

This article was downloaded by: [151.42.187.90]

On: 13 January 2015, At: 02:41

Publisher: Routledge

Informa Ltd Registered in England and Wales Registered Number: 1072954 Registered office: Mortimer House, 37-41 Mortimer Street, London W1T 3JH, UK



## Central Asian Survey

Publication details, including instructions for authors and subscription information:

<http://www.tandfonline.com/loi/ccas20>

### Kyrgyzstan's dark ages: framing and the 2010 hydroelectric revolution

Amanda E. Wooden<sup>a</sup>

<sup>a</sup> Environmental Studies Program, Bucknell University, Lewisburg, PA, USA

Published online: 15 Dec 2014.



CrossMark

[Click for updates](#)

To cite this article: Amanda E. Wooden (2014) Kyrgyzstan's dark ages: framing and the 2010 hydroelectric revolution, *Central Asian Survey*, 33:4, 463-481, DOI: [10.1080/02634937.2014.989755](https://doi.org/10.1080/02634937.2014.989755)

To link to this article: <http://dx.doi.org/10.1080/02634937.2014.989755>

PLEASE SCROLL DOWN FOR ARTICLE

Taylor & Francis makes every effort to ensure the accuracy of all the information (the "Content") contained in the publications on our platform. However, Taylor & Francis, our agents, and our licensors make no representations or warranties whatsoever as to the accuracy, completeness, or suitability for any purpose of the Content. Any opinions and views expressed in this publication are the opinions and views of the authors, and are not the views of or endorsed by Taylor & Francis. The accuracy of the Content should not be relied upon and should be independently verified with primary sources of information. Taylor and Francis shall not be liable for any losses, actions, claims, proceedings, demands, costs, expenses, damages, and other liabilities whatsoever or howsoever caused arising directly or indirectly in connection with, in relation to or arising out of the use of the Content.

This article may be used for research, teaching, and private study purposes. Any substantial or systematic reproduction, redistribution, reselling, loan, sub-licensing, systematic supply, or distribution in any form to anyone is expressly forbidden. Terms &

Conditions of access and use can be found at <http://www.tandfonline.com/page/terms-and-conditions>

## Kyrgyzstan's dark ages: framing and the 2010 hydroelectric revolution

Amanda E. Wooden\*

*Environmental Studies Program, Bucknell University, Lewisburg, PA, USA*

Prior to the 2010 overthrow of Kyrgyzstan's government, there were tangible signs of popular dissatisfaction with the ruling Bakiev regime. Beginning in spring 2008, electricity shortages and forced restrictions became a daily reminder of the government's ineptitude, corruption and regional vulnerability. This article reports the results of a survey and interviews conducted in 2009–10. The results reveal how popular perceptions of energy and water supply shaped the average Kyrgyzstani's frustration with the ruling regime in the year before the revolution. The paper explores how the Bakiev administration attempted to frame the electricity crisis in nationalistic and naturalized ways, and how this framing only partly resonated and created mismatch with daily lived experiences and widespread suspicions of corruption in the hydroenergy sector. Ultimately, this mismatched framing generated collective emotions of shame and blame, creating the context for revolution.

**Keywords:** energy crisis; political ecology; water; blame attribution; framing; nationalism; revolution; Kyrgyz Republic

### Context for revolution

When people are dissatisfied with public service provision – water, electricity, public transport – price increases or privatization, this can spark outright contestation. Contemporary examples include Bangladesh in 2008, Brazil in 2013, Ecuador in 2003, Haiti in 2008, Madagascar in 2008, Peru in 2000 and Tunisia in 2011. Recent research identifies food prices as the most important trigger of mass protests and revolution (Barrett and Bellemare 2011; Bellemare 2011; Lagi, Bertrand, and Bar-Yam 2011; Maystadt, Tan, and Breisinger 2014). In Kyrgyzstan, much of the population associated their everyday hardships with President Bakiev's corrupt and 'unpatriotic' practices in the hydroenergy sector. Approximately 90% of energy produced in Kyrgyzstan is hydroelectric – 10.9 billion kilowatt-hours (kWh) in 2009, which is equivalent to the combined production of the Niagara Power Plant, Hoover and Glen Canyon dams – and 97% of hydroelectric capacity is from Toktogul dam and the Naryn River cascade.<sup>1</sup> Despite the country's status as – on average – water wealthy, there were water deficits in the Toktogul Reservoir leading to an electricity shortage and daily blackouts during winter 2008–09, and in early 2010 the government raised electricity and water tariffs as well as privatized key state hydroenergy distribution companies. 'What role did the energy situation play in the April events?' I asked Felix Kulov, opposition politician and former high-ranking member of the Bakiev government, in July 2010. He answered:

Tariff politics – without an increase in tariffs, it was not possible. Lenin had a saying: 'Communism is Soviet power plus the electrification of the entire country. [...] When the light was turned off [...] people became angry. [...] People believe it [electricity] is their property, and it must not be sold.'

The ouster of President Bakiev was a hydroelectric revolution.

---

\*Email: [amanda.wooden@bucknell.edu](mailto:amanda.wooden@bucknell.edu)

Several themes emerged from my research that revealed the texture of this revolutionary moment: water conceived of as power, official crisis framing, relative deprivation, geographies of energy, poverty and blame attribution. There are two main findings: first, the Bakiev administration failed to frame the energy crisis in a way that was popularly credible and therefore it backfired and the government was blamed by a large enough portion of the population to instigate political action. Second, the nationalistic and environmental framing of the crisis which the Bakiev administration ineffectively used produced a lasting echo in Kyrgyzstan's politics. Since the 2010 revolution, subsequent administrations have baulked at raising tariffs while committing to attracting investments in the sector and developing the power grid and hydroelectricity capacity. In 2014, President Atambayev's government faces another water deficit year in the midst of gas cut-offs from Uzbekistan. The likely outcome will again be electricity shortage and possible power cuts during fall and winter 2014–15.

The main purpose of this article is to present some average Kyrgyzstan citizens' perspectives about hydroelectricity resources before 2010, specifically how a sense of nationalism with environmental content, sometimes referred to as resource or eco-nationalism (Dawson 1996; Schwartz 2006) – in contest with Bakiev's naturalistic nationalist (Hamilton 2002) discourse – led people into the streets and ultimately forced Bakiev out of the White House. In order to explore the role of contestations and blame over hydropower management in the 2010 events, I build on my previous work (Wooden 2013) to argue that mass discontent has a clear influence on political outcomes and elite behaviours. It is not enough to understand policy choices, organization of discontent and elite defection. We also must dig into public discourse, beliefs and expectations in order to understand revolutionary political change. I draw upon the work of three authors: Heathershaw (2007) who calls for a more complicated social–political view of revolution in the post-Soviet space; Laruelle (2012) who explores the central role of nationalistic discourses in Kyrgyzstan post-2005; and Mehta (2010, esp. p. 373) who applies a political ecology approach to examine contested meanings of water scarcity and how scarcity is politically created through competing claims.<sup>2</sup> An imperilled sovereignty theme and ethnonationalist 'differing legitimacy' became key components of public discourse in the Bakiev era (Laruelle 2012; Megoran 2012). Bakiev's 'more affirmed Kyrgyz nationalism' (Matveeva 2009, 2010; Laruelle 2012, 42) created a new mobilizing politics at a time of economic upheaval and uncertainty. Bakiev's political legitimacy was also 'borne of the streets' which 'left a non-negligible influence on the idea that popular mobilization is a driver of political change' (Laruelle 2012, 42).

Part of this nationalistic discourse was applied to nature – particularly water resources and the Naryn River – in discussions of how to solve the hydropower crisis. A national environmental ideology (Short 1991) captures environmental 'myths mobilized in the course of state formation and nation-building' (xvi). Nature is instrumentalized symbolically or practically to support an idea of the nation-state. This can be expressed in multiple ways, such as a nation's or a group's 'closeness to nature' or alternatively as a reaction to nature, often considered an 'enemy' of the nation to be controlled. The Bakiev regime promoted environmental myths about the Naryn River, Toktogul Dam and Kambar-Ata Dam projects, in particular by using the language of an enemy creating problems – parallel to and in cahoots with neighbouring countries – in need of taming and control.

