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# Which Public? Whose Goods? What We Know (and What We Don't) About Public Goods in Rural China

Sara A. Newland\*

## Abstract

What have we learned from a decade of research on the provision of public goods in the Chinese countryside? This review article surveys the literature in political science, economics and Chinese area studies. It describes the three dominant types of explanations for variation in the quality of public goods: local elections, social sanctioning and economic policies. It then argues that these findings are plagued by a set of common problems. Scholars mean different things when they use the term “public goods,” making their findings difficult to compare. Furthermore, the most common measures of public goods ignore the ways in which local officials manipulate statistics to enhance their career prospects and the interconnected nature of geographic-administrative units in the Chinese state. I suggest some ways to address these problems, and make recommendations for new directions in research on the topic.

**Keywords:** China; public goods; rural politics; political economy

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After our first year in Sancha ... Mimi and I donated one hundred dollars' worth of cement to the village, specifying that it could be used to make any necessary repairs to the new Sancha road. The Party Secretary took the gift and paved a perfect sidewalk to her house, and now she could ride her motorcycle all the way to the front door.

Peter Hessler (2010), *Country Driving*, 190–91

China's staggering urban growth has largely left the countryside behind.<sup>1</sup> First used to subsidize the urban economy during the Maoist era, then left to stagnate as decollectivization destroyed the limited rural social services that existed under Mao, rural China has long been poor – and poorly served by local governments. Yet, in the past decade a set of changes has converged to foster a sense of cautious optimism among China-watchers that the situation might improve. Investment in rural infrastructure has dramatically increased. Village elections have become increasingly competitive, even if they remain imperfect,<sup>2</sup> and many villagers now exercise greater control over the management of village

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1 Sicular et al. 2007; Yang 1999.

2 O'Brien and Han 2009.

finances through the participatory decision-making model known as “one affair, one discussion” (*yi shi yi yi* 一事一议).<sup>3</sup> Policymakers have become more sympathetic to the countryside; the Hu–Wen administration attempted to rebalance China’s development strategy, implementing the “Building a new socialist countryside” (*shehuizhuyi xin nongcun jianshe* 社会主义新农村建设) policies for improving rural health care, modernizing agriculture and building infrastructure.

These changes – combined with the increased ease of survey research in rural China – have inspired new research questions and created new data sources with which to answer them. Has the combination of top-down pro-rural policies and bottom-up accountability mechanisms improved the quality of public goods and services in the Chinese countryside? If not, what problems have prevented greater progress? Since 2004, numerous researchers have sought to answer these questions, focusing on the effects of village elections, tax-for-fee reform, social networks, officials’ promotion incentives and other factors on public goods – although the county level, increasingly responsible for the provision of public goods, remains understudied. What have we learned from a decade of research on the provision of public goods in the Chinese countryside?<sup>4</sup>

Several points of agreement emerge.<sup>5</sup> First, the direct election of village heads has increased expenditure on village-level public goods and services. Second, social ties to citizens compel village officials to expend effort and resources on the provision of public goods and services. Third, changes in China’s economic policies – among them tax-for-fee reform, the 2008–2009 economic stimulus plan, an increase in the outsourcing of public services, and the recentralization of rural finances and public service provision – have affected village leaders’ ability to provide public goods and services.

At the same time, existing studies often depart from the orthodox *definition* of public goods, and disagree about how the provision of public goods should be *measured*. Furthermore, the most commonly used measures in the quantitative literature line up poorly with our qualitative knowledge of rural governance in China. As a result, it is difficult to know what to make of these findings on their own terms, and equally difficult to draw them into broader comparative

3 Göbel 2009.

4 A limited set of sources has addressed public goods provision in urban China (Solinger 1995; Teets 2012), but as this literature focuses on a different set of concerns, I exclusively address rural public goods here.

5 To identify the set of relevant scholarly literature, I used two search methods. First, I searched the leading scholarly database Academic Search Premier (EBSCOHost) for peer-reviewed, English-language sources published between 2004 and 2015 that contain the terms “rural” and “public goods” or “public services” in the abstract, and that use China as a geographic keyword. This yielded a total of 48 sources, of which 16 are relevant to this paper (several articles discussed China’s contribution to global public goods such as collective security; others focused on urban China). Second, I searched Google Scholar for sources published between 2004 and 2015 that contained “public goods” and “China” in the title. This yielded 201 results, including duplicate citations and non-English-language sources. I manually limited the search results to English-language publications, and included unpublished working papers only if they were cited by at least one source. This ultimately produced a list of 16 relevant sources. I also thank two anonymous reviewers for drawing my attention to several additional sources that shed light on this topic without using the terminology of public goods.

conversations about authoritarianism, local governance and provision of public goods. This represents a lost opportunity. The study of local public goods provision is a growth industry in political science and economics, and the fact that China faces the same challenges as many developing countries – but addresses these challenges with a distinctive set of rural governance policies – makes China a useful comparison case. However, existing scholarship on the provision of public goods in China has largely focused on village leaders' decisions about resource allocation, and has ignored the questions about free-riding and cooperation that are central to the study of the provision of public goods in other contexts. As a result, these literatures share a common term – public goods – but otherwise have little to say to each other.

### What Are Public Goods?

Public goods have two key properties: they are *non-rivalrous* and *non-excludable* (see Table 1).<sup>6</sup> One person's use of a non-rivalrous good does not diminish its availability to others; the clean air that I breathe does not make the air that you breathe dirtier. Non-excludable goods benefit both those who contribute and those who do not. For example, all of a country's residents reap the rewards of national defence regardless of whether they pay taxes that contribute to that defence or not.

In combination, these two qualities mean that public goods pose particular challenges that cannot be easily solved by market mechanisms; without government intervention, they are likely to be underprovided relative to the population's demand for them. In particular, public goods are plagued by the *free-rider problem*. Since non-contributors and contributors can benefit equally from public goods, individuals have little incentive to pay their fair share. There is, therefore, little profit to be made from providing public goods, and while demand for them may be high, supply – if left to the market alone – will almost certainly be low.

