



## China's Rangeland Management Policy Debates: What Have We learned? <sup>☆</sup>



Gongbuzeren <sup>a</sup>, Yanbo Li <sup>b,c,1</sup>, Wenjun Li <sup>d,\*</sup>

<sup>a</sup> PhD Candidate, College of Environmental Sciences and Engineering, Peking University, Beijing, P. R. China

<sup>b</sup> Assistant Researcher, Institute of International Rivers and Eco-Security, Yunnan University, Beijing, P. R. China

<sup>c</sup> Assistant Researcher, College of Environmental Sciences and Engineering, Peking University, Beijing, P. R. China

<sup>d</sup> Professor, College of Environmental Sciences and Engineering, Peking University, Beijing, P. R. China

### ARTICLE INFO

#### Article history:

Received 28 June 2014

Accepted 8 May 2015

#### Keywords:

coupled social–ecological system  
nomad settlement  
rangeland ecological restoration  
rangeland management  
rangeland tenure

### ABSTRACT

In China, three major rangeland management policies have caused dramatic social, economic, and ecological changes for pastoral regions in the past 30 yr: the Rangeland Household Contract Policy (RHCP), Rangeland Ecological Construction Projects (RECPs), and the Nomad Settlement Policy (NSP). The impacts of these policies are greatly debated. In this paper, we conduct a systematic review of academic perspectives on the impacts of the three policies and the causes of ineffective and negative effects. The findings demonstrate that academics increasingly report negative impacts of RHCP on the ecosystem, animal husbandry, pastoralist livelihoods, and pastoral society. An increasing number of scholars, although not the majority, attribute the negative impacts to improper policy itself rather than incomplete implementation. Regarding the RECPs, most academics believe that policies have improved the rangeland ecosystem but with obvious negative impacts on pastoralist livelihoods and pastoral society; they attribute the problems to incomplete policy implementation. For the NSP, most academics report positive impacts on pastoralist livelihoods and animal husbandry, although recent researchers have identified negative impacts on pastoral society and the ecosystem. Although they are not in the mainstream, more and more academics attribute the negative impacts to improper policy. Finally, we apply the concept of coupled social–ecological systems (SES) to further analyze the outcomes of these three policies and propose a more flexible and inclusive land tenure policy that recognizes the diverse local institutional arrangements; an integrated RECP framework that considers coadaptation between social and ecological systems; and facilitating voluntary choice in nomad settlement and developing innovative approaches to provide social services for pastoralists who would like to remain in pastoral areas. As these three policy approaches are applied in rangeland management and pastoral development worldwide, this paper may provide useful implications for future policy development in pastoral regions on a global scale.

© 2015 Society for Range Management. Published by Elsevier Inc. All rights reserved.

### Introduction

Sustainable rangeland management is a critical concern in China, as rangelands cover 41.7% (400 million ha) of China's total territory (MOA, 2014) and are home to approximately 17 million pastoralists and agro-pastoralists (ECOAHYB, 2011). China's rangelands also serve critical ecological functions that affect national and regional ecosystem processes. Mobile pastoralism, developed through rich indigenous ecological knowledge, reciprocal social norms, and community collective use and management of rangelands, is the traditional way of rangeland use that adapts to the rangeland ecosystems characterized by a high degree of spatial–temporal variability.

Dominated by modernization ideology, Chinese governments have considered mobile pastoralism to be backward, inefficient, and irrational as an economic entity (State Council, 2002). Such perceptions are based on the assumption that pastoralism is unstable and unreliable as it is highly influenced by the fluctuations of climate conditions, and it has led to rangeland degradation due to overgrazing caused by unclear property right arrangements (State Council, 2002). As a response, a series of rangeland management policies have been implemented: the Rangeland Household Contract Policy (RHCP), Rangeland Ecological Construction Projects (RECPs), and the Nomad Settlement Policy (NSP).

