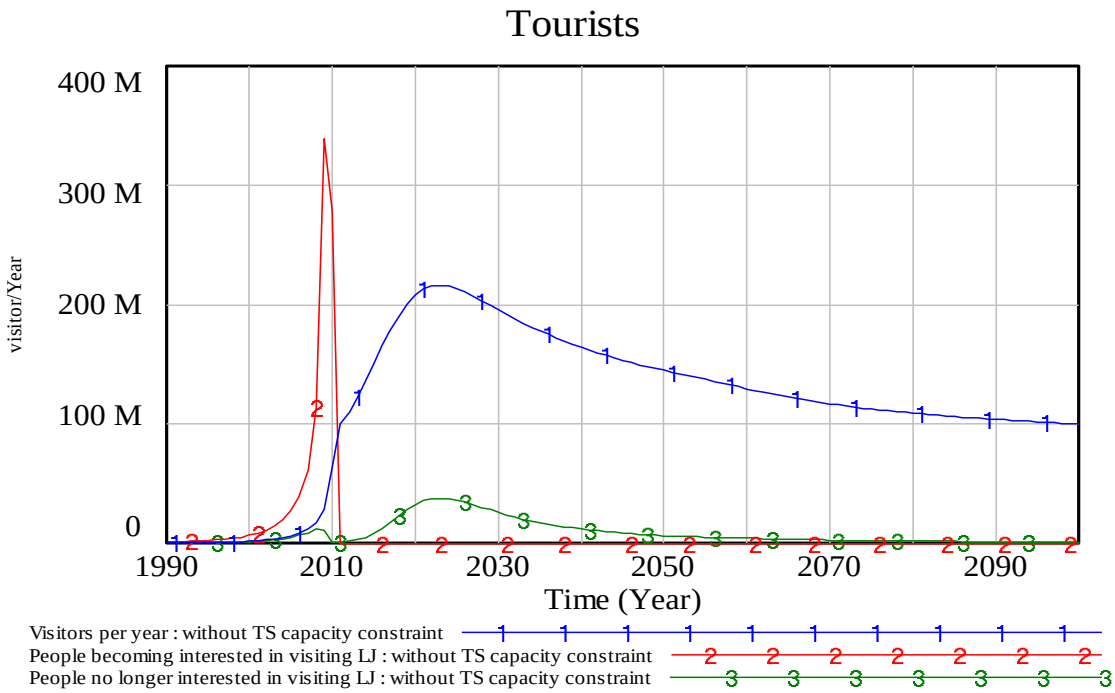

Figure 15-A. The number of tourists without the tourism-service capacity constraint

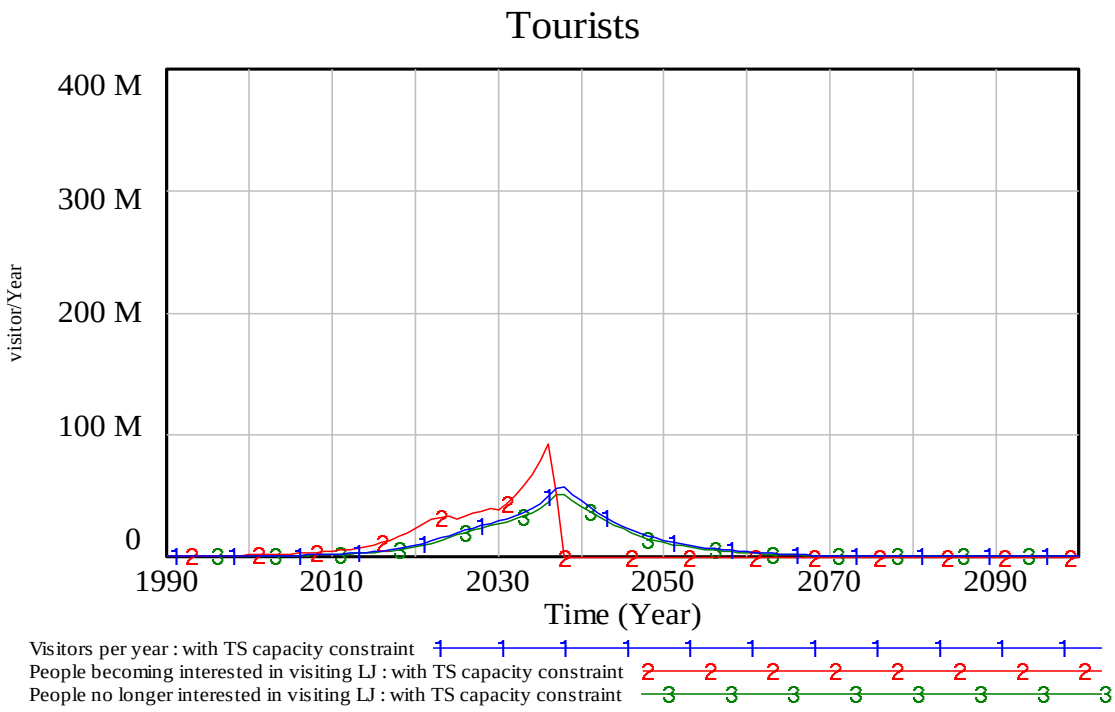

Figure 15-B. The number of tourists with the tourism-service capacity constraint

Lesson 4: Water is a critical resource. It will be depleted very rapidly as tourist number increases (Figure 16). Water capacity could be an important factor for effective tourist population control (Figure 17). However, low water consumption may influence residents' quality of life (Figure 18).