Nationalist politics should be seen as at least a bidirectional relationship – and quite often a multinational, multiscale process – developed between elites and popular imaginings and identities. It is not only top-down, elite constructed as often represented in nationalism scholarship (Smith 2009). We should explore

how popular beliefs, memories and cultures have influenced the views and actions of the elites as they first propose and then promote the idea of the nation; and conversely, how far the various ideas and

proposals of nationalist elites have struck a chord among the different strata of the designated populations whom they seek to mobilize and empower. (Smith 2009, p. 19)

Thus, I dissect the ‘naturalistic nationalism’ (Hamilton 2002) discourse used by the Bakiev administration about regional waterways, power generation and the control of nature – such as dam construction – as symbols of state power. This nationalistic discourse about nature raised emotive popular expectations about government solutions to everyday problems.

### Research methods

A gap between the lived experiences of average people and the understanding of those experiences by the wealthy elite and the country’s leadership became clear to me as a resident in Osh, Kyrgyzstan, in 2006. I set out to evaluate systematically how nature, and water more specifically, was understood by talking to a cross-section of the general population, elites and experts. By the time I was preparing to conduct this study in spring 2009, the energy crisis became a daily concern and frustration. It became the central political topic and part of my study.

In March–April 2009, I oversaw the implementation of a nationwide, random-sample survey of 1500 people in Kyrgyzstan.<sup>3</sup> From 2009 to 2010, I also conducted approximately 80 interviews with key informants across six stakeholder groups in all seven *oblasts*.<sup>4</sup> In addition to the survey and interview data, I conducted a content analysis of environmental protest coverage in 13 news sources.<sup>5</sup> In this article, I interpret the survey, interviews and news coverage using a mixed-methods, discursive approach. This is not a deductive research project, because generating and testing hypotheses after the revolution would be inappropriate, post-hoc analysis. Rather, the data collected before the revolution revealed patterns of anger and blame, and I investigated these patterns more deeply in interviews conducted afterwards. Therefore, this is an inductive study, focusing on presenting and interpreting public sentiments about the Bakiev regime and hydroelectricity.

I will first outline public policy choices in the months preceding President Bakiev’s ouster, what happened on the day Bakiev was run out of office, and social science insights into causation. I then discuss how people experienced the ‘dark ages’ and the ways the Bakiev administration sought to frame this period. Finally, I turn to evaluate how people responded to official framing of the crisis (attempts to shape public opinion), which frames resonated and which did not, and how the mismatch between official representations of nature and the direction of blame led to revolution.

### The final months – selling electricity and privatization policies

Three policy choices combined with the blackouts to create serious public backlash about hydro-energy, especially when put into the context of public expectations. First, survey participants suspected that the Bakiev administration quietly produced excess electricity in 2007 and sold it to neighbouring countries, thus releasing extra water leading to low reservoir levels the following year. Some identify Kazakhstan as the purchaser of the electricity, some say Uzbekistan, but it is clear that Kyrgyzstan’s government did sell 1 billion kWh in 2007 above the typical annual amount (AKIpress 2010a; ICG 2010). As it turns out, that year the market price of electricity rose considerably, ostensibly making this sale profitable. However, officials recorded these unannounced electricity sales at below-market prices, and rumours persist that they pocketed the difference between the recorded and actual prices. An extremely cold winter in 2007 which taxed the energy grid and low precipitation during spring and summer 2008 combined with the extra water release for electricity sales led to drastically low Toktogul Reservoir levels, sparking

the crisis in 2008–09. In other words, this was not just a ‘natural’ drought or an event to be blamed on neighbouring countries’ irrigation needs.

Secondly, on 1 January 2010, the government more than doubled tariffs for electricity, water and district heating for domestic users and increased prices by about 30% for businesses.<sup>6</sup> Analysts had for years commented on the need to increase tariffs to address infrastructural vulnerabilities and improve maintenance, and prices had been increased once. In early 2010 the Bakiev administration decided to pursue cost recovery more rapidly. However, pensions and subsidies for vulnerable populations, which were increased at the same time, were improperly distributed and did not compensate for the simultaneous suspension of other subsidies (Slay 2010). The discount for electricity in mountainous places – such as for Naryn *oblast* – was ended at the same time the doubled tariffs went into effect. There was a resounding public outcry about the net effect of the electricity payments changes, in light of perceptions that members of the regime had benefitted from selling electricity and recent nationwide energy deprivation (Osmonalieva 2009).

Third, in February 2010, the administration privatized two key state regional distribution companies – Severelektro JSC and Vostokelektro – which were sold to Chakan GES, headed by an associate of Maxim Bakiev. Severelektro was sold for US\$3 million, despite being valued for 45 times that amount (Osmonalieva 2009). Purportedly consulting in this privatization process was the company MGN Asset Management, run by Eugene Gourevitch who was also a close associate of Maxim Bakiev. The “‘gut-level belief” that the President’s son had advantageously sold these companies to himself had an explosive effect. [ ... ] People finally emerged from apathy and passive criticism’ (International Crisis Group (ICG) 2010, 9). Protests in Naryn and Talas over the energy crisis, corruption and tariffs resulted after the government engaged in electricity privatization (RFERL 2010).

### **The April uprising: ‘They turned off the lights’**

On 6 April 2010 Kyrgyzstan’s security<sup>7</sup> services arrested most opposition leaders and held them in prison overnight in the capital, Bishkek. Protesters captured the Talas *oblast* (province) administrative building, held the governor and purportedly beat the Minister of the Interior, Moldomusa Kongantiev. As the demonstrations grew and moved to Bishkek on the morning of 7 April, riot police and snipers mobilized to protect the main government building.<sup>8</sup> After lunch, approximately 1300 people moved from Almatinskaya Street to Ala-Too Square across from the White House. When troops used live ammunition against the protestors, some of whom were armed, news spread by cell phone, mobilizing more to join – totalling around 5000 – and fight the police. Approximately 85 people were killed. Facing enraged crowds and failing military support, President Kurmanbek Bakiev fled to his hometown of Teit in Jalalabad province. He remained in southern Kyrgyzstan threatening civil war, but on 15 April fled to Belarus. Seemingly overnight, Kyrgyzstan had its second revolution in five years.

In 2005 the so-called ‘Tulip Revolution’ took place when President Askar Akaev fled from protesting crowds. Scholars have convincingly argued that this was not a popular revolt, but rather a putsch orchestrated by regional elites, some of whom lost seats in parliament in fraudulent elections (Cummings and Ryabkov 2008; Hale 2006; McGlinchey 2011; Radnitz 2006, 2010; Tudoroiu 2007). It may also have been influenced by the example of other revolutions in the post-Soviet space (Beissinger 2007).

However in April 2010, although opposition politicians quickly scrambled to create an interim government and stabilize the situation – following rioting and looting when the president left Bishkek – opposition leaders appeared not to have been in control of the protests. In March 2009, the year before the uprising, opposition leaders organized small-scale protests, corralled by

Bakiev-era crowd-control laws, with speeches demanding the removal of energy sector officials and using ‘Energy Barons to Answer!’ and ‘For Kyrgyzstan: Peace, Order, and Light!’ slogans. Roza Otunbaeva – who became the post-revolution interim president – gave an early 2010 speech about the energy crisis in the Jogorku Kenesh. Other opposition politicians made statements critical of the tariff increases, notably Bakyt Beshimov and Omurbek Tekebaev (Osmonov 2009). Opposition leaders were speaking to popular concerns about the energy crisis. Kyrgyzstanis did not need their everyday hardships to be translated by elites to know they existed; instead, opposition politicians smartly reacted to those concerns. There was no opposition politician powerful enough to mobilize people and Bakiev’s regime had become repressive enough to silence public dissent; Baisalov was in exile, Kulov withdrew from politics and was working on hydroelectricity issues, Atambayev roundly lost the July 2009 presidential election which was not a triggering event as is often the case (Baev 2011; Beissinger 2007; Kulov 2008; Kuntz and Thompson 2009). Savvy opposition leaders went to places like Naryn where public attitudes were ‘heating up’ after tariff increases (Ferghana.ru 2010).<sup>9</sup>

The uprising had the hallmarks of a mass or loosely coordinated popular mobilization, not a controlled coup. The alternative explanation of Russian government manipulation – which the International Crisis Group (ICG) (2010, 11) called only a belief ‘among the country’s elite’ – is not supported by evidence. The Russian media pressure and imposition of excise tax on fuel came after protests began, although the absence of promised Russian Kambar-Ata-1 Dam construction funds did further delegitimize Bakiev regarding hydroenergy solutions. The triggering event was not a falsified election or other political opportunity. Protesters used no coordinated symbol or slogan to emblemize what drove this political discontent. Four years hence this political event remains unnamed and under-analysed by political scientists. This is intriguing in contrast to how the 2005 revolution has been a central focus of this literature.