While these problems mean that governments typically provide public goods, particular attributes of local communities may either encourage citizens to “carry their weight” or exacerbate the free-rider problem. Within close-knit communities, the fear of social sanctioning may encourage citizens to contribute even when pure self-interest would lead them to do otherwise. In rural Kenya, for instance, parents could be compelled to donate to village schools if free riders were socially sanctioned; ethnically homogenous communities were able to implement these sanctions more effectively, and had better public goods as a result.<sup>7</sup> Similarly, strong norms of reciprocity within cultural groups may encourage seemingly selfless contributions to public goods.<sup>8</sup> Finally, homogenous communities may share policy and spending preferences to a greater degree than do

6 Samuelson 1954.

7 Miguel and Gugerty 2005.

8 Habyarimana et al. 2007.

Table 1: **Types of Goods**

	Rivalrous	Non-rivalrous
<b>Excludable</b>	Private goods e.g. clothing, food	Club goods e.g. national parks, film screenings
<b>Non-excludable</b>	Common-pool goods e.g. water, timber	Public goods e.g. public safety, highways, air quality

diverse communities. Citizens in culturally or ethnically homogenous areas may thus be willing to pay their fair share, but those in more ethnically diverse areas prefer to minimize public goods spending and instead pay privately for their preferred services.<sup>9</sup>

### What We Know About the Past

The provision of public goods has since 1949 been one of the Chinese Communist Party (CCP) regime's greatest successes – and among its most notable failures. The new communist leadership bought peasants' loyalty with public health campaigns, irrigation projects and basic medical care. Although these services were rudimentary, they represented a significant improvement in areas where such services had historically been non-existent. The provision of public goods was gradually institutionalized through the work unit in urban areas and through the collective in the countryside. The quality of rural public services ebbed and flowed with the political tides during the Maoist era. The system for providing public goods collapsed entirely during the Great Leap Forward and its tragic aftermath, then experienced a resurgence with the revival of the Cooperative Medical Scheme (*hezuo yiliao zhidu* 合作医疗制度) and the arrival of the “barefoot doctors” during the Cultural Revolution.<sup>10</sup> As Tony Saich rightly points out, it is difficult to know how to evaluate the effect of these early services, since many of their gains were wiped out by the horror of the Great Leap famine.<sup>11</sup> Nonetheless, during the Maoist period a widespread, if basic, infrastructure for the provision of public goods was essentially created from scratch, and brought about dramatic improvements: life expectancy rose by nearly 33 years over the course of the period, literacy rates increased dramatically, and rural infrastructure expanded.<sup>12</sup>

“Reform and opening” destroyed many of the Maoist-era institutions that provided public goods. Decollectivization undermined the basis for rural health services and access to basic health services dropped dramatically. By 1984, only 5 per cent of villages had health care coverage via the Cooperative Medical Scheme.<sup>13</sup> In urban areas, state-owned enterprises struggled to adapt to the

9 Alesina, Baqir and Easterly 1999.

10 Duckett 2011.

11 Saich 2008.

12 Huang 2011; Plafker 2001.

13 Duckett 2011.

demands of the market and cut costs by slashing the services they provided. Private services emerged as a replacement, but access was limited and unequal.<sup>14</sup> Whereas at the start of the reform period free local health care in the countryside was nearly universal – in 1975, 85 per cent of the population had access to care – coverage had dropped to just 10 per cent by 2005.<sup>15</sup> This situation more or less remained the case for decades, and life expectancy rates and other measures were virtually constant for much of the reform period.

The central government's renewed attention to providing public goods in the early 21st century represented the convergence of two sets of policy priorities. The first was an attempt to ameliorate rural–urban inequality, the second a desire to rebuild (albeit on a more limited scale) the social safety net that had existed for most of the Maoist period. Investment in rural infrastructure improved dramatically, with investment in rural roads growing from 35.8 to 124.2 billion yuan between 2001 and 2004, and infrastructure investment exploding after 2008 to offset the effects of the global financial crisis.<sup>16</sup> Rural health insurance, largely destroyed by decollectivization, was also revived. Whereas in 1993 only 6.6 per cent of rural residents had health coverage, in 2011 the New Cooperative Medical Scheme (*xinxing nongcun hezuo yiliao zhidu* 新型农村合作医疗制度) covered 832 million people.<sup>17</sup> The central government also invested in subsidies and fee exemptions for poor students, urban health and workplace injury insurance, and a welfare programme for the poorest citizens called the Minimum Living Standard Scheme (*dibao* 低保). These programmes, largely implemented by county governments, have grown at a rapid pace. For example, by 2011, the *dibao* covered more than 50 million people.<sup>18</sup> Villages, once the primary providers of rural public goods, continue to play a sizeable role in providing some public goods (the construction of local roads and irrigation projects, for instance), and funding for these projects remains limited.<sup>19</sup> However, the increasing centralization of rural public goods has changed both the amount and the funding structure of these goods. Overall investment in village public goods and the share of investment that comes from higher levels of government have both increased substantially (from 350 yuan per capita in 1997 to nearly 1,000 yuan in 2008). Nearly 75 per cent of these funds now come from the township level and above.<sup>20</sup>

14 Wagstaff et al. 2009. Duckett (2011) questions whether economic reform can be blamed for the dismantling of rural health services, arguing that a 1981 change in health policy was the more proximate cause. Nonetheless, the “economic reform paradigm” remains the dominant explanation for the dramatic collapse of these services.

