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## The Process of Economic Development in West Sichuan: The Case of Daocheng County

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# The Process of Economic Development in West Sichuan: The Case of Daocheng County

*Carsten A. Holz*

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# The Process of Economic Development in West Sichuan: The Case of Daocheng County

## Abstract

Economic development of a remote, mountainous region is a challenge for any country. This paper examines how this development challenge has been addressed in a high-altitude backward region of the People's Republic of China. Is this region increasingly being left behind or has it entered a sustainable development trajectory? What form does economic development take? What is the role of the government vs. the private sector? What are the broader socio-economic and cultural consequences? The focus is on Daocheng County, Ganzi Tibetan Autonomous Region, West Sichuan. The fact that it is a predominantly Tibetan county adds a nationality dimension to the issue of economic development.

JEL-Codes: O120, O230, O250, O530, L830, Z320.

Keywords: economic development, tourism development, infrastructure development, poverty alleviation, backward region, fiscal transfers, Tibet.

### Highlights:

- Examination of how economic development comes about in a backward region
- Potential role of tourism in economic development
- Importance of fiscal transfers for initiating economic development
- Role of the government vs. the private sector in economic development
- Socio-economic and cultural implications of development

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# The Process of Economic Development in West Sichuan: the Case of Daocheng County

Carsten A. Holz

## A. Introduction

Economic development in the People's Republic of China ("PRC") is often viewed as economic transition from a socialist economic system to a more market-oriented system. For many underdeveloped regions of the PRC, however, the challenges of economic development are the traditional development challenges of how to raise the living standards of a predominantly traditional, agricultural society.

That may be nowhere more apparent than on the Tibetan Plateau in the Western region of Sichuan Province (四川省). Big changes occurred around 2010 when even the remotest village gained road access and underwent electrification. Many families sold their livestock, previously their sole source of income. Large Tibetan houses were under construction, with elaborate carpentry work done by Han (Chinese). Are these isolated advances or signs of sustainable economic development?

Economic development is commonly understood to mean the process of improving the standard of living and well-being of a population by raising per capita income, or, equivalent, gross domestic product (GDP) per capita. This is typically achieved by means of shifting from low-technology agricultural activities to the production of industrial products and a range of services using modern technology (Pearce, 1986; Rutherford, 1995). I.e., a shift in the sector distribution of economic activities (and their technology levels) leads to a rise in per capita income, and that in turn increases the standard of living and well-being.

Views of how economic development comes about vary. Hirschman (1958) held a bootstrap view of economic development, wondering how to pull oneself out of poverty if few or no outside resources are available. West Sichuan, in contrast, is part of a large, developmentalist state. Gerschenkron (1960) emphasized the advantages of backwardness: State intervention could help a follower country to modernize quickly by channeling capital and entrepreneurship to the—given the historical precedents of other countries—most promising industries. West Sichuan could benefit in particular from domestic precedents.

Chinese officials identify the problem of economic (under-)development in Tibetan regions as follows: "Under the evil feudal serfdom system prior to liberation ([...]), the economy of the feudal serf owners and of the monasteries shackled the development of the productive forces, and all along the rich natural resources could not be reasonably developed and used."<sup>1</sup> The fact that West Sichuan today is a severely underdeveloped region shows that more (or something else) than "liberation" is needed for economic development to take place.

Since the early 2000s, the Chinese state has proceeded with a number of development policies that impact on West Sichuan. The "Western Development Program" (西部大开发) of 2000 targeted infrastructure development in order to accelerate economic development in backward Western regions. While the national policy eventually lost propaganda momentum,

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<sup>1</sup> "解放前在万恶的封建农奴制度下 ([...]), 封建农奴主经济和寺庙经济桎梏生产力的发展, 丰富的自然资源一直未能得到合理的开发利用。" See the section on Ganzi Prefecture in the *Sichuan Yearbook 1986* (p. 210), with an omitted aside argument in brackets in the original that is not further relevant in the context here.

infrastructure investment in West Sichuan continued.<sup>2</sup> Another early policy, of 2003, was the conversion of pastures into grasslands (退牧还草) across Tibetan highlands and the relocation of Tibetan herders into settlements, ostentatiously for environmental reasons.<sup>3</sup> In West Sichuan, this policy ran its (limited) course but did not completely eliminate Yak herding. One bottom-up development is the growth of the Matsutake (松茸) and Caterpillar (虫草) mushroom industry. Households collect the mushrooms in the grasslands and sell them to local intermediaries who connect into a wider distribution network.<sup>4</sup>

Shih et al. (2007) note a relationship between economic policies and ethnic nationalities in that the “affirmative action empire” program of the PRC government towards minorities is biased in favor of *religious* minorities.<sup>5</sup> Fischer (2009) and Robin (2009) find the effects of economic aid and urbanization measures on the Tibet Autonomous Region (西藏) to be inefficiencies and external dependence; the measures constitute an attempt to lure Tibetans into the “‘healthy and civilised’ life of the pursuit of profit.”

This article examines economic development in its broadest terms, in one locality. Three sets of questions inform the inquiry:

- What forms of economic development are there, and how does this development come about?
- What is the role of the government in economic development, and how effective are government measures?<sup>6</sup>
- What are the larger socio-economic and cultural consequences of economic development, and how are they being perceived by the population?

The locality is one county in West Sichuan, Daocheng County (稻城县) in the South of Ganzi (or Garze) Tibetan Autonomous Region (甘孜藏族自治州).<sup>7</sup> Field research was conducted in spring and summer 2016, spring 2017, and fall 2017.<sup>8</sup> Archival data is available in form of the annually published *Sichuan Yearbook* which contains a section on each prefecture (municipality) and sub-sections on each county within the prefecture. The annually published *Ganzi [Prefecture] Yearbook* provides further details on prefectural and county-level events, policies, and achievements of the year, while the annually published *Ganzi [Prefecture] Statistical Yearbook* reports data.<sup>9</sup> Governments maintain websites. The problem is not so much a lack of information as a surplus of information, much of it difficult to evaluate, and some of it invalidated in field research.

The following section provides a brief overview of Daocheng County and its economy. The subsequent sections document the importance of fiscal inflows, analyze structural

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<sup>2</sup> See Naughton (2004) for an early analysis of the program, and ZHAO, BAO, and Prime (2013) for an evaluation.

<sup>3</sup> Hook (2013) summarizes and illustrates the rationale for the policy and its various consequences. Yeh (2005, 2009) provides an in-depth examination of the pastures to grasslands policy.

<sup>4</sup> The Matsutake mushroom is typically processed and exported to Japan, while the Caterpillar mushroom enters Chinese medicine distribution channels. The mushroom industry has been the topic of extensive research, from sustainability of mushroom harvesting to effects on household income. See, for example, Arora (2008), for a case study in Northwest Yunnan. WANG, TANG, and NAN (2017) provide data from a survey across all of Tibet.

<sup>5</sup> In original PRC parlance (see, for example, the official English translation of the 1982 constitution), Tibetans are a nationality (民族) in the PRC. The current official label 少数民族 is typically translated as “ethnic minority.” (See [https://en.wikipedia.org/wiki/Ethnic\\_minorities\\_in\\_China](https://en.wikipedia.org/wiki/Ethnic_minorities_in_China), accessed 13 November 2017.)

<sup>6</sup> While I use the term “government,” this equally refers to the “Chinese Communist Party.”

<sup>7</sup> The choice of Daocheng County was determined by the author’s earlier visits to this county in 2006, 2007, and 2011, providing a personal, historical perspective. The reason for these earlier visits to Daocheng County were unrelated to economic development. (Daocheng County was a re-supply station on long-distance hikes through West Sichuan.)

<sup>8</sup> Appendix 1 elaborates on various aspects of the field research.

<sup>9</sup> The latter two yearbook series are not readily available. In the case of the statistical yearbook series I was able to obtain the volumes of 2008-2016, as well as the 2003 volume with 2002 data.



change, and examine the socio-economic and cultural implications. The final section concludes.

## B. Daocheng County

Daocheng County is located 434km (270 miles) to the Southwest of Ganzi’s prefectural capital of Kangding (康定) and 761km (473 miles) Southwest of the Sichuan provincial capital of Chengdu (成都) (Figure 1). In 2015, it had 32,709 residents, 96.5% of which are Tibetans, and a population density of 4 people per square kilometer.<sup>10</sup>

[Figure 1 about here]

Daocheng County’s altitude ranges from 1900m to 6032m (6,234ft to 19,790ft), with its administrative center Jinzhuzhen (金珠镇, “Golden Pearl Township”) at approximately 3800m (12,467ft); the average annual temperature of Jinzhuzhen is 4 degrees Celsius (39F).

Much of this high-altitude land is barren, at best suitable for husbandry. Cultivated land makes up only 0.6% of the Daocheng County land area while pastures cover 56.7%,<sup>11</sup> each (farming, husbandry) producing approximately half of agricultural value-added. Agriculture accounted for one-third (32%) of gross domestic product (GDP) in 2015, a share more than three times the nationwide average (9%, Table 1).

[Table 1 about here]

In the secondary sector, industry (mining, manufacturing, utilities) is severely underdeveloped, accounting for only 3% of GDP compared to 34% nationwide. Production occurs exclusively in small firms. The level of construction activity, however, is relatively high at 21% of GDP, compared to 7% nationwide.

The tertiary sector (services) accounts for 44% of Daocheng County’s GDP (50% nationwide). Among services, the share of hotels and catering in GDP is relatively high at 7% (vs. nationwide 2%), as is the share of “not-for-profit services” in GDP, at 19% (vs. 9% nationwide). Within not-for-profit services, the shares of administration and education are relatively high (both 8% of GDP, vs. both 4% nationwide).

This indicates a traditional agricultural economy with a construction boom, an active tourism industry (hotels and catering), and a strong public sector. The strong public sector goes hand in hand with a low share of the private economy (民营经济) in GDP (at 45% in 2015, Table 1). The private economy accounts for two-thirds of agricultural value-added,<sup>12</sup> one-third of the (miniscule) industrial value-added, and one-quarter of construction value-added. It dominates trade and hotels and catering.<sup>13</sup>

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<sup>10</sup> See *Sichuan Yearbook 2016* for the population data. The population density of the U.S is approximately twenty times higher, and that of the UK and Germany sixty times.

<sup>11</sup> An additional 36.1% is woodland. (Some of these woods may be little more than scrubs.) Unused land accounts for 4.4%, water for 2.0%, transport for 0.1%, and residential and mining land for 0.1%. (*Ganzi Statistical Yearbook 2016*)

<sup>12</sup> In a number of interviews I raised the question of what constitutes non-private agriculture, but faced a blank response. Presumably, reforestation is done by the state. Chinese maps show “state farms” (国有农场) in high-altitude locations—these are Tibetan Yak herding summer camps high up in the mountains that could be collective in nature.

<sup>13</sup> A more detailed discussion of sector shares in GDP and the private economy is provided in Appendix 2, which also discusses long-term trends.

## C. Fiscal Transfers

Daocheng County is the recipient of large fiscal in-transfers. In 2015, Daocheng County's fiscal expenditures of CNY 1.213bn constituted a 9.1 multiple of Daocheng County's fiscal revenues (bottom Table 2). I.e., Daocheng County's government spends almost ten times more money than it collects locally. This is not a one-time phenomenon. Daocheng County's fiscal expenditures were 16 times fiscal revenues in 2002 (the sole early data point available) and then 7 to 23 times between 2007 and 2014.

This unusual ratio does not originate with revenues. Revenues in 2015 were equivalent to 22% of GDP, the same percentage as nationwide. Instead, it is fiscal expenditures that are out of line, in 2015 being equivalent to 203% of GDP (Figure 2). I.e., Daocheng County's government spends twice as much money as the value of the county's total output.<sup>14</sup>

[Table 2 and Figure 2 about here]

The Daocheng County government budget data do not include expenditures by higher-level governments on infrastructure projects in Daocheng County. Two items of considerable one-time fixed costs—born by higher-level governments—are road and airport construction. Provincial roads S216 and S217 connect Jinzhuzhen and Riwa (日瓦, the second-largest township after Jinzhuzhen) to the rest of Sichuan Province. A rough estimate of the cost of sealing these two roads in the early 2010s is CNY 2bn.<sup>15</sup> That is twenty times Daocheng County's 2015 fiscal revenues and four times its GDP. Construction of the Daocheng-Yading Airport, completed in 2013, cost a further CNY 1.58bn (three times GDP).<sup>16</sup>

Daocheng County's fiscal expenditure pattern contains no surprises. The government provides typical public goods from public safety to health and education (Table 2).<sup>17</sup> The revenue side, however, exhibits anomalies: Revenues are not production- but sales-based. In 2015, the value-added tax (VAT) and the corporate income tax accounted for only 4% and 6% of local fiscal revenue, compared to 20% and 18% nationwide.<sup>18</sup> Sales taxes accounted for 35% of local fiscal revenue (compared to nationwide 13%) and “fund income”—predominantly state-owned land use rights transfer income—for 19%. Highly variable “fund income” over time implies corresponding fluctuations in local revenues.<sup>19</sup>

The large amount of fiscal in-transfers supports a particular pattern of aggregate expenditures: Daocheng County's gross capital formation (“investment”) in 2015 was 120% of GDP. I.e., investment exceeded total output. This was made possible by net exports of negative 82% reflecting imports equivalent to 84% of GDP (Table 3).<sup>20</sup> In sum, fiscal (and

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<sup>14</sup> Revenues increase relative to GDP over time and so do expenditures. I.e., even while GDP continuously grows, local fiscal revenue extraction grows even faster, as do fiscal in-transfers.

<sup>15</sup> Appendix 3 provides the calculations underlying these road construction costs.

<sup>16</sup> For details on Daocheng-Yading Airport see Appendix 4.

<sup>17</sup> Transportation's share of fiscal expenditures in 2015 is relatively high at 22.4% (4.6% in 2014). According to the GDP statistics, Daocheng County produced virtually no value-added in the transportation sector. This implies that the government purchased transportation services from *non-local companies* to the tune of half the value of local GDP.

<sup>18</sup> National values (for 2015) are from the NBS database (accessed in February and March 2018).

<sup>19</sup> For a complete set of fund data see Appendix 5.

<sup>20</sup> The proportions were even more extreme in 2011-2013 with gross fixed capital formation at 175% of GDP and imports equal to 129-130% of GDP. (The data quality of the aggregate expenditure components appears poor given, for example, the relatively constant (if not identical) component percentage shares over time, but the overall picture is likely an acceptable approximation.)

possibly other) in-transfers paid for the import of investment goods and services into Daocheng County to an extent that dwarfed local economic activity.<sup>21</sup>

[Table 3 about here]

## D. Tourism

The GDP data suggest that tourism is important for Daocheng County's economy (besides agriculture and the public sector).<sup>22</sup> Tourism development in Daocheng County started with a call in the Daocheng County Ninth Five-Year Plan (of early 1996) for the promotion of tourism, followed by the establishment of the Yading Nature Reserve (亚丁自然保护区, "Yading").<sup>23</sup> When a national prohibition to cut natural forests came into effect in 1999 and the Matsutake mushroom market in that year was weak, the Daocheng County government and Party Committee decided on an all-out strategy of "A flourishing county through tourism."<sup>24</sup> In the meantime, Yading has been recognized as a national "scenic area" (景区) with a rating of AAAA, the second-highest rank.<sup>25</sup> (See Box 1 for a brief chronology.)

Crucial for the development of tourism was the (Daocheng Tourism Development) *Master Plan* (2000-2015).<sup>26</sup> The *Master Plan* is an undated and unpublished formal (internal) document in excess of one hundred A4-sized pages. It lays out all aspects of tourism development in Daocheng County, centered on Yading as "the last Shangri-La."<sup>27</sup>

Yading is located 114km South of Jinzhuzhen, the county seat, and reached via Riwa / Shangri-La Township (日瓦, 香格里拉真, 74km), Rencun Village (仁村, a further 7km), and then a road inside the nature reserve (33km) passing through Yading Village (28km into the reserve, Figure 1). An immediate bottleneck in the development of Yading was the lack of transport infrastructure.<sup>28</sup> At the time the *Master Plan* was written, none of the roads in Daocheng County were sealed, and only 44% of all roads in Daocheng County made it to an official grade (4<sup>th</sup> grade, the lowest grade).<sup>29</sup> Rudimentary access to Yading by low-quality dirt road had only just been established.

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<sup>21</sup> The consumption share in GDP is not out of line with the nationwide average (62% of GDP in Daocheng County vs. 52% nationwide), though consumption is predominantly "rural" (22% vs. 8%). In contrast to the fiscal system, the banking system channels funds out of Daocheng County. For details see Appendix 5.

<sup>22</sup> An English literature on tourism in West Sichuan covers specific topics in typically specific localities (with no literature on Daocheng County). For example, Tritto (2018) studies environmental policies in the context of tourism in Jiuzhaigou (九寨沟), a nature reserve in the North Eastern part of West Sichuan. A limited non-academic Chinese language literature on Daocheng County provides observations on tourism and poverty alleviation (LAI et al., 2016, and LI, 2017), "small township planning" (LIU, undated, and WANG, 2009), and the relationship between tourism and culture or "ecological civilization" (REN, 2014, and CHEN, 2016).

<sup>23</sup> The official English translation of the Chinese term Yading is Aden. English language travel guides and websites, however, have not adopted the name Aden.

<sup>24</sup> The sector value-added data, presented in Appendix 2, reveal a relative rise in 1999 of the productive activities of the service sector (which includes tourism), as well as of construction value-added.

<sup>25</sup> The 2017 Thirteenth Tourism Five-Year Plan of Sichuan Province called for the elevation of Yading to the highest possible 5A rating (*Sichuan Thirteenth Tourism Five-Year Plan*).

<sup>26</sup> The *Master Plan* does not carry a date; the suggestions of the auditing committee presented at the beginning of the *Master Plan* are dated 18 October 2001. A retired official of the tourism bureau referred to the *Master Plan* as being of 2003. Further details of the *Master Plan* beyond what is presented in the text are provided in Appendix 6.

<sup>27</sup> The *Master Plan* was followed by a *Yading* [Nature Reserve] *Master Plan* (2006-2020) with specifics on the management of the nature reserve, and a second (Daocheng County) *Master Plan* (2015-2030) that I could not obtain.

<sup>28</sup> The *Master Plan* also identified a second, lesser bottleneck in form of missing human capital, calling for cooperation of Daocheng County with Sichuan universities/colleges and high schools to attract qualified personnel.

<sup>29</sup> The one exception to the absence of sealed roads was a 3km concrete road from Jinzhuzhen to the Rubuchaka (茹布查卡) hot springs.]

The roads from Jinzhuzhen to Riwa and continuing into Yading were sealed in 2013 and 2014 only, not in the early 2000s as envisaged in the *Master Plan*. The Daocheng-Yading Airport—in the *Master Plan* proposed for 2003—opened in September 2013, reducing the grueling road trip from Chengdu to Jinzhuzhen (18 hours if not 2 days by bus) to a 65-minute flight. The for 2005 projected direct connection to the tourist areas of Yunnan Province (云南省) and the neighboring county seat (Muli 木里) are still under construction.

#### Box 1. Daocheng/Yading Tourism Chronology

1996 Daocheng County Ninth Five-Year Plan: call for tourism development  
1996 Daocheng County government formally establishes the Yading Nature Reserve (亚丁自然保护区); delineation of its land area, choice of name, and scope of protection  
1997 Yading becomes first a prefectural nature reserve, then a provincial one (with the provincial environmental protection office in charge of business matters, and the county government in charge of administration)  
1999 Daocheng County government and Party Committee decide on the strategy of “A flourishing county through tourism” (旅游兴县战略); establishment of a tourism bureau (within the government) and of the Daocheng County Tourism Development Company (稻城县旅游开发总公司)  
2000 Yading becomes a provincial “scenic area” (风景名胜区)  
2001 Yading becomes a national nature reserve  
2001-2003 Daocheng [Tourism Development] *Master Plan* 2000-2015 issued  
2006 Yading [Tourism Development] *Master Plan* 2006-2020 issued  
2015 Second Daocheng [Tourism Development] *Master Plan* 2016-2030 issued (unavailable)

Sources: *Master Plan* and *Yading Master Plan*.

## 1. Tourism numbers

The *Master Plan* predicted a gradual increase in visitor numbers to Daocheng County (visitor nights) from barely 500 visitors in 1999 to 600,000 visitors in 2015 (Figure 3). For the longest time, through 2013, however, these visitor numbers were far too optimistic. It was only in 2014 after completion of sealed road access and of the Daocheng-Yading Airport that visitor numbers began to rise sharply (Figure 3).<sup>30</sup> By 2015, the actual visitor number of 1,715,448 was three times higher than originally envisaged. By 2017, the visitor number likely had doubled again.<sup>31</sup>

[Figure 3 about here]

In the early days of Yading tourism, visitors were predominantly young foreigners willing to hike for several days into then undeveloped mountain territory. By the mid-2010s, “self-driving tourism” (自驾游) had become the dominant form of tourism.<sup>32</sup> In the 1 October national holiday week of 2017 (“Golden Week”), self-driving tourists accounted for 80% of all Yading visitors. Tour groups also became more prominent; this included not just Han, but

<sup>30</sup> The increase in tourist numbers had an obvious effect on the local economy, with the construction sector experiencing particularly high growth in 2012-2014.

<sup>31</sup> For the estimate of the 2017 visitor number see Appendix 7.

<sup>32</sup> Appendix 8 provides further details on self-driving tourism in the Greater Tibetan region.

also Malaysian, Taiwanese, and South Korean tour groups, though not yet Western tour groups.<sup>33</sup>

Visitor numbers are highly concentrated in July through October, four months that accounted for 82.5% of all visitors to Daocheng County in 2015 (Figure 4). The strong cyclicity is also apparent in the number of hotels in Jinzhuzhen offering rooms on the online travel site Ctrip (Figure 5). Hotel prices are highest in September and October, peaking in the first October week (Figure 5). The experience on the ground suggests visitor numbers may be even more concentrated in October than the official statistics indicate.<sup>34</sup> During the Golden Week in 2017, visitors to Yading by 11am on 3<sup>rd</sup> and 4<sup>th</sup> October reached the admission limit of 16,054 set by the Yading administration and ticket sales were suspended. In the morning of 3 October, traffic moved at less than walking speed along the 7km road from Riwa to the entrance of Yading.<sup>35</sup> Visitor numbers fell to 13,795 on 5<sup>th</sup> October.<sup>36</sup>

[Figure 4 and Figure 5 about here]

Since visitors inevitably spend at least two nights in Daocheng County, visitor numbers in the Golden Week of 2017 likely reached into the 30,000s.<sup>37</sup> This exceeds the accommodation capacity. In October 2017, a personal count of establishments of accommodation in Jinzhuzhen, Riwa, and Rencun Village yielded 242 establishments (Table 4) with 9,331 rooms (8,583 plus 748, Table 5).<sup>38</sup> With an assumed average 2.35 beds per room (*Master Plan*), Jinzhuzhen, Riwa, and Rencun Village by October 2017 were able to accommodate 21,928 visitors. Additional inns in Yading Village and along the road between Riwa and Jinzhuzhen brought the total number of beds to around 23-25,000,<sup>39</sup> with the remainder then accounted for by home stays, tent camps set up by Tibetans, and some self-driving tourists arriving in camper vans or bringing their own tents to camp in a Tibetan's courtyard or along the road between Jinzhuzhen and Riwa (a cold and typically moist affair). Hotel rooms remained available during the Golden Week of 2017, albeit at prices up to ten times regular summer prices.<sup>40</sup>

[Table 4 and Table 5 about here]

At all times of the year other than the Golden Week, Daocheng County has a large surplus of hotel rooms. For example, in mid-March 2017 barely 200 visitors entered Yading, one percent of the Yading admission limit. In mid-July 2016, the number was around 500 visitors per day. Such visitor numbers imply a 50- to 100-fold over-supply of hotel rooms

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<sup>33</sup> The *Master Plan* made a point of first developing individual travel but then to quickly widen the tourist base to tour groups, focusing first on domestic tour groups, then tour groups from adjacent Asian countries, and finally tour groups from Europe and the U.S. A Taiwanese tourist that I sat next to on the Yading bus was on a ten-day tour of nature spots in Sichuan Province. The 200-room hotel in Riwa that I stayed in on 17 and 18 October 2017 initially had problems honouring my online reservation because, as the manager said, the hotel had been booked up by tour groups, an unusual event for the hotel. I counted 12 tour buses in the backyard in the late evening of 18 October 2017.

<sup>34</sup> Also see Appendix 7 for further considerations on the monthly distribution of visitors.

<sup>35</sup> This was a sensation for local Tibetans who stood at the side of the road and watched while some began to hawk everything related to Yading, from show tickets to maps and parking spaces.

<sup>36</sup> For the visitor numbers see Xinhua (5 October 2017).

<sup>37</sup> Visitors stay in Daocheng County the nights before and after their Yading visit (and an additional night if they return to Yading for a second day, or spend another day in the area).

<sup>38</sup> A further 72 establishments with approximately 4,267 rooms were under construction in July 2016, and 54 establishments with approximately 2,908 rooms in October 2017.

<sup>39</sup> The *Sichuan Yearbook 2016* in its entry on Daocheng County mentions for *all of* Daocheng County a total number of 21,000 beds in 2015, suggesting that the here documented 2017 numbers of beds for Jinzhuzhen, Riwa and Rencun Village are an underestimate of the available tourist beds in all of Daocheng County.

<sup>40</sup> The tents set up in the lobbies of some hotels/inns as emergency accommodation remained empty.

except during a few peak days around 1 October and 1 May. In 2017, an additional 3,108 rooms were under construction (Table 5).

## 2. Marketing

Tourism development in Daocheng County is supported by extensive marketing. Three marketing slogans describe Daocheng County:

- Yading as “last Shangri-La,” Daocheng County’s slogan;
- “Holy Garze” (神圣甘孜), a Ganzi Prefecture initiative for all of Ganzi Prefecture; and
- “The North [Northern part of Sichuan] has Huanglong and Jiuzhaigou, the South has Daocheng Yading (北有黄龙九寨、南有稻城亚丁), promoted by the provincial Party Committee.

By 2017, the prefecture’s “Holy Garze” dominated across Daocheng County, from billboards to music videos and large photos decorating the Yading Visitor Center.<sup>41</sup>

References to Joseph Rock and “Shangri-La” abound. Joseph Rock wrote about Yading in the *National Geographic* in 1931. He is immortalized in local street names, hotel names, and appears in every report on Yading. The Holy Garze propaganda stays clear of any details. Rock (1931, pp.13f.) writes of Yading: “Konka Risumgongba is the mountain god of the outlaws who dwell around the high plateau from which the majestic peaks pierce the sky,” and “should any outsider now venture into Konka land he would be robbed and then slain, after which the Konka outlaws would resume their own pious pilgrimage.” Rock squarely blamed Chinese “imperialistic designs” for the state of lawlessness, with the Chinese destroying the local royal families and establishing Chinese magistracies, most of which then fell to Tibetan outlaws.<sup>42</sup>

The mystical “Shangri-La” of James Hilton’s 1933 novel *Lost Horizon* was supposedly inspired by Rock’s article (though James Hilton located his Shangri-La 2,000km to the West of Yading). Riwa Township was renamed Shangri-La Township (香格里拉镇). The video shown on the 60-minute bus ride from the Yading Visitor Center to the end of the road inside Yading abounds with Tibetan and Han singers pronouncing the beauty of, and their love for Shangri-La.<sup>43</sup>

Propaganda videos portray happy Tibetans in Tibetan dresses, adults dancing, children running, and young women beaming at snow-covered mountains and a blue sky. Yaks and horses on vast green meadows are a favorite theme, as are burning incense, Tibetan monks in red robes, and colorful temples against a mountain backdrop. A retired official of the local tourism office claimed that it is the clean air, blue sky, and silence of the mountains that are most important to tourists.

Advertisements in 2017 presented Yading not only as sightseeing location but also (newly) as adventure location for ground-breaking, self-driving tourists on a quest to explore.

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<sup>41</sup> Marketing campaigns and marketing materials issue forth mostly from the county and prefecture governments and Party committees. The website [yading.gov.cn](http://yading.gov.cn) is maintained by the Daocheng County Party Committee, government, and tourism office and apart from advertising Yading also provides downloadable maps and travel route suggestions.

<sup>42</sup> Nor does Rock paint a favourable picture of his Tibetan host’s kingdom from where he staged his travels to Yading, describing the Muli king’s domain as an “unfenced penitentiary” (p. 18).