The RHCP is based on the belief that shared use of community rangeland by privately owned livestock led to overgrazing and caused large-scale rangeland degradation. By clearly defining individual property rights, RHCP is expected to control overgrazing and help rangeland restoration, as well as improve livestock production. Under the RHCP, state-owned or community-owned rangelands are contracted into individual households to give exclusive use rights to the pastoralists. Community here refers to administrative villages, which are formed on the

<sup>☆</sup> This research is supported by the Natural Science Foundation of China (41171428).

\* Correspondence: Li Wenjun, Room 310, Laodixuelou Building, No. 2 Yiheyuan Road, Haidian District, Beijing (100871), China.

E-mail address: [wjlee@pku.edu.cn](mailto:wjlee@pku.edu.cn) (W. Li).

<sup>1</sup> Yanbo Li is one of the joint first authors of this article.

basis of geographical location and social ties and recognized by the government as the basic administrative unit. The RHCP was initiated in the mid-1980s, and since the mid-1990s it has been widely applied in the six main pastoral provinces (Inner Mongolia, Xinjiang, Tibet, Qinghai, Sichuan, and Gansu). By 2013, the contracted rangeland covered 71% of China's total rangeland area (MOA, 2014).

The government and some academics have a general understanding that rangeland degradation is serious and has accelerated since the late 1990s. A frequently repeated statistic is that 90% of China's rangeland is degraded to some extent, and the degradation is increasing at the rate of 200 km<sup>2</sup> · yr (State Council, 2002). Although the definition of degradation is somewhat vague, it is generally linked to soil and vegetation productivity losses and attributed primarily to overgrazing (State Council, 2002). Consequently, RECPs focus on reducing livestock grazing pressure to restore degraded rangeland. In seriously degraded areas, the main strategy is to prohibit grazing throughout the year (grazing ban) or only in the spring (grazing rest). Where rangeland degradation is less serious, rotational grazing and control of stocking rate were implemented. By 2013, grazing had been excluded from 96 million hectares of rangeland in the main pastoral areas, accounting for about 24% of the total rangeland (MOA, 2014). As the implementation of the grazing ban and grazing rest greatly constrained the main livelihood of pastoralists, the governments provided subsidies to compensate them for their losses and encouraged them to implement intensive animal husbandry based on raising animals in pens and feeding them with purchased fodder or to seek alternative livelihoods.

It is perceived among decision makers that traditional pastoralism, which was based on a seminomadic lifestyle, hindered pastoralists in gaining access to modern social services, such as education and medicine. In addition, the region's harsh and highly variable climate created substantial uncertainty for pastoralists and impoverished many. To solve these problems, the government developed the NSP in the 1960s and further promoted it in the late 1980s. Nomads, in this context, refers to pastoralists who engaged in mobile pastoralism with seasonal movement of both people and livestock among different pastures. In order to provide social services and improve herder livelihood, the main strategies of NSP focused on construction of housing and livestock sheds in winter pastures to encourage nomads to settle. In 2008, China had a total of around 3.9 million herder households (ECOAHYB, 2009), of which 0.414 million were nonsettled pastoral households. Under the NSP, 40.5% of the nonsettled pastoral households had been settled by the end of 2010, and the remaining pastoral households would be settled by the end of the 12th five-year plan (2011–2015) (NDRC, 2012).

In the past 30 yr, these policies brought dramatic social and ecological changes in pastoral society, and there exist conflicting perspectives and fierce debates among Chinese academic circles (Dalintai and Zheng, 2010; Du, 2012; Fan et al., 2013; Fan et al., 2015; Li and Huntsinger, 2011; Wang, 2009; Xun and Bao, 2008), as well as among international scholars (Banks et al., 2003; Foggin, 2008; Harris, 2010; Ho, 2000; Humphrey and Sneath, 1999; Kreutzmann, 2012; Sheehy et al., 2006; Williams, 1996; Yeh, 2009), regarding the impacts of these policies in China. Although privatization (RHCP) has been considered to be an effective approach to manage rangeland and achieve efficient and sustainable utilization (Bao, 2003; Zhang et al., 2007; Zhou et al., 2005), both international and Chinese academic studies in recent decades challenged this perspective by arguing that RHCP fragments rangeland ecosystems (Li and Huntsinger, 2011) and weakens social reciprocity and community organizations that traditionally enabled herders to adapt to ecological dynamics (Xie and Li, 2008). Consequently, the RHCP has led to rangeland degradation (Humphrey and Sneath, 1999; Li and Zhang, 2009), reduction of animal husbandry, and decrease of livelihood (Ho, 2000; Li and Huntsinger, 2011; Wang, 2009; Williams, 1996).