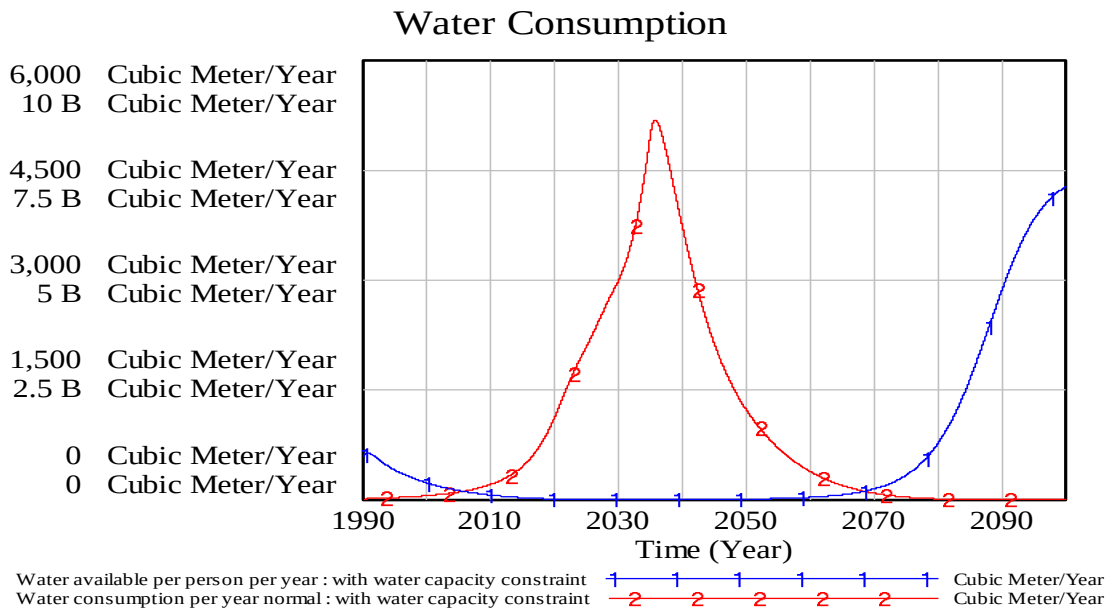

Figure 16. Water will be depleted very rapidly

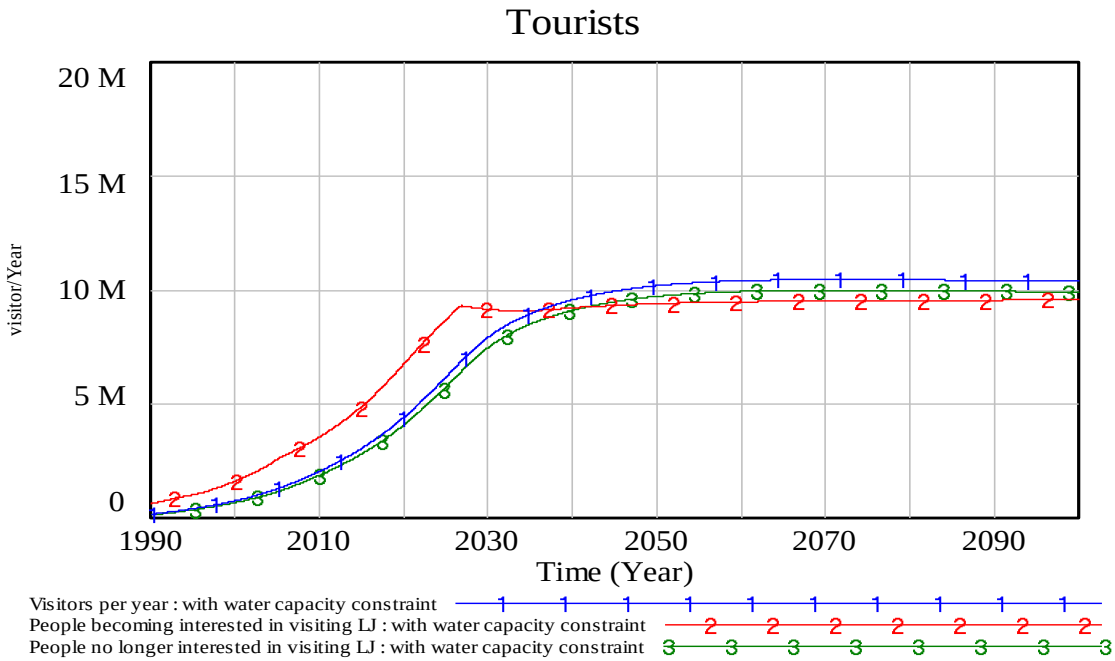

Figure 17-A. Tourist number with the water capacity constraint

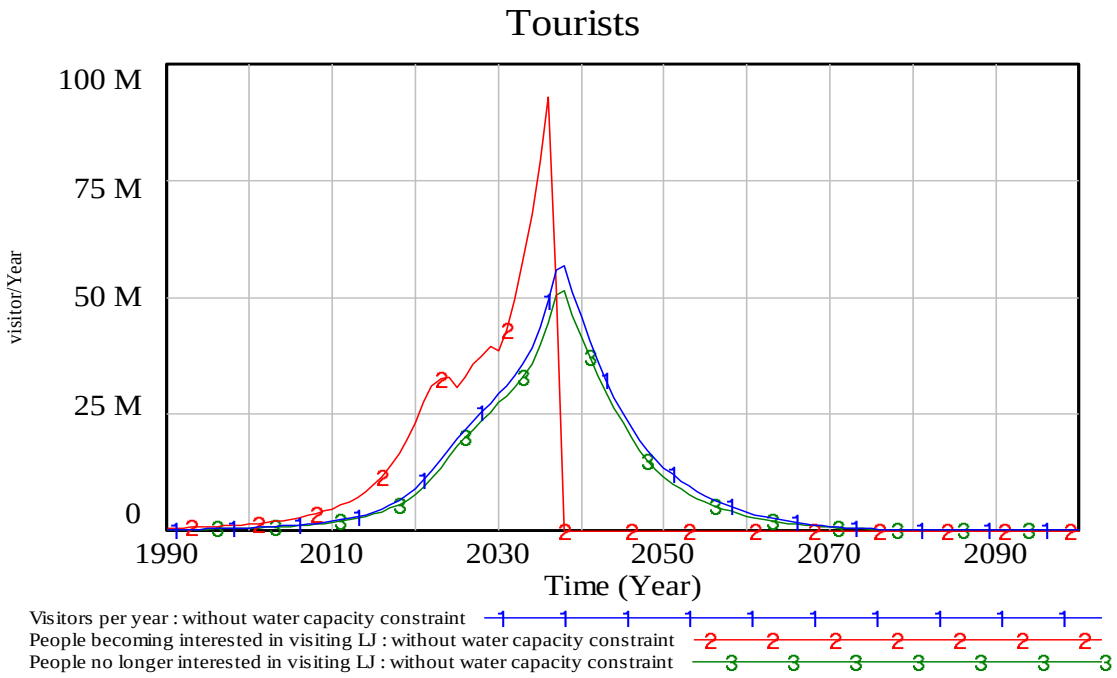

Figure 17-B. Tourist number without the water capacity constraint

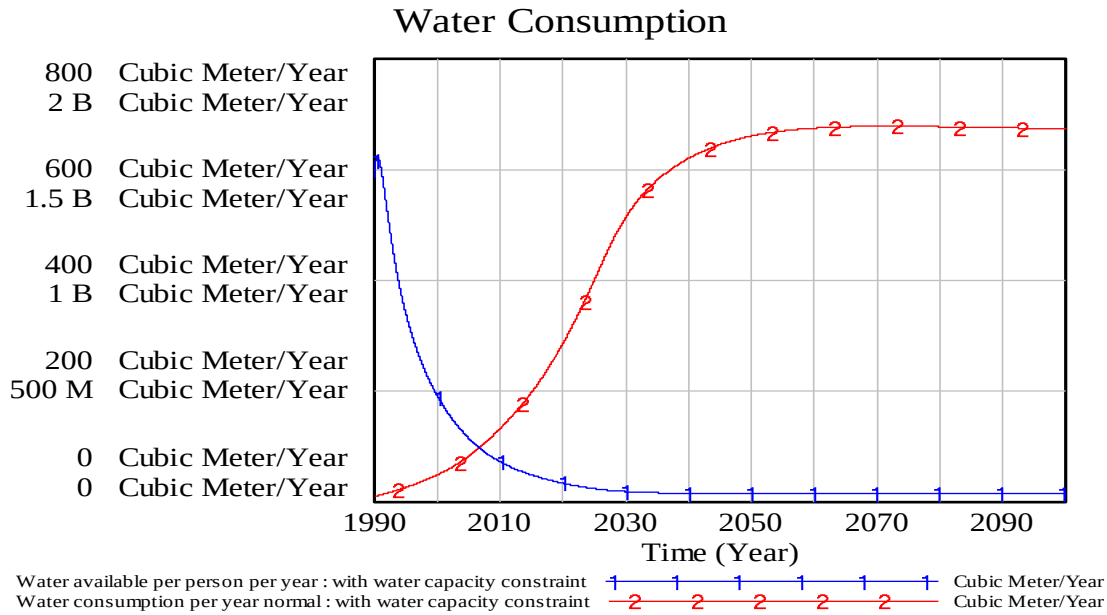

Figure 18. Low water consumption may influence residents' quality of life

Lesson 5: Not many tourists are interested in authentic culture. The development would be very slow without external forces (e.g., the nomination of world heritage site) (Figure 19). IR running

tourism business can help to protect cultural resources from degradation to some extent (Figure 20). Culture will still slowly decline (Figure 21).