<sup>43</sup> The video was produced by the Garze Autonomous Region [Prefecture] and promotes “Holy Garze.” While singers dominate, the video also includes two interviews with scientists. Since “Shangri-La” is an only recently adopted name, the songs must all have been created for marketing purposes. For further details on Shangri-La, see Appendix 9.

Videos show hikers, horse riders, and motor-cyclists, though the vast majority of visitors will experience none of these.<sup>44</sup>

The *Master Plan* suggests the promotion of local cultural resources: traditional Tibetan Buddhist culture with 14 monasteries in Daocheng County, Tibetan dances, and Tibetan paintings and sculptures. Bengpusi monastery (蚌普寺) on the way from Jinzhuzhen to the airport is readily accessible and has basic tourist infrastructure (parking, toilets) but appears little visited.<sup>45</sup> A small temple, Chonggu Temple (冲古寺) is located within Yading, in easy reach from the end of the road, but only a modest number of visitors stops at the temple which constitutes more of a display object than a functioning temple. Gonggalang Jiling Temple (贡嘎郎吉岭寺), 22km along the road from Riwa to Jinzhuzhen, is bypassed by tourists in an early morning or evening rush to get to Yading and back.<sup>46</sup>

During the high season, the “Sichuan Province Ganzi Tibetan Autonomous Prefecture Nationality Song and Dance Troupe” (四川省甘孜藏族自治州民族歌舞团), based in Kangding, has a daily evening performance at the new Daocheng Yading Performing Arts Center (稻城亚丁演艺中心) in Riwa.<sup>47</sup> At least two hotels in Riwa offer dinner accompanied by performances. An entrepreneur in a village outside Jinzhuzhen stages rudimentary Tibetan dinner shows for tour groups. But Yading visitors are typically exhausted after a day on the mountain and troubled by the altitude. Interest in shows appears small.<sup>48</sup> Tibetan paintings and sculptures are limited to the occasional display on hotel grounds.

### 3. Three approaches to tourism development

Tourism development in Daocheng County exhibits three distinct approaches: a state-based partner city approach, a large-scale private developer approach, and a bottom-up approach involving private Han-Tibetan collaboration.<sup>49</sup>

#### a. *Duikou* model: Jinzhuzhen’s Yading Tianjie

Key to the urban development of Jinzhuzhen is Yading Tianjie (亚丁天街), a 80,000m<sup>2</sup> real estate development occupying an area the size of five soccer fields in central Jinzhuzhen (31,420m<sup>2</sup>). The project is a joint project of Daocheng County and the intra-provincial partner city (对口援建地, in short: *duikou*) Luzhou Municipality (泸州市).<sup>50</sup>

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<sup>44</sup> Two professors in Chengdu working on tourism pointed out a broader trend in Chinese tourism, away from a desire to “have been” at some particular (typically famous) location towards gaining particular experiences.

<sup>45</sup> On half a dozen trips past this monastery, I have never seen a parked tourist bus or car. On my own visit to the monastery one afternoon, I found myself a lone visitor, ending up chatting with the monk in charge of the main temple for a lengthy period of time, which suggests that the monastery is not yet saturated with visitors. On visits to two other monasteries near Jinzhuzhen I had the impression that I was the only tourist visitor in a long time, perhaps months (also supported by the quality of road access [I was on foot]), and one of the two monasteries was rather dilapidated.

<sup>46</sup> The monasteries along the road are clearly marked by official tourism signs. Such signs also point out particular Tibetan villages and anything else deemed tourist-worthy, though the success rate in enticing tourists to stop appears exceedingly low (matching the questionable attractiveness of the purported attraction).

<sup>47</sup> The Performing Arts Center is operated by the Daocheng Yading Scenic Area Tourism Development Company (稻城亚丁景区旅游开发有限责任公司), which also runs the buses within Yading. During the peak season in fall 2017, performers toured Riwa restaurants in the late afternoon in an attempt to attract tourists to their evening performance.

<sup>48</sup> On two evenings in the 2017 peak season, a Riwa hotel’s dining tent with a seating capacity of at least one hundred had only a dozen diners. Two Tibetan women perfunctorily danced to blaring music around a central gas fire.

<sup>49</sup> Some details on the first two of these three approaches are relegated to Appendix 10.

<sup>50</sup> Luzhou is located in the Eastern-most part of Sichuan Province, bordering Chongqing (重庆), at a distance of 936km (582 miles) from Daocheng County.

The project follows a standard *duikou* pattern whereby Party organs, governments, or state-owned enterprises in richer regions support a less developed locality. The assignment comes with financial obligations, sometimes takes the form of material contributions, and often goes hand in hand with the 1-2 year dispatch of government officials from the richer to the poorer locality in order to share their experience in successful development and to oversee the use of the financial and/or material contributions provided by the richer locality.

Daocheng County's contribution to the Yading Tianjie project is limited to the provision of land. The contribution of the Luzhou Municipality Party Committee and government is unspecified; presumably the latter initiated if not helped finance the CNY350mio investment project via budgetary resources or bank loans in Luzhou. Construction is undertaken by the Luzhou Number Ten Construction Company (泸州十建司) and began in October 2014.

In spring 2016, with construction still ongoing, a posh sales office in Jinzhuzhen presented the initial sales successes and advertised shop fronts with a suggested 8% return on investment and hotel-type vacation apartments from CNY163,000 upwards. A 7-minute video presented Jinzhuzhen as an alpine village in pristine nature, the Yading mountains rising behind the Yading Tianjie development (they are 114km away by road and not visible from Jinzhuzhen), the landscape dotted with happy Tibetans in Tibetan dresses, and the Yading Tianjie development crowded with Westerners. The video showed flights to Daocheng-Yading Airport from across the country, including from Luzhou, Beijing (北京), Guangzhou (广州), and Shanghai (上海), flight connections that as of 2019 have still not been established.<sup>51</sup> Many of the scenes of local products, street stalls, restaurants, and high-quality hotels appear to have been shot in Lijiang in neighboring Yunnan Province.

By fall 2017, construction was largely complete with approximately 300 shops (or restaurants) on the ground floor and on a partially exposed lower ground floor.<sup>52</sup> Floor space on the first floor (above ground floor) was reserved for tea houses and restaurants and supposedly for rent only. Higher floors of the mostly 5-story project were intended for hotels; the hotel-type vacation apartments had disappeared.

According to sales staff, by March 2017 more than 100 of the 300 shops had been sold; another sales person corrected the number sold to "almost 200."<sup>53</sup> Between March 2017 and October 2017 approximately 20% of the shops opened: some are simple restaurants, some are telecom shops, and some are basic clothing shops; one is an upmarket shop selling "Tibetan" jewelry of the type that might appeal to Han tourists. In October 2017, the majority of shop fronts carried "For Rent" signs, each with a different phone number, indicating that different individuals had purchased a shop as an investment and were now looking for a tenant. The higher floors remained unfinished, except for one restaurant.<sup>54</sup> One interviewee questioned the wisdom of owning a shop when "there is nothing happening in Daocheng." Even during peak season in October 2017, Jinzhuzhen was a far cry from the tourism frenzy of, for example, Lijiang in Yunnan Province.

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<sup>51</sup> The video showed an airline "transvia.com;" The website transvia.com exists and is the website of a Spanish travel agency (11 November 2017).

<sup>52</sup> The lower ground floor and further basements otherwise contain a 28,000m<sup>2</sup> parking garage (which should afford room for approximately 1,000 vehicles).

<sup>53</sup> With the near-completion of Yading Tianjie, the posh sales office of early 2016 was relocated (from what became one of the entrances to Yading Tianjie) to a rather shabby administrative office in a side building. The customer was no longer greeted by sleek sales personnel and glamorous videos but by bored chain-smoking construction operators cutting exceedingly crude jokes (mostly at the expense of a young Tibetan sales girl, who served them right back), waiting out their four years in Jinzhuzhen and looking forward to their next assignment, expected for 2018.

<sup>54</sup> Rents for the higher-level stories are likely too high. The asking price for a 180m<sup>2</sup> space to be used as teahouse on the first floor in March 2017 was CNY40/m<sup>2</sup>, which a potential purchaser claimed was twice the going rate. Not a single hotel had opened (or appeared under preparation) within Yading Tianjie.



## b. Private investor model: Riwa's Holyland Corporation

Riwa (Shangri-La Township), located 74km South of Jinzhuzhen and 7km from the entrance to Yading, used to be a sleepy township with Tibetan stone buildings along a main street and some side alleys. By 2017, most buildings had been converted into guest houses and hotels had been added, for a total of about 60 establishments of accommodation. Restaurants and tourist shops lined the streets. A third supermarket had just opened and numerous convenience stores had sprung up. The restaurant business had become big enough to support a newly built wet market with regular supplies trucked in from Yunnan Province.

Key to the development of Riwa is the Holyland Corporation (稻城县亚丁日松贡布旅游投资有限公司), named in Chinese after one of the three mountains of Yading. It was founded in April 2006 with registered capital of CNY 200mio as a subsidiary of a Shenzhen investment company (深圳市金沙江投资有限公司). Following a strategic cooperation agreement with the Daocheng County government, Holyland became the exclusive developer of all tourism and commercial undertakings in Riwa.<sup>55</sup> The initiator of Holyland is a Han from Guangdong Province (广东省) who was earlier involved in the construction of a hydropower station in Riwa. Subsequently, he started to buy up land in Riwa at a time when tourism to Yading consisted of a few individual travelers. He is rumored to have purchased on the order of half the land in Riwa.

The Holyland Corporation runs three hotels on the two sides of a new road development in Riwa: the five-star Holyland Hotel (23,000m<sup>2</sup>) with 213 rooms, opened in September 2013; the smaller four-star Yading Yizhan (亚丁驿站, Yading Inn) with just below 100 rooms; and a in 2017 newly renovated third hotel that became a four-star Ramada Encore hotel as part of Wyndham Worldwide, with approximately 200 rooms.

Underneath the Holyland Hotel front area is a 400-seat performance venue (亚丁境界演艺中心).<sup>56</sup> Next to the three hotels is (Holyland Corporation's) Shambala Tianjie (香巴拉天街), a 12,000m<sup>2</sup> shopping and restaurant complex with approximately 100 outlets. In spring 2016, the Shambala Tianjie was entirely unoccupied but by October 2017 two dozen shops, convenience stores and restaurants had opened.<sup>57</sup> In the evenings, tourists, after returning from Yading, flocked to this new commercial center of Riwa.

The Holyland Corporation has a near-monopoly on high-end hotels in Riwa. A Wizard Aden Hotel (稻城绿野亚丁酒店) at the Northern entrance to Riwa and a Daocheng Riwa Airport Hotel (稻城日瓦翔云酒店) at the Western edge of Riwa have offered limited competition for some years, while a Holiday Inn Express (稻城亚丁智选假日酒店) opened in 2017 halfway between Riwa and Rencun Village. (Neither of the latter two is within easy walking distance of Riwa's restaurants and shops.)

The Holyland Corporation plans to build a spa hotel (天谷莲轩温泉 SPA 酒店), a "courtyard-style boutique hotel 'Kangba First Village'" (院落式精品酒店 '康巴第一寨'), and a conference hotel. The total built-up area of all Holyland projects is projected to reach 210,000m<sup>2</sup>—approximately five times the current built-up space and equivalent to approximately one thousand single family homes—at a total cost of CNY 3bn (no date given). The final outcome is described as an "International Tourism Small Village" (国际旅

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<sup>55</sup> See the Holyland Corporation website at <http://www.yadinginvest.cn/>. The website includes news items from the press. (As of 9 October 2019, the latest news item was of January 2018, with a dozen postings for 2017.)

<sup>56</sup> The 2,100m<sup>2</sup> performance venue was completed in 2017 only, in time with the completion of the larger and more modern Daocheng Yading Performing Arts Center halfway between Riwa and Rencun Village, unaffiliated with the Holyland Corporation.

<sup>57</sup> In 2016, the Holyland Corporation was trying to sell space in the Shambala Tianjie for CNY 40,000 per square meter. By 2017, the price had come down to between CNY 15,000 and CNY 25,000.

游小镇). Realization of these plans is on hold, supposedly because of “national policy” (国家政策). Others point out that the Holyland Corporation has repeatedly missed the development schedule originally agreed upon with the Daocheng County government due to funding difficulties. This has led to differences with the government and supposedly the return of some land to the government with as consequence the arrival of the Holiday Inn Express.

In 2017, Holyland was rumored to be running at a loss and to have reduced staff numbers from 400 in 2016 to 170 in 2017. Yet a rough calculation suggests that by 2017 the Holyland Corporation’s hotels likely operated with similar financial results as hotels abroad do.<sup>58</sup> This may still not be a satisfactory result since the PRC tends to have higher depreciation rates and higher expectations for returns on investment.<sup>59</sup>

The Holyland Corporation is actively engaged in boosting tourism (and its own fortunes). It has organized two marathon events in Yading in 2016 and 2017, expanding to a variety of options for mountain hiking and running in 2017 (organized with the “skyrunning” association).<sup>60</sup> In October 2017, it established a Daocheng County Holyland Public Urban-Rural Public Transport Company (稻城县日松贡布城乡公客运有限公司) and ran ten new shuttle buses between Riwa and the Yading Visitor Center, and three daily buses between Riwa and Jinzhuzhen.<sup>61</sup> A separate company was established to maintain a rather unattractive and little visited “bargain-price shopping mall” (平价购物商场) in the basement of the Shambala Tianjie complex, perhaps for lack of better use of the still only partially occupied building.

### c. Tibetan-Han collaboration

Most hotels and inns in Daocheng County are operated as leases by Han from Tibetan families. This applies to the approximately 60 inns and hotels in Riwa, the approximately 40 inns and hotels in Rencun Village, the approximately one dozen inns in Yading Village, and to most hotels and inns in Jinzhuzhen.

In a typical arrangement, the Tibetan family leases their house or land (or both) for twenty years to an outsider, typically a Han from the greater Chengdu region. After twenty years, the lease is to be renegotiated or the property to be returned to the Tibetan family. The lessee renovates the Tibetan house or builds a new one.<sup>62</sup> The Tibetan family may continue to live on the property, such as in a side building. In Jinzhuzhen, the resulting hotels tend to be quite large and some are professionally managed by outside companies.<sup>63</sup>

A concrete example is the following: three non-locals rented a plot of land in the upper part of Rencun Village, next to the Yading Visitor Center, from a Tibetan family for CNY 200,000 a year for 20 years. Between 2016 and early 2017, the lessees built a hotel with

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<sup>58</sup> For detailed considerations, see Appendix 10.

<sup>59</sup> Talking to hotel managers in West Sichuan, including discussing back-of-the-envelope estimates, I came away with the impression that investors in the hotel business in Ganzi Prefecture expect to recoup their full investment in between one and three, at most five years. Stories abound of hotel investors working their way up from a small inn to a larger or renovated inn, a first hotel at perhaps 3-star level, then an expansion of hotels or an upgrading to 4-star level.

<sup>60</sup> See <http://www.yadinginvest.cn/index.php?m=content&c=index&a=show&catid=16&id=110>, accessed 14 November 2017. On skyrunning, also see [www.skyrunning.com](http://www.skyrunning.com), accessed 14 November 2017.

<sup>61</sup> For the buses between Riwa and Jinzhuzhen also see <http://www.yadinginvest.cn/index.php?m=content&c=index&a=show&catid=16&id=116>, accessed 14 November 2017.

<sup>62</sup> If a hotel/inn is newly built, it can be virtually any size or type, a large Tibetan-style stone house (though likely with an underlying concrete structure), or a 100-room concrete block.

<sup>63</sup> The lessees do not necessarily have much experience in the hotel business. For example, a Tibetan inn at the center of Riwa is run by a young Han couple whose main advantage seems to be that they are Han, speak fluently Mandarin, and are technology-savvy (know how to adjust their prices on the various hotel apps). Room cleaning is done by a Tibetan.

approximately 100 rooms. Rooms rent for CNY 300 a night during high season. The lessees reportedly spent CNY 30mio on construction (although that value appears too high).<sup>64</sup>

In another example, the land of a complete village approximately 20km North of Riwa along the road to Jinzhuzhen has been leased to a Han entrepreneur. As of 2017, the entrepreneur had still not started development and the Tibetan families continued their agricultural use of the land.

The practice also extends to restaurants. For example, an approximately 120m<sup>2</sup> restaurant on a section of the ground floor of a large four-story building on the main street of Riwa pays CNY 160,000 annual rent to a Chengdu landlord who collects a total of CNY 1mio rent per year from all occupants of the building. The landlord has a 20-year lease from the Tibetan land owner at a cost of CNY 250,000 a year.

The *Master Plan* did not foresee such Tibetan-Han collaboration. The government at first was permissive of, if not encouraging, such bottom-up development. But by 2017 the government's policy had become highly restrictive with a prohibition on new hotel/inn construction in at least Rencun Village if not Riwa and Jinzhuzhen.

## 4. Evaluation

Tourism in Daocheng County is the outcome of a government-led development process. It required agreement among several tiers of government to develop tourism in Daocheng County, from the center's recognition of Yading as a AAAA-rated national scenic area to provincial road construction, prefectural administration of the nature reserve and marketing efforts,<sup>65</sup> and the county-level provision of basic infrastructure.<sup>66</sup> It involved massive fiscal in-transfers. It required a long-term commitment from the province with planning and coordination among different government levels that did not always work smoothly, as evidenced by the delays in developing access to Yading. But once road access and the Daocheng-Yading Airport were in place, in 2013/14, tourism took off.

Daocheng County's government focused on public sector tasks and outsourced commercial tourism development en bloc: in Jinzhuzhen, to a *duikou* project with its own management and in Riwa to a private company (the Holyland Corporation). The *duikou* project is a windfall of the Chinese developmental state and likely came as part and parcel of the higher-level government decision to develop tourism in Daocheng County. Subcontracting half of Riwa to the Holyland Corporation may have been an early saving straw when a private entrepreneur sensed an opportunity and the local government was in no position to install much-needed tourism facilities.

Luck likely played a major role in Daocheng County's tourism development. The *Master Plan* did not foresee the self-driving boom of a decade later, nor tourists' increasing fascination with the Greater Tibetan region or Han entrepreneurialism in collaborating with local Tibetans in the hotel and catering industry. The advent of easy telecommunications, including mobile telephony and internet, allowed for decentralized tourism arrangements and unforeseen advertisement opportunities.

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<sup>64</sup> One hundred rooms let for 100 days a year at CNY 300 implies annual revenues of CNY 3mio. Construction costs of CNY 3mio rather than CNY 30mio would seem more fitting. The construction cost estimate provided by a local Tibetan, insisting that his numbers were correct, suggests that the amounts of money involved may exceed the comprehension of locals.

<sup>65</sup> On the formal (state-owned) company arrangements see Appendix 6.

<sup>66</sup> The *Master Plan* found tourism facilities in Daocheng County to be woefully inadequate, ranging from a lack of electricity, telecommunications, and sewage treatment in Riwa, to "chaos" (混乱) at the cattle station in Yading. By the early 2010s, the local government, thanks to the financial in-transfers, had put in place basic urban infrastructure. For example, trash collection improved noticeably between 2016 and 2017, and work on the creation of a large, forested park proceeded swiftly. Urban development is regulated down to the design of shop signs and the outside appearance of new buildings.

By the mid-2010s, visitor projections of the *Master Plan* were exceeded two- to three-fold. Yet the success of the Yading Tianjie development in Jinzhuzhen appears questionable. The Holyland Corporation's grand designs for Riwa are on hold. Many of the Han-Tibetan hotels and inns are unlikely to be profitable. Four factors help explain these difficulties.

First, the extreme seasonality of Yading tourism complicates development. In October, a potential investor observes a booming region, and in other months either modest tourism activities or a deserted county. Attempts that could smooth the extreme cyclicity around the 1 October and 1 May weekends, such as Holyland's promotion of an "International Tourism Small Village" with spa and conference hotels seem to have gone nowhere.

Riwa is located in a deep, narrow valley with no attraction other than Yading. The monsoon brings rain for most of the summer, from late May to early September, i.e., during prime travel season, rendering Yading no different from any other mountain valley in rain and mist. Snowfall may block roads any time of the year as far away as the first pass after Kangding, at around 4400m, 400km away. The Daocheng-Yading Airport is notoriously unreliable as planes don't land in adverse weather conditions and flight delays are measured in days.<sup>67</sup> Then there is the 2-hour drive between the airport and Riwa. Taken together, that does not make for a romantic weekend get-away. Consequently, the take-up of the holiday homes in the Holyland Hotel appears to have been limited, and the completed Yading Tianjie development dropped the originally planned holiday homes.

Second, the rapid increase in tourist numbers after 2013 seems to have triggered a certain exuberance and herd behavior, leading to numerous unfinished hotel shells. The exuberance extended right into the Daocheng County government. Han officials set up their own hotels or inns. Tibetan officials imitated and at least in one instance were left with no taker for the hotel shell and difficulty repaying the bank loan that had funded its construction.

Third, development of Jinzhuzhen is severely hampered by its altitude of 3,750m (higher than Lhasa 拉萨) and its distance to Yading. The issue of altitude is widely underestimated, and underemphasized by the local administration.<sup>68</sup> In 2016, at least one tourist died from altitude sickness.<sup>69</sup> Oxygen bottles and Chinese medicine against altitude sickness are widely available, and most hotels offer oxygen-dispensing machines for rent or have oxygen pumps integrated into room ceilings. Yet it remains a fact that short-term tourists are handicapped.<sup>70</sup>

Travel from Jinzhuzhen to Yading involves a 90-minute (81km) one-way drive in the morning as well as in the evening after an exhausting day in the nature reserve—which itself involves a 1-hour one-way bus ride—at times when the road, furthermore, likely is busy, and in the dark particularly unsafe. Not astonishingly, the over-supply of hotel rooms is most severe in Jinzhuzhen, which accounts for half of all available rooms in Daocheng County and also has the highest absolute and relative number of unfinished rooms, an additional almost 50% of Jinzhuzhen's existing capacity. Once the roads connecting Riwa to Northwest Yunnan are in place, Jinzhuzhen can be bypassed altogether. A common perception among Jinzhuzhen residents is that many of the hotel shells may not be completed any time soon.

Fourth, tourism development in Daocheng County is the government's prerogative. The *Master Plan* (2010-2015) was not a public document, nor is the new *2015 Master Plan* (2015-2030). This leaves private actors with a high degree of uncertainty. It also implies a

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<sup>67</sup> See Appendix 4 on Daocheng-Yading Airport.

<sup>68</sup> Jinzhuzhen's altitude is significantly higher than the 2,400m around which altitude sickness sets in. See [https://en.wikipedia.org/wiki/Altitude\\_sickness](https://en.wikipedia.org/wiki/Altitude_sickness), accessed 15 November 2017.

<sup>69</sup> This was confirmed by multiple sources, but I had difficulty obtaining a figure for the number of deaths ("just" one?) and any further details. Across interviewees, this was a taboo subject.

<sup>70</sup> Incapacitated tourists are also not enticed by dysfunctional water-powered prayer wheels in a litter-filled creek, an architecturally stunning "activities center" without activities, a park at the edge of Jinzhuzhen, or even the Rubuchaka hot springs 3km outside town (not designed for large numbers of tourists). Tourist buses may stop at a second park outside town to view the autumn foliage or at the large stupa at the entrance of town.

two-tier system where those privy to government information enjoy advantages. As the first *Master Plan* explicitly stated, the county economy is to move ahead by leaps and bounds “thanks to the government’s lead” (主导), and, one may add, under full government (or: Party) control.

Lijiang in Yunnan Province is often cited as a model for tourism development in Daocheng County, but Lijiang is not a valid precedent for Daocheng County: Its altitude is only 2400m (7,874 feet); it is situated on a *national* highway to the Tibet Autonomous Region; and it has a first-comer advantage with a long-established and much larger tourist infrastructure.

## E. Development Outcomes

What are the consequences of Daocheng County’s tourism development for income and employment? And what are the broader effects on society?

### 1. Aggregate income

In 2015, tourism income of Daocheng County was CNY 1.6968bn, three times the official value of Daocheng County’s GDP (CNY 597.52mio, Table 6), up from 0.3 times in 2013.<sup>71</sup> It was also 38 times official value-added in hotels and catering, 768 times value-added in transport, and 100 times value-added in trade.<sup>72</sup> That is not plausible.

[Table 6 about here]

The official tourism income figure divided by the official visitor number yields a value of tourism income per visitor (night) of CNY 990 in 2015, identical across months as well as across counties (except one) in Ganzi Prefecture. I.e., CNY 990 must be an assumed value. Visitor numbers are relatively straightforward to compile, for example via hotel logs of overnight stays and Yading tickets sold. Tourism income then is the product of a (realistic) number of visitors and an assumed—and plausible—value of tourism income per visitor.<sup>73</sup>

The official tourism income figure raises questions about the quality of Daocheng County’s official GDP and sectoral value-added data. While the 2013 ratio of tourism income to GDP (of 0.3) is credible, by 2015 Daocheng County’s official GDP value appears to miss out on the effects of the sudden tourist boom. This may be intentional, such as to project the image of a poor county in need of outside help. There could also be practical reasons: Economic activities organized by non-locals may not be reported to the local statistics office, and the statistics office may then not have the capacity to compile accurate GDP data.<sup>74</sup> (This also implies that much of Daocheng County’s economy is controlled by non-locals.)

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<sup>71</sup> The *Ganzi Statistical Yearbook* reports tourism income of Daocheng County (implicitly: excluding Yading) as CNY 1.10149bn, and that of Yading as CNY 595.31mio.

<sup>72</sup> For the coverage of tourism income (hotels and catering, transport, and, to a limited extent, trade), see Appendix 11.

<sup>73</sup> For detailed considerations, see Appendix 11.

<sup>74</sup> In the case of Tianjin (天津), its GDP estimate was revised downwards in January 2018 in order to “remove the activity of thousands of companies that registered locally to enjoy tax breaks but whose business activities took place elsewhere” (*Financial Times*, 11 April 2018, “China Red-Tape Cuts Prompt Surge in Business Registrations.”) The local statistics office likely is under-staffed, and staff may not be particularly qualified. While non-locals (supposedly) pay local business taxes, the tax authority and the statistics office may not communicate.

## 2. Employment

Daocheng County's employment data are incomplete. The population data allow a first estimate of total employment before moving on to the available formal sector employment statistics and then alternative estimates of employment.

Daocheng County's permanent resident population in 2015 was 32,709 persons (Table 7). Applying the 2015 nationwide ratio of employment to population (of 56.3%) to the Daocheng County permanent resident population yields 18,415 employees.<sup>75</sup> Alternatively, Daocheng County's registered household population was 31,643 (public security bureau record), 3% fewer. The latter figure comes with a breakdown into four age categories. Applying nationwide age-specific labor force participation rates to the population by age yields 16,457 employees (52.0%).<sup>76</sup>

In contrast to the thus estimated 16,457 to 18,415 employees, the official employment statistics report only 3,880 employees in 100 work units (单位); 219 of these employees are employees of private units (Table 8). Since these statistics report only 8 employees in agriculture they must exclude the rural (agricultural) population that accounts for 87% of Daocheng County's registered household population (Table 7). Together with the employment figures derived in the previous paragraph, this suggests 12,577 or 14,535 agricultural laborers, accounting for 76% or 79% of employment.

[Table 7 and Table 8 about here]

Almost half of the 3,661 official employees in non-private units work in public administration (46%), followed by education (15%), transportation (12%) and health (5%). I.e., more than three-quarters of non-private formal employment is in public goods sectors.<sup>77</sup>

Of the total of 3,880 employees (Table 8), only 287 work in hotels and catering, 441 in transport, and 25 in trade. That does not match reality. Dividing a room estimate for Daocheng County in 2015 of 8,936 rooms by the nationwide number of rooms per engaged person in above-designated size legal unit hotels (1.76, Table 6) suggests 5,077 employees in the *hotel* industry in Daocheng County.<sup>78</sup> The nationwide share of *hotel* employees in the number of engaged persons in 'hotels and catering' (0.46, Table 6) implies 5,960 employees in *catering* in Daocheng County. Employment in hotels and catering together then is 11,037.<sup>79</sup> Since not all establishments of accommodation in Daocheng County are "above-designated size legal unit hotels"—some are below-designated size establishments or sole proprietorships, which employ fewer staff per room—one may want to lower this employment estimate from 11,037 by perhaps one-third, to 7,500.

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<sup>75</sup> For the national ratio see the employment and population data in the NBS database, accessed 2 March 2018.