Theories of organized, elite-led overthrow do not fit the 2010 events well. Kubicek (2011, 120) argues that the ‘central lesson from events in Kyrgyzstan is preventing a breakdown in the ruling political machine’, but goes on to say, ‘[d]isaffection with Bakieyev boiled over in April 2010 when the government announced an increase in fuel prices’ (116). Arguments about the causes of revolutionary political change based on political scrambling afterwards require more evidence about causation and the political change process. A disorganized, divided and imprisoned opposition would not have the support of thousands to rally against a government violently suppressing protests if those people did not have a grievance or feel grieved (‘moral shock’; Jasper 1998). They needed to be aggrieved to mobilize; it was a necessary condition. Felix Kulov flatly rejected any planning of the April turnover: ‘if there were leaders they would have suspected snipers to be at the White House and would not have gone there’.<sup>10</sup>

Several commentators identified the 2010 revolution, in contrast to 2005, as a popular uprising (Collins 2011; ICG 2010; Temirkulov 2010). ‘The events of 2010 represent an organic and successful attempt by Kyrgyzstan’s political and civil society to overthrow a dictatorship [ ... ]’ (Collins 2011, 151). Temirkulov (2010, 597–598) notes that although the causes of the 2005 and 2010 revolutions are similar, 2010 was a mass, not elite, mobilization and ‘the mechanisms of mass mobilization however, differed considerably’. Gullette (2010a, 90) contrasts the two turnovers, saying that during April 2010, ‘public anger quickly resulted in a desperate attempt to overthrow the government [ ... ]’ The ICG (2010, 9) refers to the 6–7 April protests as ‘largely self-led, or at best under the improvised control of junior opposition leaders. [ ... ] Many people were motivated by pent-up anger’.

Insights from sociologists and anthropologists help explain why anger mattered so much. Reeves (2010, 4) argues that both absolute poverty – worsened by the electricity rate hikes – and inequality reaching ‘colossal proportions [ ... ] brought people out to demonstrate’. Relative deprivation is the idea that individuals perceive a gap between their expectations and what they or

others have (Davies 1962; Gurr 1970, 13); those deprived are more likely to take political action (Brush 1996). Katz (2007) uses political relative deprivation theory to explain the 2005 revolutionary sentiment, finding that Kyrgyzstanis were the most likely in the region to perceive temporal disparity because of the country's initial improvements in political freedom. In 2007, Junisbai (2010, 1697) conducted an Inequality Survey in Kazakhstan and Kyrgyzstan and found that 'In Kyrgyzstan, due to government's failure to achieve sustained economic growth, a perceived lack of opportunity and hopelessness regarding the country's economic prospects are widespread'. From a group psychology perspective, de la Sablonnière et al. (2010) use collective relative deprivation theory to analyse a perception of change in conditions among ethnic Kyrgyz students in Bishkek prior to the 2010 'uprising' and find evidence of temporal relative deprivation perceptions, particularly frustration with weakening political influence.

Observers highlight three key structural factors as the most important proximate causes of the 2010 uprising: economic upheaval, mass deprivation and the hydroenergy crisis (Gullette 2010a, 2010b; Reeves 2010; Temirkulov 2010). As a likely determinative cause most analysts mentioned the Bakiev regime's mishandling of hydroenergy (e.g. Trautman 2010; Wood 2010). 'That this revolt was triggered in part by utility shortages is not incidental. The shortages are extreme, and a constant source of irritation to all but the wealthiest citizens' (Trautman 2010). Kyrgyzstan experienced a period of water shortage and subsequent electricity cuts in 2008–09, popularly referred to as 'the dark ages'.<sup>11</sup> Since 2007, Bakiev had become increasingly authoritarian: privatization and increased prices in telecommunications, silencing critical press, corraling the opposition (literally, by limiting the public spaces available for protest), and a crackdown on southern Uzbek leaders (Judah 2009; Toktonaliev 2009). A compound economic crisis affected the country in 2007–10: combined with the water–energy crisis were the 2008–09 Russian financial crisis, global food price spikes and global financial crisis (Dhur 2009). Public anger with the Bakiev administration grew with suspicions of extensive corruption and nepotism, most evident in the energy sector.<sup>12</sup> In the first few months of 2010, protests primarily about electricity outages and price hikes began in February outside the capital. It is most notable that protests began in northern energy-insecure cities Naryn and Talas and primarily about power outages the previous year and the price hikes that followed.

### **The energy sector and water in Kyrgyzstan: dark age experiences, 2008–09**

In order to understand better why people in Naryn, Talas, and elsewhere were frustrated enough to protest about electricity, it is important to step back and look at survey evidence and interview narratives about what the 'dark age' experience was like the year prior to the revolution. The first question I asked survey participants (open-ended) in spring 2009 was: 'What is the single most serious problem that Kyrgyzstan faces right now?' Economic concerns came first for 31% of survey participants, followed closely by the electricity crisis for 28%. A large majority of people in every one of the seven provinces surveyed and interviewed in 2009 identified water issues – both water supply and quality issues – as the 'most important environmental problem[s]' they faced (Wooden 2013). Several interview participants said directly that energy – as experienced everyday – is equated with water in Kyrgyzstan. In talking about nature, environmental problems, environmental awareness and the 'resource wealth' of Kyrgyzstan, water and hydroenergy were most often discussed.

The hydroelectricity crisis was a central concern in public discussions as well, as evidenced by the types of news stories that research participants reported reading, hearing or seeing in 2008–09; 89% read, heard or saw news about Kyrgyzstan's energy situation, and 81.3% read, heard or saw news about Kyrgyzstan's water resource issues (Table 1).



Table 1. Comparing energy, water and environmental news consumption

	Specifically about Kyrgyzstan's energy issues	Specifically about Kyrgyzstan's water issues	General environmental issues
Have you read, heard, or seen news about ___ in the last year? ( <i>n</i> = 1500)	89	81.3	55.6

Note: *n* = number of participants responding to that question.

This compares with 55.6% who were exposed to general environmental stories. From my content analysis of news stories about 'environmental protest' in 13 news sources about Kyrgyzstan from 1 December 2003 to 1 December 2007, water resource issues are a dominant theme. The two most common issues covered for all sources were water and gold, with stories about hydro-power and Issyk-Kul figuring prominently (Wooden 2013).

Together with this broad linkage of key 'resource problems', my study participants talked about water in romantic, historical, territorial and Kyrgyz identity terms. Water for energy is conceived differently in terms of water reservoirs and water politics than it is in terms of celebrated places connected to moving water, such as *mazârs* (holy pilgrimage sites) and *jailoos* (summer pastures) (Féaux de la Croix 2011). Water is valued not just as a resource to be used, but is also expressed by some in romanticized historical ways, where water was purportedly properly and respectfully used in a nomadic lifestyle and central to spiritual practices.

Around the country, daily 8–12-hour cuts in power began in earnest during the winter of 2008–09. One year prior to the revolution that would unseat President Bakiev, 71.4% of the people I surveyed – an overwhelming majority – answered that electricity shortages had a serious impact in the places where they lived over the previous year (Table 2).

People across different wage brackets expressed these experiences, but proportionally more poor people noted these problems than wealthier individuals. This was higher than the still sizeable 56.4% who reported suffering from water shortages and the 14.7% affected by natural gas shortages (concentrated in urban areas). A local official in Sumsar, Jalalabad province told me: 'All winter we sat here without power, you know about this. There were rolling blackouts. They were forced.'<sup>13</sup>

Respondents linked the blackouts to water mismanagement. Gulmira Temirbekova, a non-governmental organization (NGO) leader in Talas town, spoke to me about power outage implications for water availability.

Table 2. 2008–09 Reporting electricity, water, and natural gas shortages and shutoffs

	Electricity shortages or shutoffs have had a serious impact over the last year in the place where I live	Water shortages or shutoffs have had a serious impact over the last year in the place where I live	Natural gas shortages or shutoffs have had a serious impact over the last year in the place where I live
Percentage who answered 'yes' (total <i>n</i> = 1500)	71.4	56.4	14.7

Note: *n* = number of participants responding.

Around the city there is also sometimes no water. [...] There are these transformers [pumps], run by the water utility. [...] When they are turned off, the water drains out automatically. When the power is turned on, it takes an hour and a half to fill. Sometimes it is just starting to fill up and the power is turned off again. It doesn't have enough time to collect the water.