15 Michelson 2012.

16 Liu, Chengfang, et al. 2009; Michelson 2012; Zhang, Yumei, Wang and Chen 2013.

17 Liang et al. 2012.

18 Golan, Sicular and Umaphathi 2014.

19 For a detailed description of village-level investment in public goods projects, see Zhang, Linxiu, et al. 2006.

20 Oi et al. 2012.

## What We Know About the Present

### *Village elections and the provision of public goods*

The literature on the local provision of public goods consistently finds that elected village officials provide better public goods than appointed ones, and that more democratic election procedures are associated with better provision. Two categories of explanations, which I term *electoral accountability* and *resource mobilization*, provide potential causal mechanisms linking democracy to better public goods.<sup>21</sup> Electoral accountability can take several forms. Villagers may be better than higher-level officials at monitoring local officials. When village heads are accountable to villagers (who may vote them out of office for poor performance), they are less likely to get away with misuse of funds because their wasteful spending is more likely to be observed. As a result, the implementation of village elections has led to greater investment in the public goods that villagers care about, such as irrigation in farming villages.<sup>22</sup> The increased transparency that elections create also decreases wasteful spending, an effect that is magnified when the village head shares power with other local elites.<sup>23</sup> Other work in this vein argues that direct election makes representatives more accountable to villagers and results in higher spending on public goods – so long as the position of village representative is relatively lucrative.<sup>24</sup> Positive “neighbour effects” – such that more investment in public goods in nearby locales motivates officials to provide better public goods in their own – are also induced by village democracy.<sup>25</sup> These effects have changed over time as rural China’s economic policy environment has shifted. More democratic village governance (measured by the frequency of villagers’ meetings and the election of village cadres) had no effect on levels of expenditure on public goods before the implementation of tax-for-fee reform, but led to higher levels afterwards.<sup>26</sup>

These studies suggest that elections induce an “electoral connection” that makes cadres understand and respond to villagers’ policy preferences.<sup>27</sup> A second body of work on accountability to voters treats the provision of public goods as “pork-barrel politics,” a tool for buying votes on election day. Because public

21 Above the village level, career incentives also play an important role in officials’ decisions despite the absence of meaningful elections. In order to maximize their promotion prospects, officials expend effort on goals that higher levels of government regard as “hard targets” (Edin 2003a; 2003b; O’Brien and Li 1999; Rosenberg 2015), and time investment decisions to maximize their likelihood of being promoted (Guo, Gang 2009). These incentives have important implications for the provision of public goods (as well as for the enforcement of policies for ensuring social stability, promoting economic growth, and other national priorities). Because the literature on promotion incentives focuses on rural expenditure and on policy implementation by township- and county-level officials in general, rather than on the specific topic of public goods provision, it is outside the scope of this article. Interested readers should refer to Göbel 2011 and Guo, Gang 2009 for useful overviews of this literature.

22 Martínez-Bravo et al. 2011.

23 Zhang, Xiaobo, et al. 2004.

24 Kung, Cai and Sun 2009.

25 Agostini, Brown and Zhang 2010.

26 Sato 2008.

27 Manion 1996.

goods benefit the entire community rather than just a small group of elites, they help officials to mobilize a large number of voters, as do efforts to redistribute village income towards the poor.<sup>28</sup> Renfu Luo et al. find that elected village officials spend more on village infrastructure than do appointed officials; the authors argue that cadres are more likely to be re-elected when they distribute “pork” – in the form of public goods – to their constituents.<sup>29</sup> These findings are contested, however, by research that looks at the distribution of projects across natural villages *within* a given administrative village. While both the village head and the village Party secretary use their positions to distribute pork to their home natural villages, they pay a price for doing so: village leaders who pander to their neighbours are less likely to be re-elected.<sup>30</sup>

The second mechanism, resource mobilization, refers to the village head’s ability to compel villagers to contribute to public goods. Unsurprisingly, wealthier villages invest more in public goods than do poor villages.<sup>31</sup> However, the available resources may be endogenous to the relationship between officials and villagers. In an interesting side-note to their main findings, Monica Martinez-Bravo et al. find that villagers pay more towards public goods when the village head is elected rather than appointed.<sup>32</sup> Resource mobilization for the provision of public goods can also be an impetus for (rather than an outcome of) village elections. China’s economic liberalization means that the state can no longer fund itself by extracting monopoly rents from the command economy, and instead must rely on “taxation by consent” to pay for public goods.<sup>33</sup> But, villagers may be unwilling to make these contributions without a greater input into their use, resulting in the creation of elected village committees (*cunmin huiyi* 村民会议).

### *Social networks and the provision of public goods*

A second set of findings concerns the relationship between social networks and the provision of public goods. Citizens use social pressure to hold officials accountable, even when democratic accountability is limited. Lily Tsai finds that groups which are “encompassing” – open to all within the village – and “embedding” (meaning that village officials participate in the group) offer higher “moral standing” to officials who provide high-quality public goods.<sup>34</sup> More recent work agrees but focuses narrowly on the participation of village officials in lineage groups.<sup>35</sup> These social ties benefit villagers, who receive better public

28 Martinez-Bravo et al. 2012; 2014. Indeed, public goods expenditures may themselves be a redistributive tool that decreases intra-village inequality (Shen and Yao 2008).