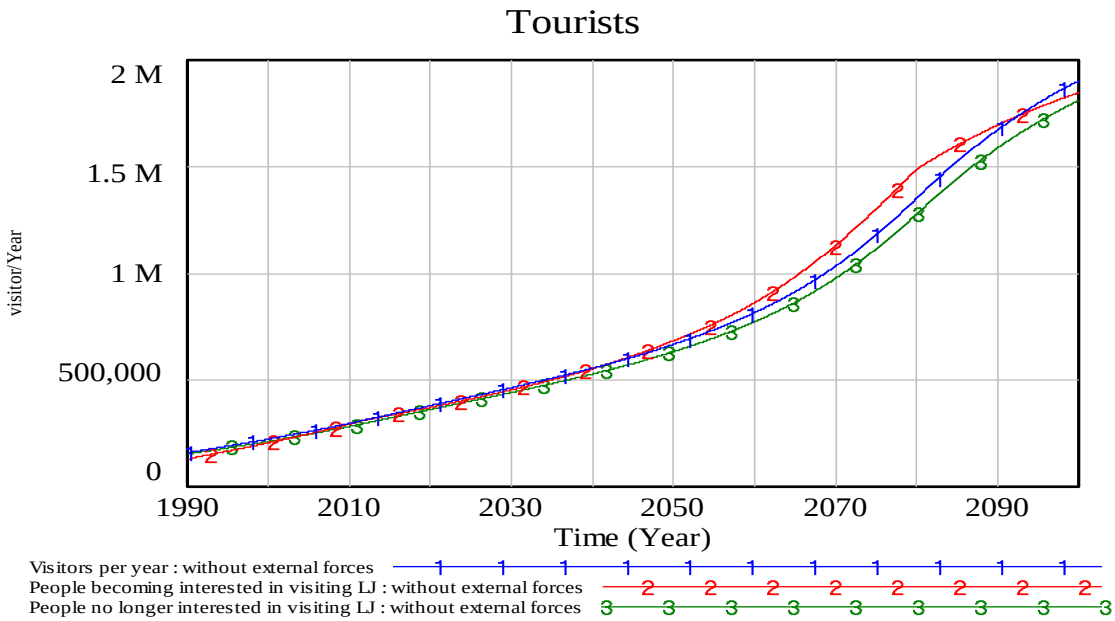

Figure 19. The number of tourists without external forces

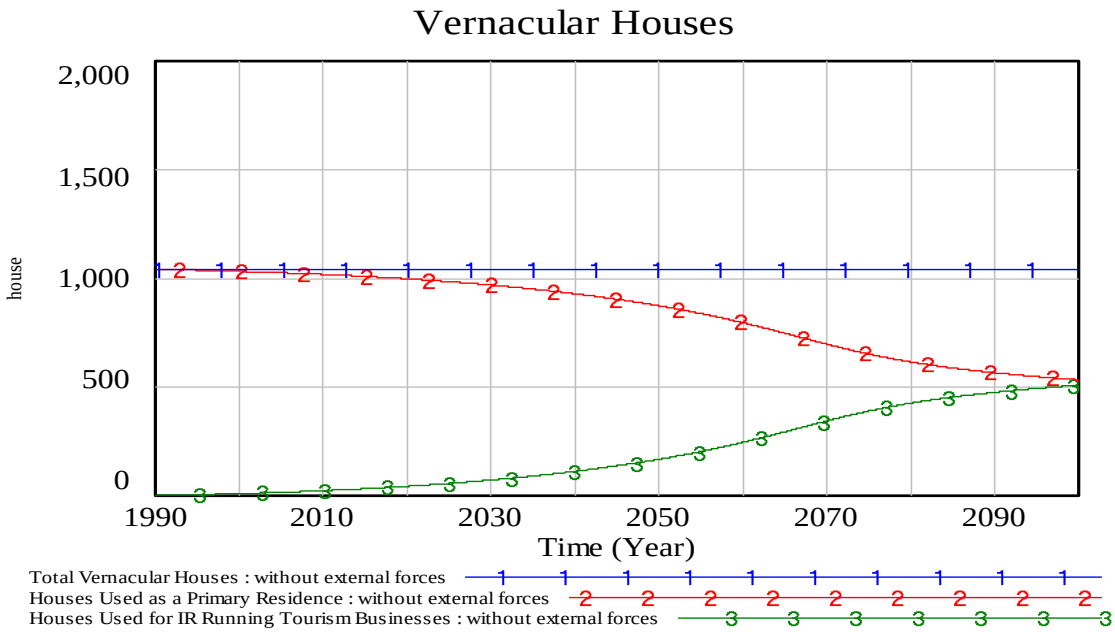

Figure 20-A. The distribution of vernacular houses without external forces

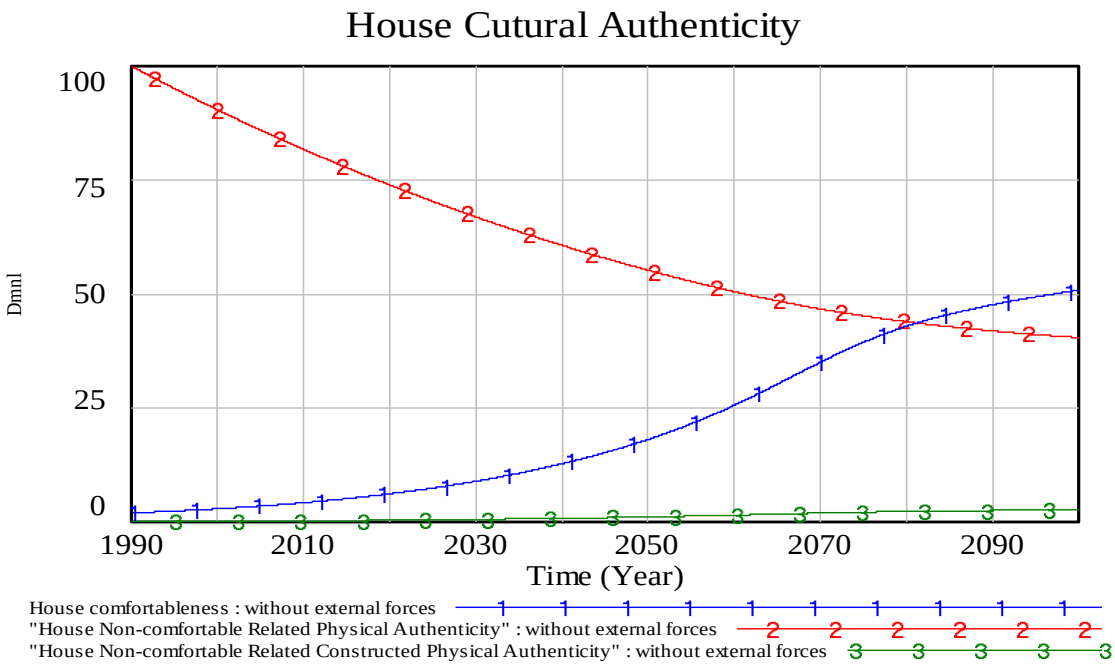

Figure 20-B. House cultural authenticity without external forces

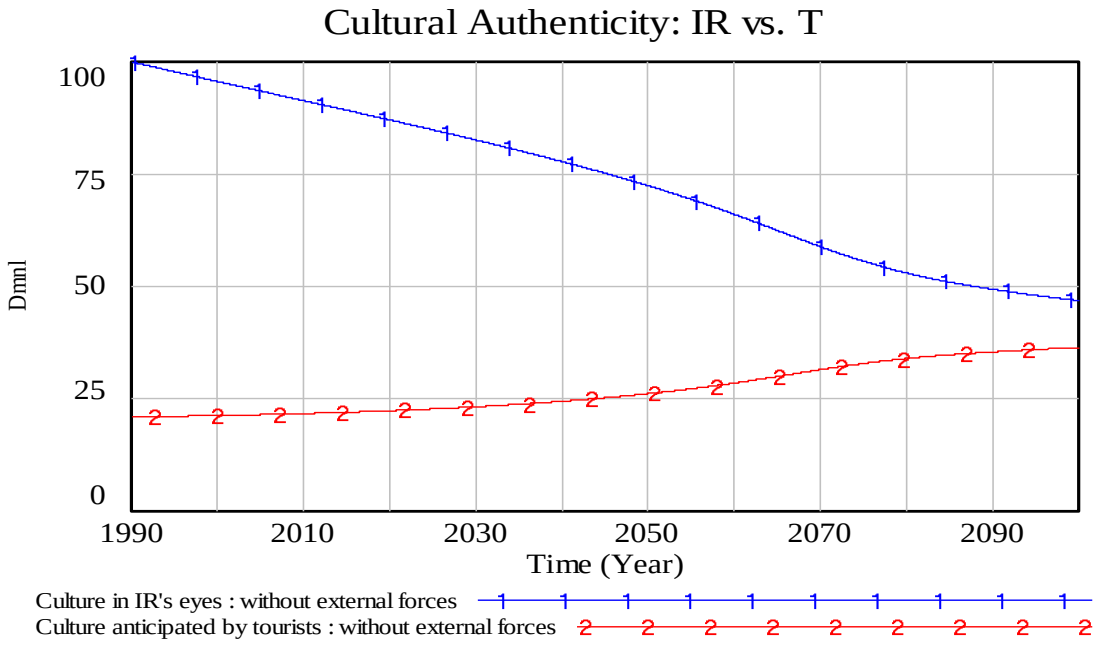

Figure 21. Culture in indigenous residents' eyes and culture anticipated by tourists without external forces

Lesson 6: The growth of tourist population will eventually attract temporary residents to in-migrate (Figure 22). The growth of temporary residents leads to a decline in tourist population (Figure 23). The reason is a decline in culture (Figure 24). The in-migration of temporary residents makes the level of indigenous business owners remain low (Figure 25). The in-migration of temporary residents, however, improves tourism services (Figure 26).