<sup>76</sup> Employment was calculated by applying the national age-specific employment shares—obtained from the data of the long-form questionnaire in the *Population Census 2010*, after aggregation across age cohorts to match the age groups for which Daocheng County population data are available—to the Daocheng County population data. (Daocheng County's age group 18-35 was assumed to cover ages 18-34 as the subsequent Daocheng County age group is 35-60. With the youngest age group in the Daocheng County population statistics being the age group "younger than 18", Daocheng County's population age 16 and 17 was assumed to be in the same proportion to the age group 18-34 as nationwide.)

<sup>77</sup> For further details on formal employment, see Appendix 12.

<sup>78</sup> The room number is obtained by dividing the reported number of 21,000 hotel beds (*Sichuan Yearbook 2016*, entry on Daocheng County) by the *Master Plan's* estimated number of beds per room of 2.35.

<sup>79</sup> An international standard of employment per hotel room yields a similar number for hotel employment; see Appendix 11.

The employment calculations so far covered only hotels and catering. Approximations for transport and trade suggest an additional 3,250 and 2,500 employees.<sup>80</sup> A rough estimate of tourism-related employment in hotels and catering, transport, and trade then is 13,250.<sup>81</sup>

In the official statistics, employment in the construction sector in Daocheng County is zero, as it is in several other sectors, suggesting data compilation or definitional issues (such as construction workers not being considered formal employees). In contrast, official construction value-added is non-zero. A guesstimate of construction employment is 1,500.

Total employment in Daocheng County then is around 31,500 laborers. It comprises:

- agriculture: 13,500 (as an approximate mean of two estimates);
- tourism (hotels and catering, transport, one-third of trade): approximately 13,250;
- construction: approximately 1,500; and
- all other, formal non-agricultural employment: approximately 3,137 (the official figure of 3,880 less 287 in hotels and catering, 431 in transportation, 17 in trade, and 8 in agriculture), likely an underestimate of employment in the remaining sectors.

These employment figures also have implications for the population values: a derived grand total of 18,000 non-agricultural employees compares to an official figure of 4,265 persons (of all ages) in non-agricultural households or to 7,739 urban residents (Table 7). I.e., a large number of employees—on the order of 14,000 (18,000 less 3,872 non-agricultural formal employees)—and their non-working family members are neither considered residents nor registered households (at the public security bureau).<sup>82</sup> Non-locals dominate the urban population as well as the non-agricultural labor force on the order of 3- to 4-fold.

### 3. Household income

The official household income statistics paint a bleak picture (Table 9). Per capita GDP in Daocheng County in 2015 of CNY 18,442 per person is one-third the nationwide average of CNY 50,251. Average household income (可支配收入) per person in 2015 of CNY 12,735 is just above half the nationwide figure and comes with a more than three-fold discrepancy between urban and rural household incomes.<sup>83</sup>

[Table 9 about here]

The official *urban household* per capita income of CNY 26,030 matches the remuneration of formal *employees* (CNY 64,293, Table 8) after considering that half the urban residents may not be formally employed or out of the labor force, and that some labor remuneration reflects income taxes and other non-disposable income. Aggregate labor remuneration in administrative units and government departments in Daocheng County in 2015 amounted to

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<sup>80</sup> For the derivations see Appendix 12.

<sup>81</sup> Alternative approaches to calculating employment in tourism include an approach based on tourism income (Appendix 11), which suggests tourism-related employment across Daocheng County of 10,000-16,000 persons.

<sup>82</sup> Many Han workers return to their place of origin when tourism shuts down from late November / December until mid-March. Any survey-based population count, as the permanent resident count likely is, could be done late in the year, although the Han workers would not have missed the 2010 population census with its 1 November 2010 data collection date.

<sup>83</sup> Rural household income presumably reflects official imputations of the value of self-produced self-consumed agricultural products since agriculture is predominantly subsistence agriculture. Almost all urban household income is wage income (88%, Table 9). Only 5% of income is from entrepreneurial activities (operating income). Another 5% is property income. Transfer income accounts for the remaining (only) 2%, indicating that there is no Tibetan contingent of workers outside Daocheng County remitting income back home.

32% of official GDP, three times the share of the public sector wage bill in OECD countries (10%, 2000-2013 average) and much higher than the typically below 10% share in developing economies.<sup>84</sup>

The official household income statistics provide only a partial picture. In all likelihood, these income statistics miss out on several sources of income:

- Matsutake and Caterpillar mushroom harvests. For individual households, income from mushroom harvesting can run into several tens of thousands of *renminbi*.
- Bartered labor. Building a home is a household activity and typically involves two dozen neighbors and relatives on a work exchange basis.
- Informal labor.
- Rural land leases.

Altogether, these unreported household income sources are likely to raise official household income by about 70%, to the nationwide average.<sup>85</sup> (For the estimates see Table 9, with the underlying assumptions listed beneath the table.)

One may want to further consider the fiscal in-transfers, reflecting the extraordinary public goods provision relative to local income levels, from education to health care and various government services. These fiscal in-transfers imply a subsidy for every Daocheng County resident equivalent to two and half times official average household income.<sup>86</sup> Summing official per capita household income, the estimated unreported household income, plus the fiscal in-transfers yields a per capita income value of CNY 54,502, two and a half times the nationwide average value.

#### 4. Socio-economic outcomes

With Daocheng County's actual GDP on the order of three times the official value and household income probably almost twice as high as officially reported, Daocheng County is not an obvious poverty case. However, the income distribution is highly unequal.

Labor remuneration (per employee) in the formal urban economy is more than seven times larger than per capita income in rural areas where three-quarters of Daocheng County's official population lives off subsistence agriculture. Within the formal urban economy, labor remuneration is twice as high in the public sector as in the private sector (Table 8). In the largely unrecorded tourism economy, with employment four times larger than in the formal economy, average labor remuneration may be up to twice that of public sector employees.<sup>87</sup> To the extent that tourism income is earned by non-locals, these numbers show the income gap between locals and non-locals (where the official income figures for the "locals" would be even lower if they didn't include numerous high-income Han public sector workers).

I.e., the benefits of economic development in Daocheng County vary greatly. An obvious beneficiary are the numerous Han in mostly the tourism industry but also in government. Han manage all the larger hotels. Well-paid positions are advertised in Chengdu and other big cities around the country. For Han, in interviews, it was the money that first drew them to

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<sup>84</sup> For the international comparison, see the *Financial Times* of 6 March 2018 (p. 9) "FT Big Read. Middle East."

<sup>85</sup> The production and informal sale of local "special products" may yield yet additional income; see Appendix 13.

<sup>86</sup> This doesn't yet consider the significant implicit in-transfers for road and airport construction and maintenance.

<sup>87</sup> Attributing all tourism income to the approximately 13,250 tourism-related employees implies CNY 128,075 per employee.



Daocheng County. Once they had arrived, the open space, the clean air and the bright sky supposedly kept them there.<sup>88</sup>

Han run on the order of 90% of the restaurants in Jinzhuzhen and in Riwa. The bus drivers from the airport into Jinzhuzhen are Han and the bus drivers at Yading are Han. Virtually all shops in Riwa's Shambala Tianjie are run by Han. Even a shop producing and selling what is presented as Tibetan barley snacks is exclusively run by Han.<sup>89</sup> The performers in the daily evening performance at the new Daocheng Yading Performing Arts Center in Riwa are all non-local and appear majority Han.

Music blaring out of restaurants is Han music. Local schooling is in Mandarin and the younger generation of Tibetans communicates in Mandarin. Tibetan is not taught at school. None of the available TV channels is in Tibetan. Tibetan dress has mostly disappeared from Jinzhuzhen and Riwa, especially among men. Tibetans who prominently dress in traditional Tibetan fashion tend to do so as employees of the tourism industry.

Many Tibetans remain on the cusp of divorcing from subsistence agriculture but have no reliable alternative source of income. Few stable jobs are available for Tibetans. At times, temporary odd jobs with the government become available for purposes ranging from afforestation to basic road construction and repair. Tibetans complain that they are paid only one-third to one-half of what their Han counterparts are being paid. The Han side insists there is no discrimination in remuneration and the Tibetans are only one-third to one-half as productive as Han workers.

During the high season, room cleaning in low-quality inns or dishwashing in restaurants may be an option for Tibetans. Many Tibetan men offer private transport services but only a minority manages to land a trip on any given day. Some open their own shops. A very few Tibetans make it into the otherwise Han ranks of the administration.

In a typical example from Jinzhuzhen, the husband provides transport services while the wife washes dishes in a restaurant at night. Their grandchildren live with them to attend school in Jinzhuzhen; their son (the father of the grandchildren) has no stable employment and roams Jinzhuzhen while his wife runs the family farm 100km away.

Where Tibetans develop initiative, they may gradually be pushed aside. Dozens of Tibetan hawkers of jewelry used to spread their wares on blankets on the ground at the end of the road into Yading. By October 2017 they had vanished. Signs at the Visitor Center warned against buying from hawkers. Similarly, the old Visitor Center at the lower end of Rencun Village and in use through September 2017 was surrounded by Tibetan stalls selling everything from oxygen bottles to raincoats and jewelry. The expansive new Visitor Center has no such stalls but an integrated shop staffed by Han. In and around the Golden Week in October, police strictly enforce a prohibition of all Tibetan transport services; the Holyland Corporation and outside bus companies then run transport services from Riwa to Jinzhuzhen and beyond.

Tibetan dress-making and handicraft shops (run by Tibetans) are concentrated in an unremarkable side street of Jinzhuzhen (Bowa Street 波瓦街 South of Yading Road 亚丁路) that tourists rarely enter.<sup>90</sup> The customers are Tibetans. In contrast, the center of Jinzhuzhen is dominated by Han-style supermarkets, clothing shops, telecom outlets, and restaurants, predominantly run by Han.<sup>91</sup>

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<sup>88</sup> Many of the first Han immigrants came as woodworkers, typically from the Ya'an (雅安) region halfway between Chengdu and Kangding, providing carpenter services for Tibetans building or renovating houses. They stayed, diversified, and brought relatives and friends.

<sup>89</sup> The shop is quite a striking sight with its signs about local Tibetan specialties, and then four Han workers preparing and marketing traditional Tibetan snacks. Not that the solely Han tourists seemed to care, or perhaps even notice.

<sup>90</sup> In October 2017, the street included one shop with Buddhist paintings where one could observe the painter at work.

<sup>91</sup> It is not that Tibetans could not rent a shop in the new Yading Tianjie commercial development; they simply haven't.

Tibetans may be employed out of political correctness. The Yading Tianjie sales office staff emphasized that they hired one Tibetan girl—with a high school education through 12<sup>th</sup> grade obtained in a Han area of Sichuan—for just that reason. Some Tibetans are needed for a minimum degree of authenticity in “cultural” displays.<sup>92</sup>

One set of jobs is explicitly reserved for Tibetans: the operation of the electric carts within Yading that optionally carry visitors to the Luorong cattle station (today a concrete platform), approximately 7km up the valley from the end of the road. These electric carts are operated by Tibetan men (though the ticket sellers are young Han women), a compromise following a conflict between Tibetans offering horse rides up the valley and the Chinese administration wishing to switch to electric vehicles for stated (and plausible) environmental reasons. Horse rides from the Luorong cattle station onwards towards Milk Lake are also exclusively provided by Tibetans (under Yading administration’s control).<sup>93</sup>

Rural land ownership is limited to Tibetans. At first sight letting this land to a Han entrepreneur may appear a good deal for Tibetans, but it comes with the loss of whatever agriculture occurred on the plot, typically no alternative job, and rental income that is fixed in nominal terms. At a 5% inflation rate, after twenty years the purchasing power of that nominal rental income is little more than one-third of what it was in the first year.

One group of Tibetans, those that have aligned themselves with the Han system, also benefit. For example, the former commune leader of Riwa owns several buildings in the center of Riwa that are now rented out to Han to operate as inns; the former commune accountant as of October 2017 had just put up a large concrete shell for a hotel development in Riwa; the Tibetan head of a township owns a hotel shell in Jinzhuzhen.

There is no apparent Tibetan animosity towards Han in Daocheng County. Tibetan integration into Han society is facilitated by a particular historical twist. Daocheng County follows the Kagyu Buddhist tradition. Differences between the Kagyu tradition and the Dalai Lama’s Gelugpa tradition go back centuries and included armed conflict. Tibetans across Daocheng County tend to view the Dalai Lama as an enemy. At the same time, Daocheng County appears singularly devoid of any monastic authority, in contrast to other counties in West Sichuan. There is no temple or monastery in the Han-created administrative center of Jinzhuzhen. Those in the vicinity (the closest one being approximately 10km away) are small affairs and are reportedly in conflict with each other.

Among urban Tibetans in Daocheng County, religion plays little role.<sup>94</sup> The apartment of a Tibetan family in Jinzhuzhen lacks all religious paraphernalia. On the wall is a poster of Mao Zedong, including, in its four corners, portraits of Deng Xiaoping, Jiang Zemin, Hu Jintao, and Xi Jinping.<sup>95</sup> The place in the living room that one would expect to be occupied by an altar is taken up by empty Coke bottles and full Maotai bottles. The non-descript Chinese apartment blocks in Jinzhuzhen are viewed as modern and are coveted, with the mixed Han-Tibetan occupancy not an (apparent) issue.

Urban Tibetans want their children to fit into Han society and look favorably upon the Han schooling system. But with a junior middle school education (through grade 9) being the highest schooling available in Daocheng County, it is hard to compete with Han immigrants. There is also no institution in Daocheng County that teaches practical or professional skills.<sup>96</sup>

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<sup>92</sup> The three female and three male Tibetans who perfunctorily perform a circle dance around a camp fire imitation in the commercial Yading Tianjie in Jinzhuzhen during some evenings of the peak season gather wary smiles from the few onlookers, perhaps for the realism of their tired-looking performance.

<sup>93</sup> Rubbish removal and path maintenance within Yading also appear to be exclusively delegated to Tibetans, albeit under the direction of a Han administrator. The construction of new elevated steel walkways is done by Han.

<sup>94</sup> There is also no such rule as the second son of each family joining the monastic order.

<sup>95</sup> Chinese Communist Party flags adorn numerous Tibetan farm houses in the countryside along the road from Jinzhuzhen to Riwa.

<sup>96</sup> There is a small Party cadre school, which, however, seems a rather abandoned affair.

Some Tibetan families in Jinzhuzhen send their children to relatives in other parts of the PRC for more or better schooling, and the school system itself includes a transfer mechanism for local children to attend school in other parts of the PRC.

The dominance of the Han order does not mean that all traditional Tibetan practices have disappeared. A Tibetan driver of an informal collective taxi on every trip between Riwa and Jinzhuzhen stops at Gonggalang Jiling Temple and disappears through a backdoor to where a limited monastic world operates with sounds and smells. (Tourists, in the rare instance that they stop, enter through the front gate to view a glamorous, empty congregation hall.) Tibetans also circumambulate one of the three holy Yading mountains, away from the tourist crowds, in a long day hike, or even prostrate themselves in a month-long journey around the mountain. Those reluctant or unable to do the pilgrimage on foot may drive around the Yading massif once a year, a journey of approximately 200km (125 miles). Some Tibetan marriages still do not involve a Han legal marriage. Whatever traditional practices there are tend to operate in a world separate from that of the Han administration and the tourists.

## F. Conclusions

The experience of Daocheng County offers itself to differing interpretations. One interpretation is that of a state-guided, benevolent economic development process that raises living standards in a backward region to the nationwide level if not above. The state provides extensive public services from education to health care. In order to develop the—in comparison to agriculture—high-productivity tourism industry, the state put in place a complete set of infrastructure. It attracted large-scale outside private investment (the Holyland Corporation) and capitalized on the *duikou* mechanism. The state administers Yading and turned it into a AAAA national scenic area.

Tourism development came with numerous linkage effects. Thus, tourism development not only directly affected the sectors construction, hotels and catering, transportation, and trade, but indirectly promoted the development of business services—washing and pressing of bed linens for hotels, servicing of motor vehicles, courier services, the provision of oxygen, or sterilization of plates for restaurants<sup>97</sup>—and telecommunications. A complete ecosystem centered on tourism has been established.

Gerschenkron (1960, p. 9) noted a particular difficulty in the development of a backward region:

“But the overriding fact to consider is that industrial [Daocheng County: service sector] labor, in the sense of a stable, reliable, and disciplined group that has cut the umbilical cord connecting it with the land and has become suitable for utilization in factories, is not abundant but extremely scarce in a backward country. Creation of an industrial labor force that really deserves its name is a most difficult and protracted process.”

The majority of Tibetans has until today not cut the umbilical cord connecting it with the land. The solution has been an influx of Han industrial labor to drive economic development by providing the missing ingredient of industrial labor and entrepreneurship, as well as capital. A gradual trickle-down effect to the original, local Tibetan population takes time.

An alternative development model focused on Tibetans would likely not have been as successful. A focus on Tibetans would probably have meant a focus on agriculture.

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<sup>97</sup> In many restaurants, the customer is presented with a plate, bowl, teacup, chopsticks and spoon sealed in plastic wrapping. Used dishes are picked up by an outside service that cleans and returns them in sealed plastic packages.

Matsutake and Caterpillar mushrooms, while potentially yielding high incomes, can only be collected in the same labor-intensive, low-productivity fashion as they have always been. A Yak-based industry could run counter to environmental policies.

The state has been exceptionally accommodating of Tibetan backwardness. The state creates job opportunities for Tibetans and ensures employment for Tibetan men in Yading. It allows rural land—protected in Tibetan ownership—to be turned to profitable uses. Unlicensed, informal Tibetan transport providers are tolerated despite the existence of licensed taxis (operated mostly by Han). And it dispatches Tibetan children to schools around the country.

Daocheng County's tourism development model came with the standard, potential shortcomings of the PRC economic development model: Tourism development is government-driven and government-dependent, from the provision of infrastructure to building permits. Development plans are not made public and the government and its officials are not accountable to the public for their arrangements. The outcomes include over-investment, income inequality, and a dependence on just one industry (tourism). Whether that one industry can lead to sustainable economic development remains to be seen.<sup>98</sup> Both the Holyland Corporation and the Yading Tianjie *duikou* development may only barely be profitable, if at all. Local fiscal revenues depend precariously on fiscal in-transfers while the relatively small contribution of local fiscal revenues depends almost entirely on sales-based taxes and land transfer income, both heavily dependent on tourism.

A severe handicap is the acute seasonality of Yading tourism as well as the altitude and climate, with their impact on human well-being and highly unreliable access to the region. Given the costs to the government, the tourism model might not pass a cost-benefit analysis based on economic factors, though presumably one based on military and political factors.

An alternative interpretation of Daocheng County's development process is the systematic construction of a Tibetan Disneyland, created by Han for Han. In the Disneyland interpretation, the locals—dirty, uncivilized peasants—are really quite irrelevant, even irritating with their lax work habits and shabby looks. The next Tibetan generation is subjected to nine years of mandatory Han adaptation which will allow it to later contribute authenticity to the Tibetan Disneyland. An efficient Han machinery involving the Han government and private Han entrepreneurs (from the Holyland Corporation to private Han hoteliers and far away travel companies) develops a world-class tourist attraction banking on tourists' fascination with a foreign fairy tale located in the PRC (Shangri-La) and with mystic Tibet.<sup>99</sup>

Government regulations ensure uniform faux Tibetan style building facades hiding standard concrete structures. Design studios in Beijing and Shanghai are entrusted with details down to the uniform signboards for shops.<sup>100</sup> Yading Tianjie embellishes its faux Tibetan buildings with Tibetan paintings and large prayer wheels.<sup>101</sup> A Han private entrepreneur builds his version of a Tibetan stone palace (hotel) in Rencun Village, complete

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<sup>98</sup> The dangers of reliance on one industry have been noted in other cases. For example, Gillette (2016) examines the development of Jingdezhen's porcelain industry (Jingdezhen's one major industry).

<sup>99</sup> Ironically, Shangri-La refers to a monastic place (a lamasery) rather than a Tibetan Disneyland of mass tourism and mass consumption, and the key feature of the fictional Shangri-La is longevity rather than a shortness of breath that for some tourists indeed leads to Daocheng County being their last Shangri-La. Similarly, the frequent references to the (non-fictional) Joseph Rock for his 'discovery' of Yading is ironic in its reliance on foreigners to market a tourist attraction within the PRC to Han tourists. It is not that Tibetans have not lived in and around (and thus discovered) Yading centuries before Joseph Rock did, or that Han have not seen Yading well before Joseph Rock did.

<sup>100</sup> A notice of the Daocheng County Housing and Urban Planning and Construction Bureau of 20 March 2017, seen on a wall in Jinzhuzhen on 1 October 2017, stated that the Tongji University Architectural Design Institute and the Tsinghua University Design Institute had been enlisted.

<sup>101</sup> As of October 2017, at least the prayer wheel at the Western entrance had been adopted by some locals, with older Tibetans idling in the vicinity and occasionally spinning it.

with a massive stuffed Yak head over the imperial entrance gate to the bar inside. Jinzhuzhen boasts an architecturally impressive modern-Tibetan (though not in use) “people’s fitness and activities center” (稻城全民健身活动中心).<sup>102</sup> A Han industry sells Tibetan snacks, Tibetan jewelry—the prices suggesting the jewelry was made in a Chinese factory—and Tibetan cultural performances (with Han performers).

The *Master Plan* of the early 2000s (p. 129) warned:

“If the tourism industry is not supported by cultural content, then there is no firm support (后劲) for development. Therefore the Daocheng government, in tapping into the rich local Kangba (康巴) culture, must ensure that the masses are proud of their culture.”<sup>103</sup>

It explicitly warned of potential “Hanization” (汉化) at the expense of the local Kangba culture. The warning either was in vain or served only purposes of political correctness. The real-world outcome is that Han define Tibetan-ness for Han tourists and local Tibetans alike. The imposition of the Han interpretation of another ethnicity’s culture threatens to become the norm for that ethnicity itself, an outcome that the largely uneducated, scattered, and increasingly minority Tibetan community may not even be conscious of.

An element of colonialism can be added to this alternative interpretation. Cypher and Dietz (2009, p. 77) write of colonialism: “The good of the native peoples of the colonies was of little concern to the colonizers, except in so far as they might best serve to the advantage of the colonizer.” In this narrative, the Han machinery is not about creating a sound local economic basis carried by the local population, but about pacification and subordination in order to turn an occupied territory into an inalienable part of the Han empire. Local discontent is appeased by out-numbering the population that matters (the urban population) and by providing financial advantages (such as massive fiscal in-transfers for the provision of public services) and allowing Tibetans to profit from land ownership in tourism-exposed locations. Fiscal in-transfers are probably cheaper than a full-scale military occupation, and the Tibetan Disneyland experience has greater propaganda value with the Han population than pictures of an oppressive military occupation force.

The Han state apparatus has moved in with its full might, particularly noticeable through its omnipresent police force. Police cars cruise the streets of Jinzhuzhen, purportedly to keep the wide, empty roads clear of parked vehicles, but police officers bellowing into loudspeakers several times an hour in every corner of town also send timely reminders of Han domination. A large police van is permanently stationed next to the Jinzhuzhen town square and staffed around the clock. Public security cameras are mounted at every street corner, at regular intervals along the roads outside town, and at the entrances of (and inside) monasteries.

Han immigration has marginalized the Tibetan population. While the official records show the Tibetan population share of Daocheng County in 2015 to have been 96.5%, Han laborers as of 2017 accounted for more than half of all employment in Daocheng County and 90% of non-agricultural employment. The next Tibetan generation is assimilated through the mandatory Han schooling system. Allowing Tibetan elites to play an intermediary role

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<sup>102</sup> It was completed in late 2016 or early 2017, but as of October 2017 was locked and not in use. It resembles a concert hall or performing arts venue that could hold a thousand people. A smaller, second building behind it houses a movie theater with two venues. The movie theater is operational, showing on 1 October 2017 one domestic and one foreign (Jackie Chan) film, but appeared deserted.

<sup>103</sup> The *Master Plan* presents tourism as an opportunity for employment and for strengthening local cultural identity, while expressing concern that the local culture could also be lost, that the local religion will face a severe test, and that a “rubbish” (糟粕) culture will invade the area (listing pornography, gangs, and drugs). The *Master Plan* also lists trash, sewage, noise pollution, the introduction of outside modes of thinking, consumerism, and new cultural and living habits as threats.

between the occupying forces and the Tibetan “masses”—habituated to centuries of serfdom under local elites—legitimizes Han rule and provides models to emulate.

Much can be gained by providing Tibetans with material benefits. Tibetans’ love for roaming the land has found a new outlet in motorized vehicles, first motorcycles and then jeeps. Access to electricity and thereby TV provides a glimpse of a “modern” world that stands in stark contrast to the old, hard way of life. Tibetans now seek medical treatment as far away as Chengdu, the provincial capital, while speaking disparagingly of the quality of healthcare in Jinzhuzhen. Some even display a certain ‘swagger,’ an attitude that this is the Tibetans’ land where the Han are tolerated and their contributions amicably accepted.