29 Luo et al. 2010.

30 Mu and Zhang 2011.

31 Kung, Cai and Sun 2009.

32 Martinez-Bravo et al. 2011; 2014.

33 Yan 2011, 49.

34 Tsai 2007a; 2007b.

35 Chen, Jie, and Huhe 2013.



goods, but also help the officials who provide these goods: working with social groups to “coproduce” public goods improves village officials’ perceptions of local state authority, and makes officials more optimistic about citizens’ compliance.<sup>36</sup>

Social ties between lower- and higher-level officials also improve the provision of public goods. Village and township officials with strong ties to higher-level officials may effectively lobby their superiors for resource transfers that can be devoted to public goods projects.<sup>37</sup> And, social ties between provincial Party secretaries and provincial elites may shift the Party secretaries’ preferences away from those of the central government and closer to those of provincial elites, leading them to spend more on public services. Surprisingly, they do so even though they may incur a career penalty for prioritizing provincial social welfare needs over the central government’s policy goals.<sup>38</sup>

Social ties between citizens may affect the quality of local public goods as well. Consistent with much of the research described in the previous section, Gerard Padro i Miquel and his co-authors find that elections increase the expenditure on public goods using funds raised by the village, but show that this effect is smaller in religiously fragmented communities. One possible explanation is that religiously homogenous villages are better at holding officials accountable. However, religiously diverse villages may also have a lower demand for public goods, with villagers preferring to pay for goods and services that only benefit their own religious group.<sup>39</sup> Qin Tu and his co-authors reach a similar conclusion in their study of the reconversion of forest land to private farmland after the end of a government-funded “grain to green” programme.<sup>40</sup> “Kinship trust” leads farmers to prioritize private benefits for themselves and their clan members (and thus to convert forests into farmland for their private use), whereas individuals with general trust in the whole community also value public goods and are more likely to maintain reforested land. Finally, similar to both Lily Tsai and Jie Chen and Narisong Huhe, Yiqing Xu and Yang Yao find that strong lineage groups improve the provision of village public goods.<sup>41</sup> However, they find little evidence that these ties hold officials accountable to citizens, arguing instead that officials who belong to large clans can overcome collective action problems and compel their fellow clan members to contribute to public goods instead of free-riding.

### *Provision of public goods and the local political economy*

The third set of conclusions evaluates the effects of recent economic policy changes on the provision of public goods. Tax-for-fee reform eliminated a long-

36 Tsai 2011.

37 Newland 2015; Zhou, Xueguang 2012.

38 Persson and Zhuravskaya 2012.

39 Padro i Miquel, Qian and Yao 2012.

40 Tu et al. 2011.

41 Tsai 2007a; 2007b; Chen, Jie, and Huhe 2013; Xu and Yao 2015.

standing source of rural discontentment, but also diminished village resources for public goods.<sup>42</sup> Several sources find that tax-for-fee reform had a negative effect on village-level provision of public goods because villages could not pay for these goods themselves and funding from county governments decreased.<sup>43</sup> Ethan Michelson agrees that tax reform posed a serious threat to village-level provision, but argues that this was a “short-run” effect in the mid-2000s and that “longer-run trends have been, on balance, positive.”<sup>44</sup>

If tax-for-fee reform hurt the provision of public goods by diminishing local funding sources, more recent policies that have increased available funding have enabled improvements in rural public goods. Michelson argues that the large-scale economic stimulus programme put in place to limit the effects of the global financial crisis on the Chinese economy dramatically increased spending on rural infrastructure and public goods and services.<sup>45</sup> This rapid inflow of new funds improved these services and ameliorated longstanding state–society tensions. Bruce Dickson sees this increased investment in public goods as part of a broader attempt to update the “China model” in the wake of the financial crisis, in the hope that increased investment in public goods will forestall demands for political reform.<sup>46</sup>

The abolition of school fees (2006) also affected public goods provision. In a national survey, this policy change increased citizens’ preference for state-funded education. Lü Xiaobo argues that this shift in attitude was driven by citizens’ growing awareness of the policy change, not by the material benefits citizens received.<sup>47</sup> This increased policy awareness has had important implications for citizens’ support of the CCP regime as citizens’ trust in the central government, but not in the local government, has increased.

The fiscal relationship among different levels of the Chinese party-state also affects the quality of local public goods provision. Economic decentralization creates cross-pressures that both help and hinder: on the one hand, local leaders may understand the needs of their communities better (and feel more obligated to serve these communities) than do provincial elites; on the otherhand, decentralization leaves cash-strapped localities largely responsible for funding their own public goods and services, which can undermine public goods provision. One study finds greater evidence for the first hypothesis: the infant mortality rate is lower in provinces that grant counties greater fiscal autonomy and where county governments take on a relatively large share of total provincial expenditure.<sup>48</sup>

Finally, non-state actors play an increasingly important role in the provision of public goods owing to a policy shift towards collaborative service delivery. The

42 Yep 2004.

43 Li 2008; Luo et al. 2007; Sato 2008.

44 Michelson 2012, 135.

45 Ibid.

46 Dickson 2011.

47 Lü 2014.

48 Uchimura and Jütting 2009.

2002 Government Procurement Law allowed local governments to contract with the private sector (including for-profit firms and non-profit organizations), and the law had an almost immediate effect. From 2002 to 2004, about one-third of government expenditures on services went to outsourced services. This change reflects the Chinese government's desire to become a regulator rather than a direct service provider.<sup>49</sup> It is also a response to social and demographic shifts (rural-to-urban migration and a large aging population) that have made traditional place-based state services untenable.<sup>50</sup> However, power remains firmly in state hands: non-governmental organizations still have little say in the policy process, local governments typically contract with firms and social organizations that already have close ties to the state, and outsourcing contributes to the state's legitimacy by "co-opting external players and stakeholders."<sup>51</sup> Findings on the effects of outsourcing are mixed: some suggest that outsourced services are often low quality and poorly regulated, whereas others find that outsourcing lowers costs and improves the quality of services.<sup>52</sup>

### **What *Don't* We Know? Limitations of the Existing Literature**

These sets of findings comprise a rich scholarly conversation on the causes and consequences of rural public goods provision. However, the concept of public goods, as the term is used in the literature on rural China, has fallen victim to "conceptual stretching."<sup>53</sup> Two problems have emerged as a result. First, the literature addresses fundamentally different concerns than work on the same topic in other contexts, inhibiting cross-national comparison. And second, although dozens of China scholars use the term "public goods," they often mean quite different things.