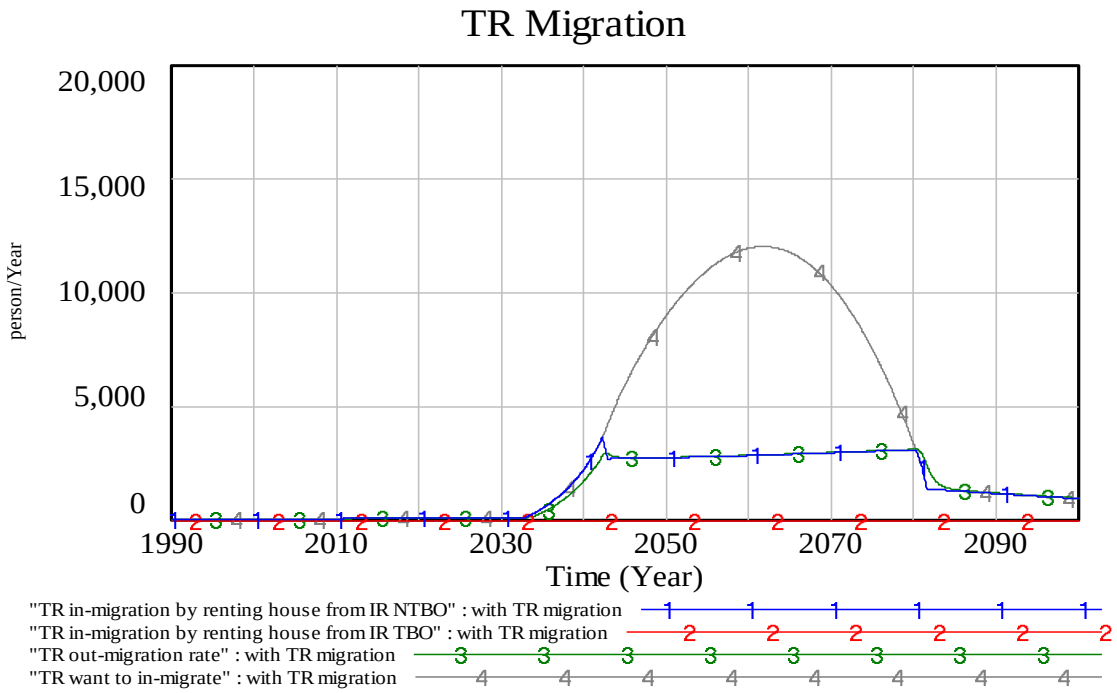

Figure 22. Temporary residents' migration

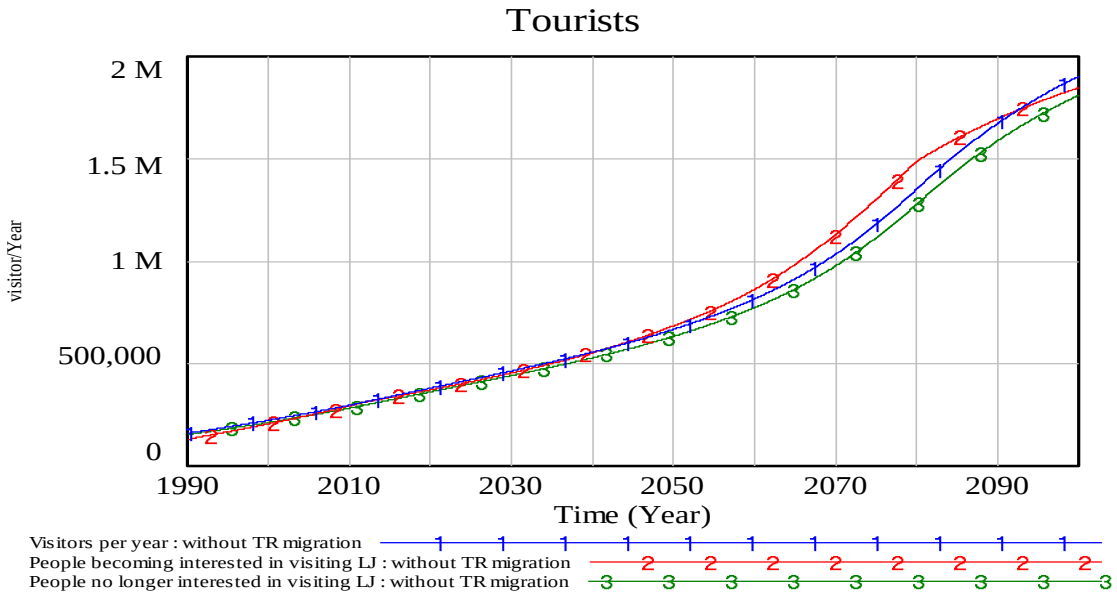

Figure 23-A. The number of tourists without temporary residents' migration

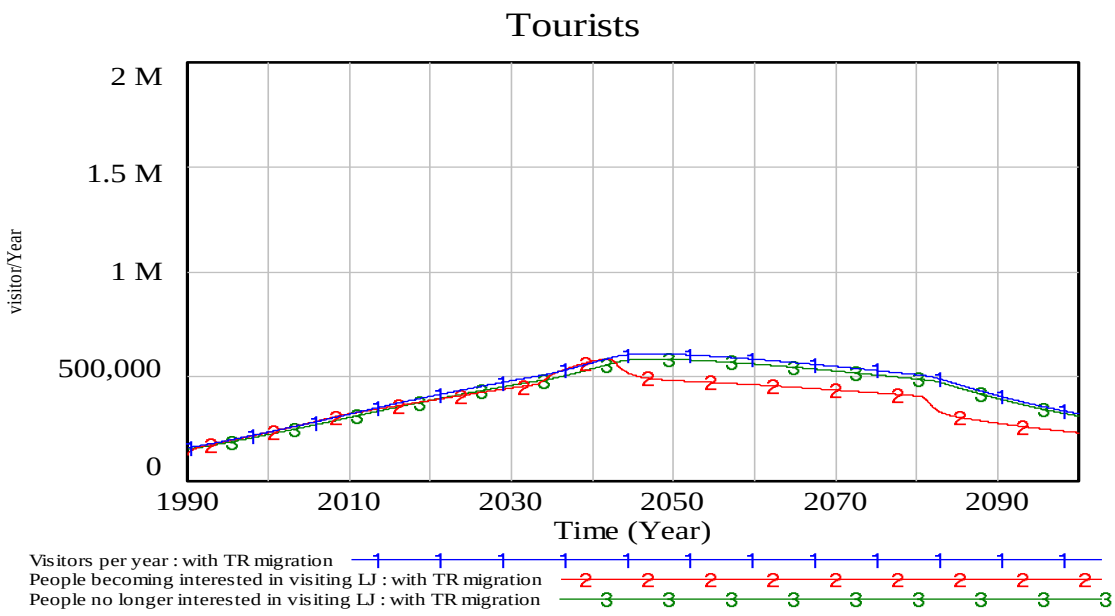

Figure 23-B. The number of tourists with temporary residents' migration

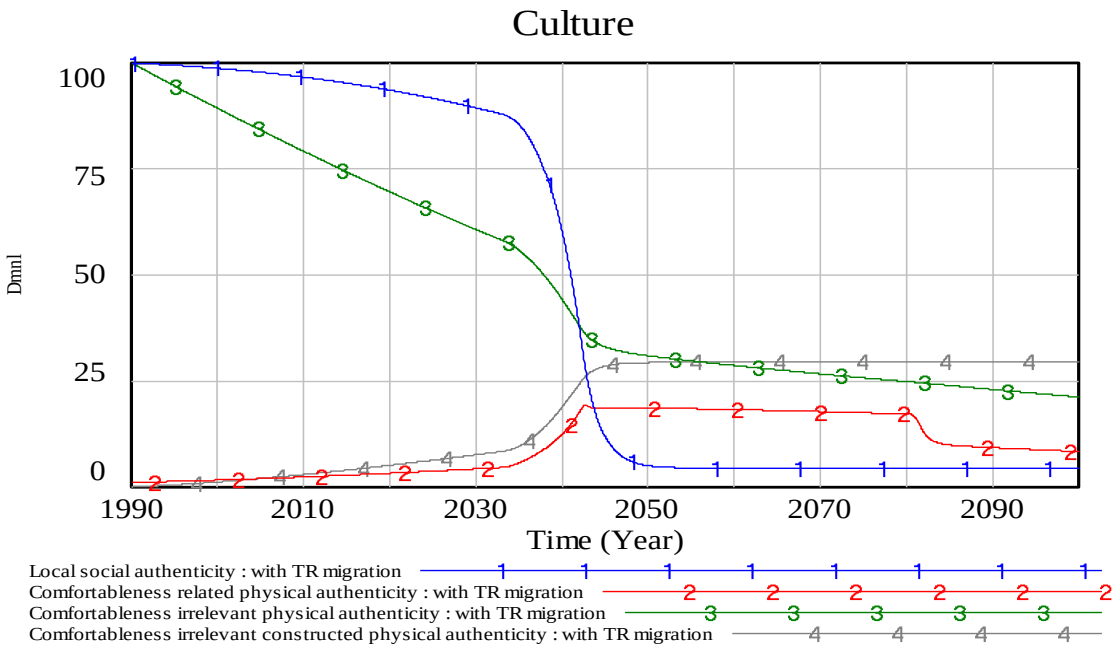

Figure 24-A. Culture with temporary residents' migration