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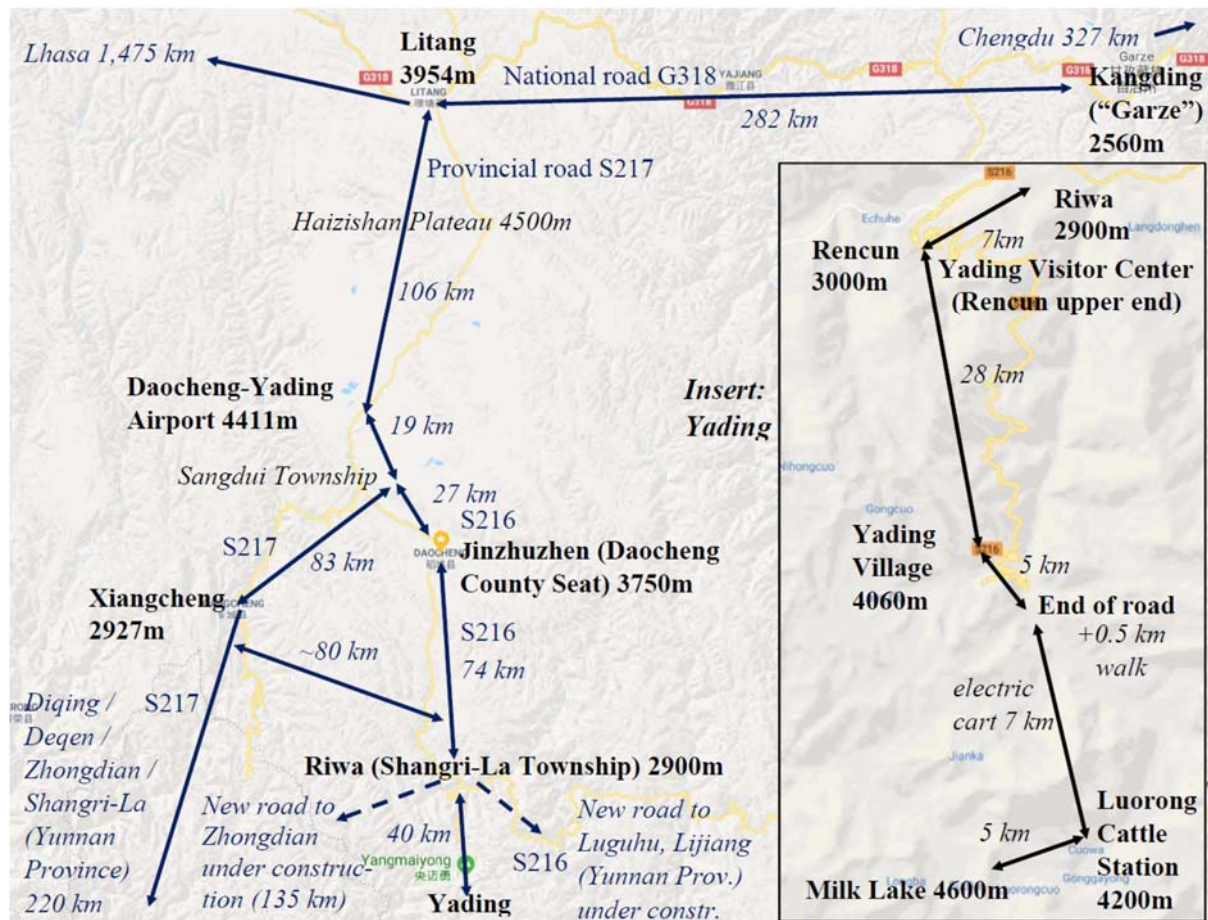
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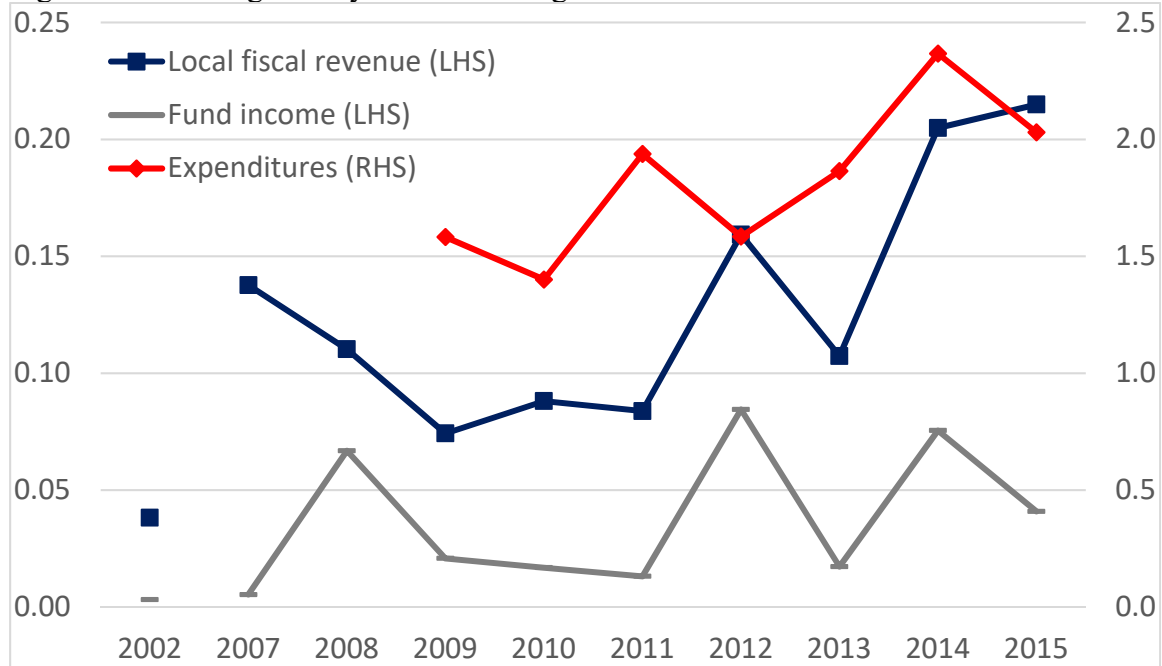
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Figure 1. Daocheng – Yading Location Map



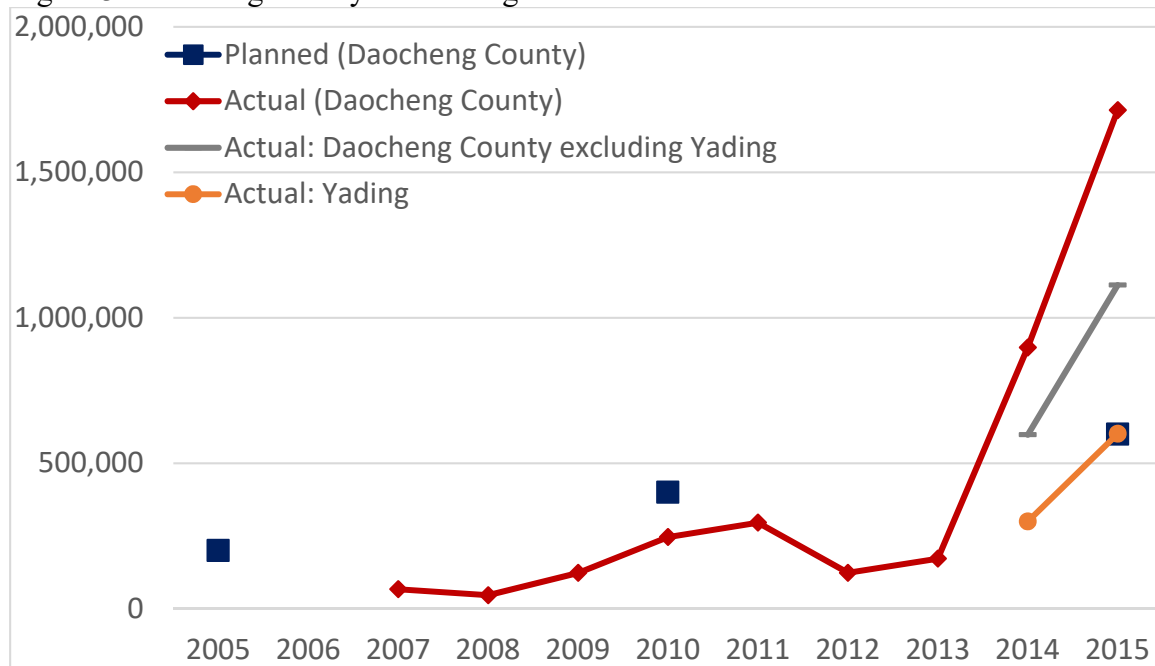
Source: Google Maps, accessed 9 February 2019 (author’s additions). A number followed by “m” refers to meters altitude, and a number followed by “km” to kilometers distance.

Figure 2. Daocheng County Ratios of Budget Measures to GDP



Source: Table 2.

Figure 3. Daocheng County Visitor Nights



Notes:

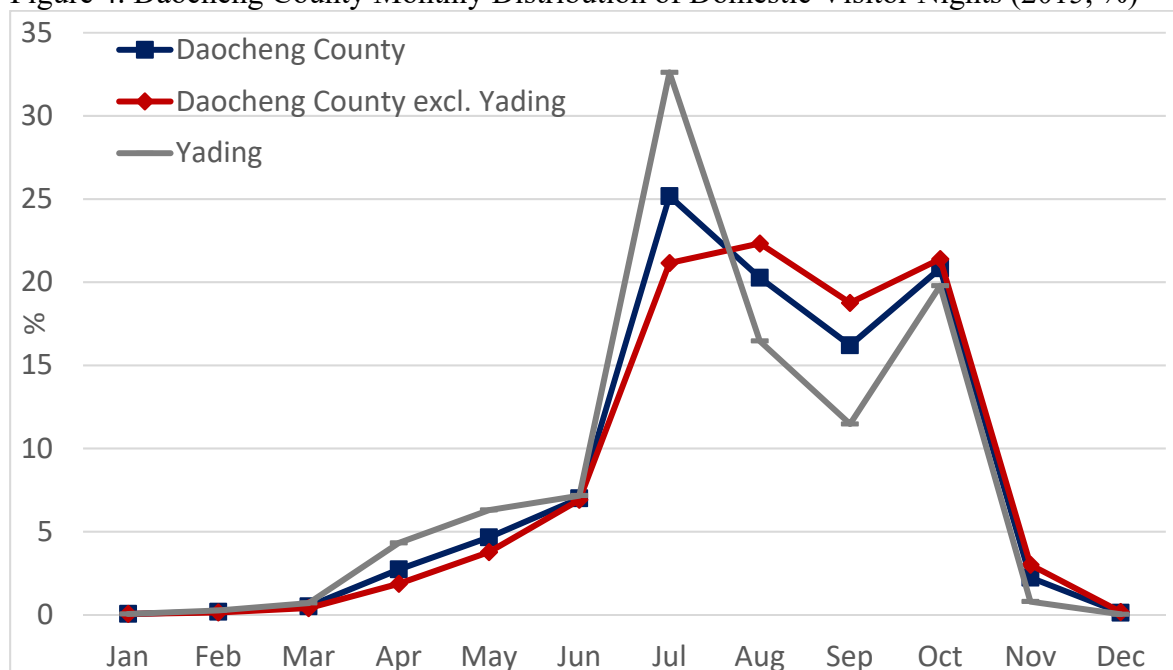
Some tourist numbers appear rounded (in the source), such as those of 2014 with Daocheng County excluding Yading of 598,000 and Yading of 300,000.

Planned visitor numbers are the sum of domestic and foreign visitors. For 2000, these are a planned 10,000 domestic and 200 foreign tourists; for 2005, 180,000 and 20,000; for 2010, 360,000 and 40,000; and for 2015: 520,000 and 80,000 (*Master Plan*, p. 41). The *Master Plan* (p. 41 and 71) equally lists different totals, in 2005, 2010, and 2015 of 250,000, 450,000, and 600,000 visitors.

A breakdown of actual visitor numbers into domestic vs. foreign is available only for 2015.

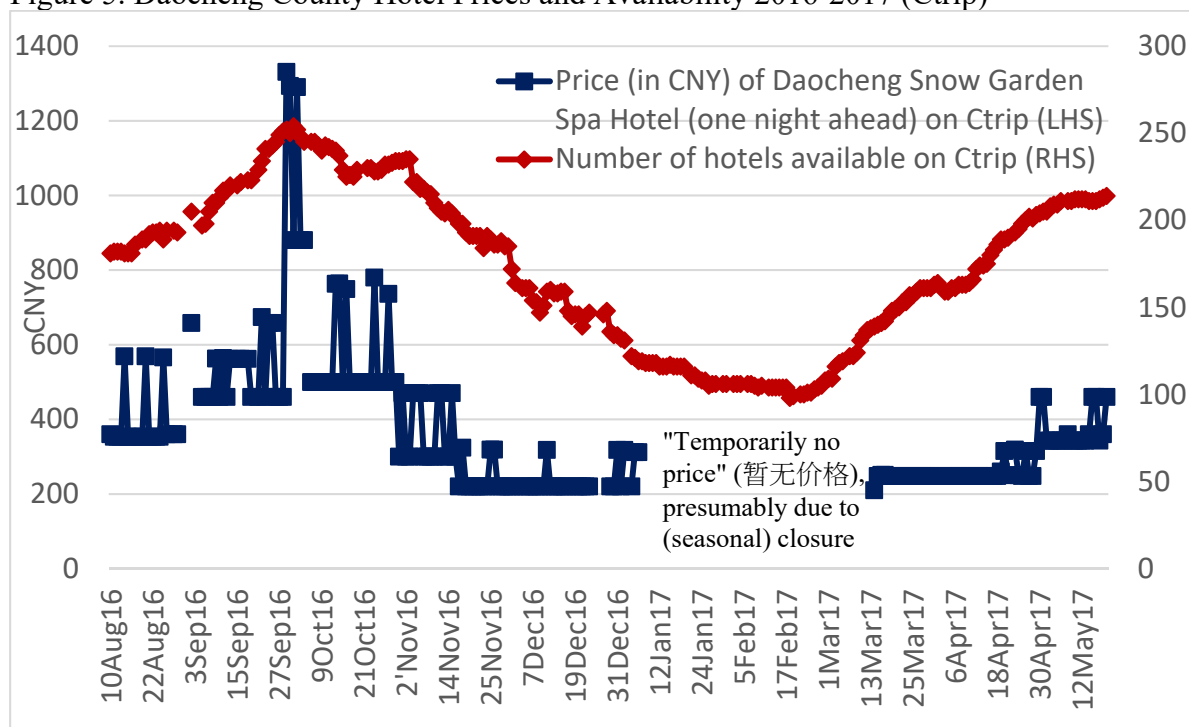
The *Ganzi Statistical Yearbook 2003* does not contain (what would be 2002) tourist numbers. Source: *Ganzi Statistical Yearbook*, various issues; planned numbers from *Master Plan*.

Figure 4. Daocheng County Monthly Distribution of Domestic Visitor Nights (2015, %)



A monthly breakdown of (the few) foreign visitor nights is not available.  
 Source: *Ganzi Statistical Yearbook*, various issues.

Figure 5. Daocheng County Hotel Prices and Availability 2016-2017 (Ctrip)



Notes: Data were obtained by daily checking (i) hotel availability and (ii) the lowest room price for the Daocheng Snow Garden Spa Hotel (稻城雪域花园温泉酒店) for the next day, from 10 August 2016 through 19 May 2017. (On a few random occasions/days, no check was conducted.) The Daocheng Snow Garden Spa Hotel in 2016/2017 was the best hotel in Jinzhuzhen, with a Ctrip rating of 4.5 points/stars.  
 Source: Ctrip, at <http://www.ctrip.com>. (An implausible outlier of 18 December 2016 was removed.)

Table 1. Sector Shares in GDP and Private Sector Shares (%)

	PRC		Daocheng County				
	Shares in GDP			Private economy only			
	2015	2010	2015	2010	2015	2010	2015
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>40</b>	<b>45</b>	<b>40</b>	<b>45</b>
<b>Primary sector</b>	<b>9</b>	<b>35</b>	<b>32</b>	<b>19</b>	<b>21</b>	<b>56</b>	<b>66</b>
<i>of which: agriculture (farming)</i>		<i>15</i>	<i>16</i>				
<i>of which: forestry</i>		<i>4</i>	<i>3</i>				
<i>of which: husbandry</i>		<i>16</i>	<i>13</i>				
<i>of which: fishery</i>		<i>0</i>	<i>0</i>				
<i>of which: agricultural services</i>		<i>0</i>	<i>0</i>				
<b>Secondary sector</b>	<b>41</b>	<b>17</b>	<b>24</b>	<b>6</b>	<b>6</b>	<b>33</b>	<b>27</b>
Industry	34	3	3	1	1	28	36
<i>of which: above-norm</i>			<i>0</i>				
<i>of which: below-norm</i>			<i>3</i>				
Construction	7	14	21	5	5	34	25
<b>Tertiary sector</b>	<b>50</b>	<b>48</b>	<b>44</b>	<b>15</b>	<b>17</b>	<b>32</b>	<b>39</b>
Transport, storage, post	4	0	0	0	0	70	100
Wholesale, retail trade	10	4	3	3	3	75	96
<i>of which: wholesale trade</i>		<i>1</i>	<i>2</i>				
<i>of which: retail trade</i>		<i>3</i>	<i>1</i>				
Hotels and catering	2	8	7	7	7	91	95
<i>of which: hotels</i>		<i>2</i>	<i>2</i>				
<i>of which: catering</i>		<i>6</i>	<i>6</i>				
Financial intermediation	8	4	7		0		0
Real estate	6	3	2	3	2	100	100
For-profit services	(8)	3	6				
<i>of which: information transmission, software and information technology</i>	<i>3</i>	<i>1</i>	<i>1</i>				
<i>of which: other for-profit services</i>		<i>2</i>	<i>5</i>				
Leasing and business services	2		0		0		100
Services to households; repair; other services	2		5		5		100
Culture, sports and entertainment	1		0		0		39
Not-for-profit services	(9)	26	19				
<i>of which: public administration</i>	<i>4</i>	<i>16</i>	<i>8</i>				
<i>of which: other not-for-profit services</i>		<i>11</i>	<i>10</i>				
Management of water conservancy, environment and public facilities	1		0		0		0
Scientific research and technical services	2		1		0		0
Education	4		8		0		5
Health and social services	2		1		0		8

Notes:

For-profit and not-for-profit values at national level are obtained as summed sub-category values to match the Daocheng County classification.

Beginning in 2013, agricultural services no longer count as part of the primary sector (even though they are listed with the primary sector), but as part of the tertiary sector.

The private economy value-added classification's "transport" does not mention storage and post.

The standard sectoral classification system used in some of the underlying statistical tables (with variations), and also used for employment and other variables, is as follows: Agriculture (possibly including agricultural services, which in recent years are included in the tertiary sector) 农林牧渔业, Mining 采矿业, Manufacturing 制造业, Utilities 电力、煤气及水的生产和供应, Construction 建筑业, Transportation, storage and post, 交通运输、仓储和邮政业, Information transmission, computer services, and software industry, 信息传输、计算机服务和软件业, Wholesale and retail trade 批发和零售业, Accommodation and catering 住宿和餐饮业, Finance 金融业, Real estate 房地产业, Leasing and business services 租赁和商务服务业, Scientific research, technical services, and geological prospecting 科学研究、技术服务和地质勘查业, Water conservancy, environment, and public facilities management 水利、环境和公共设施管理业, Household and other services 居民服务和其他服务业, Education 教育, Health, social security, and social welfare 卫生、社会保障和社会福利业, Culture, sports, and entertainment 文化、体育和娱乐业, Public administration and social organizations 公共管理和社会组织.

Sources: *Ganzi Statistical Yearbook 2011, 2016. Statistical Yearbook 2017* (Table 3.6).

Table 2. Daocheng County Fiscal Revenue and Expenditure Shares

	2002	2007	2010	2011	2013	2015
<b>Percentage of local fiscal revenue</b>						
A. Total fiscal revenue			116.5	120.5	116.9	103.5
B. Local fiscal revenue	100.0	100.0	100.0	100.0	100.0	100.0
B.1 General budget revenue: Total	91.7	96.1	80.9	84.3	83.9	81.0
B.1.a. Tax revenue	81.8	20.3	56.5	47.7	68.1	53.0
VAT (value-added tax)		1.2	2.1	2.7	2.9	4.0
Sales tax		13.8	36.7	33.1	51.1	34.5
Corporate income tax		0.0	1.5	3.5	4.4	5.7
Personal income tax		2.0	5.3	2.8	1.4	2.8
Aggregate residual (see note below)		2.9	10.8	5.5	8.4	5.9
B.1.b. Non-tax revenue	9.9	75.8	24.4	36.6	15.8	28.0
Special income		73.8	1.4	1.5	1.8	4.6
Administrative fees and charges		0.6	1.3	1.5	3.6	10.9
Other income		0.0	17.3	30.2	4.7	11.1
Aggregate residual (see note below)		1.3	4.3	3.3	5.7	1.4
B.2 Fund income	8.3	3.9	19.1	15.7	16.1	19.0
<b>Percentage of sum 'general budget expenditure plus fund expenditure'</b>						
C. Total fiscal expenditure			100.0	100.0	100.0	100.3
D. General budget & fund exp. (D1+D2)	100.0	100.0	100.0	100.0	100.0	100.0
D.1. General budget expenditure	99.3	99.2	97.8	98.2	98.7	97.7
General public service		18.4	11.8	10.2	11.4	10.0
Public safety		7.5	7.9	4.3	4.7	4.4
Education		11.4	9.7	9.7	10.9	8.6
Culture, sports, and media		1.8	1.6	1.4	2.5	1.0
Social security and employment		14.0	10.1	7.6	8.3	8.2
Health		5.8	7.6	5.5	7.7	6.2
Energy saving, environmental protection		8.5	9.4	4.6	7.1	2.5
Urban and rural community affairs		1.9	0.7	0.5	6.1	0.7
Agriculture, forestry, and water affairs		6.1	13.8	9.1	13.0	15.1
Transportation		3.0	8.6	23.4	4.6	22.4
Business services etc.		1.1	0.5	7.1	5.1	7.4
Land, marine, and meteorology exp.		0.0	0.3	0.8	1.6	2.6
Housing protection exp.		0.0	6.9	5.9	4.4	2.9
Other expenditure		19.5	7.5	6.9	10.9	5.0
Aggregate residual (see note below)		0.2	1.4	1.0	0.4	0.6
D.2. Fund expenditure	0.7	0.8	2.2	1.8	1.3	2.3
Total expenditure / total revenue (C/A)			13.6	19.2	14.8	9.1
Sum expenditure / local revenue (D/B)	16.3	7.4	15.9	23.1	17.4	9.4
Total fiscal revenue (A) / GDP			0.10	0.10	0.13	0.22
Local fiscal revenue (B) / GDP	0.04	0.14	0.09	0.08	0.11	0.21
Total fiscal expenditure (C) / GDP			1.4	1.9	1.9	2.0
Sum expenditure (D) / GDP	0.6	1.0	1.4	1.9	1.9	2.0

Note: For table with full list of all categories and all years 2007-2015 see Appendix 5.

Categories "Aggregate residual" (with aggregation determined by author for space reasons): B.1.a.

Tax revenue: urban maintenance and construction tax, resource tax, property tax, stamp duty, urban land use tax, land VAT, vehicle and boat tax, farmland use tax, deed tax, "other tax revenue."

B.1.b. Non-tax revenue: penalty revenue, state-owned capital operating income, state-owned resource/asset usage revenue. D.1. General budget expenditure: national defense, science and technology, resource exploration and power etc., financial expenditure, earthquake recovery and reconstruction expenditure, grain and oil material reserve management, debt service.

Source: *Ganzi Statistical Yearbook 2003, 2008, ..., 2016*.

Table 3. Aggregate Expenditures Component Shares (%)

	PRC	Daocheng County				
	2015	2011	2012	2013	2014	2015
Aggregate expenditures	100	100	100	100	100	100
Consumption	52	53	53	53	57	62
Household consumption	38	38	38	38	40	47
#Rural	8	18	18	18	20	22
#Urban	30	20	20	20	20	25
Government consumption	14	15	15	15	18	15
Gross capital formation	45	175	175	175	150	120
Gross fixed capital formation	43	173	173	173	148	118
Inventory investment	2	2	2	2	2	2
Net exports	3	-128	-128	-128	-107	-82
Exports		1	1	2	1	1
Imports		129	129	130	109	84

Sources: *Ganzi Statistical Yearbook 2013* (with values of 2011 and 2012), *2014*, *2015*, *2016*.

Nationwide data are from <http://www.stats.gov.cn>, accessed 2 March 2018. The *Ganzi Statistical Yearbook 2012* reports data for 2010 and 2011 that do not match GDP values and do not link up with the aggregate expenditure values of the later years. Earlier *Ganzi Statistical Yearbook* issues do not report county level aggregate expenditures.



Table 4. Daocheng County Hotel Count

	July 2016		October 2017	
	Existing	Under construction	Existing	Under construction
A: Jinzhuzhen	114	36	123	34
B: Riwa	57	5	67	5
C: Rencun Village	20	31	42	15
D: Yading Village	10	10	10	10
A + B + C	191	72	232	54
B + C + D	87	46	119	30
A + B + C + D	201	82	242	64

Notes:

“Under construction” denotes under construction, or building shell without continuing construction, or building/shell with “for rent” sign.

The various Chinese terms for establishments are, as a rule, translated as follows: hotel = 宾馆, 酒店; inn = 客栈 (with hostels = 旅社 included with inns). When in doubt, I applied the English term that best matched what I saw in front of me.

The values for Yading Village are estimates, with those of October 2017 likely being underestimates. On both occasions, July 2016 and October 2017, I walked every street, path, and dirt road in Jinzhuzhen, Riwa, and Rencun Village and entered in a spreadsheet street name (if available), hotel name, number of stories, and an estimate of the number of rooms as judged by the number of windows that appeared to reflect hotel rooms. For some hotels, I was also able to obtain a room count from a website or local information (which typically confirmed my estimate).

Table 5. Daocheng County Room Count

	July 2016			October 2017		
	Existing		Under construction	Existing		Under construction
	Hotel	Inn/Hostel		Hotel	Inn/Hostel	
A: Jinzhuzhen	3432	578	2435	4199	538	1978
B: Riwa	2344	110	358	2616	210	192
C: Rencun Village	670		1474	1768		738
D: Yading Village		200	200		200	200
A + B + C	6446	688	4267	8583	748	2908
B + C + D	3014	310	2032	4384	410	1130
A + B + C + D	6446	888	4467	8583	948	3108

Notes: See previous table. The classification of establishments of accommodation into hotels vs. inns and hostels is not being maintained for Rencun Village because of the fluid transition between the two categories. An establishment may be called an “inn” but have 50 or more rooms and in every respect resemble a hotel. In July 2016, the majority of establishments would probably qualify as inns. By October 2017 several large (formal) hotels had newly opened. The inns in Yading Village appear slightly further towards the inns’ side of the hotel-inn spectrum.

Table 6. Daocheng County Tourism Income and Value-added (VA)

	2007	2010	2012	2013	2014	2015
<b>Daocheng County tourism incl. Yading (official data)</b>						
Visitor numbers	67,212	246,477	123,600	172,280	898,000	1,713,798
Tourism income (CNY mio)	44	160	84	171	941	1,697
Tourism income / visitor (CNY)	650	650	682	990	1,048	990
<b>Daocheng County GDP (CNY mio) (official data)</b>						
Tertiary sector VA	106	151	206	208	235	264
Transport VA	0.6	0.9	1.1	1.3	1.7	2.2
Hotels and catering VA	19.5	23.4	31.2	33.6	36.5	44.6
Trade	8.5	13.7	16.2	17.4	13.5	17.0
<b>Daocheng County tourism income / GDP</b>						
Tourism income / tertiary sector VA	0.4	1.1	0.4	0.8	4.0	6.4
Tourism income / transport VA	74.0	180.0	75.9	135.4	543.9	767.7
Tourism income / hotels and catering VA	2.2	6.8	2.7	5.1	25.8	38.1
Tourism income / trade VA	5.2	11.7	5.2	9.8	69.5	99.6
<b>Nationwide tourism data: legal person units above-designated size; VA is economy-wide</b>						
(1) Business revenue / engaged persons in hotels and catering (CNY)	108,587	139,011	175,012	176,705	188,497	206,007
(2) Hotels: number of rooms per engaged person		1.07	1.59	1.27	1.62	1.76
(3) Share of hotels in number of engaged persons in 'hotels and catering'	0.51	0.49	0.46	0.46	0.46	0.46
(4) Share of hotels in business revenue of 'hotels and catering'	0.49	0.47	0.44	0.44	0.43	0.43
(5) 'Hotels and catering' VA / business revenue in 'hotels and catering'	1.49	1.29	1.20	1.27	1.37	1.43
<b>Implied Daocheng County values</b>						
(6) Engaged persons obtained as Daocheng County tourism income / (1)	402	1,153	481	965	4,992	8,236
(7) 'Tourism' VA (CNY mio) proxied by: Daocheng County tourism income * (5)	65	206	101	216	1,288	2,422
(8) This Daocheng County 'tourism' VA / Daocheng County official GDP	0.3	0.7	0.2	0.4	2.3	4.1

'VA:' value-added. 'Transport:' transport, storage, and post.

Notes:

Across Ganzi Prefecture in 2015, transport value-added and (wholesale and retail) trade value-added were equivalent to 76.36% and 95.74%, respectively, of value-added in hotels and catering.

Transport value-added accounted for 3.00% of Ganzi Prefecture GDP.

For further definitions and additional values see the notes to the identical Table 13 (covering more years) in Appendix 11. For further discussion of the data presented in the table and for some comparison values also see Appendix 11.

Sources: *Ganzi Statistical Yearbook 2008 through 2016, Statistical Yearbook 2012 and 2016* (tourism-related data), and the NBS database ([www.stats.gov.cn](http://www.stats.gov.cn), for GDP-related data).

Table 7. Daocheng County Population (2015)

<b>Public security bureau record</b>			
	Total	Non-agricultural (非农业人口)	Agricultural (农业人口)
Households	7,134		
Persons	31,643	4,265	27,378
In %:		13.5	86.5
Age <18	25.6		
Age 18-35	26.7		
Age 35-60	36.2		
Age >60	11.5		
<b>Resident population</b>			
	Total	Urban (城镇)	Rural (乡村)
Persons	32,709	7,739	24,970
In %		23.7	76.3

Sources: *Ganzi Statistical Yearbook 2016*.

Table 8. Daocheng County Formal Employment (2015)

	<b>Non-private units</b>				<b>Private units</b>			
	Number of units	Average employ- ment	Labor remuneration (yuan) per employee	Sector share in total em- ployment (%)	(1)	(2)	(3)	(4)
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
<b>Total</b>	84	3,661	66,275	100	16	219	31,164	100.0
Agriculture					2	8	36,500	3.7
Mining					1	9	29,889	4.1
Manufacturing					2	27	17,815	12.3
Utilities	2	70	51,971	2	3	40	33,075	18.3
Construction								
Transportation	2	431	82,889	12				
Information technology								
Trade	2	17	49,824	0	3	8	36,125	3.7
Hotels and catering	4	187	43,043	5	4	100	33,520	45.7
Finance	2	55	78,018	2				
Real estate Leasing								
Science	3	181	16,359	5				
Water conservancy	2	199	37,337	5	1	27	30,333	12.3
Household services								
Education	6	539	71,866	15				
Health	5	254	74,476	7				
Culture	3	31	85,032	1				
Public administration	53	1,697	70,361	46				

Note: "Average employment" denotes average annual employment.

Sources: *Ganzi Statistical Yearbook 2016*.