#### *Problems of conceptualization*

To understand some of these problems, it is useful to return to the orthodox definition of public goods given above. A public good is non-rivalrous (one person's use of it does not diminish its availability to others) and non-excludable (the good is available to all, and no one can be prevented from enjoying its benefits). To what degree is the literature on the provision of public goods in China consistent with this definition? While some work is careful to focus on true public goods, much does not, or else lumps together a variety of public services and infrastructure projects with varying degrees of "public good-ness," resulting in a substantial disconnect between the main arguments of the comparative literature on the provision of public goods and the arguments advanced by China scholars.

49 Jing 2008; Li 2008.

50 Simon and Teets 2012; Teets 2012.

51 Jing 2008, 126; Jing and Savas 2009; Teets 2012.

52 Simon and Teets 2012; Zhang, Mengzhong, and Sun 2012.

53 Collier and Mahoney 1993.

China does face some distinctive challenges when it comes to providing public goods. Wherever formal accountability is weak, officials may have little incentive to provide goods at all, or may use public funds for personal enrichment – an explanation for underprovision that may not apply to democracies.<sup>54</sup> But, this in itself does not explain the China literature’s inconsistency with other work on public goods. Indeed, research on provision of public goods in other contexts illustrates that many of the same dynamics (free-riding, a reluctance to share public goods across ethnic and other identity lines, and so on) exist in autocracies and democracies alike.<sup>55</sup>

*Non-rivalrousness.* A handful of studies of public goods in China have focused on goods that are truly non-rivalrous. Efforts to prevent desertification in the north-west, for instance, benefit everyone who lives in the area, as do “grain to green” reforestation programmes.<sup>56</sup> Many other studies include measures of true public goods – centralized village sanitation facilities or dumpsters, management of publicly owned village forests and grasslands, and potable drinking water, to name a few examples – within an index designed to measure the overall quality of public goods provision.<sup>57</sup> However, these measures are often lumped together with other categories of public *expenditure* that are not necessarily public *goods*. Take the example of paved village roads. As the epigraph to this article highlights, expenditures on paved roads do not necessarily benefit villagers, and how public these goods really are likely depends on which roads local governments choose to pave. This is not to say that commonly used measures like public expenditure on road construction necessarily violate the non-rivalrousness requirement. Instead, it is a call for future researchers to complement quantitative measures with qualitative inquiry into the substantive meaning of these measures on the ground, and to differentiate more clearly between public expenditures and public goods.

Furthermore, most existing work on the provision of public goods treats the administrative village as the unit of analysis, despite the fact that the non-rivalrousness condition does not hold across different natural villages within a single administrative village. Village resources are limited, and projects that benefit one natural village diminish the resources available to others. Future work would thus do well to investigate the distributional patterns of public spending within a single geographic-administrative unit; the question of who benefits may well reveal more than do the myriad studies of aggregate village spending.<sup>58</sup>

54 Xu and Yao 2015.

55 For a discussion of public goods in another non-democracy, see Khwaja 2009.

56 Tu et al. 2011; Zhou, Li 2004.

57 See, for instance, Chen, Jie, and Huhe 2013; Kung, Cai and Sun 2009; Luo et al. 2007; 2010; Mu and Zhang 2011; Tsai 2011.

58 Mu and Zhang’s 2011 study is, to my knowledge, the only source that looks at public spending at the level of the natural village.

The importance of these distributional patterns was clear in my fieldwork in Yunnan province, where local governments were often cash-strapped and the funds available for public goods and services quite limited. One county middle school, for instance, relied on donations from a local cement factory to complete new construction projects at the school. The school's principal, who was politically well-connected and skilled at using his influence to benefit the school, had succeeded in improving the school's physical infrastructure through these kinds of connections.<sup>59</sup> But, the resources for such public–private partnerships were finite, and schools whose leaders lacked the political acumen of this particular principal were unable to make similar improvements to their infrastructure. These distributional questions are central to the quality of rural public services but suggest that the distribution of these services is governed by quite a different logic than truly non-rivalrous goods like water and air quality.

*Non-excludability.* The degree to which so-called public goods in China fulfil the non-excludability criterion also varies substantially. By lumping together goods and services that can be targeted to specific recipients with those that cannot, much of the existing literature makes it difficult to assess whether the problems of non-excludability are actually relevant to rural China. Indices that combine true public goods with ones that can be limited to contributors may be useful for understanding how much local governments spend on a range of public goods and services, but they muddy our understanding of the patterns of provision and use that actually result from this spending. If the quality of so-called public goods is poor, is it because they are overused, as we would expect of non-excludable goods? Or because citizens refuse to contribute to their upkeep? By contrast, the quality of excludable goods might suffer owing to imperfect markets or factors that make it difficult for buyers to assess their value accurately. Disaggregating these different types of goods would open up new avenues of research on the distinct mechanisms that undermine (or improve) the quality of each type.

The dynamics of rural education and health service provision illustrate some of the problems with treating these services as public goods. Some of the most frequently used measures of so-called public goods – spending on teachers' salaries, number of teachers, number of hospital beds per capita, spending on medical clinics – ignore the fact that citizens can be (and frequently are) excluded from using these services in several ways. First, citizens' access to health services in the countryside is largely determined by their ability to pay. Although the New Cooperative Medical Scheme (NCMS) has increased access to rural health care by diminishing the cost to citizens, citizens typically pay for services in cash up front and are later reimbursed by their local health insurance office. This

59 Interview with middle school principal, Yunnan province, 2011.

payment structure imposes an insuperable barrier to medical care for typically cash-strapped rural families.<sup>60</sup> The scheme's low reimbursement rate for catastrophic illnesses also makes it difficult for the sickest individuals to afford care. One study found that in 2007, patients with medical expenditures greater than 10,000 yuan, although promised a reimbursement rate of over 40 per cent, were in fact reimbursed just 2.18 per cent from the NCMS; another study found that inpatient stays were reimbursed at just 15 per cent.<sup>61</sup> In the typology of types of goods I describe above, medical care in rural China is closer to a club good than to a public good.