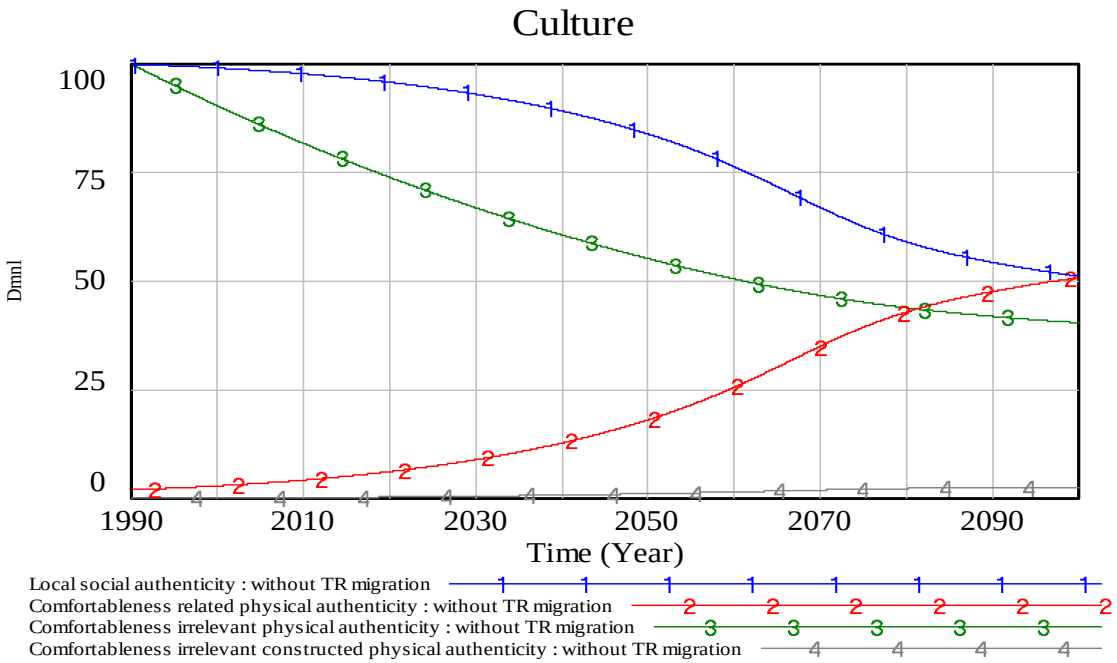

Figure 24-B. Culture without temporary residents' migration

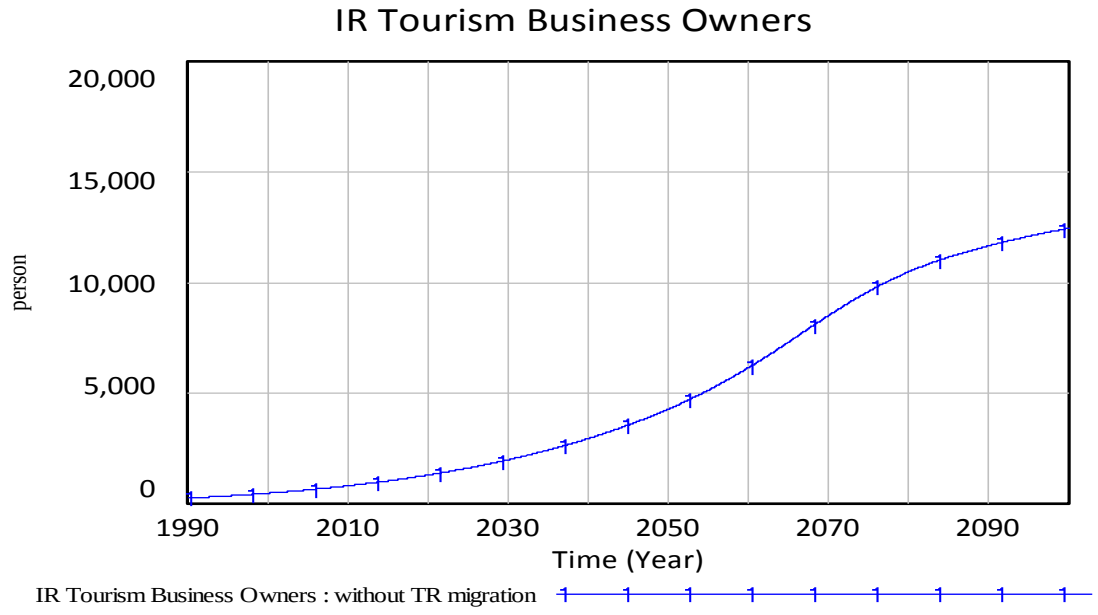

Figure 25-A. The number of indigenous business owners without temporary residents' migration

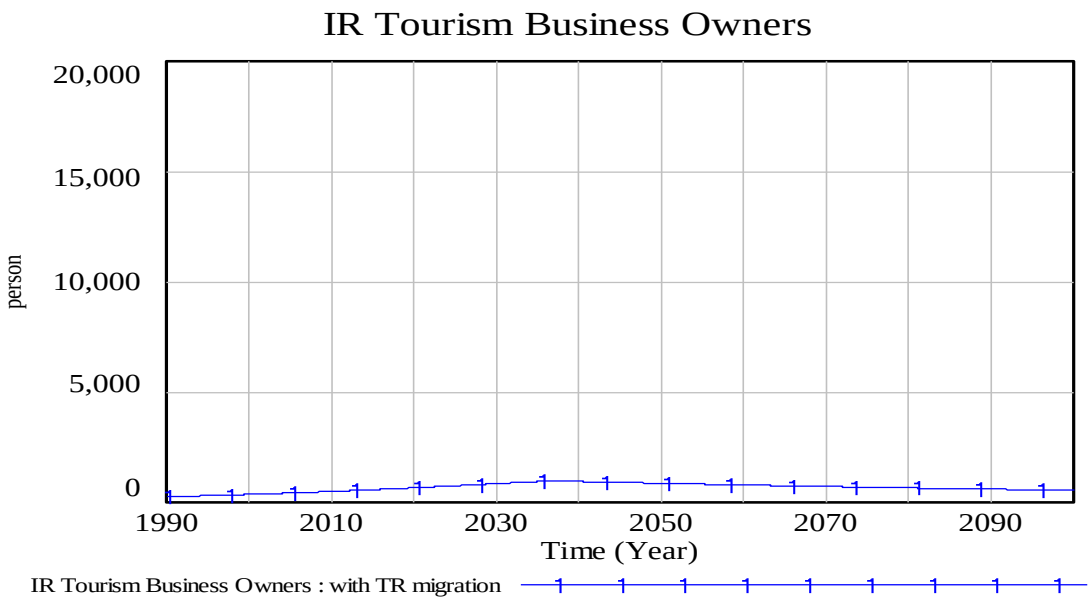

Figure 25-B. The number of indigenous business owners with temporary residents' migration