Table 9. Daocheng County Household Income (2015)

	CNY
<b>Reference: nationwide household (disposable) income per person (可支配收入)</b>	<b>21,966</b>
<b>I. Household income per person (A, B, weighted by permanent resident numbers)</b>	<b>12,735</b>
A. Urban household (城镇住户): disposable income (可支配收入) per person	26,030
Wage income (工资性收入)	88%
Operating income (经营性收入)	5%
Property income (财产性收入)	5%
Transfer income (转移性收入)	2%
B. Rural population (农村居民): disposable income per person	8,615
<b>II. Matsutake harvest<sup>a</sup> per person [permanent resident]</b>	<b>1,000</b>
<b>III. Caterpillar mushroom harvest<sup>b</sup> per person</b>	<b>2,500</b>
<b>IV. Bartered labor<sup>c</sup> (for example, housing construction)</b>	<b>1,250</b>
<b>V. Informal labor<sup>d</sup></b>	<b>2,000</b>
<b>V. Rural land leases<sup>e</sup></b>	<b>2,000</b>
<b>Sum: II + III + IV + V + VI</b>	<b>8,750</b>
<b>Sum: I + II + III + IV + V + VI</b>	<b>21,485</b>
<b>VII. (Total fiscal 'expenditures - revenue') per person</b>	<b>33,017</b>

Notes:

GDP per permanent resident in Daocheng County is CNY 18,442 (nationwide: CNY 50,251).

The total number of residents is 32,709 with 7,739 urban and 24,970 rural residents; also see Table 7.

Values derived in the below calculations are divided by the resident number and then rounded.

a: Assume an annual Matsutake harvest of 200 tons, as projected in the *Master Plan*, with prices of CNY 70 per Chinese pound (500g).

b: Assume 10% of the population (permanent residents) engages in caterpillar mushroom harvesting, and each person harvests 10 caterpillar mushrooms per day over 50 days; caterpillar mushrooms sell for CNY 50 each.

c: Assume 25% of the population engages in bartered labor for 25 days each year at a wage of CNY 200 per day.

d: Assume 10% of the population engages in activities such as long-distance collective taxi services for 200 days of the year with an income of CNY 100 per day. (This could be actual engagement one-third of these days with daily income of CNY 300 when actual engagement occurs, such as in the case of informal collective taxi services, or it could also be 200 days of informal daily labor in a restaurant.)

e: Assume 300 land leases (typically to Han investors / hoteliers), each with an annual rental value of CNY 200,000.

Source of official data: *Ganzi Statistical Yearbook 2016*; nationwide values from the NBS database (<http://www.stats.gov.cn>, accessed 5 April 2018 and 23 February 2019).

## Appendix 1. Field Research in Daocheng County

In order to preserve my independence, I chose not to have a formal affiliation with a mainland Chinese institution, nor any other formal introductions. An affiliation with an institution in mainland China and/or formal introductions would have influenced my research as I would have considered, consciously or unconsciously, the possible consequences for those who supported me.<sup>104</sup> Nor did I want to try to establish trust with officials in order to obtain ‘confidential’ information, all the while betraying them in thoughts and later in writings if I happened to disagree with them.

Three facts also spoke in favor of independent research:

- I am a professor *in China* (at the Hong Kong University of Science & Technology).
- West Sichuan is supposedly not accessible to researchers (let alone to foreigners),<sup>105</sup> presumably due to the sensitive nationality nature of the region.<sup>106</sup>
- In my experience, Chinese officials in interviews tend to offer little more information than what I can gather from published sources.

The majority of interviews were informal—or at least appeared informal to the interviewee—but were typically driven by a set of questions. I didn’t volunteer up front that I was an economics professor engaged in a research project about local economic development. But neither did I hide it. I offered this information, partially or fully, if and as it became relevant. The term *kaocha* (inspection, 考察) turned out to be regarded as a positive term, in particular with no apparent connotation of “foreign spy;” while I was in the field in 2016, a national campaign on awareness of foreign spies unfolded.<sup>107</sup>

Many interviews were random events, typically following my intentional choice of setting and then chatting with anyone willing to talk. For some interviews I pursued a particular person or agency.

Some of the most useful information came from spontaneous interviews, such as when a bored-looking young man, waiting for his car to be washed at a roadside carwash, turns out to work for the prefectural electricity provider, is educated, open-minded, and happy to share what he knows from working in the area for years. When I challenge, an enthusiastic discussion ensues.

Some interviewees were reticent and gave evasive answers,<sup>108</sup> while others seemed to share freely. In the later part of the field research, I made contact with government officials and inevitably felt that I was coercing the host; I typically sensed hesitation and reflection on what he (and it was always a ‘he’) could share. Thus, the official might say something like “the big construction development is still in process” while very little seemed to be happening at the construction site. The rare construction worker on the site, after chatting

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<sup>104</sup> See Holz (2007) on the extent to which the China research community has been “bought.”

<sup>105</sup> Following the PRC’s race-based distinction I am a “foreigner,” even though I am a citizen of Hong Kong, SAR, China.

<sup>106</sup> As I explored my options and contacted academics in Sichuan Province, I was told that the area is closed to researchers and that in 2015 a research team from a university in Sichuan Province had been turned back from Ganzi Prefecture.

<sup>107</sup> Around this time, according to a fellow academic, a foreigner was removed from Jiuzhaigou on suspicion of being a spy.

<sup>108</sup> This is a remote area that has been inaccessible for centuries, and then—since the founding of the PRC—had largely been closed to foreigners. Especially among local Han, I encountered a strong attitude of not sharing information.

with me about topics that interested him (in this particular case: how divorce works abroad), easily volunteers that the developer is in jail because he was caught up in Xi Jinping's anti-corruption campaign and that the project is on hold, with a few workers wrapping up minor work.

All communication was in Mandarin (at least on my part). My limited knowledge of Tibetan turned out to be of no use due to the rather distinct local dialect. Even well-rehearsed Tibetan sentences proved unsuccessful. Everyone I met, or approached, and that included Tibetan peasants and herders, spoke some form of Chinese, often Sichuanese, that was at least semi-comprehensible to me, and my Mandarin seemed comprehensible to every person I talked to. This is not to say there was no language barrier, there was; just as there was a cultural barrier, an intellectual barrier, and a religious barrier. It means that in almost all instances, if I wanted to obtain some information, I was able to find a way to express myself, and a way was found for me to understand the response.

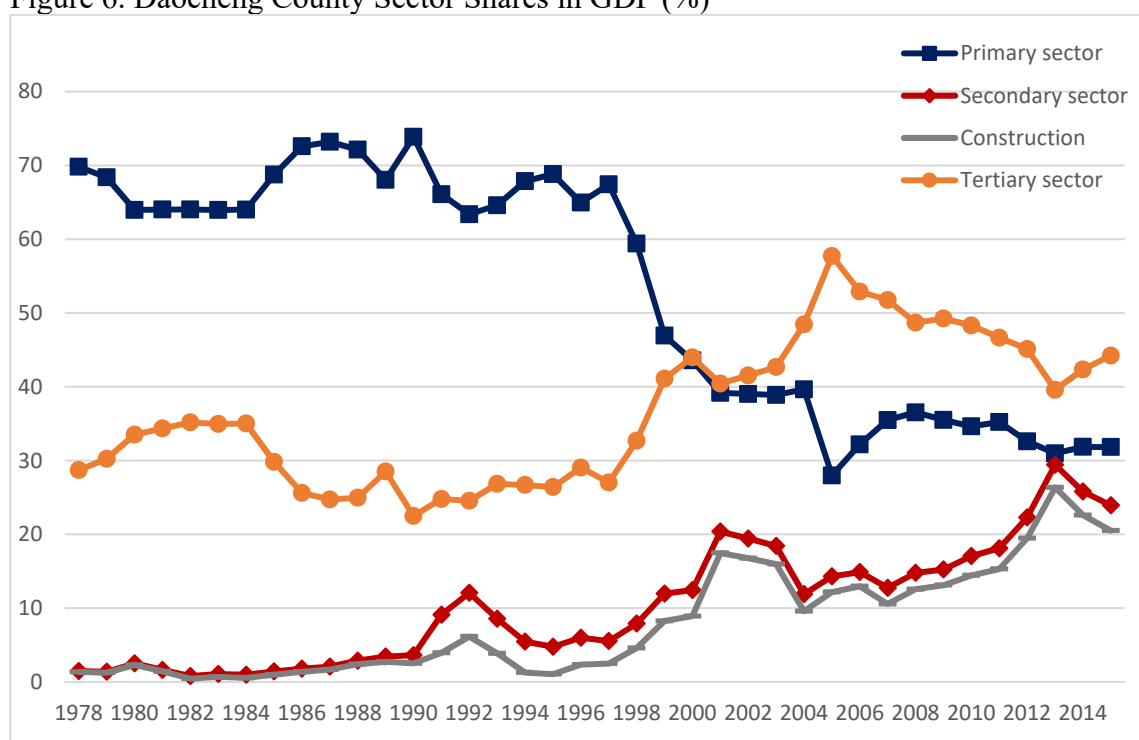
I did not see myself as investigative journalist. For example, we know that a newly transferred-in leader likely uses his/her earlier personal connections to attract individuals and companies from outside the county to the new locality, helped along by financial favors (such as permits for mining or access to land in favorable locations and/or at subsidized prices). These are common practices across backward regions that we are broadly aware of. I did not attempt to uncover such arrangements or to evaluate what might be corruption. The picture of economic development in Daocheng County that I was able to compile abstracts from the various shades of legality that may engulf the very great number of individual transactions involved in economic development.

## Appendix 2. GDP Growth and Private Economy over Time

Time series data on value-added are available by (broad) economic sector for the years since 1978. Throughout the 1980s and most of the 1990s, agriculture accounted for two-thirds of GDP (Figure 6). A major structural change occurred between 1997 and 2001 with an increase in service sector and construction activity relative to agriculture. The share of agricultural value-added in GDP declined from 67% (in 1997) to 40% (in 2001). This was matched by an increase in the share of services from 27% to 40%, and in the secondary sector (mostly construction) from 6% to 20%. The structural change coincides with the second term of Jiang Zemin as Party Secretary (1998-) and Zhu Rongji as Prime Minister. It slightly precedes the formal introduction of the Western Development program.

Since 2001, agriculture's share of GDP has stayed roughly between 30% and 40%. The share of the tertiary sector peaked at 57% of GDP in 2005 and then declined continuously to 40% in 2013 before picking up again slightly. The share of the secondary sector (predominantly construction) first declined to 12% in 2004, and then began a steady rise to 26% in 2013 before falling back to 20% in 2015. The reversal in 2014 could be related to Xi Jinping's assumption of the position of Party Secretary in late 2012 and the effects of the ensuing "anti-corruption" campaign.

Figure 6. Daocheng County Sector Shares in GDP (%)

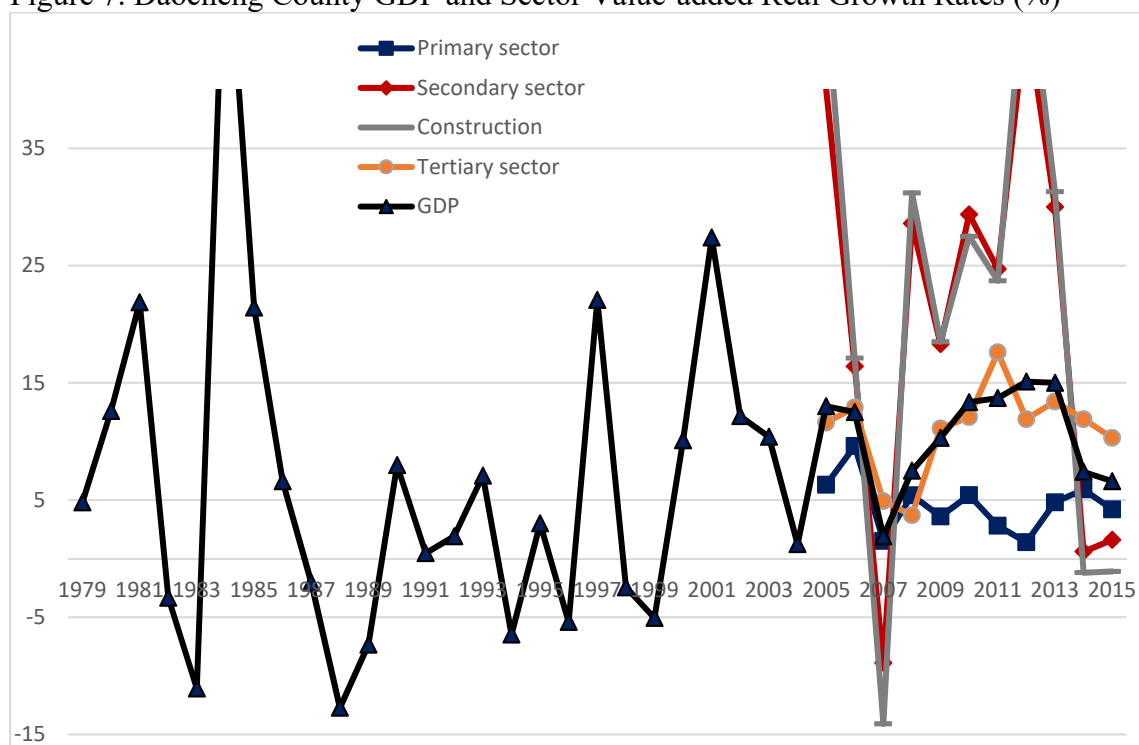


Construction is a sub-sector of the secondary sector, industry being the other exhaustive sub-sector. Sources: *Ganzi Statistical Yearbook 2016* (for 2014, 2015), *2015* (for 2013), *2014* (for 2012), *2013* (for 2011), *2012* (for 2010), *2010* (for 2005-2009), and *2008* (for 1978-2004).

In the 1980s and 1990s, real GDP growth varied drastically from year to year with annual real growth rates in the 20 and 30 percent range but also at negative 10% (Figure 7). Real GDP growth entered a steady upward trend in 2007, when it was at 2%, to 15% in 2013, before dropping back to around 5% in 2014 and 2015.

Growth rates in sector value-added are available for the years since 2004. Growth rates in agricultural value-added are relatively stable around 5% while those of the tertiary sector experienced variations between approximately 5% and 15%. The secondary sector, in contrast, driven by its sub-sector construction, experienced wild swings in growth rates from negative 14% in 2007 to positive 50% in 2012. Construction, thereby, is also responsible for the low GDP growth rates in 2014 and 2015.

Figure 7. Daocheng County GDP and Sector Value-added Real Growth Rates (%)



Construction is a sub-sector of the secondary sector, industry being the other exhaustive sub-sector. For sources, see Figure 6. Earlier sectoral real growth rates are available but vary drastically (with apparent underlying data problems, such as a sector growth index rising from 100 to 200 to 300).

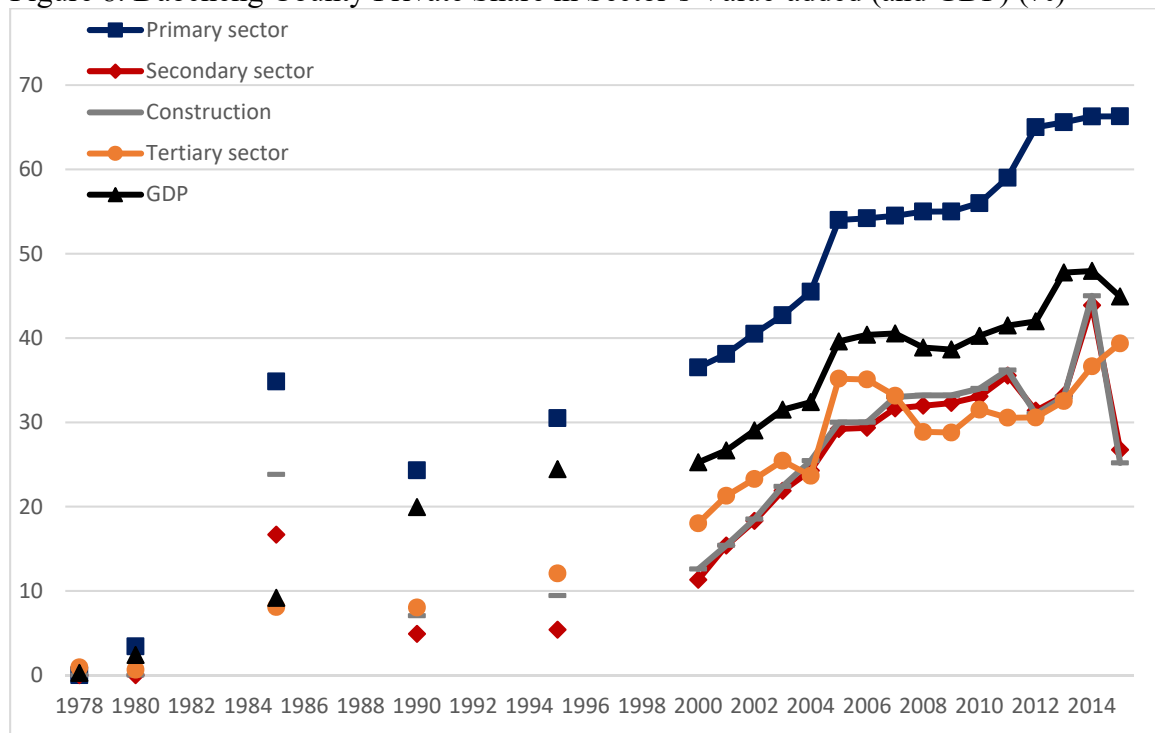
The “private economy” (民营经济) accounted for 45% of Daocheng County’s GDP in 2015 (Table 1). It produced two-thirds of agricultural value-added, one-third of the (miniscule) industrial value-added, and one-quarter of construction value-added. The patterns in the tertiary sector (overall 39% private) are as would be expected: The private economy dominates trade, hotels and catering, real estate development, and services to households, and is absent from those sectors that reflect government services. The time series data show an inexorable rise in the private share of each sector’s economic activities over time, except for a noticeable decline in the private economy’s share in construction from 45% in 2014 to 25% in 2015 (Figure 8).

Within the private economy, agriculture accounts for the biggest share of privately produced value-added in the 1980s and the 1990s with 90%, and around 50% in the 2000s and 2010s (Figure 9). Services’ share in the private economy’s output varied around 10% in the 1980s and 1990s before rising to 30% in the 2000s, then rising even further before dropping off and oscillating between 30% and 40%. The smallest share of the private economy consists of construction, at around 10% since 2001, with a brief increase to 20% in 2013 and 2014. (The final year in the chart is 2015.) This suggests that GDP growth especially in 2014 received a



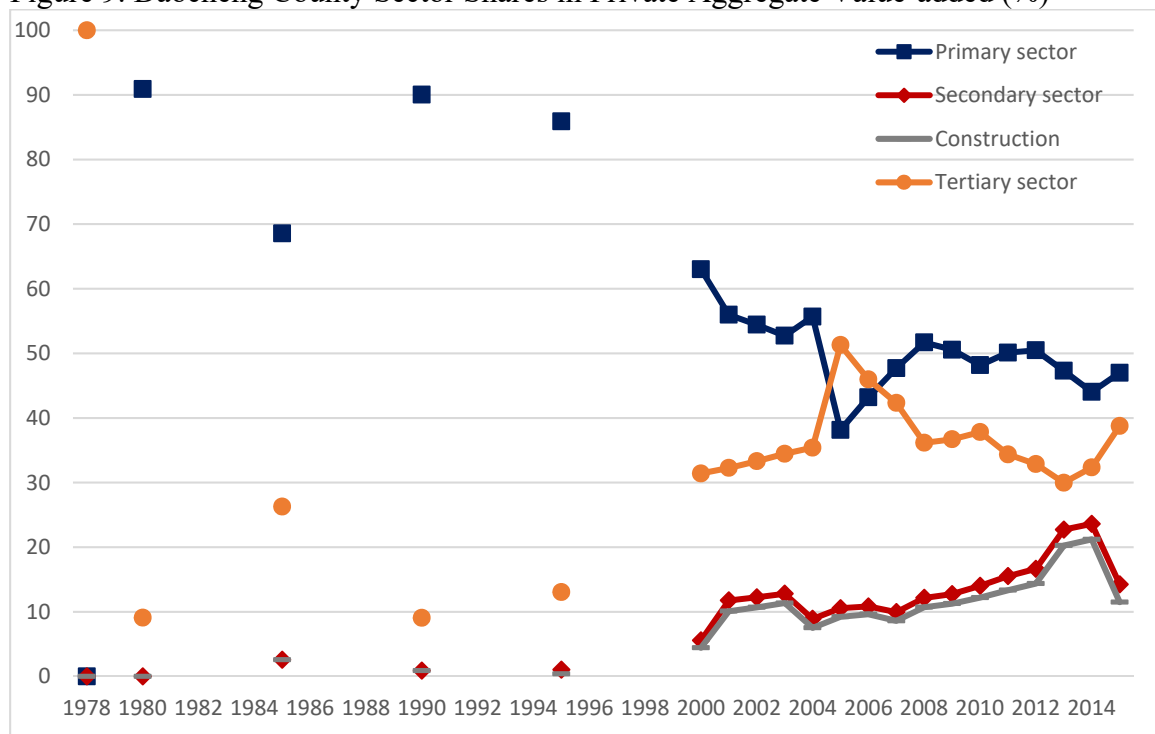
boost from extraordinarily high private construction, and that a collapse in private construction in 2015 then contributed to the lowest GDP growth rate since 2007, of 6.6%.

Figure 8. Daocheng County Private Share in Sector's Value-added (and GDP) (%)



Construction is a sub-sector of the secondary sector, industry being the other exhaustive sub-sector. For sources, see Figure 6.

Figure 9. Daocheng County Sector Shares in Private Aggregate Value-added (%)



For sources, see Figure 6.

### Appendix 3. Road Construction Costs

According to a construction notice at a road construction site in Riwa in 2017, the cost of building an approximately 30 meter long bridge in Riwa together with 3.2km of road was CNY 1.25bn. This amount appears so large that one cannot help but wonder if the notice is off by a factor of 10. (CNY 1.25bn is more than the *Master Plan*, introduced in the tourism section of the text, budgeted for Daocheng County infrastructure measures, such as road construction, for all 15 years from 2000-2015.)

Data for the U.S. suggest that construction of a rural 2-lane undivided road costs approximately USD 2-3mio, while resurfacing a major highway costs USD 157,000 per mile.<sup>109</sup>

The provincial road from Daocheng-Yading Airport to Riwa alone is of 120km length. In addition, the original road to Yunnan Province that branches off in Sangdui Township runs for another perhaps 40km within Daocheng County, and the new road from just North of Riwa towards Xiangcheng may equally run for perhaps 40km within Daocheng County. This makes for a total of 200km (124 miles) that still excludes road construction within the urban areas of Jinzhuzhen and Riwa.

Road construction in Daocheng County typically implies fortifying an existing dirt road and surfacing it for the first time. If one assumes that such a process would cost USD 2mio per mile in the U.S. and that the exchange rate is CNY 6.5 per USD, then the domestic cost of 124 miles of road construction in Daocheng County is approximately CNY 1bn. One could argue that road construction should be cheaper in the PRC because of cheaper labor, but, on the other hand, the road construction machinery could well be imported from the U.S. and therefore be more expensive, and road construction in such a remote location at such high altitude with difficult road building conditions may well increase construction costs.

The cost of bridge construction per mile is likely a multitude of the cost of road construction per mile; the cited Riwa construction costs may be an indicator of just how expensive bridge building can be. The 124 miles of road construction, while not comprising a bridge the size of the one in Riwa, still includes many smaller bridges. One may thus want to double or triple the road construction costs derived in the previous paragraph.

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<sup>109</sup> See <https://medium.com/@TimSyIvester/i-agree-it-sounds-astronomical-but-i-actually-understated-the-costs-according-to-artba-2e8baeac2a46>, accessed 11 February 2019.

#### Appendix 4. Daocheng-Yading Airport

Daocheng-Yading Airport (DCY) is located at an altitude of 4,411 meters (14,472 feet), 46km North of Jinzhuzhen. It was completed in 2013, with the first official flight on 16 September 2013 to Chengdu. The airport reduces the travel time from the provincial capital of Chengdu from 18 hours or two days by bus to 65 minutes by plane (a 430km flight distance).

When the airport opened in September 2013 with regular flights to the provincial capital of Chengdu, further regular flights were planned to Ma'erkang County and Chongqing Municipality starting October. Flights to Guangzhou, Shanghai and Xi'an were to follow in 2014. As of 2018, there are still no flights to Ma'erkang, Guangzhou, and Shanghai. Flights to Chongqing eventually started on 28 June 2014 (five days a week). In May 2017, three weekly flight to Xi'an were added (and one of the Chengdu flights stops over in (the prefecture seat) Kangding twice a week).

In 2017 and 2018, Daocheng-Yading Airport had approximately 2.5 flights per day: one or two flights during the low season, and up to 5 flights during the high season. In mid-February 2019, low season, the flight frequency is still one or two flights per day; all flights originate in and return to Chengdu.

Only one type of plane flies to Daocheng-Yading Airport, namely the A319. The Airbus website states that the standard configuration on the A319 is a 124-seat configuration, but there is also an option with a 156 passenger seating capacity.<sup>110</sup> Assuming 150 seats and multiplying by 2.5 flights per day yields a maximum 375 inbound and 375 outbound passengers per day, or 273,750 passengers per year.

Daocheng-Yading Airport's official handling capacity of 280,000 passengers per year perfectly matches the estimated number of passenger seats per year. But the official handling capacity appears an underestimate.<sup>111</sup> With five flights per day during high-season, the handling capacity is at least double. But given the half dozen check-in counters and two security lanes, the airport would seem to be able to process at least 250 outgoing passengers an hour, or 1250 in the course of a morning. Adding to this an equal number of incoming passengers, who require no particular processing beyond luggage handling, and the total easily exceeds 2500 passengers a day (1250 outgoing, 1250 incoming, in the course of a morning).<sup>112</sup> The actual capacity then exceeds the official number of 280,000 passengers a year three- to four-fold. Perhaps the official figure for the "handling capacity" is simply a realistic estimate of the annual number of passenger turnover.

Construction of the airport can probably not be justified on economic grounds. The airport cost CNY 1.58bn to build (officially declared costs). Assuming an airport lifetime of 20 years (too short) and zero interest costs (too low), the construction cost, spread linearly over twenty

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<sup>110</sup> See <http://www.airbus.com/aircraftfamilies/passengeraircraft/a320family/a319/>, accessed 30 June 2016.

<sup>111</sup> For the handling capacity, see <http://www.usatoday.com/story/news/world/2013/09/18/china-airport-tibet-highest/2832921/>, accessed 29 June 2016. For more airport-related factual information see, for example, <http://www.ibtimes.com/worlds-highest-airport-part-chinas-multibillion-dollar-push-tibetan-plateau-1406780>, <http://www.usatoday.com/story/news/world/2013/09/18/china-airport-tibet-highest/2832921/>, and <http://en.yibada.com/articles/29236/20150425/china-airports-in-extremely-high-locations-new-standards.htm>, all accessed 29 June 2016.

<sup>112</sup> Probably due to weather patterns, all Daocheng-Yading Airport flights tend to land and depart in the morning.

years, averages CNY 79mio per year. Add maintenance and running costs of on the order of CNY 20mio per year.<sup>113</sup> Continuing with a cost of CNY 100mio per year and 280,000 passengers per year, this translates into CNY 357 per passenger per flight. Since it is unlikely that one-half of the typical ticket price goes for Daocheng-Yading Airport fees (and some fees will also have to be paid at the other airport connected by the flight), the outcome is a substantial, continuous government subsidy for each passenger on each flight. The perpetual government subsidy would suggest that the building of the airport was not an economic decision, but either a political one (further integrating Daocheng County into Sichuan Province) or a military one (facilitate the quick transfer of military personnel and equipment), or one that considers linkage effects in that subsidized flight prices lead to significant profit elsewhere in the local economy (or any combination of such reasons). Or perhaps the airport represents a massive financial mis-calculation.

The airport is not a reliable entry or exit point for Daocheng County, to the extent that the lack of reliability may constrain tourism. (Three of the author's four flights in 2016 and 2017 were delayed or cancelled.) In 2016, Air China in particular had a reputation among Daocheng-Yading Airport staff for not landing even when other airlines land. The issue appears to be one of safety in the case of high-altitude airports. Li Jian, deputy head of the Civil Aviation Administration of China, on 23 April 2015 announced that super-high altitude airports require stricter safety measures than those located at low altitude. Consequently, pending the development of Chinese standards for such airports within the next two to three years, plans for super-high altitude airports would no longer be approved. (International technology standards for super-high altitude airports appear to not exist.)

