



Lessons of government centralization and credibility: A qualitative case-study of administrative change in Jiuzhaigou Nature Reserve, China (1982–2018)

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ABSTRACT

How to ensure adequate provision of public services in protected area management is a well-known debate. By using the credibility thesis as a theoretical and methodological tool, this paper furnishes a renewed look at how administrative changes affect the provision of public services. For this purpose, a detailed case-study is presented: the Jiuzhaigou National Nature Reserve in China. The analysis covers a period of 36 years (1982–2018) of administrative change in the protected area. It will be ascertained that the levels of administration for the reserve kept increasing, along with continuous changes in the corresponding government structure. The latter became increasingly centralized, leading to significant stagnation of the government at the “form” level and subsequent failure at the “function” level. Problems culminated in 2013 as large-scale social protests erupted, after which local villagers took matters into their own hands and single-handedly developed a rural development plan, which eventually received approval from the authorities. This detailed study shows that to overcome the deficiencies of a stalled governance system and improve credibility, the specific form of institutions – a centralized or decentralized administration – is of secondary importance as compared to the establishment and implementation of unambiguous policies, along with increased local participation, and transparent distribution of management responsibilities and authority.

1. Introduction

Over the past decades, the number of protected areas has increased significantly around the world. Protected areas are expected to conserve endangered wildlife, protect iconic landscapes, maintain water supplies, adapt to climate change, and contribute to local communities (Clark et al., 2008; Watson et al., 2014). However, the mission of local community development is often difficult to achieve in tandem with environmental protection and ecological conservation. Preventing local people from accessing natural resources could adversely affect livelihoods and lead to social conflict. In this context, supporting alternative livelihood strategies and providing sufficient public services to maintain local people's living standards are crucial for the overall success of protected areas. (Eco)tourism based on the natural surroundings of protected areas is often regarded as a viable alternative livelihood (Weaver and Lawton, 2007; Krüger, 2005). At the same time, public services, which the government mainly provides, are also crucial for local communities.

Governance – defined as a specific manner or style of administration – is a factor that critically affects the social-ecological trade-offs in protected areas worldwide (Bennett and Satterfield, 2018; Turner et al., 2014). Nevertheless, the quality of protected area management and governance is quite critical due to specific institutional deficiencies, such as unclear or overlapping jurisdiction, lack of capacity within the agency, weak policing and enforcement mechanisms, and fragmented management (Bennett and Dearden, 2014; Robinson and Kagombe, 2018). These problems indicate the inadequate functioning of protected area management and government. The reasons behind these functional issues have been studied by many researchers who worked on understanding socio-ecological systems and effective governance of resources and local people (Turner et al., 2014; Kisingo et al., 2016; Cash et al., 2006). However, few researchers pay direct attention to how administrative changes influence the performance of institutions, thereby affecting local development.

This article examines how government structural changes affect institutional performance by analyzing a case-study on administrative

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centralization and public service provision over an extended period in the Jiuzhaigou National Nature Reserve (hereafter: Jiuzhaigou Reserve) in China. In this nature reserve, fast-growing tourism requires a more efficient management to coordinate the conflicting interests and objectives of tourism, nature protection, and rural development. Local government is expected to improve its performance by increasing the administrative levels of local management, as it was assumed that more levels and more centralized decision-making could also entail stronger management capacity, with sufficient funds and more staff.

Using the credibility thesis (Ho, 2017) as a theoretical and methodological point of departure, this paper examines the effects of changes in the institutional form on the performance of the nature reserve's managing agency, the Jiuzhaigou Management Administration (JMA).

Unlike most institutional theories that pay attention to institution's form, the credibility thesis looks more closely at the institution's function while providing methods to measure the credibility of institutions' function over time and space (Celhay and Gil, 2020; Davy, 2018). With the credibility thesis as an analytical tool, we provide a renewed look at an old debate: how can local people's interests be better safeguarded in nature management?

Three research questions guided the analysis: (1) What were the government administrative changes that were launched over time in managing the Jiuzhaigou Reserve? (2) How did these changes affect the provision of public services for the local populace? (3) How did these changes affect the level of government credibility during the process?

The paper proceeds as follows. The following section introduces the background for the institutional design for biodiversity conservation in China. Section 3 delineates the credibility theory and the associated Formal, Actual and Targeted (FAT) institutional framework (Ho, 2016). Section 4 outlines the paper's methodology and a brief introduction to the case study. Section 5 presents a fine-grained description of the administrative changes and public services provision in the Jiuzhaigou Reserve at three time points, respectively termed T_1 , T_2 , and T_3 . Section 6 analyzes the functionality and credibility of these changes utilizing the FAT framework, while the paper concludes with Section 7.

2. Background: institutional design for biodiversity conservation in China (1956–2018)

China's first protected area was established in 1956 in the Dinghushan Nature Reserve in Guangdong Province. In this sense, the country is a relatively late-comer as compared to the United States and Western Europe, where the first nature reserves were established in the late 19th and early 20th centuries. However, since then, more than 2700 protected areas have been established and cover approximately 17% of the country, including terrestrial ecological resources, geological areas, and freshwater resources (Ministry of Ecology and Environment, 2019, pp.40). According to Article 29 of the *Environmental Protection Law* (Ministry of Ecology and Environment, 2014), all Chinese government levels have the responsibility to protect critical natural ecosystems, habitats for endangered wild animals and plants, watersheds and heritage sites. At the time of research, the institutional structure for protected areas featured a horizontally and a vertically structured administration for protected areas (Fig. 1).

At the central level, many agencies were 'horizontally' managing protected areas, including the State Forestry Administration¹ (SFA), Ministry of Environmental Protection² (MEP), Ministry of Agriculture, Ministry of Housing and Urban-Rural Development (MHURD), Ministry

of Land Resources,³ and the State Oceanic Administration. The overall majority, about 80%, of protected areas was under the SFA management, which was responsible for China's forests, wetlands, and terrestrial wild animals, majorly for biodiversity conservation. MEP managed around 10% of the protected area. MHURD had responsibility for the management of scenic areas⁴ approved for tourism purposes. The research area — Jiuzhaigou Reserve, was a nature reserve and a scenic area, and was thus managed by both SFA and MHURD. At the provincial, municipal, and county levels, similar bureaucracies existed.

In terms of vertical authority, one can take the forest department as an example. At the central level, there was the SFA; at the provincial level, it was the provincial Forestry Bureau; at a municipal level, it was the municipal Forestry Bureau, and so forth. Overall, China has five layers of horizontal administrative systems (national, province, municipality/prefecture, county, and township) (Fig. 1). The Provincial People's Governments are of the same bureaucratic rank as ministries, while the Municipal People's Governments are of the same bureaucratic rank as provincial bureaus and so on (Lieberthal, 1997) (Fig. 1). The result of this administration is that a government organ generally has two 'masters': the government at each level that coordinates according to local needs, in Chinese referred to as a *lingdao guanxi* (领导关系) or a "leadership relation"; and the office of the same administrative system at a higher level that coordinates according to function, referred to as *yewu guanxi* (业务关系) or a "professional relation". For example, a municipal FB will have two superiors: the Municipal People's Government and the provincial FB. In practice, governments at a given level usually have priority in decision-making over the functional bureaus of the same administrative system, as the government leaders have the power to appoint the top administrators of agencies within their jurisdiction.