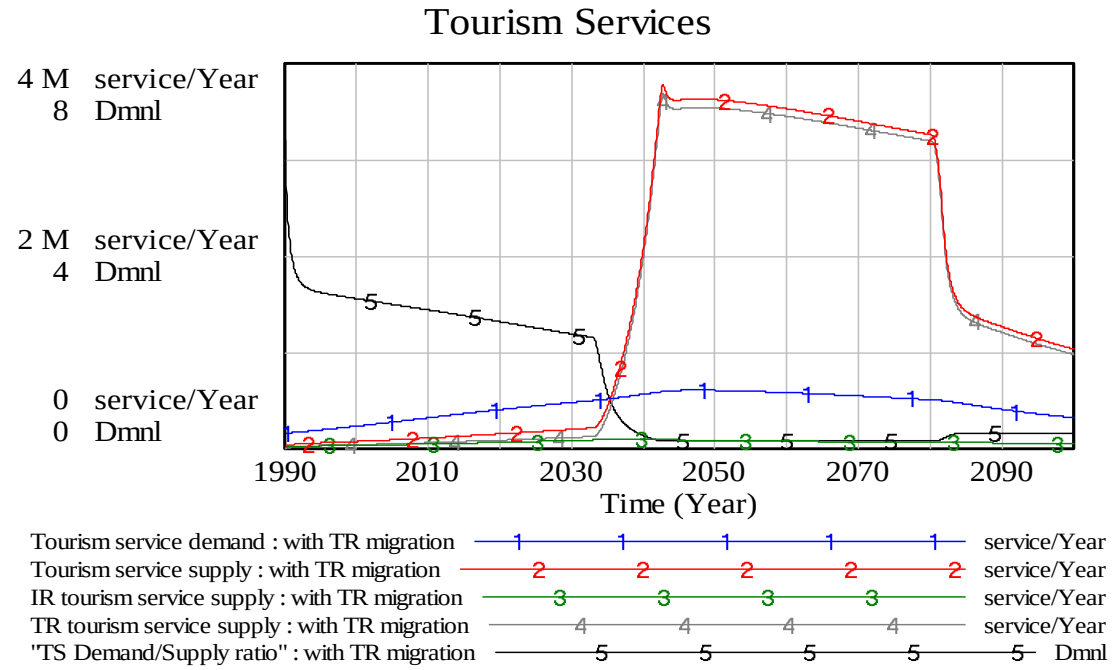

Figure 26-A. Tourism services with temporary residents' migration

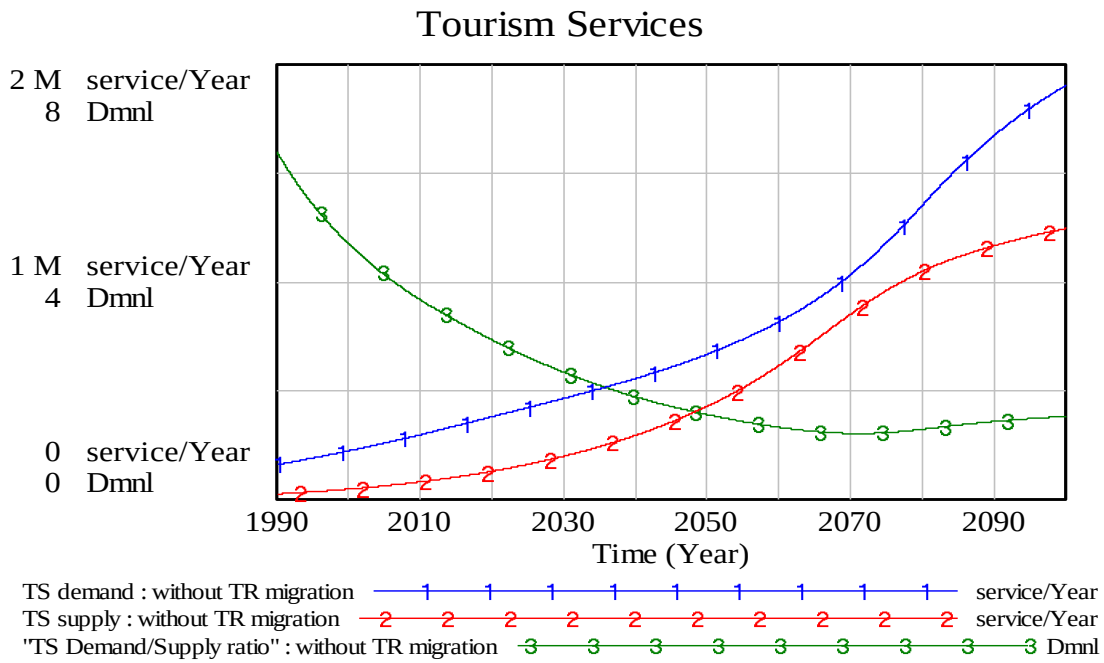

Figure 26-B. Tourism services without temporary residents' migration

Lesson 7: The devastating effect of fame

The increase in fame, such as receiving the tile of world heritage site, will lead to unsustainable tourism development: The number of tourists will increase and then decrease rapidly (Figure 27); the increase and decline of tourist number will result temporary residents' in-migration and out-migration (Figure 28); indigenous residents will move out the Old Town due to the in-migration of temporary residents (Figure 29); water consumption and water quality will decline (Figure 30); and culture will decline (Figure 31).