Education also rarely fits the classic model of a public good. The nationalization of nine years of compulsory education and the "two exemptions and one subsidy" (*liang mian yi bu* 两免一补) policy designed to defray school costs for poor students have increased the degree to which basic education can be considered a non-excludable good. However, the distribution of education spending across schools and across students suggests that education spending is also more similar to a club good than to a public good. One reason is the unequal resource distribution within schools. Local officials and other well-connected residents lobby to place their children in the highest-performing teachers' classes. Nominally equal, they receive more resources and better instruction than other classes, and have fewer disruptive students.<sup>62</sup> Of course, this is not just a rural phenomenon: parents across China pay informal fees to get their children into the best classes and the most elite schools, with these fees reaching US\$130,000 at the most desirable Beijing schools.<sup>63</sup>

### *Problems of measurement*

*Measuring quality, or measuring graft?* It comes as no surprise to students of Chinese politics that local governments misallocate resources. Even when higher levels of government exercise relatively strict oversight, county governments are adept at inflating payrolls and fabricating budgetary shortfalls in order to maximize the grants and loans they receive.<sup>64</sup> It is thus puzzling that much of the literature on rural public goods provision in China takes local government expenditure as the key indicator of quality.<sup>65</sup> Another common measure of the provision of public goods – the number of new public projects – is vulnerable to similar problems. Officials frequently undertake wasteful projects simply to prove to their superiors that they are taking initiative, but this says little about the quality of services to citizens. Indeed, new projects may come at the expense

60 Interview with health economist, Beijing, 2011.

61 Zhang, Linxiu, Yi and Rozelle 2010, 102; Yi et al. 2009.

62 Interview with middle school English teacher, Yunnan province, 2011.

63 Gao 2014.

64 Liu, Mingxing, et al. 2009.

65 Examples include Oi et al. 2012; Shen and Yao 2008; Zhang, Xiaobo, et al. 2004.

of high-quality public services as officials invest resources in cosmetic efforts instead of improving existing services.<sup>66</sup>

In one poor county where I conducted fieldwork in Sichuan province, for instance, the county government invested substantial resources in creating a beautifully paved and tree-lined road to impress visiting officials who came into the county from the prefectural capital. The road won a provincial award for its beauty but had little effect on citizens' daily lives – few citizens owned cars and road travel on the county road was infrequent. The roads that *were* heavily used – the ones connecting the county seat to several townships within the county – were unpaved and in poor condition, but because these roads were unlikely to be used by higher-level officials, they remained neglected.<sup>67</sup> While expenditures or the number of kilometres of paved roads might suggest the presence of an effective and public service-oriented county government, the disconnect between the services that the government provided and the ones that citizens actually needed suggests that these measures do not provide a complete or valid picture of public service quality.

Whereas much, although certainly not all, existing research has focused on spending on public goods, future scholarship should pay greater attention to a broader range of public goods outcomes, and especially outcome measures that are relatively immune to self-serving manipulation by local officials. Local experts can provide useful guidance regarding the types of measures that are least vulnerable to manipulation by self-serving officials, and gradual improvements in data quality and access mean that a greater range of such measures are becoming available to researchers. Wherever possible, scholars should seek independent assessments of the quality of public service projects rather than rely on self-reported data from government officials. One set of scholars, for instance, hired engineers to assess the quality of new road construction in a sample of rural locations; others have used satellite imagery to assess rural electrification. Studies employing innovative measures such as these are more likely to produce valid results than those which rely on the very measures that officials are most keen to brag about.<sup>68</sup>

*Treating localities as independent units.* In the “politically centralized, but economically decentralized” Chinese state, local governments spend money and implement policies but they have limited policymaking power and report to the next higher level of government. The literature on public goods provision, however, focuses on villages in isolation, ignoring the web of interconnected political units within which public goods are provided. These interconnections are important because they may inhibit the provision of public goods. One

66 There is not necessarily a trade-off between the quantity and quality of public goods; the recent expansion of rural infrastructure has led to improvements in both quality and quantity (Liu, Chengfang, et al. 2009). However, spending increases cannot be simply assumed to improve quality.

67 Interview with local NGO employee, Sichuan province, 2010.

68 Liu, Chengfang, et al. 2009; Min and Golden 2013.

study found, for instance, that while village elections increase the share of public spending in the village budget, they hurt the quality of public goods by weakening fiscal sharing across villages – a necessity for public goods projects that require coordination across multiple villages.<sup>69</sup>

There are clear incentives for the head of a given locality to provide public goods. But, officials do not make decisions in a vacuum. Their ability to provide public goods may be helped or hindered by their personal relationships with higher-level officials and by the spending priorities of higher levels of government. For example, when county officials decide to distribute limited monetary resources to some townships but not others, these decisions determine the options available to township officials, virtually ensuring that some townships will have better public goods. And, as village schools have been replaced by larger, centralized ones and national campaigns to modernize the countryside have brought new resources to rural areas, the assumption that each locality provides public goods in isolation has become untenable.

The Yunnan middle school principal mentioned above, for instance, was part of a strong set of social networks with county officials, many of whom had begun their careers as teachers and school administrators alongside the principal before moving into positions in the county bureaucracy. These ties meant that the principal had the ear of county officials when he needed it, and was able to lobby for resources for the school effectively in informal ways. While his efforts were partially self-serving, they also brought meaningful improvements (among them a high-quality library and computer lab) to the school.<sup>70</sup> But in the context of limited resources, the special attention that this school received came at a cost to other schools, including those with more pressing problems (such as the high dropout rates in some of the ethnic minority township schools). The top administrators of minority autonomous township schools in the same county had limited social or professional relationships with county-level officials – the county government was overwhelmingly Han Chinese, and social ties were organized largely along ethnic lines. This lack of social connections made it difficult for them to lobby for resources as effectively as the more successful middle school principal could.