Importantly, and as we will also see in the analysis of our case-study, due to the lack of internal coordination between the 'horizontal' and 'vertical' lines of administration, nature management has been relatively chaotic and characterized by numerous contradictory actions (Zhou et al., 2014; Zhou and Grumbine, 2011). On top, factors such as the lack of regular funding, the lack of an effective system to supervise the natural environment, minimal professional training for staff, and poor relations with local people have all added to the complexity of protected area management in China (Su, Wall and Eagles, 2007; Brockington, 2004; Zhou and Grumbine, 2011). We will see very similar dynamics in our case-study, where 'horizontal' and 'vertical' management lines intertwined.

The paper describes the situation until 2018, when a significant change occurred in the administration of protected areas. At the central level, the horizontal (functional) departments related to protected areas management function, including the SFA, MEP, MHURD, the Ministry of Land Resources, and the State Oceanic Administration, were subsumed into the State Forestry and Grassland Administration (SFGA). In result, protected area management is not scattered in different departments anymore, but uniformly managed by SFGA. With this merger, the central government aims to solve the problems created by overlapping authorities, yet, as it does not effectuate changes in the vertical system and, more specifically in the distribution of authority between the SFGA and the local government at a given level of administration, each of these remains powerful in its own jurisdiction. Put differently, if the priorities of local government are (still) not aligned with those of the SFGA, it is difficult to say if the performance of the management of protected areas will be any better.

¹ State Forestry Administration changed to National Forestry and Grassland Administration in 2018.

² Ministry of Environmental Protection changed to Ministry of Ecology and Environment in 2018.

³ Ministry of Land Resources changed to Ministry of Natural Resources in 2018.

⁴ Scenic areas were places designated as endowed with valuable natural scenery. They were approved by MHURD for tourism development. Jiuzhaigou is both a scenic area and a nature reserve.

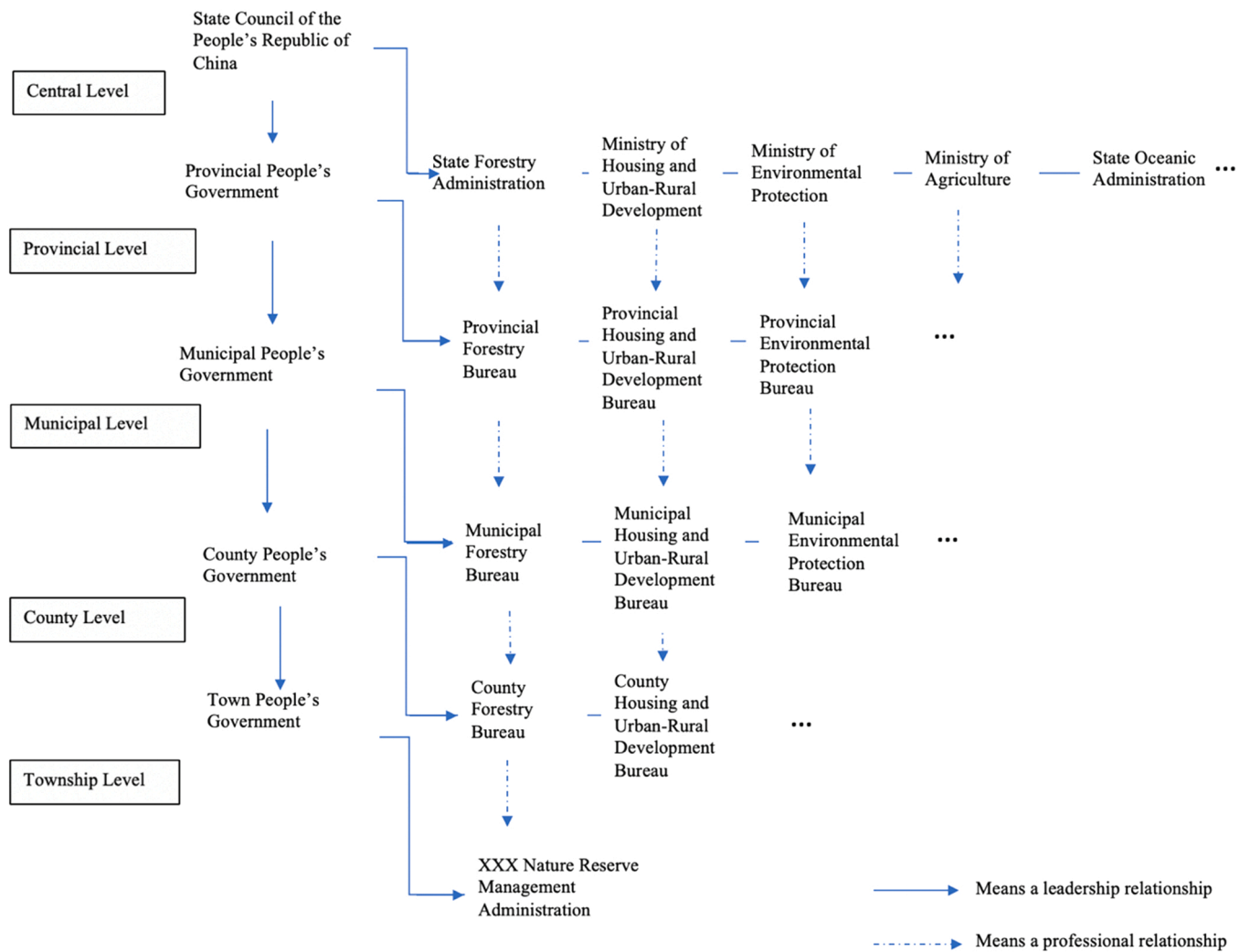


Fig. 1. Organization of Protected Areas in China.¹⁰¹
Source: Drawn by author.

3. Theoretical review and framework

Credibility has been conceptualized and studied by different authors over different disciplines. According to political scientists, credibility is a discursive process of legitimacy in governance (Connelly et al., 2006). It is a judgement of the political and societal acceptance of policy making, of policy processes, and policy outcomes by different actors (Connelly, 2011; Connelly et al., 2006; Levelt and Metze, 2014). Factors such as decision-maker's competences, trustworthiness, reputation, and (past) performance contribute to credibility (Levelt and Metze, 2014; Johnson and Kaye, 1998; Kioussis, 2001). Neoliberalists posed that the success of economic policy is based on a credible commitment, such as privatization and free market (Gelder, 2010). However, Grabel (2000) criticized the neoliberal perspective, and believed that endogenous factors significantly affect the likelihood of a policy's success and hence its credibility. Applying this line of reasoning to natural resource governance, Pero and Smith argue that institutional credibility is critically dependent on leadership. Ho (2014, 2017) has put forward the credibility thesis arguing that it is a measure of 'how institutions are shaped and perceived as a result of autonomous, endogenous patterns of interaction and power differences' (Ho, 2014). In this sense, credibility needs to be differentiated from trust that focuses more on actors' mutual relationships rather than institutions, and from legitimacy which bears greater connotation to exogeneity and rational agency. The credibility thesis opens a practical angle for debates on institutional performance

by focusing on institutional function, which entails that policies can no longer be seen in binary terms (public/private, centralized/decentralized). Instead, policy credibility should be measured in terms of a continuum by how a policy fulfils its function, which can vary between "fully" or "partially credible" to "non-credible", or even "empty institutions" (Ho, 2014).

In natural resource management, many policies and discussions focus on debates of whether they should be centralized or decentralized, or done under public or private property regimes (e.g. Persha and Blomley, 2009; Smith, 2018). Ho (2014) argued that "it might be more helpful to move beyond dichotomies of private and common, secure and insecure, or neo-liberal versus critical theoretical solutions, and refocus the discussion about institutional *form* towards a discussion about institutional *function*."