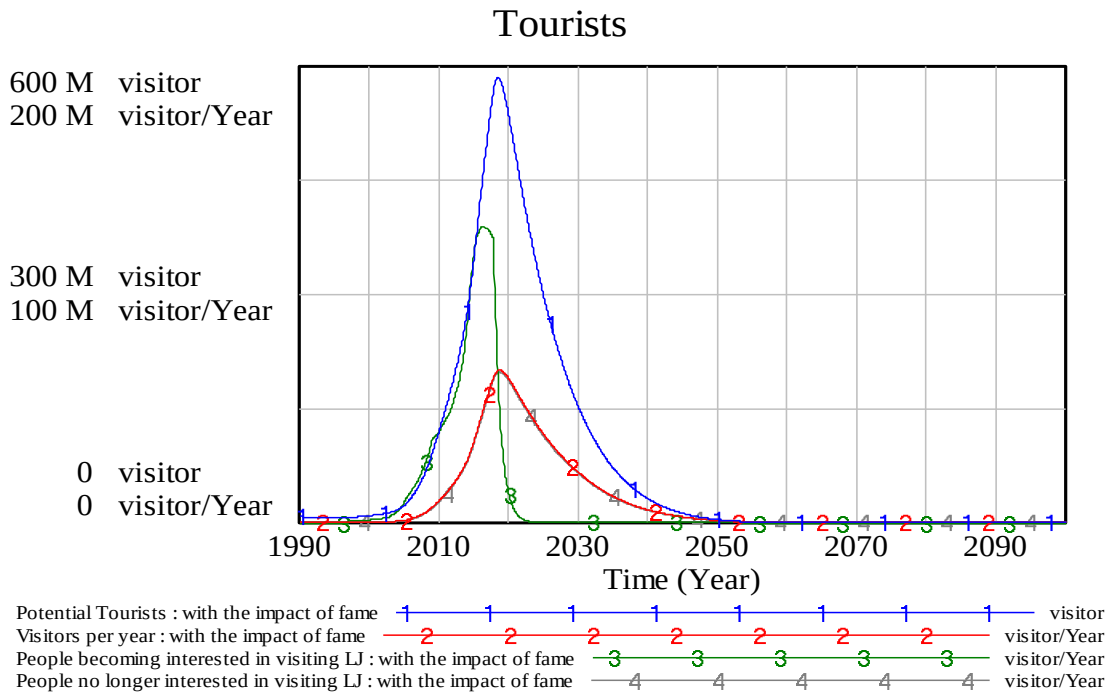

Figure 27. The impact of fame on tourists

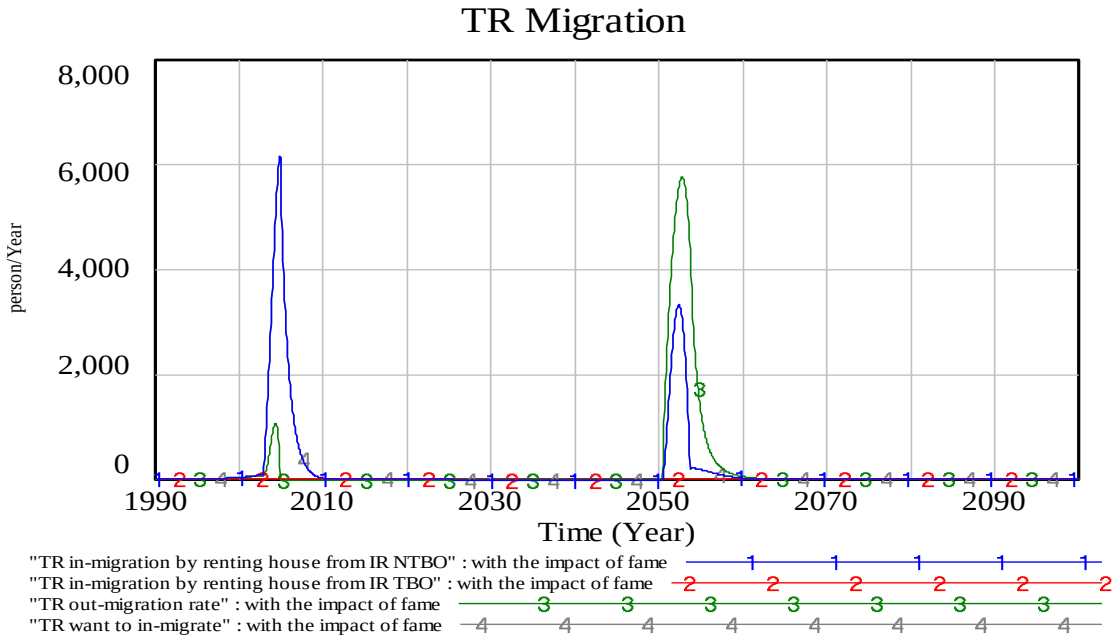

Figure 28. The impact of fame on temporary residents

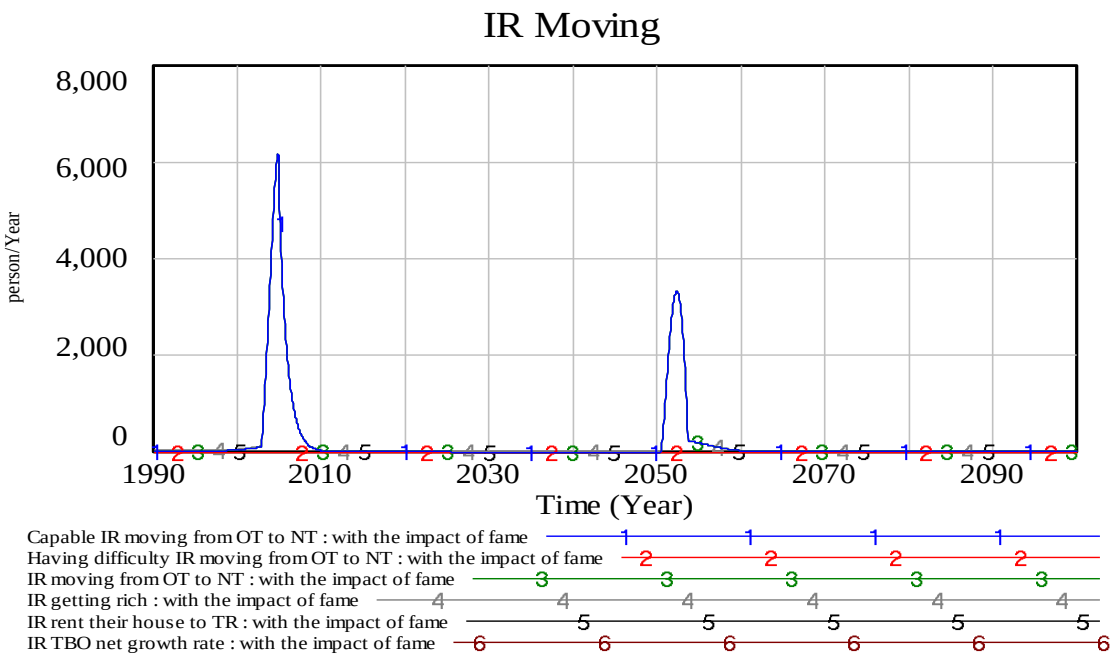

Figure 29. The impact of fame on indigenous residents

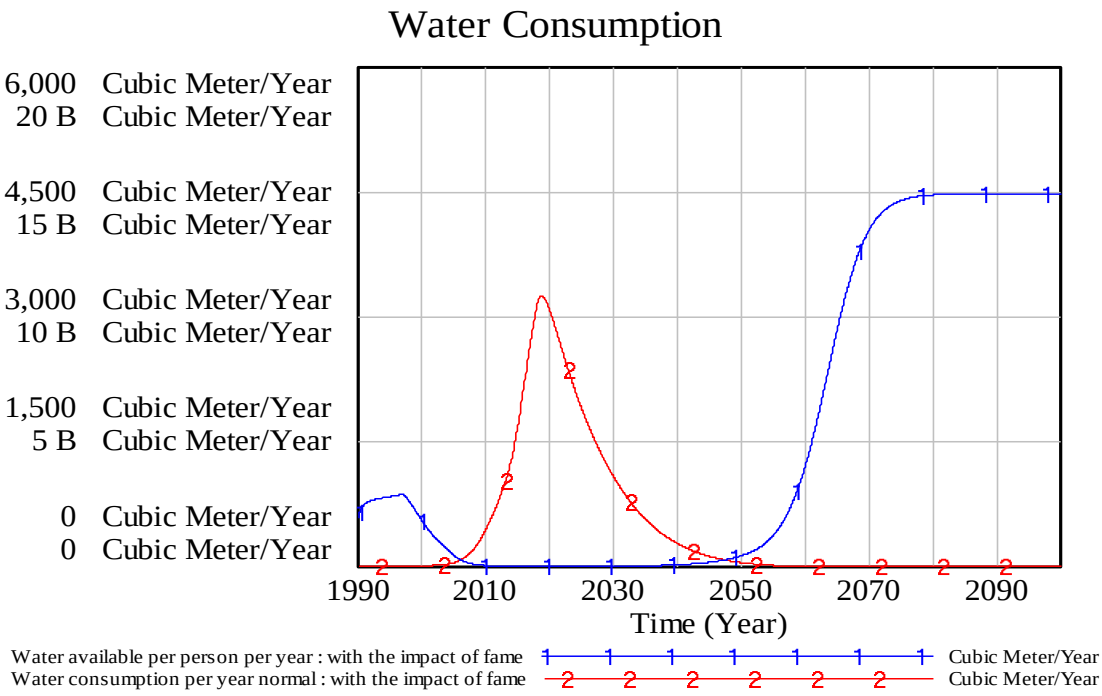

Figure 30-A. The impact of fame on water consumption

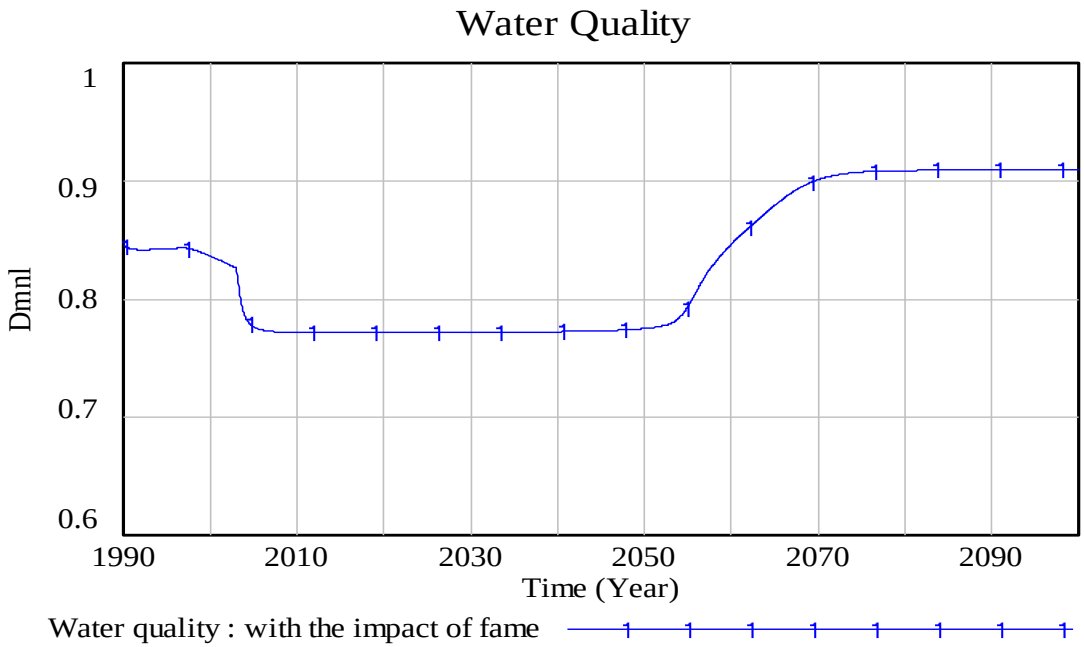

Figure 30-B. The impact of fame on water quality

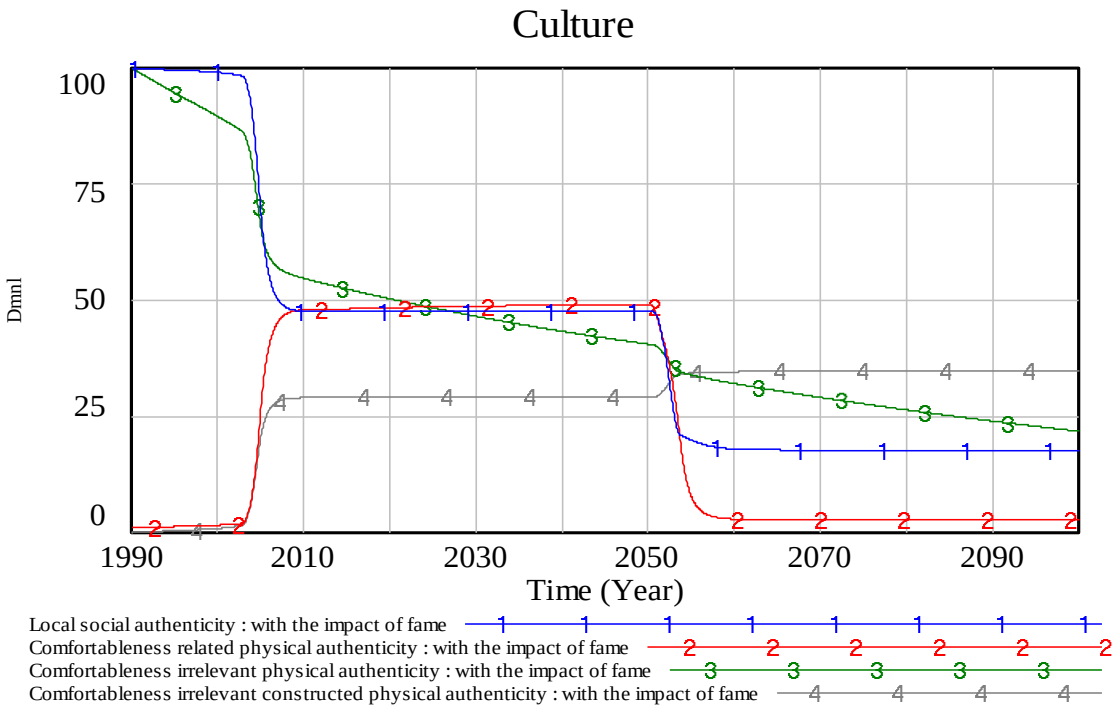

Figure 31-A. The impact of fame on culture

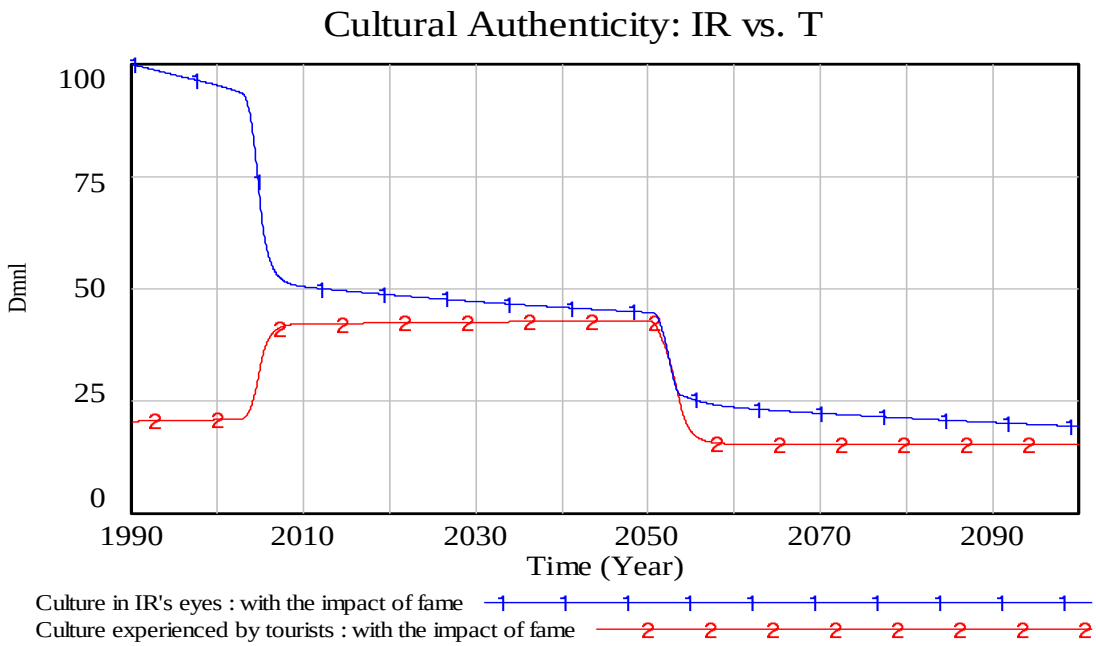

Figure 31-B. The impact of fame on cultural authenticity

6 Findings and implications

Based on model behaviors and lessons learned, major factors that influence tourism development over time and associated tourism-related policies are identified and summarized in Table 1. As shown in Table 1, these factors include fame, word of mouth, economic growth, tourism-service capacity, critical natural resources, immigrants, authentic culture and constructed culture. Fame and word of mouth have both positive and negative impacts on tourism development. It makes us think, is fame, such as a world heritage title, a good thing or a bad thing? To mitigate the negative impact and enable positive impact of fame and word of mouth, tourist control and moderate tourism promotion might be necessary, but how moderate tourism promotion should be? Is price increase a good strategy to deter tourists? If it is, how much price increase is enough? Similarly, economic growth has both positive and negative impacts on tourism development. To moderate its negative impact, a possible policy could be providing subsidies to indigenous residents, but how much subsidy is enough and where does the money come from? Another major factor is tourism-service capacity. Limited tourism-service capacity impedes tourism development. A remedy policy could be attracting external investments, which may have negative consequences as shown in the simulation results of the impact of temporary residents. Critical natural resources, water resources in this study context, seem to be an effective factor for tourist control. The implication of this is that improving water storage and exploration capacity might not be a good strategy for sustainable tourism development. Temporary residents have both positive and negative impacts on tourism development. Simulation results suggest that the control of temporary-resident immigration is necessary for sustainable tourism development, but the question is – how ethically and politically feasible is this solution? In term of authentic and constructed cultures, they both have positive and negative impacts on tourism development. To mitigate their negative impacts, possible policies include the protection of cultural resources,

culture promotion and the control of temporary-resident immigration. Simulation results also suggest that culture promotion should be conducted with caution.

Table 1. Major factors of tourism development and associated tourism-related policies