While nobody has provided a rationale for what the security issues are, the one fact that is known is that aircraft engines produce less thrust at high altitude than near sea level (and the Daocheng-Yading Airport runway at 13,800 feet length is therefore exceptionally long). For the airlines, the airport reliability issue implies significant additional costs. The airplane is tied up for extended periods of time (when the plane does not depart, or does not land and returns to Chengdu for another attempt to land later in the day), in unpredictable fashion, and delayed passengers on flights out need to be moved back to Jinzhuzhen and accommodated for at least one night. At some point, one begins to wonder if the airlines actually want to fly to Daocheng County, or are being pressured by government or regulatory agencies into flying to Daocheng County.

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<sup>113</sup> Assume maintenance and equipment operating costs equivalent to 1% of construction costs, i.e., CNY 15.8mio per year, and 50 employees (from check-in personnel to security personnel, luggage handlers, and aircraft maintenance/servicing personnel) with an average salary of CNY 7,000 per month and 50% additional employment costs, i.e., CNY 6.3mio per year. Together, this is approximately CNY 20mio per year.

## Appendix 5. Daocheng County Detailed Fiscal Data (and Banking Data)

Revenue streams have been highly variable over time, with the contributions to local fiscal revenue of the three exhaustive components tax revenue, non-tax revenue (with a significant item “other income”), and “fund income” fluctuating from year to year. In 2008, for example, fund income accounted for 60.6% of local fiscal revenue, and 98.2% of these 60.6% consisted of state-owned land use right transfer income. I.e., land sales provided approximately 60% of local fiscal revenue.

**Table 10. Daocheng County Government Funds Income and Expenditures**

	2002	2007	2008	2009	2010	2011	2012	2013	2014	2015
<b>Total government fund income</b>	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Government housing fund income									0.1	
State-owned land use right transfer income		77.3	98.2	73.5	72.0	85.2	84.1	71.4	80.7	85.4
State-owned land earnings fund income				2.6	2.7	2.5	3.1	2.6	3.0	3.2
Agricultural land dev. fund income				13.1	13.1	0.0	10.9	9.4	10.5	11.1
Urban infrastructure support fee income									0.2	0.1
Sewage treatment fee income										0.2
Other fund income		22.7	1.8							
Forest fund income				3.7	3.4			4.7	0.8	
Local education surcharge income				1.7	2.3	5.3	1.0	7.5	1.9	
Disabled persons employment security fund income				5.5	6.5	7.0	1.0	4.4	2.6	
<b>Total government fund expenditure</b>	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Expenditure related to the national film industry development special fund										2.8
Expenditure related to assignment of state-owned land use rights		87.3	91.5							71.3
Expenditure related to the new construction land use fees										0.7
Expenditure related to the bulk cement special fund										1.2
Expenditure related to the new all materials special fund										3.5
Expenditure related to the lottery public welfare fund										9.6
Expenditure related to other gov. funds										10.7
Other fund expenditure		12.7	8.5							
General public service				25.0						
Education				2.2	1.2	1.6	7.4	5.7	1.7	
Culture, sports, and media					0.6		0.3	0.9	0.3	
Social security and employment				3.5	3.0	1.2	0.9	5.3	2.9	
Urban and rural community affairs				61.3	20.0	63.8	86.2	67.9	79.7	
Agriculture, forestry, and water affairs				7.9	9.2	9.5	1.7	3.1	9.1	
Other expenditures					55.8	23.8	3.6	17.0	3.5	
Business services, etc.					10.2				2.4	
Resource exploration, power, info., etc.									0.3	
<b>Fund income / fund expenditure</b>	0.77	0.67	1.11	0.66	0.54	0.37	1.00	0.72	0.89	0.86

Note: entries with value 0.0 were removed for ease of reading the table.

Source: *Ganzi Statistical Yearbook 2003, 2008, ..., 2016*.

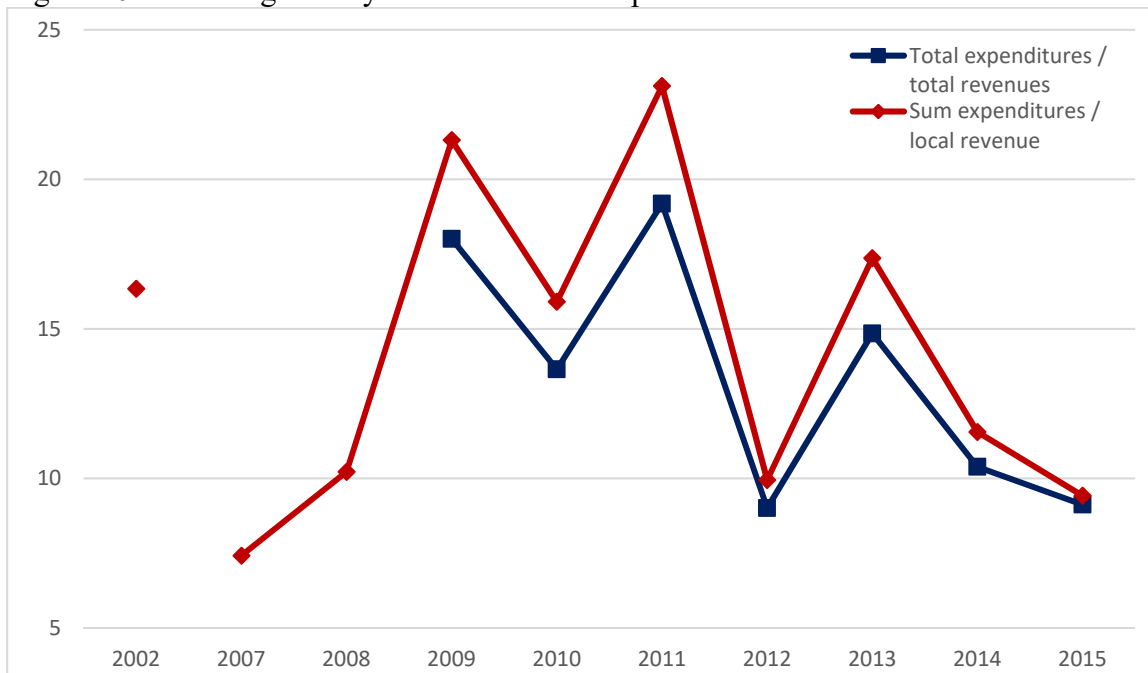
Table 11. Daocheng County Fiscal Revenue and Expenditure Shares (%), complete table

	2002	2007	2008	2009	2010	2011	2012	2013	2014	2015
<b>Percentage of local fiscal revenue</b>										
A. Total fiscal revenue				118.3	116.5	120.5	110.4	116.9	111.2	103.5
B. Local fiscal revenue	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
B.1 General budget revenue: Total	91.7	96.1	39.4	72.0	80.9	84.3	47.0	83.9	63.2	81.0
B.1.a. Tax revenue	81.8	20.3	36.7	60.7	56.5	47.7	30.4	68.1	46.8	53.0
VAT		1.2	1.5	2.2	2.1	2.7	1.3	2.9	2.5	4.0
Sales tax		13.8	24.7	38.9	36.7	33.1	21.0	51.1	30.8	34.5
Corporate income tax		0.0	1.0	0.2	1.5	3.5	3.5	4.4	3.6	5.7
Personal income tax		2.0	4.2	7.7	5.3	2.8	0.8	1.4	1.9	2.8
Resource tax		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.5
Urban maintenance & construction tax		0.6	1.2	1.5	1.8	1.4	0.8	2.6	1.7	1.7
Property tax		0.0	0.3	1.3	0.9	1.3	0.8	2.2	1.5	0.7
Stamp duty		0.0	0.1	0.6	0.8	0.3	0.2	0.4	0.3	0.3
Urban land use tax		0.0	0.1	0.4	0.1	1.2	0.4	0.4	0.5	0.2
Land VAT		0.0	0.0	0.2	0.0	0.0	0.0	0.6	0.1	0.7
Vehicle and boat tax		0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2
Farmland use tax		0.0	0.0	1.4	3.6	0.0	1.2	0.0	1.4	0.0
Deed tax		2.3	0.0	6.1	3.6	1.3	0.4	2.1	2.2	1.6
Other tax revenue		0.4	3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
B.1.b. Non-tax revenue	9.9	75.8	2.7	11.3	24.4	36.6	16.5	15.8	16.3	28.0
Special income		73.8	0.9	1.5	1.4	1.5	1.0	1.8	1.1	4.6
Administrative fees and charges		0.6	0.2	1.5	1.3	1.5	1.1	3.6	7.3	10.9
Penalty revenue		0.1	0.5	1.2	0.9	1.0	0.6	1.5	1.7	0.8
State-owned capital operating income		0.7	0.6	0.8	0.7	0.6	0.0	1.3	0.0	0.0
State-owned resource/asset usage rev.		0.5	0.2	2.1	2.7	1.7	1.4	2.9	1.0	0.6
Other income		0.0	0.2	4.2	17.3	30.2	12.5	4.7	5.2	11.1
B.2 Fund income	8.3	3.9	60.6	28.0	19.1	15.7	53.0	16.1	36.8	19.0
<b>Percentage of sum 'general budget expenditure plus fund expenditure'</b>										
C. Total fiscal expenditure				100.0	100.0	100.0	100.0	100.0	100.0	100.3
D. Sum general budget & fund expenditure	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
D.1. General budget expenditure	99.3	99.2	94.6	98.0	97.8	98.2	99.8	98.7	96.4	97.7
General public service		18.4	17.8	10.9	11.8	10.2	10.3	11.4	9.0	10.0
National defense		0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.1	0.1
Public safety		7.5	7.1	6.9	7.9	4.3	5.1	4.7	6.0	4.4
Education		11.4	9.1	9.2	9.7	9.7	13.1	10.9	5.7	8.6
Science and technology		0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.1	0.1
Culture, sports, and media		1.8	1.0	0.9	1.6	1.4	1.0	2.5	1.4	1.0
Social security and employment		14.0	16.4	12.9	10.1	7.6	8.2	8.3	7.0	8.2
Health		5.8	6.9	9.8	7.6	5.5	6.2	7.7	5.1	6.2
Energy saving, environmental protection		8.5	8.6	8.9	9.4	4.6	2.3	7.1	2.8	2.5
Urban and rural community affairs		1.9	1.9	0.1	0.7	0.5	8.4	6.1	16.2	0.7
Agriculture, forestry, and water affairs		6.1	10.6	6.5	13.8	9.1	9.4	13.0	13.8	15.1
Transportation		3.0	2.2	19.5	8.6	23.4	20.5	4.6	7.5	22.4
Resource exploration, power, info. etc.		0.0	0.0	0.3	0.6	0.5	0.2	0.2	0.2	0.2
Business services etc.		1.1	1.5	0.0	0.5	7.1	4.3	5.1	14.6	7.4
Financial expenditure		0.0	0.0	0.0	0.0	0.3	0.3	0.0	0.0	0.0
Earthquake recovery, reconstruction exp.		0.0	0.0	0.5	0.4	0.0	0.0	0.0	0.0	0.0
Land, marine, and meteorology exp.		0.0	0.0	0.0	0.3	0.8	0.3	1.6	1.9	2.6
Housing protection exp.		0.0	0.0	0.0	6.9	5.9	4.7	4.4	3.5	2.9
Grain and oil material reserve managem.		0.0	0.0	0.9	0.2	0.0	0.0	0.0	0.1	0.1
Debt service payments		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Other expenditure		19.5	11.2	10.5	7.5	6.9	5.2	10.9	1.5	5.0
D.2. Fund expenditure	0.7	0.8	5.4	2.0	2.2	1.8	0.2	1.3	3.6	2.3
Total expenditure / total revenue (C/A)				18.0	13.6	19.2	9.0	14.8	10.4	9.1
Sum expenditure / local revenue (D/B)	16.3	7.4	10.2	21.3	15.9	23.1	9.9	17.4	11.6	9.4
Total revenue (A) / GDP				0.09	0.10	0.10	0.18	0.13	0.23	0.22
Local revenue (B) / GDP	0.04	0.14	0.11	0.07	0.09	0.08	0.16	0.11	0.20	0.21
Expenditure (C) / GDP				1.6	1.4	1.9	1.6	1.9	2.4	2.0
Sum expenditure (D) / GDP	0.6	1.0	1.1	1.6	1.4	1.9	1.6	1.9	2.4	2.0

Note: Item D is obtained as sum of D.1. and D.2.

Source: *Ganzi Statistical Yearbook 2003, 2008, ..., 2016.*

Figure 10. Daocheng County Ratios of Fiscal Expenditure to Revenues



Note: the sum of the values of all expenditure categories equals "total expenditures" in those years (since 2009) that "total expenditure" values are provided separately in the statistics (with a trivial difference in 2015).

Source: Table 11.

The banking system channels funds out of Daocheng County, in line with other rural localities in the PRC. In 2015, deposits were equivalent to 315% of GDP but loans equivalent to only 87% of GDP. Loans tended to be long-term or medium-term (90.2% of loans) and highly focused on agriculture (98.6% of loans). Larger investment projects may be financed and booked by higher-level branches of local financial institutions, or through off-balance sheet transactions of local financial institutions, or through other financial institutions outside Daocheng County, perhaps particularly relevant if the investor is an outside investor.

## Appendix 6. Daocheng County Tourism Development *Master Plan*

The Daocheng County government commissioned the Sichuan Province Tourism Planning and Design Institute to prepare the *Master Plan*. The *Master Plan* was audited and approved by a committee headed by an official from the provincial Tourism Bureau together with members from various provincial and prefectural bureaus, universities, and the Daocheng County government (a deputy county head and the head of the Daocheng County tourism bureau).

The *Master Plan* provides a number of rationales for why the development of tourism in Daocheng County can succeed. Per capita GDP of the PRC at the time, of USD 800, is generally considered the level at which tourism increases rapidly. Tourism development in Daocheng County complements the national policy of [Large-scale] Western [Economic] Development. Tourism development in Daocheng County matches a 1998 *provincial* master plan for tourism development. The provincial plan denoted tourism a provincial emerging pillar industry and identified Ganzi Prefecture as a nature destination, suitable for eco-tourism. The *Master Plan* also matches a 2000 *prefectural* master plan of Ganzi Prefecture for tourism development. Tourism had already become the biggest economic force in the neighboring areas of Zhongdian (中甸) and Lijiang (丽江) in Yunnan Province, as well as at Lugu (泸沽湖) at the border of Yunnan Province and Sichuan Province. Then there was the successful tourism development model of Jiuzhaigou-Huanglongsi (九寨沟—黄龙寺) in Aba Prefecture (阿坝藏族羌族自治州) of West Sichuan, 1172km North-East of Jinzhuzhen.

The *Master Plan* envisions the use of the available natural and cultural resources in order to develop sustainable tourism. It promotes step-by-step development within the grand overall plan. The stated principle for development is to use the market as guiding force, focus on effectiveness, and build on a premise of sustainable development. The county economy is to move ahead by leaps and bounds thanks to the government's lead (主导) and its exercise of macroeconomic control, the reliance on Daocheng County's unique tourism resources, and multi-channel development efforts.

The *Master Plan* lists four further scenic areas: Haizishan (海子山), E'chushan (俄初山), Kasigou (卡斯沟), and Mengzi Gorge (孟子峡谷), of which, however, only Haizishan has been semi-developed by 2017. Haizishan is a highland plateau between Daocheng County and Litang (the road connection to the rest of Sichuan), a moonscape dotted with ponds and often shrouded in clouds or mist. There is little to do except to drive through, though there are opportunities to stop as well as to undertake short side trips.<sup>114</sup>

The *Master Plan* envisages Jinzhuzhen as central city, Riwa (日瓦) as entry and exit point for Yading, and a road connection to Yunnan Province as access route (with a third-grade mountain road to be in place by 2005 and to be upgraded later). It goes on to list roads connecting Riwa to Muli County (木里, in neighboring Liangshan Prefecture, 凉山彝族自治

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<sup>114</sup> Along the road across the Haizishan plateau are a handful of small parking areas, typically marked by some explanatory sign and equipped with rudimentary toilets. A rock field at the edge of Haizishan, off the road between the Daocheng-Yading Airport and Jinzhuzhen, has cemented walkways through the rocks (affording, perhaps, a 10-minute stroll). The opportunities for side trips are not obvious and a guide may be necessary. As of 2016, the side road to what one Han hotelier in Daocheng County described as a beautiful scenic spot was in such bad shape that his jeep got mired in mud and had to be pulled out.



州) to the Southeast, and Geka Township (各卡) to the Southwest, at the time, and until today, largely dirt roads, with continuing connections to the tourist attractions of Luguhu, Lijiang, and Zhongdian.<sup>115</sup>

The *Master Plan* includes a cost benefit analysis, listing total costs for each of the subsequent 5-Year Plan periods (2000-2005, 2005-2010, 2010-2015) and contrasting these costs and assumed interest payments with assumed income.<sup>116</sup> In the first 5-Year Plan period, the ratio of costs to income is estimated to be 1:0.74, in the second period 1:4.5, and in the third period 1:10, i.e., by 2010-2015 the benefits in form of income (though not profit) exceed the costs ten-fold. Total costs across the 15 years are projected to be CNY 1.1612bn (or CNY 1.33545bn including interest costs) and total income is CNY 6.34887bn. The derivation of none of these costs or income data is explained.

The *Master Plan* projected marketing expenditures for the years 2000, 2005, 2010, and 2015 to be CNY 50,000, 1mio, 2mio, and 3mio, values that are likely much exceeded in reality. I have a collection of marketing materials printed over time, and a fragmented record of various marketing campaigns, all of which suggest much (on the order of 10 to 100 times) higher marketing expenses.

The *Master Plan* then lists in great detail the projects that need to be undertaken. It suggests to make good use of the national policy of Western Development for infrastructure projects, ideally have an airport in place by 2003 (it was finally completed in 2013), and in terms of road construction focus on completing reliable infrastructure within Daocheng County (also completed in 2013/14 only) while trying to connect to roads in Yunnan Province. (A table lists ongoing and upcoming road projects, referring to a separate Daocheng transportation infrastructure plan for 1999-2010.)

The projects comprise: 12 scenic spots (comprising viewing locations/buildings, reception and recreation facilities [accounting for the bulk of expenditures], infrastructure, toilets, and environmental protection and other projects) with an investment volume of CNY 857.70mio, 6 tourism highway projects (CNY 97.60mio), 9 main highway projects (CNY 441.85mio), 5 energy and communications projects (CNY 162.00mio), one market promotion project (CNY 31.40mio) and one employment training program (CNY 12.50mio). The total value is CNY 1.60305bn.

The *Master Plan* was followed by a *Yading* [Nature Reserve] *Master Plan* (2006-2020) with specifics on the management of the nature reserve, and a second (Daocheng County) *Master Plan* (2015-2030). This more recent (Daocheng County) *Master Plan* (2015-2030) is not publicly available and I could not obtain a copy. The government of Sichuan Province has an online form to request access to information (<http://ysqgk.sc.gov.cn/hudong/email/ysqgk.jsp>, accessed 17 November 2017). I successfully submitted the online form and as of early 2020 have not heard back.<sup>117</sup>

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<sup>115</sup> Muli has been closed to foreigners for many years but currently appears to be open. Daocheng County has been (mostly) open to foreigners since at least 1998.

<sup>116</sup> Costs are broken down not only by 5-Year Plan period, but also by type of undertaking: infrastructure (a total investment of CNY 127.5mio, 80% of which is to be financed by the government), public facilities (CNY 40.85mio, 100% of which to be financed by the government), marketing (CNY 31.4mio, 40%), tourism service facilities (773.2mio, 5%), other non-profit investment (CNY 162mio, 95%), sustainable development projects (CNY 26.25mio, 90%); all else is to be undertaken by the private sector and “other socio-economic entities.”

<sup>117</sup> I am grateful to Shirley Leung of the HKUST library’s Document Supply Service for her help in trying to locate the document, and her referral to the government’s online form.

### *Daocheng County Tourism Development Companies*

The *Master Plan* mentions the establishment of—as part of the government—a Daocheng Tourism Bureau (稻城旅游局) and a Tourism Environmental Protection Department (旅游环境保护处), as well as of a Daocheng County Tourism Development Company (稻城县旅游开发总公司). This company likely later evolved into the Daocheng Tourism Development Limited Liability Company (稻城旅游发展有限责任公司).<sup>118</sup>

On 7 April 2013, the Daocheng Yading Scenic Area Tourism Development Company (稻城亚丁景区旅游开发有限责任公司) was established by (i) this Daocheng Tourism Development Limited Liability Company and (ii), as majority shareholder, the prefectural tourism development company Ganzi Prefecture Culture and Tourism Investment Development Limited Liability Company (甘孜州文旅投资发展有限责任公司, by 3 September 2017 renamed a conglomerate, 集团), established on 27 December 2012.

All of these companies are state-owned. The latter, prefectural one is a large company with CNY 780mio in assets.<sup>119</sup>

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<sup>118</sup> As of 28 November 2017, no details can be found online on either of these two companies.

<sup>119</sup> For details see <http://ganzi04782.11467.com/>, <https://xin.baidu.com/detail/compinfo?pid=ovT7Qchxe3l0XzGTvwjaKmYkt53QzIe0hgHa&from=ps>, and <http://www.gzz.gov.cn/10000/10120/13598/2016/10/13/10548305.shtml>, all accessed 28 November 2017.

## Appendix 7. Details on Tourist Numbers

### *Tourist numbers*

The *Master Plan* perceives two limits to the development of tourism: environmental capacity and a space rationale. It relies on United Nations World Tourism Organization figures to estimate the space requirements and space availability in each part of Yading. Adding up these numbers—presented in a table in a *Master Plan*—suggests a maximum sustainable number of daily visitors of 9,276. (The *Master Plan* does not present an explicit maximum number.)

In 2017, the maximum number for admission was set at 16,054 visitors per day, a limit that was reached at least on the 3<sup>rd</sup> and 4<sup>th</sup> of October 2017. In the previous year, 2016, the limit had been set at 12,000 visitors.

In the meantime, the number of buses carrying visitors from the in fall 2017 newly completed Yading Visitor Center (游客中心) at the upper end of Rencun Village (previously at the lower end of Rencun Village) into Yading increased from 83 to 163 in 2017 through new purchases and leases (Xinhua, 5 October 2017). Each bus can carry 39 passengers and takes approximately 60 minutes for the one-way trip from the Yading Visitor Center to the end of the road within Yading (from where visitors continue on a trail). I.e., if all 163 buses were in operation, could depart and arrive simultaneously and accommodate and discharge their passengers instantaneously, and were to leave the Yading Visitor Center in four waves at 7am, 9am, 11am, and 1pm (with return waves at 2pm, 4pm, 6pm, and 8pm [probably too late in the evening]), the maximum carrying capacity is 163 buses times 39 seats times 4 trips, or 25,428 visitors. The quality (in particular, the limited width) of the road and the infrastructure at the Yading Visitor Center as well as at the end of the road do not allow the smooth operation of such a large number of buses.

Approximately 0.5km beyond the end of the road in Yading, electric carts run for a further approximately 7km along the valley floor to the Luorong cattle station (which no longer sees any cattle but is a parking lot for electric carts). The number of electric carts increased from 60 (at an unknown date in the past) to 100 by October 2017 (Xinhua, 5 October 2017). Each cart can carry 12 passengers and takes approximately 15 minutes for the one-way journey. Assuming full capacity (not likely given the quality of the track), the maximum carrying capacity is 4,800 persons per hour, or 24,000 in five hours, similar to the maximum bus capacity for the transfer from the Yading Visitor Center at the upper end of Rencun Village to the end of the road inside Yading.

### *Monthly distribution of visitors*

The July 2015 percentage of total annual visitors, of 25.2% appears too high. Late May through August is the rainy season. It is cold and wet, and Yading may be shrouded in clouds for weeks on end. In July 2016, I encountered rain in Daocheng County every day and suspect that the Yading mountains did not have a single day of good weather (definitely not the day I went up). Observed daily visitor numbers at Yading in mid-July were about 500, in stark contrast to the 13,916 average daily visitor nights in Daocheng County and the 6,326 to

Yading alone that are implied by the official statistics. The hotels that I stayed in had very low occupancy rates—most nights I seemed to be only customer, or only one of a handful of customers, in 30-100 room hotels—and Jinzhuzhen and Riwa appeared thinly populated with only a sprinkling of tourists.

Visitor numbers in other months, such as March, however, appear plausible.<sup>120</sup> The October 2015 visitor number, of 357,000 to Daocheng County (11,516 average daily visitor nights) is also plausible given various reports as well as my observations in October 2017.

### *October 2015 visitor numbers*

According to a news item from *Ganzi ribao* of 9 October 2015, visitor numbers to Daocheng Yading—presumably limited to Yading—in all of the 2015 Golden Week were 37,680 with total revenues of CNY 38mio (increases of 43.4% and 45.6%, respectively, over the previous year). These Yading visitor and revenue figures amounted to 3.3% of the corresponding Ganzi Prefecture figures, i.e., Yading tourism accounted for only a tiny fraction of all tourism in Ganzi Prefecture in this period of 2015.<sup>121</sup>

According to the Ganzi Prefecture Tourism Net with a news item of 20 October 2015, Daocheng County visitor numbers by 5 October 2015 had reached 51,084, and tourism income was CNY 54.075mio, up 107.9% and 109.7%, respectively, over the same period in the previous year.<sup>122</sup> These tourist numbers would seem to confirm the official October 2015 Daocheng County visitor number of 357,000.

### *Estimate of 2017 annual visitor number*

The estimate of the 2017 visitor number in the text is based on the observed October 2017 visitor numbers: 30 days times 10,000 visitors per day to Yading times 2.5 nights per visitor yields 750,000 visitor nights in October 2017, more than double the October 2015 figure. Visitor numbers in 2017 could be exceptionally high due to the temporary closure of Jiuzhaigou (九寨沟) and Huanglong (黄龙), alternative tourist destinations in Northwest Sichuan, following an earthquake. In the 2018 Golden Week, visitor numbers may have fallen, purportedly due to snowfall in the approach to Ganzi Prefecture with media reports of daylong traffic jams ([http://sc.ifeng.com/a/20181011/6937698\\_0.shtml](http://sc.ifeng.com/a/20181011/6937698_0.shtml), accessed 12 February 2019).

### *Visitor statistics and foreign visitors*

The table of domestic tourist numbers (国内旅游人次) by county provided in the *Ganzi Statistical Yearbook* lists Yading visitor numbers separately from Daocheng County visitor numbers (as it does for Hailuoguo (海螺沟) in Luding County (泸定)). The total tourist

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<sup>120</sup> In March 2017, Yading had approximately 200 observed visitors, which would seem to confirm the official March 2015 statistic (4,283 monthly visitors to Yading, or an average 138 daily visitors).

<sup>121</sup> See <http://www.yadinginvest.cn/index.php?m=content&c=index&a=show&catid=16&id=101>, accessed 14 November 2017.

<sup>122</sup> See the report at <http://www.yadinginvest.cn/index.php?m=content&c=index&a=show&catid=16&id=102>, accessed 14 November 2017.

number in the table equals the sum of tourists in all localities only if the Yading tourist number is counted separately from the Daocheng County tourist number (rather than being treated as a sub-category of Daocheng County), and similarly for Hailuogou and Luding (where the tourist number in the first, the scenic area, exceeds that in the second, the county).<sup>123</sup>

Looking back, the *Master Plan* was consistently too optimistic regarding the number of overseas tourists. Thus, for 2015 the *Master Plan* envisaged 520,000 domestic and 80,000 overseas visitors. In fact, the number of foreign visitors lagged far behind with 1,650 in Daocheng County excluding Yading (and none given for Yading).<sup>124</sup> The total number of domestic visitor nights in 2015, however, at 1,713,798, exceeded the projection three-fold.

The lack of official foreign visitor numbers for Yading (but not for Daocheng County) possibly reflects a data compilation problem. My own experience suggests that on most days some foreign visitors enter Yading. Their passport information is being entered in a booklet. Perhaps a foreign visitor number of a few hundred persons per year was too embarrassing (too low) to be reported. If the Daocheng County foreign visitor number were correct, a similar number likely applies to Yading. If tourist numbers for Yading were based on ticket sales, the foreigners may well be included with the domestic tourists. The reported monthly domestic visitor numbers tend to end in two or three zeroes (except in January and February), suggesting that all visitor numbers are approximate values.

The *Master Plan* (p. 41) envisages domestic visitors to spend more money per night than foreign visitors (CNY 350 vs. CNY 200, in 2015). The actual visitor imbalance in favor of domestic vs. foreign visitors thus works to Daocheng County's benefit.