Regarding the impacts of RECPs, some scholars argue that they have improved ecological conditions (Du and Zhang, 2007; Gaowa et al., 2006; Liu et al., 2003; Xu et al., 2007), and animal husbandry and herder

livelihood can be improved through government subsidy and transformation into an intensive livestock production system (Chen and Su, 2008; Dongribu, 2000; Liu, 2002; Liu and Wang, 2010), whereas others argue that the exclusion of grazing and the transformation of local people's ways of production have negative impacts on rangeland ecosystem in the long term (Alatandalai et al., 2011; Li and Li, 2013): The costs of animal husbandry have increased, herders have become impoverished (Chen, 2008; Gu and Li, 2013; Liu et al., 2007), and social conflicts have increased under RECPs (Xun and Bao, 2008; Yeh, 2009).

As for the impacts of NSP, some studies argue that nomad settlement and relocation are critical to the provision of social services (Zhao et al., 2009) and improvement of herder livelihood (Gao and Deng, 2007) while reducing grazing pressure to protect rangeland (Long et al., 2010; Saliha et al., 2011). However, other studies argue that pastoral culture is disappearing along with NSP, and many herders have challenges adapting to a new livelihood in the settlement that directly threaten their income and living conditions (Du, 2012; Jiao et al., 2008; Wang and Wang, 2010). Some studies state that NSP leads to rangeland degradation in the settlement areas (Dickinson and Webber, 2004; Fan et al., 2013, 2015).

Given such controversial perspectives, we believe a systematic review of the academic perspectives of the past 30 yr is critical to understanding the experiences and lessons that can help us improve future rangeland policy approaches. In addition, privatization of rangeland, restriction of grazing, and settlement of nomads are the main approaches of rangeland management and pastoral development policies worldwide (Catley et al., 2013; Ellis and Swift, 1988; Niamir-Fuller, 1999; Scoones, 1994). China is one example demonstrating the outcomes of these policy approaches. Thus, a comprehensive review of academic findings on the outcomes of these three policies could provide significant insight for global rangeland management and pastoral development.

In this article, we conduct a systematic review of academic perspectives on the ecological and social impacts of the three policies and explore the reasons why these policies fail to reach their goals or produce positive results. Then, on the basis of the concept of a coupled social–ecological system (Berkes et al., 2003; Walker et al., 2006), we further analyze the outcomes of the academic studies on these three policies and propose our recommendations for future policy improvement.

## Methodology

### Article Selection

All articles reviewed in this article were published in Chinese. We collected all of them by searching for key words in titles, key words, and abstracts in the China Academic Network Publishing Database, the largest journal database in China (<http://epub.cnki.net/kns/default.htm>). RHCP, rangeland contract, and rangeland tenure were used as key words for RHCP. Rangeland ecological construction, rangeland restoration project, grazing ban, grazing rest, and retire livestock to restore rangeland (the biggest RECP in China) were used as key words for RECPs. Nomad settlement, pastoralist settlement, and urbanization in pastoral area were used as key words for NSP. We then excluded all the papers not written by academic scholars by checking that the authors were from academic institutions. Papers written by multiple authors with at least one author from an academic institution were included. We reviewed the selected papers and further excluded those articles that did not discuss policy impacts. We obtained a total of 68 papers on RHCP, 103 on RECPs, and 72 on NSP.

### Evaluation of Policy Impacts

We analyzed each paper's perspectives on policy impacts and the causes of ineffective and negative impacts as concluded by the author(s). We divided the policy impacts into four categories: rangeland ecosystems; animal husbandry; pastoralist livelihoods

Download English Version:

<https://daneshyari.com/en/article/6305752>

Download Persian Version:

<https://daneshyari.com/article/6305752>

[Daneshyari.com](https://daneshyari.com)