A number of my research participants complained about the international development project, *Taza Suu* (Clean Water) funded by the Asian Development Bank, Department for International Development (DFID UK) and the World Bank, which in some rural locales utilized electric pumps to deliver well water. During an electricity crisis, electric pumps clearly cannot function. In the winter, cutting off electricity to pumps can lead to frozen and burst pipes, elongating water cut-offs during repairs and risking sewage overflow.

### ***Relative impacts and the distribution of anger***

While the majority of people in every province experienced electricity blackouts, the relative impacts were diverse and help explain where animosity was higher. Rural residents often experience and are accustomed to service disruption in non-crisis years and also are more likely to have alternative sources of energy – coal fire or dung stoves – to heat their homes. Urban dwellers in apartment buildings do not have the option to switch to these sources of fuel.

Even in urban places where natural gas for cooking and heating became an alternative, gas prices skyrocketed and shutoffs occurred during this time period, making this source unaffordable and unavailable. Nurmat Saparbaev, a forestry specialist advising on local governance and collaborative forest management for the KIRFOR programme<sup>14</sup> in Jalalabad, discussed how the interaction between gas and electricity shutoffs created no alternative for heating apartments:

You know, last year was so cold. My one-year-old granddaughter lives in our house. [...] How could they turn off the electricity in homes, where it is also minus 25 [Celsius degrees below zero] and there are small children? [...] This year, too, there were [serious power outages]. I went to the RES, the district power station. [...] I said, we live in a three-storey building. About 120 families live there. If you disconnect [us], there are small children from one month to three years who will freeze. How can you do this? But still they cut [the electricity] off. And then I went and said, soon I will come with all these kids, your office is warm, you are going to feed them here, until we have electricity on. Since that time, they have not cut off the electricity. So was there a problem or not?<sup>15</sup>

Despite these obvious difficulties, in the warmer parts of the south such as Osh, wintertime loss of electricity did not have the same impact as it did for those living in colder, highland areas. Electricity distribution problems and the fiscal vulnerability of the extremely poor is concentrated in the south while arguably there is a greater need for social protection in the form of heat in northern Kyrgyzstan where the bulk of the energy-insecure live. The bulk of electricity need – both domestic and commercial – is in the north; 70% of the demand arises here (Zozulinsky 2010), however, government energy subsidies (e.g., for the purchase of coal and electricity payments for pensioners, state workers and the poor) and other offsetting primary costs subsidies were both inadequate and not concentrated in the north.

Apparently only 16% of poor family monthly benefit recipients in April 2010 were in Kyrgyzstan's northern regions. [...] Small wonder then, that the April 2010 protests over higher energy tariffs that unseated the Bakiyev government were centered in northern regions like Talas and Naryn. (Slay 2010, 29)

Edil Baisalov – a former Social Democratic Party of Kyrgyzstan (SDPK) party member in exile during the revolution, who returned to serve as President Otunbaeva's interim chief of staff – talked about his parents' and friends' frustration in Naryn city. 'It's a heroic act of living in Naryn. [...] But without electricity? [T]hat makes no sense.'<sup>16</sup> In all parts of the country, the

poorest in both urban and rural areas had inadequate access to alternatives. For example, in rural areas people without property and livestock, the least expensive alternative – dung – was not an option (USAID 2008).

In my survey 60% reported using less water than usual in the last year and 66% reported using less electricity, most in addition to the forced reductions. Participants increased their use of firewood and dung (see the Gassmann and Tsukada article on Kyrgyzstan, and Kraudzun on Tajikistan in this volume), or used solar panels and generators purchased in China, while others installed coal stoves, leading to unfortunate instances of carbon monoxide poisoning and a few deaths (UNOCHA 2009).<sup>17</sup> Along Lake Issyk-Kul, people worried about significant deforestation that resulted from the electricity crisis. Yuri Nagorniy, a businessman in the tourism sector in Issyk-Kul province:

Today the very first problem [for the average citizen] is energy supply [ ... ] it affects everyone very hard, it is a problem for the whole republic [ ... ] for small businesses it was completely bad. For example, you cook *pelmeni* [small dumplings], the refrigerator doesn't work, and that's it, you lose your product. The next time [you] will be afraid, and so the business dies.<sup>18</sup>

### Resonant frames and blame

Both sociologists and political scientists problematized the assumed automatic relationship between grievances and political outcomes, as clearly not all grievances equally mobilize the discontented. It matters how a government responds to grievances (Gizelis and Wooden 2010). One indicator of this response is the discursive construction of scarcity and shortage, otherwise known as 'framing' (Iyengar 1987; Snow and Benford 1988; Snow et al. 1986). Shmueli (2008) discusses the importance for environmental studies of understanding how stakeholders' frames are elicited, the way frames simplify complexity, provide particular interpretations of events, and thus create realities. Buijs et al. (2011) combine Snow and Benford's (1988) focus on cultural resonance ('does the framing strike a responsive chord with those individuals for whom it is intended?') with ideas about the social representation of nature. At the time the survey was conducted in spring of 2009, the Kyrgyzstani government was engaged in a public relations campaign to frame the drought and neighbouring country demands as the key limitations on electricity generation. So first I examine the framing and representations of nature used in official discourse and then evaluate how these frames resonated with everyday experiences.

### *Blaming neighbouring countries for the crisis*

One of the key discourses about hydropower in Kyrgyzstan is that the country is politically and economically dependent on its downstream neighbours. This situation is due to the breakdown of the Central Asia Power System (CAPS) bartering and regional water sharing agreements. This system collapse resulted in monetarization of energy but not water. Kyrgyzstan maintains the upstream storage reservoirs and delivery infrastructure on its territory – an exception is the Chui-Talas basin to which Kazakhstan contributes maintenance funds – and releases water downstream for irrigation in summertime, limiting its capability to produce hydroelectricity when most needed in the winter. Kyrgyzstan must purchase alternative sources of power – coal, oil, and natural gas – from its energy-wealthy neighbours when electricity shortages occur, negotiate an exchange of electricity in winter for water storage and release in the spring and summer. Otherwise, Kyrgyzstan must release more water for hydroelectricity production, which is what the government has done increasingly since the breakdown of CAPS over the last half decade. This puts Kyrgyzstan, a poorer country, generally at an economic disadvantage. The perceptions of dependency contribute to tensions over this poorly managed energy and water trade relationship.

In 2005, Adakhan Madumarov, a nationalist politician (Laruelle 2012) and leader of the political party Butun Kyrgyzstan (United Kyrgyzstan) joined other members of parliament in opposing ratification of a friendship treaty with neighbouring Kazakhstan over the issue of joint waterways use, including the Toktogul and Orto Tokoy Reservoirs (in the Naryn and Chui-Talas River basins, respectively). Madumarov stated, ‘Water resources are an integral part of our natural wealth, just like our land, but the agreement states that we must coordinate our policies with Astana in the use of water resources. Why should we? Our water resources have no relation to Kazakhstan’ (Saralaeva 2005). In May 2008, when Madumarov was Speaker of Parliament, he stated that Kyrgyzstan can provide water to neighbouring countries for irrigation if they provide gas and fuel oil at reasonable prices. This perspective became a central part of media and political discourse about the regional water–energy network.

On 28 April 2009, Bakiev gave a speech at the Meeting of Heads of the States-Founders of the International Fund for Saving the Aral Sea (IFAS) in Almaty, Kazakhstan, and voiced concern about an imbalanced regional water–energy relationship. He stated that Kyrgyzstani citizens suffered because of this imbalance and ‘the difficulties to overcome low-water problems’, asking downstream neighbours for financial assistance to address water delivery and electricity production problems (Bakiev 2009a). On 6 October 2009, the Minister of Foreign Affairs of the Kyrgyz Republic, Kadyrbek Sarbaev, gave a speech at the Carnegie Center in Washington, DC, reiterating this blame of neighbouring countries for the energy crisis.

As you know, the lack of long-term cooperation has resulted in 2008 electricity crisis in our country due to insufficient water supplies in the region’s biggest reservoir, Toktogul, due to low precipitation and accumulation of sharply reduced inflows. We had to impose restrictions on electricity consumption for the population (Sarbaev 2009).

In these speeches, officials used the terms ‘energy security’, ‘environmental security’, ‘drought’ and ‘low-water year’ repeatedly. These phrases frame the issue as both natural and national, using defensive, foreign policy language and identifying the key elements as purely ‘natural’ and therefore beyond government control.