### *Travel arrangements*

Most visitors arrive by car, many by airplane, and a few by bus. As of 5 October 2015, more than 8,000 vehicles had arrived at Daocheng Yading, up from the previous year, and at this point into the Golden Week accounting for more than 80% of all tourists to Yading.<sup>125</sup> Of the 37,680 visitors to Daocheng Yading in the Golden Week in 2015, 7,072 arrived by plane (and then presumably relied on buses to travel from the Daocheng-Yading Airport to Yading).<sup>126</sup> In the Golden Week in 2017, approximately five daily buses ran from Jinzhuzhen to Kangding or Chengdu, two to three buses from Riwa, and an additional 1-3 daily buses plied the road to Yunnan Province. This implies a maximum of approximately 500 daily visitors by bus—10 buses with 50 seats each—at the very height of the high season.

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<sup>123</sup> If the Hailuogou figure were an error and Hailuogou were a subset of Luding County, and if the Ganzi Prefecture total reflected a *mistaken* summing up of all county data *plus* Hailuogou and Yading, then Yading would presumably be a subset of Daocheng County. The official total Daocheng County (including Yading) visitor numbers and tourism income figures would then be over-estimates.

<sup>124</sup> For expected foreign visitors in 2000, 2005, and 2010 see notes to Figure 3.

<sup>125</sup> See Ganzi Prefecture Tourism Net, 20 October 2015, as reported at <http://www.yadinginvest.cn/index.php?m=content&c=index&a=show&catid=16&id=102>, accessed 14 November 2017. The bulk of self-driving tourists, 38%, came from Chengdu and Chongqing, 12% from Beijing, Shanghai, and Guangdong, 30% from Guizhou and Yunnan, and 20% from all other places together. Daocheng County visitor numbers were reported to have reached 51,084 by 5 October, and tourism income CNY 54.075mio, up 107.9% and 109.7%, respectively. over the same period in the previous year.

<sup>126</sup> See Ganzi ribao of 9 October 2015, as reported at <http://www.yadinginvest.cn/index.php?m=content&c=index&a=show&catid=16&id=101>, accessed 14 November 2017.

In 2017, in the morning of 3 October, cars were in many places lined up parallel in two lines along a single lane up to 7km in the approach to the Yading Visitor Center. None of these tourists, unless they had prior reservations, would make it into Yading that day as ticket sales were suspended at 11am when the maximum number of tourists to be admitted to Yading in one day had been reached. They would also not have been able to find parking anywhere near the entrance to Yading. Local Tibetans were offering parking spaces for CNY 50 on their properties along the highway, from where tourists could then take one of the Riwa shuttle buses (also stuck in traffic) to the Yading Visitor Center at the upper end of Rencun Village.

### *Master Plan projection of hotel rooms/beds and hotel quality*

The *Master Plan* found tourism facilities in Daocheng County to be woefully inadequate, ranging from the absence of any hotel with a star rating to a lack of electricity, telecommunications, and sewage treatment in Riwa, and “chaos” (混亂) at the cattle station in Yading. It projected an increase in hotel rooms and beds from end-2000 with 166 rooms and 390 beds (this implies a ratio of 2.35 beds per room) to 3,590 beds by 2005, 5,880 by 2010, and 9,200 by 2015. By 2015, the actual number of 21,000 beds (*Sichuan Yearbook 2016*, entry on Daocheng County) was more than double the originally projected number.

For 2005/2010/2015, the projected number of beds in three-star hotels was 0/600/900. At least by 2017, this latter figure was likely far exceeded. The approximately 250 places of accommodation listed for Daocheng on ctrip.com in October 2017 comprised five hotels with a Chinese rating of 4.5 stars,<sup>127</sup> none with a 4-star rating, and two dozen hotels with a 3-star or 3.5-star rating. If each hotel had 100 rooms, this implies a total of approximately 3000 rooms or 7,050 beds (3000 rooms times 2.35 beds per room at 3-star level), compared to the *Master Plan's* projected 900 beds at 3-star level (and none above this level). The highest-rated hotels seemed in most demand at all times in 2016 and 2017. Chinese tourists from Chengdu or Chongqing arriving in their BMW or Porsche SUVs would either head for one of these better hotels or for an upmarket Tibetan homestay (inn).

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<sup>127</sup> The Holyland Hotel in Riwa is listed as a 4.5-star hotel, despite its self-description as a 5-star hotel and despite its superior quality in comparison to the other 4.5 star hotels

## Appendix 8. Daocheng County Road Access

While the *Master Plan* claims that Yading nature reserve had been made accessible via a new, 34km “third degree” mountain road (in, implicitly, 1999), long-term Han residents in interviews had no recollection of such a road at that time and reported that until the 2010s, access to Yading Nature Reserve was expedition-style on foot or horse, starting from Riwa, and requiring several days. An internet search yields tourist reports covering the early 2000s that confirm the existence of a rudimentary road into Yading.<sup>128</sup>

Provincial road S217 connects Litang (理塘)—a way station between the prefectural capital of Kangding (康定) and Daocheng County—to Yunnan Province via Sangdui Township (27km North of Jinzhuzhen) and then Southwest via Xiangcheng County (乡城). (Also see Figure 1.) As of late 2017, provincial road S217 between Sangdui Township and Xiangcheng County was under extensive repair and expansion (and not accessible). Provincial road S216 runs from Sangdui Township South via Jinzhuzhen to Riwa, from where it continues into two directions, (i) Yading and (ii) Southeast towards Panzhihua Municipality (攀枝花) via Mengzi Township (蒙自乡) and then Muli County (木里县) in Liangshan Prefecture (凉山彝族自治州), the latter road currently as dirt road though in the process of upgrading. A recently completed East-West road cuts across from approximately 45km South of Jinzhuzhen (on the way to Riwa) to approximately 10km South of Xiangcheng County (on the way to Yunnan Province).

As of 2017, the only feasible road from Daocheng County to Yunnan Province is still, as twenty years ago, through Xiangcheng County (乡城县), reached either via Sangdui Township (桑堆镇) just North of Jinzhuzhen or via the newer road leading off from between Jinzhuzhen and Riwa. The nearly 400km distance includes an approximately 100km stretch of low-quality dirt road around the provincial border that is barely manageable by sedan car.

According to a news item of 6 November 2015, a new 135km third-degree road connecting Riwa to Diqing/Zhongdian (迪庆/中甸) in Yunnan Province is to be completed by October 2018.<sup>129</sup> This yet to be completed new road from Riwa to Yunnan Province is to pass through Geza Township (格咱乡) in Diqing Municipality (with the township located just North of Diqing), Pushang (普上) and Langdu (浪都); only the first location can be found at [map.baidu.com](http://map.baidu.com) or on a google map.<sup>130</sup> The precise routing thus remains unclear. Of this 135km third-degree road, 77km remain to be completed (supposedly by October 2018). The road will have a 30km/hr speed limit. Chinese Wikipedia suggests that a third-degree road is made of asphalt or cement and is intended for daily traffic of 2000-6000 vehicles between counties or lower-level administrative localities.<sup>131</sup>

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<sup>128</sup> See, for example, <http://www.josephrock.net/2011/06/chapter-10-yading-holy-mountains-of.html>, accessed 15 November 2017.

<sup>129</sup> See “Kunming Information Port” (昆明信息港, 6 November 2015) as reported at <http://www.yadinginvest.cn/index.php?m=content&c=index&a=show&catid=16&id=103>, accessed 14 November 2017.

<sup>130</sup> See “Kunming Information Port” (昆明信息港, 6 November 2015) as reported at <http://www.yadinginvest.cn/index.php?m=content&c=index&a=show&catid=16&id=103>, accessed 14 November 2017.

<sup>131</sup> See <https://zh.wikipedia.org/wiki/中华人民共和国公路等级>, accessed 14 November 2017; also see <https://baike.baidu.com/item/三级公/1870993?fr=aladdin>.

This seems to be a different routing than the one originally envisaged in the *Master Plan*, via Geka Township (各卡乡), following the river West of Yading downstream, and then up a side valley to Zhongdian, in that it may run further to the North.<sup>132</sup> (When I travelled the Geka route on a truck in 2007, we repeatedly had to get off the truck and find ways to help it along. It took half a day to cover what may have been a 3000m climb over perhaps 30km distance. An interviewee in October 2017 thought this was still a difficult road.)

The current road from Riwa to Yunnan Province connects the Southernmost Ranwu (然乌) township of Xiangcheng County (Sichuan) to the Northernmost township of Zhongdian Municipality (中甸, Yunnan). The journey takes between 7 and 10 hours by car or bus.

Apart from this Western route, large-scale road construction on the Eastern side of Yading towards Mengzi Township (蒙自乡, stopping short of Muli) and then South to Luguhu (泸沽湖) and into Yunnan Province was underway as of 2017. Completion is not expected for 5-6 years.

Zhongdian in Yunnan Province and Luguhu at the border to Yunnan Province are major tourist attractions on the Yunnan side. Both connect in approximately half a day's travel to Lijiang (丽江), a major tourist location. Zhongdian is also one of the final stops in Yunnan Province before heading Northwest into the Tibet Autonomous Region.

In recent years, touring the Greater Tibetan region (Northern Yunnan, West Sichuan, the Tibet Autonomous Region (西藏), Qinghai (青海), and parts of Gansu (甘肃)) has become highly fashionable. Han on Yading shuttle buses and in restaurants can be overheard discussing the pros and cons of driving to Lhasa (拉萨), the capital of the Tibet Autonomous Region. The “thing to do” is to drive from Yunnan Province or Sichuan Province into the Tibet Autonomous Region, then turn around in Lhasa and head back East along a Northern route. Virtually every restaurant in Daocheng County displays a map of the route options within a triangle formed by Xi'an (西安), Kunming (昆明), and Lhasa (拉萨). Daocheng County and Yading are not on the main route.

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<sup>132</sup> Road construction in this area is difficult as roads either have to follow deep rivers in narrow, sometimes gorge-like valleys (with temperatures and humidity in summer approaching sub-tropical climates, and with raging rivers after rainfall), or cross these valleys higher up and then deal with steep and unstable slopes, climbing up to passes well in excess of 4000m altitude.



## Appendix 9. Shangri-La

While the *Master Plan* considers Yading to be “the last Shangri-La,” and Daocheng County re-christened Riwa Township Shangri-La Township, the term “Shangri-La” is heavily contested. The seat of the municipality in neighboring Yunnan Province that borders Daocheng County also goes by the name of Shangri-La, since 2001 according to the Wikipedia entry on Shangri-La (accessed 9 October 2017).<sup>133</sup> Alternative names for this county and municipality are Diqing (迪庆), Deqen (迪庆), and Zhongdian (中甸), The Daocheng County *Master Plan* having been completed towards the end of 2001 (with final touches perhaps applied through 2003) opens up the possibility that the *Master Plan* systematically uses the name *Xianggelila zhen* (Shangri-La Township) for what is until today referred to as Riwa by the locals in order to stake its claim vis-à-vis Shangri-La of Yunnan Province. It only refers to “Riwa” once, in the image of a map, likely as an oversight. (For example, a word processor’s search function cannot identify a word in an image.) The *Master Plan* consistently refers to Yunnan’s Shangri-La as Zhongdian, even though at the time the Master Plan was drafted Zhongdian may well have already acquired the name Shangri-La.

Daocheng County officials could argue that Yading justifies the Shangri-La connotation introduced in James Hilton’s 1933 novel *Lost Horizon* because James Hilton may have based his Shangri-La on the 1931 report of Joseph Rock, an Austrian-American explorer who wrote extensively about Yading in the *National Geographic*.

According to the Wikipedia entry on Shangri-La, the Tibet Autonomous Region in 2001 proposed that Yunnan, Sichuan and the Tibet Autonomous Region jointly promote Shangri-La tourism. Attempts to establish a China Shangri-la Ecological Tourism Zone in 2002 and 2003 failed, but a declaration of cooperation was signed in 2004.

The link of Yading (or Zhongdian) to James Hilton’s Shangri-La is tenuous. Kenneth C. Davis at the end of a 2012 print of *Lost Horizon* writes that “By his own accounts, Hilton was inspired to write this Himalyan adventure by *National Geographic* articles written by Joseph Rock, an Austrian-American botanist and geographer who described his exploits in exotic Tibet” (p. 5 of the “P.S.” section). Geographically, James Hilton’s Shangri-La is located in West Tibet, more than 2,000km away as the crow flies. It is centered on one mountain (“Blue Moon”), rather than on three mountains (Yading). Shangri-La is a lamasery above the valley, whereas Yading is a nature reserves encompassing three mountains, with no lamasery above the valley (but a small temple, Chonggu temple, at the foot of one of the three mountains). Hilton (1933, p. 97) speaks of Shangri-La as a world of “incomparable refinements” and describes it as a place of intellectual and spiritual study with an extensive library and music, whereas Yading is a place of Yak herding that has turned to mass tourism.

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<sup>133</sup> According to this article, <https://eu.usatoday.com/story/news/world/2013/09/18/china-airport-tibet-highest/2832921/>, accessed 31 January 2020, Riwa became Shangri-La Township in 2001, while the seat of the municipality in neighboring Yunnan Province became Shangri-La Municipality four years earlier.

## Appendix 10. Yading Tianjie and the Holyland Corporation

### *Yading Tianjie in Jinzhuzhen*

The Luzhou construction company in charge of Yading Tianjie has CNY120mio registered capital, was first established on 16 November 1986, may have no more than five employees, and is registered with a natural person as investor or controlling shareholder.<sup>134</sup> Locally, the project is represented by the Daocheng Yading Real Estate Development Limited Liability Company (稻城亚丁房地产开发有限公司). This real estate company was established on 25 December 2013 as a private company with a natural person (Shu Anyun 舒安云) as owner or controlling owner and registered capital of CNY 10mio. The company appears to have no further purpose than to administer the Yading Tianjie project.<sup>135</sup>

Nothing is known about the financing of the project; it may involve some budgetary funding in the *duikou* municipality (or some compensatory deal between the *duikou* government and the development company), and otherwise should rely on bank loans, presumably obtained in Luzhou Municipality. Since the project is implicitly underwritten by governments and further protected by the *duikou* distinction, it is unlikely to be in any immediate danger of financial difficulty.

As to financing for a potential buyer of a property in Yading Tianjie: In March 2017 the director of the local branch of the Agricultural Bank of China was a regular feature of the Yading Tianjie sales office, standing ready to provide a mortgage to any interested buyer.

### *Holyland Corporation in Riwa*

Riwa is located at the confluence of a river coming down from E'chushan(俄初山) past Rencun Village, and another river coming down from the direction of Jinzhuzhen. A sliver of relatively flat land runs upstream towards Rencun (and E'chushan), while the valleys in the other two directions (upstream towards Jinzhuzhen, and downstream towards Mengzi Township) are exceedingly narrow. The mountain slopes are so steep that one would have difficulty walking straight up.

The Holyland Corporation is reported to have bought up land—beyond the currently fenced Holyland property—along the approximately 3-4km stretch between Riwa and the beginning of Rencun Village, a narrow valley shared by a river, the road, and originally empty land approximately the width of one street block. All land purchases were done through the government (rather than being long-term leases from Tibetan households). The Holyland Corporation website gives 406mu as Holyland's total land area, corresponding to 271,000m<sup>2</sup> or 0.271 km<sup>2</sup>, which would seem to err on the low side given the observed, demarcated

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<sup>134</sup> See a website whose url consists of an exceedingly long string of letters and % symbols; probably easiest to find by searching for 四川省泸州市第十建筑工程有限公司 on baidu.com (accessed 11 November 2017). Also see <http://scslzsdsgak.cn.biz72.com/> (accessed 11 November 2017) for the limit of five employees.

<sup>135</sup> See <https://www.liepin.com/company/gs14756218/#business-info>, accessed 11 November 2017.

extensive Holyland area in Riwa (and not all Holyland land may currently be marked as such, recognizable to a visitor).<sup>136</sup>

In 2016, a side wing of the Holyland Hotel had an office—easily accessible from the main road and with big advertisements and flags out front—promoting the sale of vacation homes within the Holyland Hotel. I have never seen a customer and by 2017 the office had been closed. The vacation homes do not appear on the otherwise extensive Holyland website. My own estimate of the number of hotel rooms, based on the number of windows (of the type that suggests a hotel room), is 300—vs. the number of 213 given on the Holyland website (at <http://www.yadinginvest.cn/>, accessed 13 November 2017)—suggesting that up to one-third of the Holyland Hotel accommodation space may originally have been designed as vacation homes.

For the Yading Yizhan hotel, the Holyland website gives a size of 17,000m<sup>2</sup> with 278 rooms, which previously (and, implicitly, in the paragraph on the website) included what became the Ramada Encore, part of Wyndham Worldwide, in 2017. Opening dates of the original Yading Yizhan are given as 2009 and 2011. (This also implies that the complete renovation, in late 2016 and early 2017, of what became the Ramada Encore, occurred 5 or 7 years after the original construction of the hotel, giving an indication of the longevity of hotel buildings in the region.)

As of 14 November 2017, hotels.com listed the Ramada Encore in Riwa as the only available hotel in all of “Daocheng” (for various dates). Booking.com, with generally a greater presence in the PRC, listed 17 hotels including the Ramada Encore.<sup>137</sup>

The Holyland website provides the following detailed information on future developments:

- spa hotel (天谷莲轩温泉 SPA 酒店): size of 55,000m<sup>2</sup> (i.e., twice the size of the Holyland Hotel), with 500 rooms; the spa has a size of 18,000m<sup>2</sup> and involves an investment of CNY 250mio;
- “courtyard-style boutique hotel ‘Kangba First Village’” (院落式精品酒店 ‘康巴第一寨’): size of 33,267m<sup>2</sup>; a mix of commercial and (upstairs) hotel areas;
- conference hotel: size of 36,000m<sup>2</sup>, with 330 rooms and an investment of CNY 450mio.

The Holyland website also mentions that Holyland has established a joint venture (with a 70% controlling stake by Holyland) to build a cable car within Yading, from Longtongba (龙同坝) just past Yading Village to the Chonggu temple (冲古寺), a project that as of 2017 had not yet been started, was not in common awareness, and may have been made superfluous by the continuation of the road and the bus service beyond Longtongba to within 1km of the Chonggu temple.

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<sup>136</sup> The Holyland website contains umerical errors, such as the distance to the Daocheng-Yading Airport, given as 88km (instead of approximately 120km), and the distance to Yading, given as 20km (instead of the approximately 7km to the entrance of Yading and approximately 40km to the end of the road, where visitors exit the bus and begin their outdoor experience of Yading). The existence of such basic numerical errors advises caution in accepting the Holyland Corporation’s stated land area.

<sup>137</sup> One “benefit” of having joined Wyndham Worldwide is that the music at breakfast is not Chinese opera music, Communist propaganda songs, or Tibetan-sounding Shangri-la advertisement songs, but the likes of Loreena McKennitt and New Orleans blues.

A simple estimation of the financial viability of the Holyland Corporation is the following: Assuming average staff salaries to be CNY5,000 per month (in addition to room and board for staff), a value that can be backed up by a range of information, the monthly staff costs of Holyland alone, with 400 staff, is CNY 2mio. Assuming average room prices across the three hotels of CNY 400 during the low season (assume 9 months) and CNY 1,200 in the high season (assume 3 months), and assuming the number of rooms rented to be 50 rooms each day during low season (ignoring that the Holyland Hotel was actually closed from mid-December 2016 to end-February 2017, and similarly for the other Holyland hotels, and with even longer-lasting shutdowns in previous years) and 500 rooms each day during the high season, implies monthly average revenue of CNY 4.5mio (with the 3 months of high season accounting for approximately 90% of total revenue). I.e., staff costs consumed approximately 44% of revenue.

After accounting for staff costs, the Holyland Corporation then had remaining revenues of CNY 30mio per year to cover all other expenses, from capital costs to taxes. If one-half of the remaining revenues were profit (CNY 15mio), it would take 17 years of such profit to finance construction of (just) the spa hotel. I.e., the Holyland Corporation cannot “bootstrap” further construction projects in Riwa but must rely on outside financing for new projects.

The estimate of revenues comes with a large margin of error as the precise number of visitor nights is not known, the assumed average price may not match the actual average price (I have a good idea of the room prices of each of the three hotels on ctrip.com in the course of the year, but not about the distribution of visitors across the three hotels), the estimate ignores whatever cut travel agencies impose for arranging room reservations. The Holyland Corporation also likely reduced staff numbers in 2017 (with a number of temporary interns from colleges helping out in fall 2017).

After having concluded the above calculations, an internet search revealed that according to the 2016 edition of “Trends in the Hotel Industry,” labor compensation averaged 42.8% of total operating expenses at U.S. hotels in 2015 (<http://www.hotelmanagement.net/operate/examination-hotel-labor-costs>, accessed 14 November 2017), a percentage near-identical to the one calculated here for the Holyland Corporation.

My estimate could err on the lower side of profitability given the experience in the high season in 2017. Thus, on 3 October 2017, the Yading Inn and the Ramada Encore were booked out on ctrip.com, while the Holyland Hotel offered a few remaining rooms for just short of CNY 3,000 per room. This situation prevailed through much of October 2017 and could markedly increase revenues.

## Appendix 11. Daocheng County Tourism Income

The *Compendium of Tourism Statistics*, issued by the World Tourism Organization, in its “index of indicators and basic data” provided online,<sup>138</sup> lists under the heading “tourism industries” the following sectors:

- Accommodation for visitors (here: hotels),
- Food and beverage serving activities (here: catering),
- Passenger transportation (here: transport),
- Travel agencies and other reservation services activities (not covered here, and not to be found in Daocheng County beyond a couple of family offerings of horse riding tours), and
- “Other tourism industries” (not covered here, except for trade).

The focus in this appendix is on the first two, hotels and catering, with some consideration of transport and (more limited) of trade.

*Tourism income = visitor nights \* CNY 990 (in 2015, across Ganzi Prefecture)*

The *Ganzi Statistical Yearbook* provides tourist numbers and tourism income by month.<sup>139</sup> Dividing tourism income by the tourist numbers for the 20 localities of Ganzi Prefecture—18 counties, with Yading and Hailuogou (海螺沟) listed separately—yields tourism income per visitor-night (“per visitor”). In each month of 2015, tourism income per visitor in all except one locality of Ganzi Prefecture equals CNY 990 (with CNY 1,314 for Derong County, each month). The same uniform pattern prevails across counties and months in earlier years (with an occasional deviation).<sup>140</sup>

Tourism income per visitor is likely an assumed value given the uniformity of this value across localities and months, as well as its pattern over time with a value of CNY 650 from 2007 through 2010, then variations on CNY 675 in 2011 and 2012, and finally CNY 990 in 2013-2015. (For the average annual value of Daocheng County see Table 13.) Consequently, either the tourist numbers or tourism income (or both) are derived values.

Tourism income likely is a derived value. The statistics office will not be sending a survey form to every legal person unit and every sole proprietorship in Daocheng County asking them the value of their business with tourists, who, at least in the case of transport or trade, could not even be identified.

Tourist numbers (visitor nights) likely are at least in part compiled values with perhaps some guesstimates. First, tourist numbers are probably easier to collect—such as via records of

<sup>138</sup> See <http://statistics.unwto.org/content/compendium-tourism-statistics>, accessed early February 2018.

<sup>139</sup> The list of definitions provided in a separate explanatory section of the *Ganzi Statistical Yearbook* does not define tourist numbers (旅游人次) or tourism income (旅游接待收入) and does not explain how these values are compiled; the explanatory section appears copied from some provincial or national compendium and bears little relationship to the data provided for Ganzi Prefecture.

<sup>140</sup> One significant exception is December 2014, when the values vary drastically across localities and appear by far too high in some counties, such as Daocheng County, with CNY 3,785 (Daocheng excluding Yading CNY 989, close to the CNY 990 value of all other months, and Yading CNY 7,290). On the separate listing of Yading and Hailuogou see Appendix 7.

establishments of accommodation—than tourism income values. Second, in an unusual large number of months, tourist numbers come with one to three zeroes at the end (while tourism income values do not), unlikely for a derived value but possible for a compiled value that is rounded (perhaps due to data compilation difficulties). Third, various separate (news) reports with individual tourist numbers suggest that the official tourist numbers for Daocheng County published in the *Ganzi Statistical Yearbook* are at least approximately correct. I.e., the likeliest procedure is one where tourism income per visitor is given, the tourist numbers are compiled and/or estimated, and tourism income is derived as their product.

#### *Double-check on tourism income per visitor*

Daocheng County's implicit (official) value of tourism income per visitor (night) is CNY 990. This value can be double-checked against national data.

Nationwide *business revenue* in legal person hotels and catering *above-designated size* in 2015 was CNY 851.22bn, while the number of *all* domestic visitors (“person-times,” 人次)—not limited to hotels of “above-designated size”—was 4.000bn (with the extent of ‘zeroes’ suggesting this official number is an approximation). I.e., if the PRC in 2015 had had only establishments of accommodation and catering “above-designated size,” the revenue per visitor was CNY 213. The official statistics provide no indication of the extent of “below-designated size” legal person hotels and catering and non-legal person hotels and catering, and thus no value of total business revenues in hotels and catering.

More data are available in the 2013 economic census. To the extent that ratios and relationships are likely quite stable over time, the conclusions derived for 2013 also hold for 2015.

In 2013, based on additional data from the 2013 economic census, nationwide employment in below-designated size (legal person) hotels and catering was equivalent to 52% of employment in above-designated size legal person hotels and catering establishments, and employment in sole proprietorships (not legal persons) with their 10.694mio employees equivalent to an additional 234% (Table 12).<sup>141</sup> Raising the tourism income value of CNY 213 per visitor—obtained when relating the business revenue of above-designated size establishments to the number of all visitors—by 286% (52% plus 234%) yields tourism income per visitor of CNY 822. This is an upper bound estimate.

Tourism income per visitor in below-designated size legal person establishments and in sole proprietorships is unlikely to be as high as in above-designated size establishments. In 2013, business revenue per employee in below-designated size legal person hotels and catering was CNY 104,329, approximately 60% of the CNY 176,705 in the case of above-designated size legal person units. Business revenue per employee in sole proprietorships is likely even lower, perhaps half the level in below-designated size legal person units (i.e., 30% of business revenue per employee in above-designated size legal person units). A value of tourism income per visitor in hotels and catering that discounts business revenue per employee in below-designated size legal person units and in sole proprietorships to 40% and

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<sup>141</sup> Legal person data and sole proprietorship data are provided in the 2013 economic census. The *Statistical Yearbook* has the (legal person) above-designated size data, which allows the derivation of the (legal person) below-designated size data from the (total) legal person data in the 2013 economic census.

70%, respectively, yields a value of CNY 400-450 tourism income per visitor, about twice the value based on above-designated size legal persons only.<sup>142</sup>

This is only one-half of the implicit (official) value of tourism income per visitor of Daocheng County in 2013 of CNY 990. (The implicit official value for 2012 is much closer, at CNY 682.) But the estimated value of CNY 400-450 comes with two caveats. First, Daocheng County, given its remoteness and exclusivity, may well be a destination with above-average daily tourist income. Second, the estimated value of CNY 400-450 covers only hotels and catering but tourism income is not limited to hotels and catering. As a note below Table 13 reports for Ganzi Prefecture, value-added in transport is equal to three-quarters of value-added in hotels and catering, while value-added in trade (of which some constitutes sales to tourists) is approximately equal to value-added in hotels and catering. The estimated value of CNY 400-450 should perhaps be doubled to account for transport (assuming about two-thirds of transport is due to tourism) and trade (assuming half of trade is due to tourism), yielding a value of CNY 800-900 that comes reasonably close to Daocheng County's implicit (official) value of tourism income per visitor (night) of CNY 990.