Various studies have applied the credibility thesis in different geographical contexts, and for different sectors. Fold et al. (2018), for instance, analyzed artisanal mining in Ghana to demonstrate the endogenous nature and complexity of the local institutions. Fan et al. (2019) proposed a credibility index based on transaction cost structure and used it to analyze the credibility of two ecological protection policies in the Inner Mongolia Autonomous Region, China. They found that the grassland grazing ban and a series of compensation policies are a non-credible institution due to insufficient subsidies and high suspension cost. In contrast the grain for the green policy was highly credible for promoting rural income and non-agricultural employment. Mollinga

(2016) proved an inverse relation between the institutional form versus performance by analyzing how clear and formal property rights in the canal irrigation in India were coupled to low credibility.

In Ho's work (see Introduction, Ho, 2017), he proposed an Institutional Archaeology methodology, which examines the changes in institutions from their initial establishment while tracking their development over time as a way to achieve a more consistent analysis and more accurate prediction of institutional phenomena. He argued that there are three key indicators to measure credibility: the first one is conflict; the second one is the relative speed of institutional change; and the third one is the statement of institutional perceptions by social actors, which could be assessed based on the 'Formal', 'Actual', and 'Targeted' (FAT) institutional framework. In the forced displacement of indigenous peoples for Malaysia's Kelau Dam Project, Nor-Hisham and Ho (2016) conducted the FAT institutional analysis before and after the resettlement to analyze changes in property rights and demonstrated that development projects need to account for the social function of property rights in order to mitigate their adverse effects. Arvanitidis and Papagiannitsis (2020) used the FAT framework to analyze urban commons, more particularly, the case of Navarinou Park's development in Greece. To analyze the process of park development, they used official records as 'formal property rights', direct observation as 'actual property rights', and unofficial documents as 'targeted property rights'. They found that this urban commons constituted a functional and credible institution, serving the local population's recreational, environmental, social and political needs.

To gauge how local people's perspectives can be safeguarded in nature management, we analyzed the changes in public services provision, the process of government centralization, and the conflicts that occurred in the Jiuzhaigou Reserve through an adapted FAT institutional framework (Fig. 2):

Formal: What public services should the local government legally provide?

Actual: What public services does the local government actually provide?

Targeted: Improve public services to local people through administration changes.

The research objective of this study is to understand the potential effects of administrative changes on providing public services to local people in the Jiuzhaigou National Nature Reserve (Jiuzhaigou Reserve). In this case, the government structure changed three times over a period of close to 40 years from 1982 to 2018. However, these institutional changes failed to satisfy local people and even caused conflicts. Predicated upon the FAT institutional framework, the authors analyze the public services provision and administrative changes by comparing three periods. Before continuing to the empirical section, we will first introduce the background information on the Jiuzhaigou Reserve, the research methodology, and data sources.

4. Research site and research methods

4.1. Study area—Jiuzhaigou Biosphere Reserve

The Jiuzhaigou Reserve is located in Jiuzhaigou County in the Aba Tibetan Autonomous Prefecture, Sichuan Province, about 450 km to the north of the provincial capital, Chengdu City (Fig. 3). Its name in Chinese means 'nine villages valley' derived from nine Tibetan villages in

this area.⁵ These nine villages later merged into four villages: Heye, Shuzheng, Zezhawa and Zhuru Village. Of those four villages, Zhuru is far away from major tourist spots and hence excluded as a primary tourist location. Administratively, the four villages fall under the jurisdiction of Zhangzha Township.

Jiuzhaigou has traditionally been regarded as a sacred mountain and watercourse by the Tibetan people. The geology of Jiuzhaigou Reserve is calcareous, and the bottom of the valley is dominated by a series of lakes with remarkable travertine deposits, resulting in colorful vistas, emerald lakes and spectacular waterfalls (Li, 2009). The reserve is best known for its lakes, waterfalls, and unique wildlife. Jiuzhaigou Reserve was declared a World Heritage Site by the United Nations Educational, Scientific and Cultural Organization (UNESCO) in 1992 (UNESCO, 2016a) and joined the Man and Biosphere Conservation Network in 1997 (UNESCO, 2016b).

The reserve is located on the eastern slope of the Tibetan Himalayan Plateau in the Min Mountains, and its elevation ranges between 1990 and 4764 m above sea level. It encompasses an area of 730 km², and its location at the intersection of the subtropical and temperate zones makes it a highly diverse and biologically important floral and faunal region (JMA, 2017). A total of 2567 plant species, 223 bird species, and 27 state-protected rare and endangered animals have been found in the reserve, including the giant panda (*Ailuropoda melanoleuca*), golden monkey (*Cercopithecus kandti*), Thorold's deer (locally called white-lipped deer, *Cervus albirostris*), black-necked crane (*Grus nigricollis*), and others (JMA, 2017).

Jiuzhaigou was established as a nature reserve in 1978. Before that event, logging was the principal activity in the valley, conducted by two national forest farms since the 1960 s. In 1984, it started to develop tourism in an experimental region. Around 50 km² of the total 720 km² was developed as a scenic area and formally opened up as a tourist destination. Before the development of tourism, the local people lived an impoverished life with an average annual income per person of only US \$23 in 1978, mainly derived from farming, grazing, wood-cutting, and hunting (Li, 2009). Over time, with a substantial growth in tourists, traditional livelihoods have shifted to tourism-related jobs, associated with a significantly higher income. Revenue generated through tourism has not only supported conservation and monitoring activities but has also created jobs and enabled investment in community involvement (Li, 2009). However, due to disagreement over benefit sharing, compensation, and land ownership, there have been continued and protracted conflicts between the local communities and the managing authority (Borges et al., 2011).

Moreover, tourism has also significantly increased the pressure on the environment. In 1984, the total number of tourists was 32,000; in 1998, this number reached 400,000; three years later, in 2001, for the first time, the number of visitors reached 1 million; doubled to 2 million just 3 years later; and 3 million in 2007 (Jiuzhaigou County Annual, 2011). The total number of tourist visits has increased to over 4 million since 2014, while the maximum number of daily visitors jumped from, respectively, 20,000 in 1998, 30,000 in 2001, and 50,000 in 2012 (Gu et al., 2013). Several measures taken to protect the environment included a restriction on visitor numbers, a green bus ferrying system, and removal of all restaurants and hotel accommodations from the park. Despite such efforts, concerns over the long-term sustainability of the Jiuzhaigou Reserve have remained (Borges et al., 2011).

It needs to be noted that the Jiuzhaigou Reserve is an area frequently affected by natural disasters. On May 12th, 2008, a magnitude 7.9 earthquake occurred in neighboring Wenchuan County, leaving the Jiuzhaigou area badly affected and inaccessible for some time (Borges et al., 2011). Another magnitude 7.0 earthquake occurred on August 8th 2017, as a result of which the entire reserve had to be evacuated and

¹⁰ The example of XXX Nature Reserve is a forest type reserve. Different types of reserves are under the management of different bureaus. Nature reserves can have different levels of administration. In this figure, the XXX Nature Reserve is a reserve at the town level. As discussed in the main text (Section 2), in March 2018, a major change in the governance of PAs occurred and most PA-related ministries have been merged into a new integrated ministry – the Ministry of Natural Resources. This figure shows the administration prior to this change.

⁵ "Jiu" in Chinese means "nine"; "Zhai" means "village", and "Gou" means "valley".