Geographic context likewise affects citizens' demand for public goods. Savvy inhabitants “vote with their feet,” challenging the assumption that different localities provide public goods independently. One county official, for instance, assumed guardianship of her nephew so that he could attend school in her county where schools were generally excellent, rather than in his county of residence.<sup>71</sup> A women's bureau official in a different county sent her daughter to school in the prefectural capital because of the poor quality of the local school.<sup>72</sup>

69 Wang and Yao 2007.

70 Interviews with township middle school principal and with education bureau officials, Yunnan province, 2011.

71 Interview with county official, Yunnan province, 2011.

72 Interview with county women's bureau head, Sichuan province, 2010.



Although using public goods and services in one's hometown may be easier than seeking out better services elsewhere, citizens react rationally to differences in service quality. They seek out access to high-quality services and avoid using poor-quality ones. Thus, the quality of public services in one locality may affect the quality of services in other, nearby localities by increasing (or decreasing) demand for these services and by changing the makeup of the population that uses the services that a given locality provides.

These patterns of interdependence, largely ignored by the existing literature on the provision of public goods in rural China, cause thorny problems for quantitative and qualitative analysis alike. Quantitatively, interference between units makes inferring causality difficult. Because most quantitative work on the provision of public goods in China does not address interdependence across geographic units, it is difficult to assess the validity of these studies' findings. These problems can be addressed by generating and testing explicit hypotheses about the nature of the relationship between units, a useful corrective that future work in this area should embrace.<sup>73</sup> Qualitatively, future research should examine the distributional patterns of public goods provision across multiple geographic units within a single higher-level unit. Shifting our focus from the quality of goods within a single unit to the variation across multiple, interconnected units will open up new questions about who wins and loses when local governments invest in public goods.

*Level of analysis.* Most likely owing in part to the relative ease of conducting village-level research, existing work focuses almost exclusively on village-level provision of public goods. In recent years, however, counties have assumed greater responsibility for the public goods and services that were once the responsibility of villages and townships. "Soft centralization" has led counties to assume direct control over more and more township offices.<sup>74</sup> Fiscal recentralization, which began with the tax-for-fee reforms, has been accompanied by political recentralization which has substantially limited the autonomy of village and township officials. One survey found, for instance, that by the mid-2000s villages did not make *any* investments in schools.<sup>75</sup> This has important implications for the study of public goods, as it suggests that the existing scholarship's focus on village-level spending and public goods projects may quickly become – or may already be – irrelevant. It also means that a new set of challenges to both the provision and uptake of public goods and services is emerging. For example, while school centralization has improved school facilities and teacher quality, it also may have negative social effects as students are required to board away from their families.<sup>76</sup> The burden of the

73 Bowers, Fredrickson and Panagopolous 2013.

74 Smith 2010.

75 Oi et al. 2012.

76 Chen, Xinxin, et al. 2011.

boarding requirement may fall more heavily on some groups than others (the head of one NGO suggested that the policy might have a differential impact on girls, for example).<sup>77</sup>

## Recommendations

### *Use a broader range of research methods*

Our existing knowledge of public goods provision in China comes overwhelmingly from village-level surveys. As discussed above, however, the measures most often used in these surveys are vulnerable to manipulation by local officials and may tell us little about whether these goods actually benefit citizens. Complementing survey research with more qualitative work on the dynamics of public goods could help scholars to identify better measures or new questions that could improve future survey work on the topic. Efforts to identify measures of public goods provision that are not vulnerable to manipulation by officials have already begun and should be expanded. In other contexts, field experiments have shed light on the causal mechanisms that lead to poor-quality public goods; similar experiments could be useful in the Chinese context as well.<sup>78</sup>

### *Move above the village level*

As discussed above, county governments now fund and administer many public goods and services. The determinants of county-level public goods provision are poorly understood, and these dynamics should be explored in future research. For example, research on county and township governance has devoted significant attention to the “cadre responsibility system” and the resulting incentives for officials to generate economic growth,<sup>79</sup> but whether this system incentivizes the provision of public goods has not been systematically explored. Just as importantly, the motivations of county officials that are unrelated to formal career incentives have received little attention. As I describe above, research on village-level public goods provision has explored both social and careerist factors that motivate village officials. At the county level, however, existing research largely treats officials as atomized individuals striving for rapid promotion. While this may accurately depict the behaviour of a handful of upwardly mobile officials, it ignores the large group of cadres who spend their entire careers in a single county and who display little interest in promotion. My research suggests that these officials are motivated by a different set of concerns including social ties to ethnically and geographically defined groups of citizens and to co-workers, a sense of self-worth tied to their job performance, and expertise and policy

<sup>77</sup> Interview with head of public health NGO, Yunnan province, 2010.

<sup>78</sup> Habyarimana et al. 2007.

<sup>79</sup> Edin 2003a; 2003b; O'Brien and Li 1999.

preferences determined by their prior work experience (often as township officials or as teachers). In their multifaceted, often socially oriented motivations, these officials bear a closer resemblance to Michael Lipsky's "street-level bureaucrats" than to the calculating, careerist actors the existing literature often depicts.<sup>80</sup> Future research on the provision of public goods would do well to focus on these additional motivations that are prevalent but poorly understood.

The interconnected nature of public goods provision across nearby localities also warrants greater exploration. Geospatial (GIS) techniques, which enable scholars to study correlations across space in sophisticated ways, have not yet played a major role in research on Chinese politics,<sup>81</sup> and could shed light on the relationship between the provision of public goods across multiple units within the geographic/administrative hierarchy.