Factor	**Positive impact**	**Negative impact**
L1&L5&L7: Fame, word of mouth	tourist population growth, economic growth	tourist population decline, economic decline
Existing policies in the case	UNESCO world heritage nomination, media broadcasting, local tourism promotion	tourist control by collecting urban conservation fee (1999: 20 ￥/3 $; 2011: 80￥/12$); price increase
L2&L6&L7: Economic growth	improve residents' quality of life	IR out-migration, culture decline
Existing policies in the case	N/A	10 ￥/1.25$ subsidies to each person permanent resident (2004)
L3: Limited tourism-service capacity	N/A	impede tourist population growth
Existing policies in the case	N/A	relax restrictions on population movement, policies to attract investment
L4: Critical natural resource (water)	effective tourist control	threaten residents' quality of life
Existing policies in the case	N/A	enhance water storage/exploration capacity
L3&L6&L7: Immigrants	attract tourists by improving tourism services, economic growth	culture decline, tourist population decline, economic decline, low level of IR business owners, water quality decline
Existing policies in the case	relax restrictions on population movement, policies to attract investment	temporary resident permits are issued and examined on a yearly basis (1985), control the number of issued business permits (2002), business house auction, reserved IR business permits
L5: Authentic culture	sustainable tourism development	very slow development
Existing policies in the case	protection of cultural resources	culture promotion
L6: Constructed culture	tourist population growth, economic growth	tourist population decline
Existing policies in the case	relax restrictions on population movement, policies to attract investment	N/A

7 Conclusion and Next Steps

To conclude, this study is aimed at improving the understanding of different tourism stakeholder groups' interests and values and their possible influences on tourism development through a system dynamics approach. This study can be roughly divided into two stages. In stage one, a system dynamics model of the selected case is constructed. The goal of building this model is to explore major factors that influence tourism development over time and possible policies that can achieve sustainable tourism. The current paper reports findings of stage one. Through modeling, simulations and experiments, major factors that influence tourism development over time are identified. These factors include fame, word of mouth, economic growth, tourism-service capacity, critical natural resources, immigrants, authentic culture and constructed culture. Also, a tourism-related policy pool for future testing is formed. Next steps include model refinement, model validation in more depth, the investigation of stakeholder groups' interests and values through semi-structured interviews, setting objective functions in the current model to test policies in the policy pool formed in stage one, and exploring different stakeholder groups' influences on sustainable tourism development.

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