Table 12. Tourism-related Data, Economic Census 2013

	Legal person units 法人单位数	Year-end employment 年末从业人数	Business revenue (mio) 营业收入	Main business revenue (mio) 主营业务收入	Business revenue per employee
<b>Legal persons (2013 economic census)</b>					
Hotels 住宿业	73,464	2,943,241	436,268	429,467	148,227
Catering 餐饮业	126,127	3,973,084	615,487	609,947	154,914
Sum (or average)	199,591	6,916,325	1,051,755	1,039,414	152,068
<b>Above-designated size legal person units (Statistical Yearbook)</b>					
Hotels	18,437	2,094,000	352,800		168,481
Catering	26,743	2,468,000	453,330		183,683
Sum (or average)	45,180	4,562,000	806,130		176,705
<b>Below-designated size residual legal person units (obtained as difference)</b>					
Hotels	55,027	849,241	83,468		98,285
Catering	99,384	1,505,084	162,157		107,740
Sum (or average)	154,411	2,354,325	245,625		104,329
<b>Legal persons / above-designated size legal person units</b>					
Hotels	3.98	1.41	1.24		0.88
Catering	4.72	1.61	1.36		0.84
Sum (or average)	4.42	1.52	1.30		0.86
<b>Sole proprietorships (2013 economic census)</b>					
	Registered unit 有证照个体经营户	Employment 从业人员数			
Hotels and catering	2,408,000	10,694,000			
Per legal persons	12.06	1.55			

Note: Economy-wide hotels and catering value-added in 2013 was CNY 1,022,830mio (database on NBS website, <http://www.stats.gov.cn>).

<sup>142</sup> The calculation is CNY 213 \* [1 + (0.6 \* 52% + 0.3 \* 234%)] = CNY 428.



Sources: *Economic Census 2013*, Tables 2-A-1 through 2-A-4, and Table 1-14 for sole proprietorships; *Statistical Yearbook 2016*, Table 17-1 (for data on the above-designated size units).

### *Further perspectives on Daocheng County's tourism income vs. value-added*

If one assumes that Daocheng County's official tourism income value is correct, and if one assumes that Daocheng County is no different from the national economy in that business revenue in hotels and catering by legal persons—a subset of business revenue in all hotels and catering—is approximately equal to economy-wide value-added in hotels and catering (*Economic Census 2013*), then the following additional conclusions regarding Daocheng County's GDP follow.

If all of Daocheng County's tourism income in 2015 accrued to hotels and catering, and if 'tourism income' is another term for 'business revenue,' then an adjusted value of business revenue that covers only legal person hotels and catering—approximated using the nationwide share of '1/1.43' of all business revenue (Table 13)—is CNY 1.18657bn (CNY 1.6968bn / 1.43). This value, an approximation of value-added in hotels and catering, is equal to twice Daocheng County's official GDP in 2015.

Whether tourism income accrues to only hotels and catering or also transport and trade makes little difference. If the relationship between business revenue (of legal persons) and (economy-wide) value-added is the same for transport and trade as it is for hotels and catering (in the 2013 economic census), then the approximation via adjusted business revenue is one of value-added in hotels and catering, transport, and trade, and this value is still twice Daocheng County's official GDP.

If one were to calculate a corrected GDP figure for 2015 that includes a corrected value for value-added in hotels and catering while retaining the value-added of all other sectors, or a corrected value for value-added in hotels and catering together with transport and trade, the resulting corrected GDP value is 2.91 or 2.88 times Daocheng County's official GDP value.

To put Daocheng County's tourism income yet further into perspective: The share of "travel receipts" in GDP was 18% in Croatia and 13% in Malta and in Cyprus, the European countries with the highest shares of travel receipts in GDP.<sup>143</sup> If tourism income in Daocheng County, with its extreme reliance on tourism, were 50% of GDP, the resulting "true" GDP value for Daocheng County in 2015 is six times the official GDP value.

### *Double-check on tourism employment*

Employment in hotels and catering can be derived via tourism income if one assumes that all tourism income in Daocheng County is earned in hotels and catering only (or that business revenue per employee in other relevant sectors, such as transport and, partially, trade, is similar to that in hotels and catering), and that Daocheng County hotels and catering share the same characteristics as the nationwide average.

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<sup>143</sup> See [http://ec.europa.eu/eurostat/statistics-explained/index.php/Tourism\\_statistics](http://ec.europa.eu/eurostat/statistics-explained/index.php/Tourism_statistics) (accessed 2 March 2018).



Tourism-related employment in Daocheng County then follows from dividing Daocheng County tourism income by (national) business revenue per employee in hotels and catering. Business revenue per employee in hotels and catering in 2015 can be derived from the 2015 (national) value of business revenue per employee in above-designated size legal person units, properly adjusted (based on 2013 data) to take into account below-designated size legal person units and sole proprietorships.

With business revenue per employee in below-designated size legal person hotel and catering units in 2013 approximately equivalent to 60% of that in above-designated size legal person hotel and catering units in 2013 (*Economic Census 2013*, Table 12), and that in sole proprietorships an assumed 30%, weighting by the employment figures (Table 12) implies average business revenue per employee across hotels and catering in 2013 of CNY 91,401, approximately half (51.73%) that of the above-designated size legal person hotel and catering units in 2013.<sup>144</sup> For 2013, dividing Daocheng County's 2013 tourism income of CNY 170.56mio (Table 13) by this estimated nationwide business revenue per employee yields an employment number of 1,866.

For 2015, dividing Daocheng County's 2015 tourism income of CNY 1,696.66mio by 51.73% of 2015 nationwide above-designated size legal person unit business revenue per engaged person of CNY 206,007 yields an employment number of 15,921. Given personal observations on the ground, this estimate appears on the high side. One may question the estimate because much of employment in sole proprietorships in Daocheng County likely is part-time, and in many instances probably limited to the high season of July through October. Additionally, business revenue per employee in transport could be higher than in hotels and catering, and the use of the hotels and catering values then over-estimates employment (by dividing tourism income by an estimated value of business revenue per employee that is too small).

A perhaps lower bound estimate of tourism employment is obtained by ignoring sole proprietorships altogether. Dividing Daocheng County 2013 tourism income of CNY 170.56mio by the 2013 economic census (legal person) nationwide value of business revenue per employee in hotels and catering of CNY 152,068 implies 1,122 employees. The 2013 economic census nationwide value of business revenue per employee equals 86.06% of nationwide business revenue per employee in above-designated size legal person units (*Statistical Yearbook*). Taking such an adjustment to the 2015 nationwide value of business revenue per employee in above-designated size legal person units of CNY 206,607, implies—given Daocheng County's tourism income of CNY 1,696.66mio—9,570 employees in 2015.

An alternative employment figure, for hotels only, can be derived from employment-per-room data. As presented in the text, the Chinese national statistics (Table 13, with 1.76 rooms per engaged person) imply an average of 5.7 persons per 10 rooms, resulting in 5.077 hotel employees. The World Tourism Organization publishes alternative employment-per-room data. Thus, the World Tourism Organization recommends the following optimum number of staff per 10 rooms: 3-star hotel: 8 persons; 4-star hotel: 12 persons; 5-star hotel: 20 persons.<sup>145</sup> The average establishment of accommodation in Daocheng County is probably a 3-star hotel (or lower), suggesting an average 8 staff (or fewer) per 10 rooms. At the

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<sup>144</sup> The calculation is  $[(4,562,000 \text{ persons} * \text{CNY } 176,705 \text{ per person}) + (2,354,325 * 104,329) + (10,694,000 * 104,329/2)] / (4,562,000 + 2,354,325 + 10,694,000) = \text{CNY } 91,401$ , which is 51.73% of the business revenue per employee in above-designated size legal person units (CNY 176,705).

<sup>145</sup> See <http://www.city-of-hotels.com/165/hotel-staff-en.html>, accessed 2 March 2018.

*international standard* of 8 persons per 10 hotel rooms in 3-star hotels and an assumed 7,000 hotel rooms in 2015, hotels (alone) in Daocheng County employed 5,600 persons; this is 10% more than the 5,077 persons calculated in the text based on the Chinese nationwide average.<sup>146</sup>

Given the 2013 economic census nationwide employment data, catering could employ the same number of laborers as do hotels. For transport, a rough estimate of employment in Daocheng County based on personal observations (as alternative to the calculations presented in the text) is 1,000-2,000. This assumes 326 bus drivers for the 163 buses running within Yading, on the order of 100 formal taxi drivers in Jinzhuzhen and another 100 drivers of informal taxis, 50-100 staff at the airport, and perhaps another 500 drivers serving the tourism business as bus, SUV, or jeep drivers. A good part of wholesale and retail trade also serve tourism, adding perhaps another 1,000-2,000 laborers. This brings total tourism-related employment again to a level around 15,000.

### *Business revenue vs. value-added*

In 2013, the national value of business revenue in hotels and catering *legal persons* is near-identical to (3% larger than) *economy-wide* value-added in the sector hotels and catering (reported underneath Table 12). This suggests that tourism income provides a good estimate of value-added (and vice-versa).

But while the value-added data cover economy-wide hotels and catering (including sole proprietorships), the value for business revenue only covers legal persons (excluding sole proprietorships that in 2013 accounted for an additional 155% of employment in hotels and catering, with no data available on their business revenue or value-added). I.e., some of the business revenue in legal persons and in sole proprietorships does not constitute value-added but intermediate inputs (which is plausible).

Assuming, as in the previous section, that business revenue per employee in sole proprietorships is approximately one-third of that in all legal persons hotel and catering units,<sup>147</sup> an employment figure for sole proprietorships in 2013 that is equal to 155% of employment in legal person hotel and catering units implies that business revenue across *all* hotel and catering units (legal persons and sole proprietorships) is approximately 50% higher than that in legal person hotel and catering units only ( $1/3 * 155\%$ ). I.e., national hotel and catering value-added is equivalent to two-thirds of national business revenue across all hotel and catering units. That is plausible.

The Daocheng County tourism income is not defined in the source. If tourism income is derived as product of the (likely assumed) tourism income per visitor and tourist numbers, and if tourist numbers include those in sole proprietorships (likely), then the Daocheng

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<sup>146</sup> Employment in Daocheng County's hotels could deviate from the international as well as the national standard for a number of reasons. Thus, capacity utilization in Daocheng County could be particularly low given the strong seasonality of tourism in Daocheng County. Using the national number of rooms per engaged person in above-designated size legal person hotels as reference point ignores that many hotels may be below-designated size—or not even legal persons, but sole proprietorships—with potentially lower levels of staffing. This would suggest lowering the employment estimate for hotels in Daocheng County. On the other hand, given the relatively low labor costs in Daocheng County and perhaps low average efficiency of labor in Daocheng County, staffing could also be higher than elsewhere.

<sup>147</sup> Business revenue per employee in sole proprietorships is assumed to be about half that in below-designated size legal person hotels and catering, and thereby business revenue per employee in sole proprietorships is approximately one-third of that in all legal person hotel and catering units. The data, in 2013, are  $(\text{CNY } 104,329 / 2) / \text{CNY } 152,068 = 34.30\%$ .

County tourism income value also covers the sole proprietorships and Daocheng County value-added in hotels and catering then is likely equal to approximately two-thirds of Daocheng County tourism income in hotels and catering. (Some of Daocheng County's tourism income is derived from transport, and possibly trade; as long as the transformation rate from business revenue to value-added is the same across sectors, this does not affect the conclusions.)

Alternatively, an argument could also be made that 'tourism income' (旅游接待收入)—the term used in the *Ganzi Statistical Yearbook*—per se denotes value-added, given that it is titled 'income' rather than some term such as 'revenue,' with income across the economy by definition equal to GDP (national value-added). It may be for good reason that business revenue (营业额) is called 'revenue' and not 'income.' In that case, no one-third discount need be applied to tourism income when deriving tourism value-added.<sup>148</sup> The Chinese term 收入, however, is not unambiguously 'income' as it can also be translated as 'revenue.'

In the case of Yading, it is unclear what the tourism income refers to. The Yading entrance fee is CNY 150, and the bus transfer from the Yading Visitor Center to the end of the road CNY 120; these do not add up to the implicit CNY 990 tourism income per visitor (dividing the official Yading tourism income value by the official Yading visitor numbers). With Yading tourism income approximately equal to half of Daocheng County's tourism income, even inclusion of overnight visitors to Yading Village in Yading tourism income is insufficient to reach a value close to CNY 990 per visitor. Thus, either Yading's tourism income is unrealistic (assuming the visitor numbers are correct) or the use of CNY 990 is justified by some arbitrary split of tourism income and visitor numbers to 'Daocheng County including Yading' into 'Daocheng County (excluding Yading)' and Yading.

If 'tourism income' were a revenue measure (rather than an income or value-added measure), then some of the Yading tourism income could reflect Yading entrance fees. Entrance fees constitute value-added if they exactly cover the employment and capital costs of running the nature reserve. Given the uniform tourism income values per visitor across localities, and other localities not necessarily being in possession of tourist attractions that can demand fees on the scale of Yading, Yading's tourism income likely deserves no special treatment. (If anything, it should be higher, given the Yading fees.)

#### *Further findings regarding tourism income*

The data presented in Table 12 allow the following additional conclusions for 2013:

Business revenue per employee in hotels (legal persons) is almost identical to business revenue per employee in the catering industry (legal persons).

Business revenue and *main* business revenue in hotels and catering legal persons differ by a negligible amount (or percentage).

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<sup>148</sup> Focusing on the income side, tourism *income* in largest part reflects compensation of labor and capital, with at best a small amount expended on intermediate inputs. (Also see Appendix 10, which suggests that close to half of revenue in the hotel business is labor compensation.) The compensation of labor and capital constitutes income, or GDP (value-added).

The number of below-designated size legal person units in the hotel business is three times larger than the number of above-designated size legal person units; for catering, the multiple is four. But in terms of year-end employment, above-designated size hotels account for 71% of employment in the hotel business (legal persons), while in catering the share is 62%. In terms of business revenue, the percentages are 81% and 74%.

Table 13. Daocheng County Tourism Income and Value-added, complete table

	2007	2008	2009	2010	2011	2012	2013	2014	2015
<b>Daocheng County tourism including Yading (official data)</b>									
Visitor numbers	67,212	46,607	123,192	246,477	296,000	123,600	172,280	898,000	1,713,798
Tourism income (CNY mio)	44	30	80	160	200	84	171	941	1,697
Tourism income / visitor (CNY)	650	650	650	650	675	682	990	1,048	990
<b>Daocheng County GDP (CNY mio) (official data)</b>									
Tertiary sector value-added (VA)	204	237	261	312	390	457	526	554	598
Transport VA	0.6	0.7	0.8	0.9	1.0	1.1	1.3	1.7	2.2
Hotels and catering VA	19.5	14.2	16.3	23.4	26.0	31.2	33.6	36.5	44.6
Hotels VA				6.0	6.4	7.8	8.0	8.9	11.3
Catering VA				17.5	19.6	23.4	25.6	27.6	33.3
Trade	8.5	10.9	12.3	13.7	15.3	16.2	17.4	13.5	17.0
<b>Daocheng County tourism income / GDP</b>									
Tourism income / tertiary sector VA	0.2	0.1	0.3	0.5	0.5	0.2	0.3	1.7	2.8
Tourism income / transport VA	0.4	0.3	0.6	1.1	1.1	0.4	0.8	4.0	6.4
Tourism income / hotels and catering VA	74.0	44.6	105.4	180.0	195.9	75.9	135.4	543.9	767.7
Tourism income / hotels VA	2.2	2.1	4.9	6.8	7.7	2.7	5.1	25.8	38.1
Tourism income / catering VA				26.7	31.2	10.8	21.3	105.6	150.1
Tourism income / trade VA				9.2	10.2	3.6	6.7	34.1	51.0
Tourism income / trade VA	5.2	2.8	6.5	11.7	13.1	5.2	9.8	69.5	99.6
<b>Nationwide tourism data: legal person units above-designated size, except for economy-wide VA</b>									
(1) Business revenue / engaged persons in hotels and catering (CNY)	108,587	120,600	123,475	139,011	159,434	175,012	176,705	188,497	206,007
(2) Hotels: number of rooms per engaged person		1.08	1.01	1.07	1.18	1.59	1.27	1.62	1.76
(3) Share of hotels in number of engaged persons in 'hotels and catering'	0.51	0.50	0.50	0.49	0.49	0.46	0.46	0.46	0.46
(4) Share of hotels in business revenue of 'hotels and catering'	0.49	0.46	0.46	0.47	0.46	0.44	0.44	0.43	0.43
(5) 'Hotels and catering' VA / business revenue in 'hotels and catering'	1.49	1.37	1.41	1.29	1.21	1.20	1.27	1.37	1.43
<b>Assume Daocheng County 'tourism' VA (CNY mio) = (official) Daocheng tourism income</b>									
(6) Daocheng County engaged persons obtained as Daocheng County tourism income / (1)	402	249	648	1,153	1,254	481	965	4,992	8,238
(7) Daocheng County 'tourism' VA (CNY mio) proxied by: Daocheng County tourism income * (5)	65	41	113	206	242	101	216	1,288	2,422
(8) This proxied Daocheng County 'tourism' VA / Daocheng County official GDP	0.3	0.2	0.4	0.7	0.8	0.2	0.4	2.3	4.1

'VA:' value-added. 'Transport:' transport, storage, and post.

Notes:

Above-designated size: Annual income of main business of CNY 2mio and above (*Statistical Yearbook 2016*, p. 574). In 2007, the data cover above-designated size legal person enterprises and productive units, since 2008 only above-designated size legal person enterprises. (This definitional change

may have had little practical impact; the number of “legal person units” [in 2007, according to the note underneath the statistical table, including other productive units] increased from 25,041 in 2007 to 37,151 in 2008; business revenue increased from CNY 371.15bn to CNY 482.443bn.) The coverage of business revenues switches at the same time from (in the official translation) “annual turnover” (年营业额) to “annual main business income” (年主营业务收入). (Data from the economic census 2013 presented in Appendix 11 suggest a 1% difference between business revenue and *main* business revenue.) The national data in the table here relate values of (only) the above-designated size units to (total) economy-wide value-added,

‘Engaged persons’ are year-end values. This contrasts with the Daocheng County employment numbers presented in Table 8 and Table 14, which (at that point by choice) are mid-year numbers. The differences in Daocheng County mid-year vs. end-year values are of negligible size. (For example, Daocheng County total formal employment mid-year 2015 was 3,880 and end-year 2015 4,015, i.e., 3.5% higher.)

For 2015, a breakdown of Daocheng visitor numbers and tourism income into ‘Daocheng excluding Yading’ and ‘Yading’ is available. Visitor numbers in ‘Daocheng excluding Yading’ and in ‘Yading’ in 2015 were 1,112,476 and 601,322; tourism income was CNY 1,101mio and CNY 595mio; and revenue per visitor was CNY 990 in both.

Across Ganzi Prefecture in 2015, transport value-added and (wholesale and retail) trade value-added were equivalent to 76.36% and 95.74%, respectively, of value-added in hotels and catering. Transport value-added accounted for 3.00% of Ganzi Prefecture GDP. Transport value-added in Kangding (county-level town) alone accounted for 58.19% of all transport value-added of Ganzi Prefecture. For Ganzi Prefecture, tourism income in 2015 of CNY 10.75038bn amounted to 50.46% of GDP of 21.30439bn and was equivalent to 13 times value-added in hotels and catering (CNY 837.27mio), 17 times value-added in transport (CNY 639.35mio), and 13 times value-added in trade (CNY 801.62mio).

Sources: *Ganzi Statistical Yearbook 2008 through 2016*, *Statistical Yearbook 2012 and 2016* (tourism-related data), and the NBS database ([www.stats.gov.cn](http://www.stats.gov.cn), for GDP-related data).

## Appendix 12. Daocheng County Employment and Population Data

### *Formal Sector Employment*

The fact that the rural/agricultural population is excluded from the employment data leaves as source for the 3,880 formal employees either the “non-agricultural” population of 4,265 persons (implying an employment rate of 91%), or the urban permanent resident population of 7,739 persons (implying an employment rate of 50%, more likely to be applicable).

The formal sector employment data come with some peculiarities. Thus, formal employment in the construction sector is zero even while construction value-added is substantial; presumably, these workers come with construction companies from outside Daocheng County and are then ignored in the statistics. In a second instance, transportation accounts for 12% of formal sector (non-private) employment and science for 5%, but each of these two sectors accounts for less than 0.5% of value-added, which is not credible.

The formal sector employment data appear heavily biased towards the public (non-private) sector. In a breakdown according to the type of unit, 42% of employment is in government departments and 37% in (state) administrative units; only 21% is in enterprises, the ownership of four-fifths of which is undefined (Table 14).

The prevalence of the state is also confirmed in an ownership breakdown, with 82% of employment in non-private units being in state units and 16.9% in an implicit residual category that likely captures non-regular employment in state units. The 16.9% value is close to the share of not-on post employees, at 16.4% (Table 14). It is thus plausible that the undefined category obtained as implicit residual simply covers state employees whose positions are not part of the authorized employment numbers (编制). Two-thirds of the not-on post employees work in government departments and almost all of the remainder in administrative units.

### *Employment in Transport and Trade*

Across Ganzi Prefecture, transport value-added is equivalent to three-quarters of hotels and catering value-added (see note below Table 6). If value-added per employee in transport is assumed to be twice that in hotels and catering (and all transport is assumed to be related to tourism), then 3,250 tourism-related persons are employed in the sector transport ( $0.75 * 0.5 * 7,500$ , with the figure of 7,500 employees in hotels and catering derived in the text).

A similar calculation can be made for the sector ‘trade,’ with perhaps one-third of all (wholesale and retail) trade directly and indirectly related to tourism. In Ganzi Prefecture, value-added in trade is of similar size as value-added in hotels and catering (see note below Table 13). If value-added per employee in trade in Daocheng County were similar to that in hotels and catering, then trade would account for another 2,500 tourism-related employees ( $1/3 * 7500$ ) in Daocheng County.

*Daocheng County Tibetan population*

According to the *Master Plan*, the population of Daocheng County in 1999 was 27,324, of which more than 96% were Tibetans; the agricultural population was 24,275. Of the Jinzhuzhen population, 70% were Han. For these numbers to match, the population of Jinzhuzhen (a figure not published) must have been 1561, under the assumption that everyone outside Jinzhuzhen is Tibetan. If all the non-agricultural population were located in Jinzhuzhen (or in urban townships with a similar 70% Han share of the population), then the Tibetan share of the Daocheng County population would be 92% (not “more than 96%”). The 70% Han share of the Jinzhuzhen population around 2000 makes sense given that Jinzhuzhen was established as an administrative center of the Chinese government, located between several Tibetan villages (agglomeration of houses amidst fields), which by now are no longer distinct from the Chinese town.



Table 14. Daocheng County Formal Employment (2015), complete table

	Non-private units					Sector share in total employment (%)	Private units			
	Number of units	Average employment	# on-post empl.	Labor remuneration (yuan) per			Column titles as on left			
				employee	on-post empl.		(1)	(2)	(4)	(6)
	(1)	(2)	(3)	(4)	(5)	(6)	(1)	(2)	(4)	(6)
<b>Total</b>	84	3,661	3,032	66,275	75,286	100	16	219	31,164	100.0
Agriculture							2	8	36,500	3.7
Mining							1	9	29,889	4.1
Manufacturing							2	27	17,815	12.3
Utilities	2	70	46	51,971	66,174	2	3	40	33,075	18.3
Construction										
Transportation	2	431	431	82,889	82,889	12				
Information technology										
Trade	2	17	17	49,824	49,824	0	3	8	36,125	3.7
Hotels and catering	4	187	171	43,043	42,684	5	4	100	33,520	45.7
Finance	2	55	53	78,018	80,132	2				
Real estate										
Leasing										
Science	3	181	181	16,359	16,359	5				
Water conservancy	2	199	86	37,337	64,698	5	1	27	30,333	12.3
Household services										
Education	6	539	465	71,866	79,671	15				
Health	5	254	238	74,476	78,042	7				
Culture	3	31	31	85,032	85,032	1				
Public administration	53	1,697	1,313	70,361	84,024	46				
<b>By ownership</b>										
Total	84	3,661	3,032	66,275	75,286	100.0				
State	77	3,016	2,403	65,241	76,218	82.4				
Collective	1	27	27	77,519	77,519	0.7				
Other										
Implicit residual	6	618	602	70,832	71,468	16.9				
<b>By administration type</b>										
Total (all units)	84	3,661	3,032	66,275	75,286	100.0				
Enterprises	12	760	718	69,145	71,256	20.8				
State	5	115	89	58,113	67,921	3.1				
Collective	1	27	27	77,519	77,519	0.7				
Other										
Implicit residual	6	618	602	70,832	71,468	16.9				
Administrative units	23	1,352	1,115	59,774	68,033	36.9				
State	23	1,352	1,115	59,774	68,033	36.9				
Collective										
Government departments	49	1,549	1,199	70,542	84,445	42.3				

“Average employment” denotes average annual employment. “On-post” denotes 在岗职工.

Note: “Average employment” contrasts with the Daocheng County number of “engaged persons” reported in Table 6, which are end-year numbers. The differences in mid-year vs. end-year values are of negligible size. (For example, Daocheng County total formal employment mid-year 2015 was 3,880 and end-year 2015 4,015, i.e., 3.5% higher.)

Some aggregate values (with a breakdown into "non-private" and "private") are also reported in a separate table in the source, listing a total number of 100 (work) units and a total number of average annual employment of 3,880 (i.e., the sums of the values of non-private and private units in this table here). The separate table

in the source under-reports labor remuneration in private units by a factor of ten (an obvious error), and then replicates the same error in the values it reports for totals.  
Sources: *Ganzi Statistical Yearbook 2016*.

## Appendix 13. Revenue Diversification: Local Special Products

A key aspect of economic development based on tourism, according to the *Master Plan*, is the development of tourist commodities (旅游商品), i.e., of products to be purchased by tourists. Income from retail sales is reported to account for 25% of Sichuan's tourism income and 70% of Hong Kong's, with developed foreign tourist markets typically at 50%. The Daocheng County Master Plan's objective for Daocheng County, which around 2000 had practically no income from retail sales to tourists, was for retail sales to reach 10% of tourism income in 2005 and 15% by 2015.

The *Master Plan* suggests the development of local specialties with what seem arbitrary output projections for the upcoming three 5-year periods (2000-2015) for dried fruit (干果, including walnuts) to be produced in five lower-altitude townships in Daocheng County. Other products listed in the *Master Plan* are Chinese medicine herbs, Yak meat, and forest by-products such as Matsutake mushrooms.<sup>149</sup> Institutions are to be established that further research the various possibilities and then promote implementation and facilitate sales.

As of 2017, such projections remain elusive. While dried Yak meat is available and various shops sell Chinese medicine (in particular, the Caterpillar mushroom), these sales at best account for a lower single-digit percentage share of tourism income. Local dried fruit were not on sale in Jinzhuzhen and Riwa in 2016 and 2017.<sup>150</sup>

The Matsutake mushroom prominently features in restaurants. The *Master Plan* suggests a harvest of 200 tons, presumably annually, valued at CNY 1.1mio (*Master Plan*, Table 3.4.1, p. 103), without, however, providing a time frame or expanding on current output at the time of writing of the *Master Plan*.<sup>151</sup> The bulk of this harvest is unlikely to find its way onto tourists' plates or into their shopping bags as the market is focused on quick, minor processing and then exports to Japan by plane.<sup>152</sup>

Tibetan jewelry is widely available, whether in shops or offered by Tibetan hawkers, such as in a small wooded park South of Jinzhuzhen where Chinese tourist buses stop for photo shoots of the fall scenery. But, again, the volume of transactions and the returns appear minuscule. The necklaces sold by Tibetan hawkers at rock-bottom prices (CNY 15-20) are likely produced in a Chinese factory elsewhere (or imported from Nepal), rendering the local Tibetans traders, not producers, and thereby limiting local income and value-added.

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<sup>149</sup> The dried fruit production supposedly requires an investment on the order of CNY 10m, while the cultivation of Yaks requires an investment of CNY 778,000 to fence off 19,000 mu of land on which to raise 1,900 Yaks,

<sup>150</sup> In October 2017, locals made the rounds of Jinzhuzhen and Riwa trying to sell honeycombs to unenthusiastic tourists. In Jinzhuzhen, half a dozen women from neighboring Xiangcheng County selling apples and walnuts had set up temporary stalls at the entrance to the wet market. These are very small-scale, localized undertakings; the (excellent) Xiangcheng apples were not available in Riwa, let alone in Diqing in neighboring Yunnan Province, or at the fruit stalls (formal and informal) in the Tibetan area of Chengdu.

<sup>151</sup> By 2016, the Matsutake price was around CNY 70 per Chinese pound (500g), compared to the price of CNY 5.5 implicit in the *Master Plan*'s values.

<sup>152</sup> Fresh Matsutake mushroom is a seasonal product, available in July and August, sometimes extending into September. Even if every second tourist were to have one Matsutake dish during their two-day stay in Daocheng County, it would still only account for a small fraction of total tourist expenditures (perhaps 2-3%, CNY100 / CNY 4,000), and only during a couple of months of the year.