### **Nature’s fault**

A common national ‘modernizing’ response to flooding, water storage concerns and electricity production shortage is to build large hydroelectric dams and channel rivers, which symbolizes the nation-state’s power over a wild, unpredictable river harnessed for citizens’ benefit (Kaika 2006; Molle, Mollinga, and Wester 2009; Steinberg 1987; Swyngedouw 2009). The Bakiev regime sought to make the Kambar-Ata projects – ‘Kambar-Ata the Saviour’ – serve this nation-building purpose to overcome droughts and regional dependency (Kruglov 2007). To tackle energy insecurity and regional dependency, in 2009 President Bakiev signed an agreement with Russian leaders to relieve Kyrgyzstan’s debt and fund the Kambar-Ata-1 and Naryn River cascade hydropower dam construction, seemingly in exchange for closing the US-led NATO airbase ‘Manas’ outside of Bishkek.

In many interviews and speeches, officials talked about the situation as a natural event – drought – in passive terms (‘it happened to us’). President Bakiev explained the rationale for accepting Russian funding for the Kambar-Ata-1 hydropower station as follows: ‘Last year was the peak of the low-water cycle in all of Central Asia, there arose a threat of reaching the “dead level” of the Toktogul reservoir [... ] a threat to the country’s energy supply and energy security’ (Bakiev 2009b).<sup>19</sup> However, there was public debate about expected and reported figures for Toktogul reservoir levels and to what extent this ‘drought’ was actually wholly ‘natural’ or also the consequence of extra water releases. ‘[C]ritics say it is not good enough to blame unusual natural conditions and thrifless consumers. [... ] There are persistent rumors that water has been released and sold on the quiet to neighboring states’ (Mambetalieva 2008; also see PR.kg 2008).

The national security-regional dependency argument came into stark contradiction with the ‘nature’s fault’ argument. During the energy crisis, Duishon Mamatkanov, Director of the Institute of Water and Irrigation at the National Academy of Sciences of the Kyrgyz Republic, said drought conditions in the Naryn River (which flows into the Toktogul reservoir) did not exist, highlighting the problems of water sector mismanagement creating the electricity crisis and contradicting reports by the Ministry of Industry, Energy and Fuel Resources that there was a drought (Esenaliev 2012; Gorbachev 2008; Yuldasheva 2008). However, Mamatkanov identified regional relationships as root cause of reduced power production, not the drought, and a belief that Kyrgyzstan should tax its neighbours.

### Accommodations to, acceptance and rejection of frames

In order to understand the reception of the framing the Bakiev administration was using, I asked the question: ‘If water shortages/shutoffs are a problem, do you think these are caused mostly by human behaviour/mismanagement (or) caused mostly by natural changes in the environment?’ A small percentage – 6% of those who experienced water shutoffs – accepted that natural changes drove the shortages.<sup>20</sup> The largest percentage of survey participants, 34.4%, identified human behaviour or mismanagement as the primary cause, while 15.1% identified both natural changes and human behaviour/mismanagement.

### Accepting nationalist framing

Another consideration is how people ‘consumed’ and articulated the nationalist frames that were used by the Bakiev regime about the regional water–energy relationship. I first asked ‘Do you believe that hydroelectricity generation decisions in Kyrgyzstan depend on neighbouring countries’ needs and interests?’ to examine people’s acceptance of the Kyrgyzstan watershed dependency idea. In response, 52.8% of my survey participants responded yes or yes, to some extent; 41.8% think they do not depend on neighbouring countries (Table 3).

Among the 53% who believe Kyrgyzstan is dependent on neighbouring countries for hydroelectricity decisions, 85.5% of them are concerned about this dependency to varying degrees.<sup>21</sup>

In response to the follow up question ‘What do you think the Kyrgyz government should do about this situation?’ approximately 19% of my survey participants (of the 687 people answering this question)<sup>22</sup> answered in ways that reflect some of the nationalist discourse used by Bakiev administration officials. These responses included expressions about: (1) pursuing the national interest first and foremost, regardless of regional commitments or regional ramifications, (2) the idea that the Kyrgyz government should not sell water or electricity to neighbouring countries, and generally (3) a wish for Kyrgyzstan not to be dependent on or make concessions to other countries. These comments fit into a nationalistic discourse about nature one year prior to the

Table 3. Hydroelectricity dependency framing acceptance and concern intensity

Do you believe that hydroelectricity generation decisions in Kyrgyzstan depend on neighbouring countries’ needs and interests?	Yes and yes, to some extent	No, do not depend
Percentage ( $n = 1500$ )	71.4	56.4
If you believe that decisions in Kyrgyzstan depend on neighbouring countries’ needs and interests, how concerned are you about this dependency?	Very concerned, concerned and fairly concerned	Not too concerned, not at all concerned
Percentage ( $n = 777$ )	85.5	11.4

Note:  $n$  = number of participants responding to that question.

revolution. Approximately one-fifth of my participants answering this question accepted the nationalist framing that the Bakiev administration used.

Among my key informants, several similarly expressed the same variety of nationalism. Even some people who were otherwise critical of the Bakiev administration were positive about Bakiev's April 2009 IFAS speech (as interviews were conducted in the months immediately following that event). One academic I spoke with in Jalalabad expressed his perspective on Kyrgyzstan's dependence on neighbouring countries for hydroelectricity development as follows:

I'm not that concerned, just that it is not nice. We have, for example, with Uzbekistan, a lot of misunderstandings. [...] Because they accuse Kyrgyzstan, they say that we are to blame, that the Aral Sea has dried up due to the fact that we have constructed the Naryn [River] hydropower stations. We believe that they are guilty that all the water has gone to the cotton fields. This is a misunderstanding, I think, and of course I am concerned about that. It is soon becoming not just a concern, but [specific] anger toward people. Why do they shift their blame onto Kyrgyzstan when it is Uzbekistan that is 100% to blame?<sup>23</sup>

One NGO representative in Jalalabad city said that international conflict had already begun at the April 2009 Almaty meeting of presidents, and specifically referred to Bakiev's speech.

At that time Bakiyev said, look, for the storage of water you have to pay. Karimov and Nazarbayev, they said no, we will not. [...] Why does Kyrgyzstan have to suffer all the time? For example, for this water reservoir [Andijan] we lost so many acres. [...] Since the water level has dropped, you can see how many hectares were cleared. And in Toktogul too. [...] Why do our people have to suffer? Because of the neighbors? Why do they not pay for it, do not compensate us?<sup>24</sup>

One NGO leader from Issyk-Kul province, otherwise critical of the ruling regime, referenced Bakiev's speech at the 2009 IFAS summit in response to what she described as demands by Kazakstani President Nursultan Nazarbaev for summertime and constant water delivery.

Well then Bakiyev said, 'You do not think about the warming [...] our glaciers are melting [...] deforestation is happening. [...] You must in some way invest money or help us, to keep the water normal and flowing.' [...] They have to get used to us selling them water. [...] They sell us gas and we can't sell water? Then we should not give them water. How dearly does Uzbekistan charge us for gas? They sometimes even shut it off in the winter.<sup>25</sup>

She seemed to accept Bakiev's blame attribution to neighbouring countries for demanding to the impoverished, vulnerable Kyrgyzstan, 'Let us have water.'

### ***Blame and revolution***

In this context of concern about dependency and acceptance that international/neighbouring countries are to blame, we would expect that subsequent survey questions asking who is to blame might identify those international actors. However, the results reveal the ire was mostly directed at the Kyrgyzstani government. Among those concerned about this regional hydroelectricity dependency, my research participants blamed first the government of Kyrgyzstan (52%) and then specifically President Bakiev (21%) – rather than neighbouring countries' leaders – followed distantly by parliament, the Jogorku Kenesh (8.6%) and the economic situation (8.4%).<sup>26</sup> What is most interesting about this result is that a very low percentage of respondents who are concerned about dependency on neighbouring countries actually blame those neighbours for the situation; the majority of concerned survey participants blamed the Bakiev regime for the problem and dependency. So although half of the attribution of responsibility to the regional level was accepted by some people with whom I spoke, they still did not redirect blame away from the Kyrgyzstani government. With government officials 'passing the buck', frustration about the energy crisis fed into the larger discourse of the president's unpopularity.