### *Disaggregate public expenditures and public goods*

The existing literature's focus means that we know a great deal about government spending on public goods, services and infrastructure. We know substantially less, however, about some of the dynamics that have proven relevant to the provision of public goods outside of China. Are public goods vulnerable to the problems (overuse and insufficient provision) that plague them in other contexts? Do particular social conditions (such as ethnic or religious diversity) undermine the provision of public goods in China as they do in much of the world?<sup>82</sup> Environmental governance provides one promising and underexplored topic for scholars interested in rural public goods provision.<sup>83</sup> The severity of China's pollution problems and the growing challenge of waste disposal in the countryside – which one county Party leader characterized as one of the biggest thorns in the side of the county party-state – make environmental issues an important element of rural politics.<sup>84</sup> Environmental quality is a true public good: everyone benefits from clean air and water, regardless of their personal contributions to environmental quality, and the benefits of a clean environment do not diminish if they are shared across individuals. As a result, free-riding poses a key challenge to environmental quality in the countryside.

### *Assess how public goods are used*

Qualitative evidence suggests that the dynamics of public goods in China may diverge substantially from what we would expect based on other contexts. In some parts of China, the problem may be *underuse* rather than overuse of public

80 Lipsky 1980.

81 One exception is Guo, Shili, et al. 2014, although it also examines public expenditure in individual villages rather than assessing connections across units.

82 Alesina, Baqir and Easterly 1999; Miguel and Gugerty 2005; Habyarimana et al. 2007.

83 Two articles that explore environmental public goods are Tu et al. 2011 and Zhou, Li 2004, but both have received little attention from other scholars of Chinese public goods.

84 Interview with county Communist Party office employee, Yunnan province, 2011.

goods. In a Tibetan area with high infant mortality rates, for instance, the government invested significant resources in improving the quality of and access to maternal health services. Despite these investments, few women took advantage of the free services, and health outcomes generally failed to improve. One cause of this failure lay in cultural factors that diminished demand for these services and in citizens' scepticism towards officials' attempts to encourage them to use public services. Tibetan traditional birth practices made women in this area reluctant to give birth away from home, and doctors in county hospitals were reluctant to make concessions to traditional birth practices that could allay women's fears about hospital births. In addition, citizens across China are suspicious of the "advice" they receive from paternalistic local officials (*fumuguan* 父母官). Having been encouraged or required to participate in numerous past public projects that cost them valuable time and money and yet yielded little benefit, citizens are sceptical of officials' attempts to convince them to use government services even when no viable alternatives exist.<sup>85</sup> Thus, the fundamental challenge that citizens' behaviour poses to the provision of public goods in some areas of China is not overuse, as traditional work on the subject outside of China would lead us to expect, but rather the opposite.

Even when citizens *do* demand the services that local governments provide, problems of overuse and free-riding have not occurred, even when officials have expected them to – an important contrast to research on public goods in other contexts that warrants further investigation. As the head of a public health NGO with strong government ties explained, policymakers were concerned that the NCMS would encourage individuals to overuse rural health services because they would no longer bear the full cost of their care. When the programme was piloted in a set of "test point" counties (*shidian xian* 试点县), however, these problems did not arise.<sup>86</sup> What policies or social structures help to mitigate the problems of free-riding and overuse in China? Why do these factors ameliorate the problems associated with some public goods, such as universal health insurance, but not others, like environmental degradation? In other contexts, scholars have explored the social and institutional variables that enable high-quality public goods where we might not expect them.<sup>87</sup> Exploring the relevance of these factors to China, or identifying different ones that ameliorate collective action problems, would help us to gain a better understanding of the true public goods dynamics in China and bring the literature on this topic into closer conversation with the comparative literatures on political economy and local governance.

## Conclusion

This paper seeks to accomplish three purposes. First, it surveys the literature on public goods provision in rural China. It describes three sets of explanations for

85 Interview, head of public health NGO.

86 Ibid.

87 Glennerster, Miguel and Rothenberg 2013; Miguel 2004; Ostrom 1990.

the variation in the quality of local public goods: local elections, social sanctioning and economic policies. Second, it identifies several limitations of the existing literature that inhibit assessment of these findings' validity. Different scholars mean different things when they use the term "public goods," a problem of "conceptual stretching." In terms of measurement, many studies of public goods rely on easily manipulated measures of these goods and ignore the interconnected nature of geographic-administrative units in the Chinese state. I suggest that a second generation of literature on public goods in rural China could correct these weaknesses by expanding the range of methods used to study public goods, focusing on county-level public goods provision rather than almost exclusively on villages, conceptually distinguishing between public goods and public spending, and paying more attention to how public goods are used and not just to how officials provide them.

Nearly a decade has passed since the Hu–Wen administration announced its determination to "build a new socialist countryside." Optimists see the ensuing policies transforming villages for the better, although the changes that have occurred are not nearly dramatic enough. These policy changes – and others that will surely follow under the leadership of Xi Jinping 习近平 – will provide fertile ground for a second generation of research on rural public goods, social services and infrastructure. Greater conceptual clarity about the distinctions between these categories, better measures of their quality, and increased engagement with a variety of cross-national debates will ensure that this research is useful not only to China scholars but also to students of political economy and comparative authoritarianism as well.

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### **Biographical note**

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**摘要:** 这十年来, 有关中国农村公共物品供给的研究有哪些结论? 这篇评论文章总结了政治学、经济学与中国区域研究等三个学科的研究成果。根据本文的观察, 现有的研究对于公共物品的质量不均主要有三种解释: 地方选举、社会制裁和经济政策。作者发现, 这些理论都有类似的缺点。首先, 对于“公共物品”定义不精确, 让研究结果难以比较。此外, 常用的公共物品计量方法忽略了地方官员为了政绩操纵统计数据, 也少考虑中国各级政府间的互动与联系。最后, 作者提出几个新的研究方向来克服上述问题, 以深化我们对于中国农村公共物品供给的认识。

**关键词:** 中国; 公共物品; 农村政治; 政治经济学

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