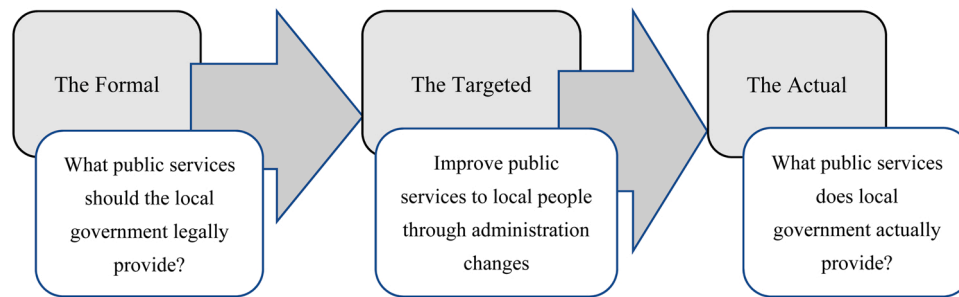


Fig. 2. The FAT institutional framework.
Source: [Ho \(2016\)](#), p.1134.



Fig. 3. Map of Jiuzhaigou Biosphere Reserve.
Source: adapted from Google Maps.

closed off to visitors. Other geological disasters have also affected the Jiuzhaigou Reserve, especially debris flows, which occur almost every year during the summer and autumn rainy season.

4.2. Methods and sources

Qualitative research methods embedded within a single descriptive case study approach (Yin, 2013) were used, which sought to gather an in-depth understanding of the local processes governing the protected areas. To answer the research questions, complex and detailed information was required, obtained by talking directly with key informants and listening to interviewees' opinions and experiences. For this purpose, face-to-face, in-depth interviews, and semi-structured interviews were used for data collection. Preceding the main fieldwork, a pilot study was undertaken in October of 2015 by the first author, during which interviews and informal discussions with local people, village cadres, and government officials were conducted. In August and September of 2016, the first author spent two months undertaking the formal face-to-face, in-depth and semi-structured interviews with 50

local people. People from each of the three stakeholders were included:

- 1) From the JMA, a retired director general, two department heads, and six other managers;
- 2) From the rural key informants, nine local elites, most of whom local entrepreneurs, as well as six village leaders (four incumbent and two retired leaders);
- 3) From the rural populace, a total of 26 villagers. For more information on the interviewees, see [Table 1](#).

After the formal interviews, further questions and interviews were asked based on informal conversations with selected informants in the local community during the main author's stay. Purposive and convenience sampling strategies (Robinson, 2014) were used for 50 participants. The actual sample was dependent on their willingness to participate and their availability. The interviews were recorded, except for one, as the participant was not comfortable with the recording, and detailed notes were taken instead.

Direct observation was used to record and analyze public services

Table 1
Basic features of interviewees.

		Number	Percentage (%)
Gender	Male	31	62
	Female	19	38
Age	20–35	17	34
	36–50	24	48
	> 50	9	18
Years of education	0	2	4
	1–6	13	26
	7–12	21	42
	> 12	14	28

issues, such as the infrastructure situation and livelihoods services. Additional information was obtained from policy documents and official reports, including the Regional Annual Economic Report for Jiuzhaigou, Jiuzhaigou Scenic Area Plan (Revised version 2005), Jiuzhaigou County Annals, Jiuzhaigou Local History, news from the official website of Jiuzhaigou Reserve (<https://www.jiuzhai.com/>), additional internet sources, and newspapers.

Both deductive and inductive approaches were employed (Hsieh and Shannon, 2005). The analysis started by identifying key concepts as initial categories. For this paper, initial categories included livelihoods changes, public services changes, policy changes, and administrative changes. Meanwhile, an inductive approach was used to identify new categories. NVivo 12 (QSR International Pty Ltd, 2017), a qualitative data analysis software package was used to help manage and code the data.

The analysis comprises two essential parts. On the one hand, we assessed the institutional change of the governance structure of the Jiuzhaigou Reserve by using, if it were, an “institutional archaeology” (Ho, 2017: 5–8) or a temporal analysis operationalized for three time periods: T1: 1982–1998; T2: 1998–2000; T3: 2000–2018 (see Fig. 4.). On the other hand, by coupling the temporal analysis to the FAT Institutional Framework, we examined these institutional changes according to their Formal, Targeted, and Actual dimensions, that is, respectively assess: 1) how the government portrayed these changes in official

parlance; 2) how it had originally intended these changes, and; 3) how these changes performed in actuality (see Table 2).

5. Administrative changes and the effects on public services

5.1. T₁: government structure from 1982 to 1998

5.1.1. The Targeted: combining biodiversity conservation and tourism

In 1982, Jiuzhaigou was one of the first of 39 National Scenic Spots for tourism. The increasing number of visitors to Jiuzhaigou immediately exposed a lack of capacity to accommodate tourists (Deng, 2009, pp 73). There was an urgent need to set up a formal agency to do the tourism management. Of the 730 km² initially designated in 1978 as a nature reserve for biodiversity conservation, 50 km² was set aside as a Scenic Spot.

Local people's livelihoods were, however, adversely affected by biodiversity conservation. Before the establishment of the reserve, the per capita gross product of villages in the Jiuzhaigou Reserve was on average 21% above that of villages in the county. However, due to biodiversity conservation, authorities limited logging, charcoal making, and some farming activities, and the per capita gross product for these villages dropped to 4.3% below the county's average level in 1982 (Deng, 2009, pp 37). The adverse livelihood impact created resentment among the local villagers.

To simultaneously develop tourism while protecting biodiversity and improve local people's livelihood, a comprehensive management agency, the Jiuzhaigou Management Administration (JMA), was set up. Other than JMA, the Zhangzha Township Government, the lowest-level government, directly took responsibility for public services of the three administrative villages in Jiuzhaigou Reserve during this period. Principally, the Township government was responsible for things related to villager's public services, such as village infrastructure design and construction, depositing garbage, health and education services. Nevertheless, JMA perceived that “Without local people's support, it is hard to protect biodiversity, nor develop tourism” (An official in the JMA, Interview Jiuzhaigou Reserve No.45, Shuzheng Village, 2016.09.15), so JMA also undertook some parts of public services function during this time.

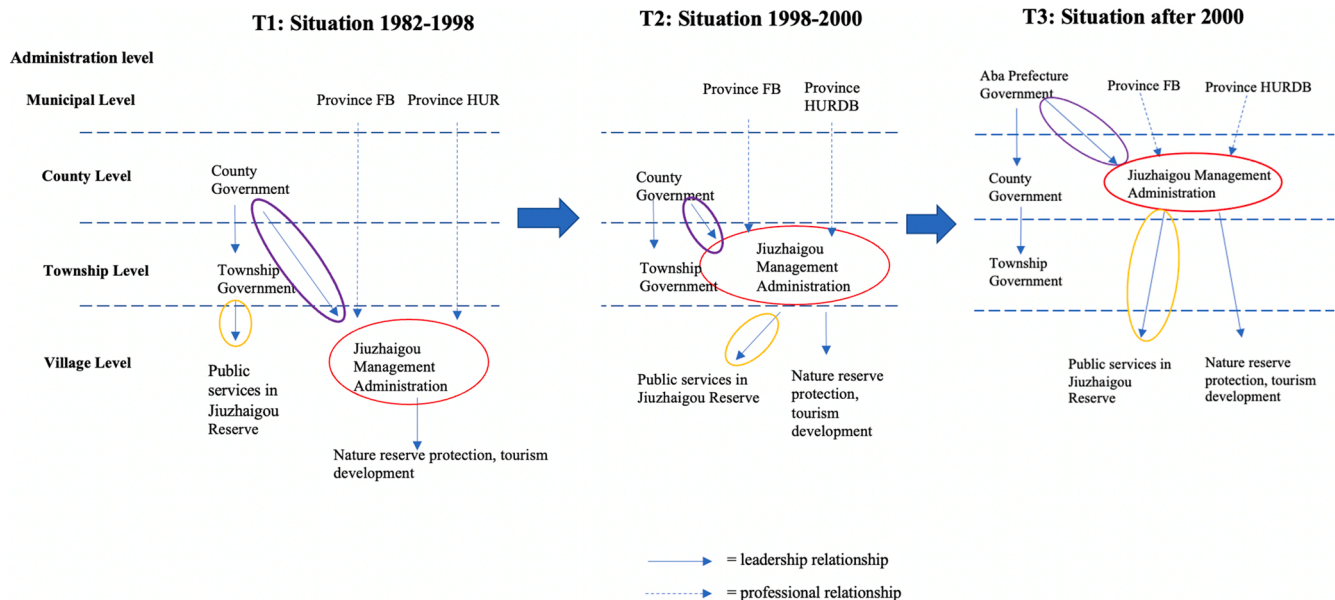


Fig. 4. Administrative changes of the Jiuzhaigou Reserve.
Source: Drawn by author.