A large part of the public relations campaign was to ask people to use less electricity and water, especially during hot periods and in the months before winter. In March 2010 during an address at the Congress of Harmony (*Yntymak kurultaiy*), Bakiev blamed people for not economizing (Reeves 2012, 113). In stark contrast to how he asked people to live and how most Kyrgyzstanis were forced to cope with the crisis, the government and Bakiev relatives publicly used energy frivolously. During the height of this electricity crisis a particularly ironic electrified portrait of President Kurmanbek Bakiev was installed at a central bus stop on Kurmanjan Datka Street in Osh, business in Bishkek were told to put up holiday street lights, and Maxim Bakiev's 'Soho Night Club' in the capital had a searchlight waving late into the night. The sounds of generators in urban areas constantly reminded those who could not afford an alternative source of power that they were relatively deprived.

In response to the survey question, 'What do you think the Kyrgyz government should do about this situation?' participants blamed the government for corruption in the energy sector, putting personal interests over national interests, supposedly selling water to Kazakhstan and Uzbekistan, and not listening to people's concerns about this issue. Those most concerned about regional dependency and critical of the government argued that the government should resign or be removed because of their mismanagement of hydroelectricity.

Gulmira Temirbekova (an NGO activist in Talas) voiced a typical reaction expressed when I asked people what they thought about the electricity situation.

For so many years [...] – more than 50 years – we have had normal electricity [...] when we asked why [there were shortages and cut offs], they said, there was less intake of water in the Toktogul plant. But we have heard a lot of people say that they sold the water. [...] They leaked water for Uzbekistan, and so there is decreased water level and lower generation of electricity. Such a scandal we had last year!<sup>27</sup>

Gulmira's view about the government's surreptitious sales of electricity to neighbouring countries was echoed by survey participants, who commonly expressed frustration that officials did not consider livelihood impacts of the electricity crisis and did not work for the Kyrgyz people. Some interviewees who did not blame Bakiev for this situation blamed Akaev instead for not defending the national interests earlier. One of the most common views expressed by survey participants who were concerned about the energy situation and dependency was that the Bakiev administration should *listen to public concerns* to prevent such mistakes. Some of these expressions about what the government should do are similar to the concept of *uiat* (shame) which Beyer (2009) investigated in her research about *salt* (customary law), in Talas, Kyrgyzstan. Beyer suggests *uiat* as related to 'awareness of other's expectations'. It is 'tied to interactions such as listening, behaving, being heard or seen. [...] Thus, *uiat* has a preventive dimension: it enforces conformist behavior to prevent bonds from breaking [...]' (Beyer 2009, 194). However, after 2009, the Bakiev administration demonstrated quite the opposite of this expectation, and took steps that contradicted the regime's own framing, which was discordant with daily lived experiences, and ignored vocal contestation of these policies. The Bakiev government stood publicly accused as shameful for ignoring the peoples' everyday needs, lying about the shortages and trying to redirect public anger, then not recognizing this shame when discovered. The power of this accusation may derive from the collectivity and commonality of these experiences, as Guenther (2011) elaborates, and the expectation of government responsibility to address collective concerns. Jasper (1998) identifies shame as a potential protest motivator which can lead to anger and aggression. In 2010, a collective specification of blame and the shared emotion of shame operated as 'a site of resistance, a feeling for justice' (Guenther 2011, 6). Together with the specification of blame of the Bakiev government, shame was a powerful and widely shared motivating emotion, which catapulted dissent into anger and indignation with the 'moral shock' (Jasper 1998) of government forces killing protesters on 7 April.

## Conclusions

The interim government that came to power after Bakiev's ouster in April 2010 recognized the role public frustration about hydroenergy played in the revolution. Officials immediately made cosmetic changes to energy policies, restructured regulatory bodies for improved transparency, cancelled electricity and water tariff hikes. However, the interim government made mistakes that reinforced the nationalistic tone about water resources. For example, on 19 May 2010, seemingly in response to the prolonged border closure that Kazakhstan maintained post-revolution, Kyrgyzstan shut off irrigation water deliveries from the Talas River to two irrigation districts in southern Kazakhstan (Rogers 2010; Trilling 2010). This prompted a diplomatic outcry and an opened border. This regionally tricky move at a politically difficult time seemed intended to bolster popular belief in Kyrgyzstan's negotiating strength, the power of wielding water upstream. Heathershaw (2010) suggested that regional leaders desist from non-transparent purchases of electricity from the country. 'Now is not the time to have the tit-for-tat struggles over water, hydropower and (in the opposite direction) gas that have characterized Kyrgyzstan's energy relations with its neighbors since independence.' This approach was reinforced by nationalistic rhetoric administration officials used. In 2010, then interim government member and now President Almazbek Atambayev remarked, 'Water is the main wealth and weapons that we can use' (AkiPress 2010b). In 2012, Economy Minister Temir Sariev talked about Kyrgyzstan becoming 'masters of Central Asia' once the Datka-Kemin transmission line and Kambar-Ata-1 are completed. There is currently much discussion about possibly repeating the mistakes of the Bakiev regime regarding privatization and tariff increases, and dependency on Russia for completion of infrastructure development (Kostenko 2014; Kalybekova 2014).

The misjudgement of popular sentiment about hydroenergy management by Bakiev administration officials proved politically fateful. Their tone-deaf framing of the crisis created more intense popular opposition, while the nationalistic narrative resonated widely. What upset many of the people with whom I spoke was Bakiev officials' illicit sale of electricity to neighbouring countries, which they see as taking advantage of Kyrgyzstan.

People do not simply consume media and government messages; they do not always accept the framing provided for them. In this instance, it was easy for people to see the mismatch between official explanations and likely causes for the serious problems they faced daily. It took blatant corruption and short-sighted policies, on top of several years of hardship, to mobilize people in the hardest hit areas. Anger that was just under the surface boiled over when the government used force to suppress picketers. The combination of mass perceptions of relative deprivation (which had both a physical and political basis) and the government's appeals to nature in fashioning a nationalistic argument may be a more complete explanation for the 2010 April revolution in Kyrgyzstan than mono-causal arguments such as outside forces or elite manipulation. The ramifications of this framing for future national energy and environmental policies in Kyrgyzstan are significant. Kyrgyzstanis will remain vulnerable as long as systemic problems in the water and energy sectors remain and government attempts to increase tariffs or privatize will be met with distrust. The challenge is figuring out how to resolve these vulnerabilities in response to popular concerns without contributing to the development of dangerous nationalist discourses that bolster antagonistic regional and ethnic politics.

## Acknowledgements

The author is grateful to all the people in Kyrgyzstan who participated in this research. Thanks to Bernmet Zhumakadyr kyzy, Morgane Treanton, and Nurshat Ababakirov for research assistance, and Elena Perminova for interview transcriptions.



## Funding

This work was supported by funding from the American Councils for International Education ACTR/ACCELS Special Initiatives Fellowship, International Research & Exchanges Board (IREX) and Bucknell University.

## Notes

1. For energy sector background, see Zozulinsky (2010) and Peyrouse (2007). Toktogul is the largest reservoir in Kyrgyzstan and the third largest in Central Asia, in water storage capacity terms (Economic Commission for Europe 2007, Annex I).
2. For discussion of political ecology, see Blaikie and Brookfield (1987), Blaikie (2008), Peet and Watts (2004), Robbins (2004), and Zimmerer and Bassett (2003).
3. SIAR-Bishkek implemented the survey using cluster sampling and Kish grids to achieve proportional representation by *oblast*, gender, age and ethnicity: 857 females, 643 males; participants' language: 876 Russian, 542 Kyrgyz and 82 Uzbek.
4. Six interview groups consisted of academics, journalists, environmental NGO leaders, government officials, businesspeople and international development representatives.
5. Newspaper content analysis of five Russian, one Kyrgyz, seven English language newspapers; they were chosen by accessibility online for two periods: 1 December 2003–23 March 2005 (pre-'Tulip Revolution'); and 24 March 2005–1 December 2007 (post-'Tulip Revolution').
6. For a detailed discussion of tariff politics in Kyrgyzstan, see Gullette (2010b).
7. Author interview with Felix Kulov, Bishkek, 19 July 2010.
8. For a timeline, see Azzatyk.kg (2010).
9. Author interview with Edil Baisalov, Bishkek, 16 July 2010.
10. Author interview with Felix Kulov, Bishkek, 19 July 2010.
11. 'The dark ages' phrase was used by Edil Baisalov; author interview with Bishkek, 16 July 2010.
12. Many international news analyses summarized this growing discontent and political implications: Juraev (2009), IRIN Asia (2008), Dzyubenko (2008), and Abdurasulov (2008).
13. Confidential interview by the author with a local official in Sumsar, Kyrgyzstan, 14 May 2009.
14. For KIRFOR documents and an explanation about the project, see <http://msri-hub.ucecentralasia.org/project-resources/>.
15. Author interview with Nurmamat Saparbaev, Collaborative Forest Management (CFM) Project Advisor, Kyrgyz–Swiss Forestry Support Programme 'KIRFOR', Jalalabad city, 6 May 2009.
16. Author interview with Edil Baisalov, Bishkek, 16 July 2010.
17. Author interview with Nurkul Mamatkulovich Stamov, Director of the NGO 'Pravo i Ljudi' ('Rights and People'), Kerben, Jalalabad province, 13 May 2009; author interview with Edil Baisalov, Bishkek, 16 July 2010; visit with a former housemate in Osh, a Kara-Suu market trader, who installed a solar panel purchased in Xinjiang, China, in 2009.
18. Author interview with Yuri Dimitrievich Nagorniy, Sary-Oi village, 25 July 2009.
19. The Toktogul reservoir has a maximum capacity of 19.5 km<sup>3</sup>, and the average late spring level was approximately 12 km<sup>3</sup> (2002–07). The dead level of the Toktogul reservoir is 5.5 billion m<sup>3</sup>, and the water reached a low of 6.8 km<sup>3</sup> in May 2008.
20. This figure is of the 56.4% who answered 'yes' to the question 'Water shortages or shutoffs have had a serious impact over the last year in the place where I live.'
21. Of these 777 people who believe that decisions in Kyrgyzstan depend on neighbouring countries' needs and interests, 688 of them are concerned to some degree: 237 participants are very concerned, 312 are concerned and 139 are fairly concerned. In other words, 46% of the total of 1500 survey participants are concerned to some degree about hydroelectricity dependency.
22. This number, 687, is 9% of the total of 1500 surveyed. Those asked the question 'What should the government do about this problem?' were only those who expressed a belief that Kyrgyzstan is dependent on its neighbours for hydroelectricity decisions, and also – among those who expressed this belief – those who were concerned at all about this dependency.
23. Author interview, Jalalabad city, 6 May 2009.
24. Ibid.
25. Author interview, Bishkek, 28 July 2009.
26. This is in response to 'Whom do you blame for this situation?', an open-ended question. 'Whom do you blame ...' was only asked of participants who (1) believed that hydroelectricity generation decisions in

Kyrgyzstan depend (or depend to some extent) on neighbouring countries' needs and interests and (2) were 'very concerned', 'concerned' or 'fairly concerned' 'about this dependency.'

27. Author interview with Gulmira Temirbekova, Talas city, 18 April 2009.

## References

- Abdurasulov, A. "The Dark Days Return" Transitions Online, September 16, 2008.
- AkiPress. 2010a. "Veernoe otklyuchenie elektroenergii v 2008 godu proizvodilis' iz-za plokhogo upravleniya energosektrom – nezavisimyi ekspert" ("Electricity blackouts in 2008 happened because of poor management of the energy sector – independent expert"), October 4, 2010. Accessed November 11, 2014. <http://business.akipress.org/news:119111>
- AkiPress. May 20, 2010b. "VP sozdalo Goskomitet po vodnomu hozhajstvu i melioracii i naznachili ego glavu." "IG (the Interim Government) has established the State Committee for Water Resources and Irrigation, and appointed its head." Accessed November 11, 2014. <http://kg.akipress.org/print:209781/>
- Azzatyk.kg. 2010. "Kyrgyzskaja revoliucija: Hronologija tragicheskikh sobytij 6–7 aprelja 2010 goda v Kyrgyzstane." May 6, 2010. <http://www.azattyk.org/content/article/2033316.html> (accessed October 2, 2013).
- Baev, P. 2011. "A Matrix for Post-Soviet 'Color Revolutions': Exorcising the Devil from the Details." *International Area Studies Review* 14 (2): 3–22.
- Bakiev, K. 2009a. "Vystuplenie Prezidenta Kyrgyzskoj Respubliki Kurmanbek Bakieva v hode vstrechi Glav gosudarstv- uchreditelej MFSA v rasshirennoe sostave Uvazhaemyj Prezident Mezhhdunarodnogo Fonda Spaseniya Arala" ("Statement by H.E. Mr. Kurmanbek Bakiev, President of the Kyrgyz Republic at the Meeting of Heads of the States-Founders of the International Fund for Saving the Aral Sea (IFAS))." April 28, 2009, Almaty, Kazakhstan.
- Bakiev, K. 2009b. "Prezident Kyrgyzstana Kurmanbek Bakiev: 'Glavnyj resurs razvitiya – soglasie i dialog'" (President of Kyrgyzstan Kurmanbek Bakiev: "The most important development resource – agreement and dialogue"), *Izvestia*, July 10, 2009. Accessed November 11, 2014. <http://izvestia.ru/news/350587>
- Barrett, C. B., and M. F. Bellemare. 2011. "Why Food Price Volatility doesn't Matter." *Foreign Affairs* 12.
- Beissinger, M. R. 2007. "Structure and Example in Modular Political Phenomena: The Diffusion of Bulldozer/Rose/Orange/Tulip Revolutions." *Perspectives on Politics* 5 (2): 259–276.
- Bellemare, M. F. 2011. "Rising Food Prices, Food Price Volatility, and Political Unrest." Accessed November 11, 2014. <http://mpira.ub.uni-muenchen.de/31888/>
- Beyer, J. 2009. *According to Salt. An Ethnography of Customary Law in Talas, Kyrgyzstan*. Dissertation. Martin-Luther University, Halle-Wittenberg.
- Blaikie, P. 2008. "Epilogue: Towards a Future for Political Ecology that Works." *Geoforum* 39 (2): 765–772.
- Blaikie, P. M., and H. C. Brookfield. 1987. "Land Degradation and Society. USA: Methuen & Co in Association with Methuen."
- Brush, S. G. 1996. "Dynamics of Theory Change in the Social Sciences: Relative Deprivation and Collective Violence." *The Journal of Conflict Resolution* 40 (4): 523–545.
- Buijs, A. E., B. J. M. Arts, B. H. M. Elands, J. Lengkeek. 2011. "Beyond Environmental Frames: The Social Representation and Cultural Resonance of Nature in Conflicts Over a Dutch Woodland." *Geoforum* 42: 329–341.
- Collins, K. 2011. "Kyrgyzstan's Latest Revolution." *Journal of Democracy* 22 (3): 150–164.
- Cummings, S. N., and M. Ryabkov. 2008. "Situating the 'Tulip Revolution'." *Central Asian Survey* 27 (3–4): 241–252.
- Davies, J. C. 1962. "Toward a Theory of Revolution." *American Sociological Review* 27: 5–19.
- Dawson, J. I. 1996. *Eco-nationalism: Anti-nuclear Activism and National Identity in Russia, Lithuania, and Ukraine*. Durham, NC: Duke University Press.
- Dhur, A. "Secondary Data Review On The Food Security Situation In The Kyrgyz Republic." Food Security Analysis Service, World Food Programme. Accessed November 11, 2014. <https://www.ids.ac.uk/files/dmfile/SecondaryDataReviewKyrgyzstan161008.pdf>
- Dzyubenko, O. 2008. "Kyrgyz energy crisis a political risk: think tank." *Reuters*. Fri, Aug 15 2008. <http://uk.reuters.com/article/2008/08/15/businessproind-kyrgyzstan-risks-dc-idUKLF2159520080815>
- Economic Commission for Europe (ECE). 2007. "Dam Safety in Central Asia: Capacity-Building and Cooperation" *Water Series No. 5*, New York and Geneva: United Nations.
- Esenalieva, D. 2012. Dujshon Mamatkanov, direktor instituta vodnyh problem i gidrojenergetiki NAN KR: Summa godovyh postuplenij v byudzhet Kyrgyzstana v sluchae vvedeniya naloga na vodu mozhet