Table 2
FAT institutional framework applied to Jiuzhaigou Reserve.

	The Targeted (Intention of administrative change)	The Formal (Official changes in government structure)	The Actual (Impact of administrative change on local people)
T ₁ : 1982–1998	Combining biodiversity conservation, tourism, and local people's livelihoods improvement through establishment of JMA	Single agency (JMA) with dual title & leadership; county government is the actual superior	1. Prioritization of tourism over biodiversity, more infrastructural development 2. Conflicts between JMA and township 3. Disconnect between local people from governing body (i.e. township)
T ₂ : 1998–2000	Solve overlapping authority between Zhangzha Township Government and JMA	Provision of public services transferred from township to JMA	1. JMA tasked with public service provision through new Resident Management Office 2. Due to lack of comprehensive authority, JMA's public services dwindles, notably in education and health; 3. JMA had the economic leverage to provide infrastructural development
T ₃ : 2000–2018	Gaining control over revenues under banner of effective tourism management, better environmental protection, rural development, balance the power between county government and JMA	1. Prefecture rescinded management of JMA from the county; 2. Prefecture assumes fiscal control; 3. 'A joint prefecture – county government management' started	1. Physical distance of the governing body increased. 2. Management and jurisdictions again unclear among prefecture, county and JMA in public services provision; 3. Leading to large-scale conflict

5.1.2. The Formal: single agency with dual title and leadership

Two different government departments managed JMA for different purposes: biodiversity conservation fell under the Forestry Bureau's (FB) authority, while Housing and Urban-Rural Development Bureau (HURDB) managed tourism development. In effect, the FB oversaw the nature reserve, whereas the HURDB oversaw the Scenic Spot. An official in the JMA recalled (Interview Jiuzhaigou Reserve No.45, Shuzheng Village, 2016.09.15):

“At that time (i.e. around 1980), two vice-presidents at the central government level were respectively in charge of the nature reserves and the scenic spots. The former was more conservative, insisting on rigid protection and the prohibition of human activities to protect animal species. The latter in charge of the Scenic Spots was interested in developing them in line with the policy of ‘opening the door to the outside world’ (*dui wai kaifang* 对外开放), and the key thought was to open-up (tourism development).”

Although there was only one management team in the JMA, it needed to serve a double leadership: the Sichuan Provincial FB for the protection of the nature reserve and the Sichuan Provincial HURDB for tourism development. Therefore, the JMA had a dual title, albeit being a single agency: the Jiuzhaigou Nature Reserve Management Administration and the Jiuzhaigou Scenic Area Management Administration⁶ (Fig. 4, T1). Although during a short-lived period of three years (1989–1992), the township government merged with the JMA into a single institution, this situation soon reverted during the nationwide process of the restructuring of township administration in 1992.

It needs mentioning that Jiuzhaigou County had prepared for tourism development as a development strategy to pursue the growth of Gross Domestic Product (GDP), even before the list of the 39 National Scenic Spots was announced (Interview Jiuzhaigou Reserve No.45, Shuzheng Village, 2016.09.15). Interestingly, although Jiuzhaigou is a national-level reserve and a national-level scenic spot, its administration was positioned at the lowest level. As a consequence, the director of the JMA is appointed by the county head. This appointment system entailed that the JMA director was accountable for being sensitive to the leadership goals of the county government. Thus, the actual control over the reserve did not lie with the head of the Sichuan Provincial FB or that of the Sichuan Provincial HURDB, but with the head of Jiuzhaigou County Government. As a result, JMA adopted tourism development and GDP growth as its priority goals to satisfy the county head's needs (Fig. 4, T1).

Formally, the institutional arrangement of Jiuzhaigou Reserve was that the Sichuan Provincial FB, Sichuan Provincial HURDB, the county government, and JMA all affected the development of Jiuzhaigou and people living there, while the township government of Zhangzha held responsibility for the provision of public services for the local populace.

5.1.3. The Actual: public services caught between township and JMA

The above described formal institutional arrangement affected public services in three ways.

First, because the actual superior of the JMA was the county head, tourism development was prioritized over biodiversity conservation during this period of time, leading to the steady construction of several tourism-related infrastructures (Table 3). These infrastructures, such as road renewal, garbage disposal facilities, and the renovation of a power station, benefited local people, as local people could use these infrastructures, too.

Second, it also led to tensions between the township government and the JMA (and as a result, tensions between the locals and the JMA (see: Section 5.2). As a JMA official (Interview Jiuzhaigou Reserve No. 17, JMA, 2016.08.25) observed:

⁶ This situation continued until 2019. The fieldwork was conducted in 2016.

“Even though the township government should take care of the four villages (providing public services), in reality, it is difficult, as they are located within the boundaries of the Jiuzhaigou Reserve. If they [township officials] want to come here to do anything, they first need to get a permit from the JMA to get into this area, which makes matters inconvenient.”

Thirdly, it disconnected the local people in the Jiuzhaigou Reserve from their local governing body, the township government. Differently put, as the township government in charge of public services is located outside the reserve, it needed approval from the JMA for their daily administrative work in managing residents' affairs. Consequently, health services and education did not improve, but instead deteriorated during the period 1982–1998. As villagers recalled:

“For a very long time, there was no health clinic in our village. There was a bare-foot doctor [village doctor] for a few years, but he could only provide very primary healthcare.” (Interview No.3, Villager, Heye Village, Jiuzhaigou Reserve, 2016.08.14).

“The nearest health clinic is in Longkang Village [the center of Zhangzha Town], which is about 15 km away from here. However, there was no public transportation in the past, and it could take a few hours to walk there.” (Interview No.11, Villager, Shuzheng Village, Jiuzhaigou Reserve, 2016.08.18).

“When I was a kid, there was an elementary school in our village [Heye Village], but it was closed later. The officers said it would be rebuilt, but it was not.” (Interview No.6, Villager, Heye Village, Jiuzhaigou Reserve, 2016.08.15).

“They (local officials) said a day care would be built for years, but even today there is still no day care for kids here.” (Interview No. 44, Zezhawa Village, Jiuzhaigou Reserve, 2016. 08.17).

A doctor of traditional Chinese medicine serviced the Jiuzhaigou area for a few years. Alternatively, if villagers needed health services, they had to go to the nearest clinic in Longkang Village (the center of Zhangzha town), about 15 kilometers away. The government did not

build any new clinics in Jiuzhaigou Reserve during 1982–1998, and only basic primary health care was available. There were about 40 elementary schools in Jiuzhaigou County in 1982, which increased to around 100 in 1998 (Jiuzhaigou County Annals, 2011). After 1998 no new schools were built. Due to the township government's inconvenience to govern these four villages within Jiuzhaigou Reserve, the health and education services languished.

As time went on, the four villages — Zharu, Shuzheng, Zezhawa, and Heye — in the Jiuzhaigou Reserve developed increasingly closer ties with the JMA due to their business involvement in tourism, while their connections with the township government weakened. Eventually, the township government even officially stopped providing public services to the four villages.

5.1.4. Credibility analysis for the 1982–1998 period

Initially, the target of the institutional arrangement was clear: the government needed to protect biodiversity, develop tourism, and keep a harmonious relationship with local people, which means sharing some benefits with local villagers. To fulfill these targets, the provincial FB and HURDB formally oversaw the nature reserve and tourism development in JMA. However, the actual control over the reserve was with the Jiuzhaigou County Government, which controlled the appointment of personnel, especially JMA's head. These government agencies all affected the rural development of Jiuzhaigou, but Jiuzhaigou Township Government was the one that directly affected the provision of public services.

As a result, this institutional arrangement caused certain problems in public services provision for the villages in Jiuzhaigou. As the actual control of JMA was with the Jiuzhaigou County Government, which preferred tourism development rather than biodiversity conservation, infrastructures related to tourism got a significant improvement during this time. Moreover, this arrangement led to tensions between the township government and the JMA. Due to the fact that the township government was located outside the reserve, it had difficulties in providing services for the villagers inside the reserve.

During this period, even though a formal institutional arrangement existed with the township government responsible for providing public services for the four villagers, the jurisdictional overlap plagued the effectiveness of public services. This institutional arrangement progressively weakened the township government's ability to do so, leading to a loss of credibility.

5.2. T_2 : government structure in 1998–2000

5.2.1. The Targeted: solve overlapping authorities, improve management efficiency

As the township government's daily management for residents' affairs was significantly hampered, the county government decided to change the institutional structure and rearranged the government work of residents to improve management efficiency.

“It was hard for the township government to provide services for the four villages in Jiuzhaigou Reserve. As our four villages are geographically located within Jiuzhaigou Reserve, they even needed the JMA's permission to get into Jiuzhaigou Reserve.” (Interview No.3, Villager, Heye Village, Jiuzhaigou Reserve, 2016.08.14).

“More and more villagers participated in the tourism industry, some of them were tour guides, some of them selling souvenirs to tourists. Most of their activities were closely related to JMA, for example, if they wanted to sell souvenirs in Jiuzhaigou Reserve, they needed permission from JMA, not the township government.” (Interview No. 38, villager, Zezhawa Village, Jiuzhaigou Reserve No. 25, JMA, 2016.08.30).

As more and more local people got closer ties with the JMA due to their business involvement in tourism, the township government felt governing those four villages hard. In 1998, the county government asked JMA to take over the residents' affairs duties from the township government to solve this problem of overlap.

Table 3
Infrastructure construction in the Jiuzhaigou Reserve (1985–1998).¹¹¹

Year	Program	Cost (in Chinese Yuan)
1985	Garbage disposal facilities; Road renewal; Viewing deck	870,000
1985	Heliport in Pengfeng	1721,500
1985	Construction of Jiuzhaigou Hotel	N/A
1986	Debris flow control project in Rizegou, Xiongmaohai, Jinghai, Jijiehai	3240,000
1986–1987	Zhenzhutan viewing deck; Shuzheng village infrastructure construction; Road renewal from park entrance to Nuorilang (14.16 km)	N/A
1988	Road renewal from Nuorilang to Old-growth Forest (9.6 km)	N/A
1990	Road renewal (7.5 km); Ground satellite receiving stations	N/A
1991	Zharu Tibetan Buddhism Temple renovation;	N/A
1992	Near gate bridge renewal; Nuorilang power station renovation	N/A
1993	Zhenzhutan scenic bridge construction; Wucaichi Parking spot built; Wuhuahai road renewed.	N/A
1994	18 km road asphalt road surface construction. 800 megahertz Mobile Communication system	3054,000 N/A
1995	Jiuzhaigou mineral water factory construction	3000,000
1996	Nuorilang debris flow sand intercepting dam #1; 270 m river levee built; 400 boardwalk constructed.	N/A
1997	Nuorilang to Changhai 17 km asphalt road surface construction; Wuhuahai, Xiongmaohai, Zhenzhutan trestle and boardwalk; Nuorilang debris flow control project;	12,000,000
1998	Jiuzhaigou Guibinlou Hotel	11,800,000
	Jiuzhaigou Hotel renovation	10,000,000
	Shuzheng, Xiongmaohai, Zhenzhutan boardwalk renewal	N/A

5.2.2. The Formal: transfer duties from township to JMA

To improve public service provision for the four villages, the county government decided to transfer management responsibilities from Zhangzha Township to the JMA, and in March 1998 it was entrusted with the further development of the villages (A JMA official, Interview Jiuzhaigou Reserve No. 17, JMA, 2016.08.25) (Fig. 4, T₂).

However, this transfer of responsibilities was done through a letter, not through an official process, and its intent was unclear.

"The county government sent us [JMA] a letter and said that the management of these four villages was being entrusted to us... This is unusual... Villagers' affairs were always managed by the government, as we could not oversee it" (A JMA official, Interview Jiuzhaigou Reserve No. 17, JMA, 2016.08.25).

"There were no departments in our agency that could provide the public services. We had to set up a new department, called the Resident Management Office, to handle villagers' affairs. (a JMA official, Interview Jiuzhaigou Reserve No. 32, JMA, 2016.09.11).

During this process, the county government did not provide clear instructions about what responsibility JMA should take and how it should improve village development and public services.

In response, JMA established a new department, termed the Resident Management Office (*jumin guanli bangongshi* 居民管理办公室), which functioned like a civil affairs bureau. Thus, it had to provide services to local villagers, such as birth and marriage registration.

However, unlike the township, which as a separate level of government wields significant power and authority over its territory, the JMA is a public service entity (*shiye danwei* 事业单位) focusing on nature conservation and tourist development. In the Chinese administrative context, a public service entity is a social service organization established by the government with state-owned assets and engaged in such areas as education, science and technology, culture, health, environment and other activities.⁷ Public service entities are accountable to the government at the level at which they are set up, but they are not part of the government agencies that established it. Thus, their staff has a different status than civil servants.

As a public service entity of nature conservation and tourism development, JMA did not have the function to provide education and health services. Even though a Resident Management Office was set up, its functions were limited, and it could only provide services for civil affairs.

5.2.3. The Actual: effects of 1998 administrative changes on public services for local people

The change in government structure had a direct effect on the concerned government agencies and the four villages. In the past, village development was an objective of the township government but not of the JMA. Following the transfer, the JMA had new managerial duties – village development and the improvement of rural livelihoods. Consequently, the addition of the duties above to its organizational mission caused difficulties. A JMA official explained:

"The JMA is a public service entity for biodiversity conservation and tourism development, not a level of government. Asking us to take the responsibility [for education and health services] is unreasonable. For example, in educational matters, there needs to be a unified plan throughout the education system, and the township government is in charge of this. The township government is also in charge of teacher assignment, and the construction plans for new school buildings... we do not have the function to do that." (Interview Jiuzhaigou Reserve No. 47, at JMA, 2016.09.17).

Many local villagers also expressed their dissatisfaction (Interview

Jiuzhaigou Reserve No. 48, Zezhawa Village, 2016.09.18):

"We do not have a pre-school for these four villages, so we have to send our kids out to a private pre-school which is quite far and not cheap. We have been asking the JMA to build a pre-school here for many years. But nobody does so. It's the same situation with the health clinic."

The 1998 administrative changes caused management difficulties for the JMA, which led to the stagnation of projects related to public services. As a result, local people became frustrated, and tensions grew. For instance, educational issues such as the number of teachers to be recruited and decisions over which village schools they would be assigned to work, required to be included in the Township Education Office's annual plan. They had to be subsequently approved by the County Education Bureau. However, as the four villages were no longer managed by the township, they were also not included in the annual plan. On the other hand, the JMA did not have the authority to approve education plans, and therefore, needed to negotiate with the Township Education Office and County Education Bureau, as well as with other bureaus, such as the Bureau of Land Resources, to get the land approved for new schools.

Usually the government makes an overall arrangement and coordinates different departments. However, the JMA, as a public services entity for biodiversity conservation and tourism development, was unequipped to go through such complicated administrative procedures to improve the education services for those four villages in Jiuzhaigou Reserve. Moreover, improving education and health services was not on their work duty list, which meant that no agency or government department would assess the performance of these duties. At the time of the field interviews, there were no signs that education was being included in the JMA's agenda, either in the short term or long term. The same situation happened to health services for those four villages within the Jiuzhaigou Reserve.

Although there was no unambiguous 'to do' list for the JMA, it did initiate some public service projects, notably focusing on infrastructure improvement in the four villages. Much of this occurred during the entire 1990s when the JMA was a so-called "self-controlled revenue and expenditure public service entity" (*zishou zizhixing shiye danwei* 自收自支型事业单位) with a focus on tourism development. As entrance fees to the reserve's tourist destinations brought in considerable income, the JMA had the economic leverage to solve local livelihood problems. For example, during the 1990 s, the JMA paid the costs for road renewal, including the roads used by visitors and farm tracks. In addition, it also invested in three small hydropower stations to solve the problem of energy needs, reducing local peoples' reliance on firewood obtained through logging. Although the primary objective behind some of these projects was environmental protection and sustainable tourism, the infrastructure available to local people also improved. In this sense, the development of tourism also benefited the local people.

5.2.4. Credibility analysis for the 1998–2000 period

In this period, the target for institutional change was to transfer the public services responsibility from the township government to JMA to solve the problem of overlap. This process was simply initiated through a letter written by the county government to JMA, not through an official process. Although an institutional arrangement was made, it was not a clear one. For one, it occurred outside a formal and official process, while the new responsibilities for JMA did not align with the agency's scope of work. In other words, JMA did not have the capability to provide education and health services. These new duties for JMA caused great difficulties.

This new change did not align with the reality and was less credible. JMA lacked the functions to solve all the public services issues for local villagers. In this period, tourism brought considerable income for JMA, so financially it could solve some public services issues, especially the infrastructure-related ones. However, due to the lack of functional capacity of JMA, this institutional arrangement was not effective and hence lost its credibility.

¹¹ Data from Jiuzhaigou county annals, 2011. N/A indicates that no data were available.

⁷ Typical public service institutions include hospitals, museums, schools, nursing homes, and social welfare centres.

5.3. T₃: Government structure from 2000 to 2018

5.3.1. The Targeted: increasing management capacity

Since 1998,⁸ the “Travelling inside, living outside” (*gouneiyou gou-waizhu* 沟内游, 沟外住) policy was gradually implemented in the Jiuzhaigou Reserve to address environmental concerns. This policy required local people to close down restaurants and homestays within Jiuzhaigou Reserve (Reserve No.1, Villager, Heye Village, Jiuzhaigou Reserve, 2016.08.13). Hotels within the Jiuzhaigou Reserve were also gradually dismantled. That meant that local people’s most important income sources were cut off. Even though the provincial government had approved a compensation scheme, the villagers were dissatisfied, leading to heated emotions among the villagers, while the Aba Prefectural Government was confronted with this hydra-headed problem.

In 1999, the number of visitors to the reserve was 825 thousand a year, and the entrance fees collection increased to 66 million Yuan (provided by JMA, internal material). It became a sizable income for JMA. At the same time, environmental issues and tourism chaos became increasingly severe.

“At that time, tourists had meals inside [of Jiuzhaigou Reserve], stayed overnight inside, and even had BBQs here. Issues related to sewage, air pollution, and garbage were rampant. During the peak tourism months, traffic jams happened almost every day.” (Interview Jiuzhaigou Reserve No.1, Villager, Heye Village, Jiuzhaigou Reserve, 2016.08.13).

In this context, the Aba Prefectural Government wanted to exercise its control over Jiuzhaigou Reserve by: 1. Continuing to implement the “Travelling inside, living outside” policy, and sharing 7 yuan from each ticket with the local community; 2. a standardization of the fiscal management by setting separate revenue and expenditure accounts for the JMA at the Aba Prefectural Bureau of Finance; and 3. Raise the JMA’s administrative status one level to gain its support.

The interviewer mentioned that the incentives for Aba Prefectural Government to do so, in addition to improve management effectiveness, was to obtain a greater share of the revenues and to re-balance the power relationship between Jiuzhaigou County and the JMA (A JMA official, Interview Jiuzhaigou Reserve No. 17, at JMA, 2016.08.25). The population in Jiuzhaigou County was around 70,000 in 2000 (China Statistical Yearbook (county-level) 2000) while tourist numbers in 1999 had reached one million a year, making it hard for the Jiuzhaigou County Government to supervise JMA.

5.3.2. The Formal: rescinding management from the county

In 2000 the government structure for the Jiuzhaigou Reserve changed again. This time, the Aba Prefectural Government, which oversaw the Jiuzhaigou County Government, raised the administrative level of the JMA from that of a township to the equivalent of a county-level authority. Although not explicitly stated, the rationale behind this institutional change appears to lie in gaining direct oversight over the JMA by the prefectural government. It involved the JMA ceding its self-controlled fiscal revenue and expenditure rights to the prefectural government. Its revenue, derived mainly from entrance fees, was henceforth collected by the Aba Prefectural Bureau of Finance while its expenditures had to be approved as part of the prefectural-level budget. This constituted a drastic change for the JMA and effectively marked its loss of financial autonomy.

The Aba Prefecture also rescinded the management rights of the JMA from the county government and termed it ‘a joint prefecture – county government management’ (*zhouxian gongguan* 州县共管). Despite the name change, the prefecture government held the authority over management decisions (*yi zhou weizhu* 以州为主), meaning that in case of disagreements between the county and prefecture, the former would

have to accede to the instructions of the latter (Fig. 4, T₃). Since then, most policies and decisions about the JMA were made by the prefecture, with the county only responsible for implementation.

However, this “joint-management” also implied that the management responsibilities were ambiguous. Both Aba Prefecture and the county government managed JMA, creating a situation where they could shirk responsibilities and shift the blame onto each other. Due to these overlapping jurisdictions, nobody among the prefecture government, the county government, or the JMA had a clear duty to improve public services for the villagers.

5.3.3. The Actual: “kids without moms”

The takeover of JMA’s management by the prefecture created further problems. For one, the prefectural government was at a considerable distance from the Jiuzhaigou Reserve. As one villager (Interview Jiuzhaigou Reserve No.4, Villager, Heye Village, Jiuzhaigou Reserve, 2016.08.18) stated:

“The prefectural government is far away from our villages. It is even further than Chengdu (the provincial capital). This long-distance makes it hard to carry out management here.”

Secondly, the division of labor between the prefecture and county was unclear, while their jurisdictions coincided. Nobody among the prefectural government staff, nor that of the county government and the JMA, had a clear duty to improve the public services for the villagers. As a result, nobody assumed responsibility. As a villager mentioned:

“We are like kids without moms ...” (Interview Jiuzhaigou Reserve No. 7, Villager, Heye Village, 2016.08.19).

Another villager concurred:

“They [prefecture, county and JMA] only care about how much entrance fees they collect every year, while no one cares about our livelihoods ...” (Interview Jiuzhaigou Reserve No.50, Villager, Zhuru Village, 2016.09.03).

Thirdly, as the JMA lost its rights to retain and allocate funds, the few possibilities they had in assuming responsibility for public services were also lost. In the past, even though the JMA’s priority was tourism development, it still carried out some projects that benefited livelihoods, such as the maintenance of roads and hydropower construction. However, since 2000, the JMA could no longer implement such projects under its own command.⁹

One interviewee (Interview Jiuzhaigou Reserve No. 15, Villager, Shuzheng Village, Jiuzhaigou Reserve, 2016.08.24) stated:

“The JMA could not solve our problems. The JMA cannot make decisions, as it needs to listen to the city [prefecture], and it does not have any money.”

The situation culminated in August 2013 as a sit-in protest erupted of reportedly around 1000 villagers. Two underlying reasons caused the protest: one, the provincial government had approved a plan to compensate local people’s economic losses due to the policy of “Travelling inside (Jiuzhaigou Reserve), living outside”. However, due to the ambiguous jurisdictions that had emerged since the prefecture’s takeover in 2000, the responsible authorities merely pointed to each other, and none, including the JMA, county or prefecture, implemented the scheme.

To end the social unrest, the prefecture government conceded to allocate two plots of land (measuring approximately 280 *mu* or roughly 18.7 ha), and a sum of 140 million Yuan to the local communities.

The second reason for the demonstration was to express dissatisfaction about the ineffective public services for a long time; in the words of a disgruntled villager:

“There is no school, there are no hospitals, but there is a famous tourism spot?” (Interview Jiuzhaigou Reserve, No.16, Zezhawa Village,

⁸ The “Travelling inside, living outside” policy started from 1998, until 2000, it was fully implemented.

⁹ In effect, the JMA had become what is termed a “public service entity relying on financial allocation” (*caizheng bokuanxing shiye danwei* 财政拨款型事业单位).

2016.08.18).

Other interviewees mentioned that villages outside Jiuzhaigou Reserve developed faster than theirs, particularly in terms of public services. According to a female villager (Interview Jiuzhaigou Reserve No.19, Heye Village, 2016.08.16):

“When you walk around, you can find facilities for exercise and public squares for dancing in almost every village, but not [in the villages] in the Jiuzhaigou Reserve. Why? No government departments do that for us.”

The protests may have paid off to a certain degree. Years before the protest, in 2011, the village leader of Shuzheng Village had hired an external company to develop a development plan to improve public services, including the renewal of obsolete facilities and equipment, construction of fire-fighting roads, a pre-school, and community centers. He mobilized other villagers and pressured the JMA to support this plan for all four villages within the reserve. Several years of protracted discussion and negotiations ensued, yet, eight months after the demonstration, in 2014, the plan was finally approved by the provincial government, and construction funds were allocated by Aba Prefecture.

5.3.4. Credibility analysis for the 2000–2018 period

There were multiple targets for the institutional arrangement changes for this period. The Aba Prefecture Government planned to improve management effectiveness by solving the environmental problem, providing compensation to comfort local people's emotional dissatisfaction caused by the “traveling inside, living outside” policy, sharing more revenue from the entrance fees, and re-balance the power relationship between county government and JMA.

To achieve these targets, formally, a centralization process was taken up: 1. The administrative level of the JMA was raised one level; 2. The Aba Prefecture started to manage JMA directly but asked the county to cooperate with it and called it ‘a joint prefecture – county government management; 3. The Aba Prefecture Government started directly collecting the entrance fees. The Aba Prefectural Government believed that centralization was necessary for better management.

However, functionally, this institutional arrangement lacked a clear duty list concerning rural development to be shared among the prefecture government, the county government, and JMA. None of them took responsibility for public services, and none compensated local people's economic losses caused by the “Travelling inside, living outside” policy.

From a credibility perspective, this institutional change led to the establishment of an ‘empty institution’, as it created overlapping jurisdictions. Every agency had responsibility, which finally meant no agency took responsibility. According to Ho (2014, 2018), conflicts could reflect institutional credibility. In this case, the sit-in protest that happened in August 2013 also proved the lack of credibility. Although the village management and public services provision responsibility had been centralized, which, from the form perspective, typically meant more resources and a stronger capability to invest in the reserve, functionally it was just an ‘empty institution’. By not safeguarding the function of public services, the credibility of institutions were undermined, and ultimately, was at stake, shown by the outbreak of large-scale social conflict.

6. Conclusion

By employing the conceptual model of the Credibility Thesis, its underlying theory, and associated analytical tools – i.e. the FAT institutional framework – this paper examined their applicability on a detailed case-study of government centralization and public services provision in a protected area of China. It was demonstrated that the FAT institutional framework provided a rich tool to analyze and clarify how the government neglected institutional function in lieu of a focus on institutional form.

This paper provides further evidence to the Credibility Thesis by showing that centralization alone cannot guarantee better management

of a reserve, as argued by the government. The data convincingly demonstrates that if a local community's essential function of livelihoods is not upheld, any administrative form is bound to fail. Even though the government undertook a centralization process, it failed to solve the jurisdictional issues, which led to less credible or even the emergence of an ‘empty institution’. The changes in form did not successfully solve the problems in function, and finally caused an outbreak of large-scale social conflict.

The results support the thesis that only when changes in institutional arrangements also support public services provision *in function*, one can avoid a failure in government performance, the increase of local people's dissatisfaction, and the eruption of social conflict. Moreover, centralized governmental control does not necessarily improve the provision of public services. In effect, changes in institutional form do not necessarily bring about changes in functions. Other studies support the empirical findings in this paper that it is critical to focus on the function (of natural resources management), not the forms. For instance, Fold et al. (2018) explained that Ghana's artisanal mining could transfer due to functional endurance. Fan et al. (2019) compared two grassland policies in China and found that the more successful one was also the more credible one. Gomes and Hermans (2018) used the case of accessing drinking water in peri-urban areas, and showed that a lack of credibility could trigger institutional changes. In the Jiuzhaigou Reserve case, it was shown that institutional changes do not automatically improve credibility.

In this study, we found that overlapping jurisdictions is always one reason that causes diminished credibility or even empty institutions. Since 2000, multiple levels of government intervened in the management of the Jiuzhaigou Reserve, but none really took on the responsibility of public services. Due to the government's multiple goals, they did not prioritize public services provision for the local people; while the ambiguous institutional arrangements hampered them in implementing them. Such situations reflect a failure of coordination among departments. Lieberthal, 3) (1997) pointed out that the main problem within the Chinese governing system is that “There is an obvious potential conflict between the ‘vertical’ lines of authority and the ‘horizontal’ lines of authority.” This kind of arrangement led to institutional fragmentation, an enduring characteristic of Chinese politics (Mertha, 2009), especially in environmental governance (Kostka and Nahm, 2017).

The changes in Jiuzhaigou Reserve's institutional arrangements caused credibility problems, and are unlikely to bring out the villages' development potential without improvements in its management. The local government needs to change its focus from the form (centralization) to functional aspects of institutions. Thus, instead of centralization, this implies giving towns access to the JMA to strengthen their role in public services; clear directions for distributing management responsibility and authority; increasing the cooperation among different government departments; and improving the participation of local people in the decision-making process.

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