- sostavit' \$9 mln. ("Duishon Mamatkanov, Director of the Institute of Water Problems and Hydropower of NAS KR: Total annual revenue of Kyrgyzstan in case a tax on water is introduced could reach \$9 million") *KyrTAG*. September 28, 2012. Accessed November 11, 2014. <http://www.kyrtag.kg/interview/detail.php?ID=118051>
- Feaux de la Croix, J. 2011. "Moving Metaphors we Live by: Water and Flow in the Social Sciences and Around Hydroelectric Dams in Kyrgyzstan." *Central Asian Survey* 30 (3–4): 487–502.
- Ferghana.ru News Information Agency. 2010. "Kyrgyzstan: V Naryne prohodit massovyj miting protiv povysheniya tarifov na jelektrichestvo i teplo." ("Kyrgyzstan: In Naryn a mass rally was held against the increase in tariffs for electricity and heat.") March 10, 2010. Accessed November 11, 2014. <http://www.fergananews.com/news.php?id=14178>
- Gizelis, T.-I., and A. E. Wooden. 2010. "Water Resources, Institutions, & Intrastate Conflict." *Political Geography* 29 (8): 444–453.
- Gorbachev, I. 2008. "Dujshon Mamatkanov, direktor instituta vodnyh problem i gidrojenergetiki NAN KR" (Duishon Mamatkanov: In the Naryn River in Kyrgyzstan there is no shortage of water"), «24.kg», Oct. 15, 2008
- Guenther, L. 2011. "Resisting Agamben: The Biopolitics of Shame and Humiliation." *Philosophy and Social Criticism* 38 (1): 1–21.
- Gullette, D. 2010a. "Institutionalized Instability: Factors Leading to the April 2010 Uprising in Kyrgyzstan." *Eurasian Review* 3
- Gullette, D. 2010b. "Resurrecting an Energy Tariff Policy in Kyrgyzstan." Central Asia Security Policy Brief No. 1. OSCE Academy and Geneva Center for Security Policy. Accessed November 11, 2014. <http://www.osce-academy.net/en/research/policy-briefs/>. November 29, 2010b.
- Gurr, T. R. 1970. *Why Men Rebel*. Princeton: Princeton University Press.
- Hale, H. E. 2006. "Democracy or Autocracy on the March? The Colored Revolutions as Normal Dynamics of Patronal Presidentialism." *Communist and Post-Communist Studies* 39 (3): 305–329.
- Hamilton, P. 2002. "The Greening of Nationalism: Nationalising Nature in Europe." *Environmental Politics* 11 (2): 27–48.
- Heathershaw, J. 2007. "The Tulip Fades: 'Revolution' and Repercussions in Kyrgyzstan." *Perspective* 17 (2): 1–8.
- Heathershaw, J. 2010. "Beware of Meddling in Kyrgyzstan!" *Open Democracy*. Aug. 25, 2010. Accessed September 6, 2013. <http://www.opendemocracy.net/od-russia/john-heathershaw/beware-of-meddling-in-kyrgyzstan>
- International Crisis Group. 2010. "Kyrgyzstan: A Hollow Regime Collapses." Asia Briefing No 102, Bishkek/Brussels, April 27, 2010
- IRIN Asia – Kyrgyzstan. 2008. "Poor hit hardest by rising food prices and energy crisis", UN Office for the Coordination of Humanitarian Affairs, Osh/Bishkek, December 8, 2008
- Iyengar, S. 1987. "Television News and Citizens' Explanations of National Affairs." *The American Political Science Review* 81: 815–831.
- Jasper, J. 1998. "The Emotions of Protest: Affective and Reactive Emotions in and around Social Movements." *Sociological Forum* 13 (3): 397–424.
- Judah, Ben. 2009. "A Sinking 'Island of Democracy.'" *Transitions Online* (TOL). August 26, 2009. Accessed November 11, 2014. <http://www.tol.org/client/article/20800-a-sinking-island-of-democracy.html>
- Junisbai, A. K. 2010. "Understanding Economic Justice Attitudes in Two Countries: Kazakhstan and Kyrgyzstan." *Social Forces* 88 (4): 1677–1702.
- Kaika, M. 2006. "Dams as Symbols of Modernization: The Urbanization of Nature between Geographical Imagination and Materiality." *Annals of the Association of American Geographers* 96 (2): 276–301.
- Kalybekova, A. 2014. "Russia Holds Kyrgyzstan's Hydropower Dreams Hostage," June 24, 2014. Accessed November 11, 2014. <http://www.eurasianet.org/node/68741>
- Katz, M. 2007. "Will There be Revolution in Central Asia?" *Communist and Post-Communist Studies* 40 (2): 129–141.
- Kostenko, Y. 2014. "Tarifnaja politika.kg. 'Opyt' Bakieva?" (Tariff politics: Bakiev's "experience"?) *24.kg*. April 29, 2014, Bishkek. <http://www.24.kg.org/economics/177991-tarifnaya-politikakg-laquoopytraquo-bakieva.html>
- Kruglov, E. 2007. "Spasitel'naja Kambarata. Jenergeticheskie nadezhdy i riski Kirgizii" (Saviour Kambarata: Energy hopes and risks of Kyrgyzia") *CentralAsia.ru*, July 9th, 2007. Accessed November 11, 2014. <http://www.centrasia.ru/newsA.php?st=1183965060>

- Kubicek, P. 2011. "Are Central Asian Leaders Learning from Upheavals in Kyrgyzstan?" *Journal of Eurasian Studies* 2 (2): 115–124.
- Kulov, E. 2008. "March 2005: Parliamentary Elections as a Catalyst of Protests." *Central Asian Survey* 27 (3–4): 337–347.
- Kuntz, P., and M. R. Thompson. 2009. "More than Just the Final Straw: Stolen Elections as Revolutionary Triggers." *Comparative Politics* 41 (3): 253–272.
- Lagi, M., K. Z. Bertrand, and Y. Bar-Yam. 2011. "The Food Crises and Political Instability in North Africa and the Middle East." Available at SSRN. Accessed November 11, 2014. <http://ssrn.com/abstract=1910031> or <http://dx.doi.org/10.2139/ssrn.1910031>
- Laruelle, M. 2012. "The Paradigm of Nationalism in Kyrgyzstan. Evolving Narrative, the Sovereignty issue, and Political Agenda." *Communist and Post-Communist Studies* 45 (1): 39–49.
- Mambetalieva, G. 2008. "Energy Fears as Kyrgyz Winter Approaches: Threat of more blackouts despite efforts to hoard water for hydropower ahead of cold season." IWPR Special Report, RCA Issue 557, Dec. 3, 2008. Accessed November 11, 2014. <http://iwpr.net/report-news/energy-fears-kyrgyz-winter-approaches>
- Matveeva, A. 2009. "Legitimising Authoritarian States in Central Asia: Political Manipulation and Symbolic Power." *Europe-Asia Studies* 61 (7): 1095–1121.
- Matveeva, A. 2010. *Kyrgyzstan in Crisis: Permanent Revolution and the Curse of Nationalism*. Crisis States Research Centre.
- Maystadt, J.-F., J.-F. Trinh Tan, and C. Breisinger. 2014. "Does Food Security Matter for Transition in Arab Countries?" *Food Policy* 46: 106–115.
- McGlinchey, E. M. 2011. *Chaos, Violence, Dynasty: Politics and Islam in Central Asia*. Pittsburgh: University of Pittsburgh Press.
- Megoran, N. 2012. "Averting Violence in Kyrgyzstan: Understanding and Responding to Nationalism." Russia and Eurasia Programme Paper, Chatham House.
- Mehta, L. 2010. "The Social Construction of Scarcity: The Case of Western India." chapter 17 In *Global Political Ecology*, edited by Peet, Richard, Paul Robbins, and Michael Watts, 371–386. USA and Canada: Routledge.
- Molle, F., P. P. Mollinga, and P. Wester. 2009. "Hydraulic Bureaucracies and the Hydraulic Mission: Flows of Water, Flows of Power." *Water Alternatives* 2 (3): 328–349.
- Osmonalieva, A. 2009. "Electricity Price Shock for Kyrgyz Consumers." Institute for War and Peace Reporting (IWPR). December 5, 2009.
- Osmonov, J. 2009. "Sharp Rise In Electricity And Heating Rates Cause Public Discontent In Kyrgyzstan." *CACI Analyst*. December 10, 2009. Accessed November 11, 2014. <http://caci-analyst.org/publications/field-reports/item/11965-field-reports-caci-analyst-2009-12-10-art-11965.html>
- Peet, R., and M. Watts, eds. 2004. *Liberation Ecologies: Environment, Development, Social Movements*. London: Routledge.
- Peyrouse, S. 2007. "The Hydroelectric Sector in Central Asia and the Growing Role of China." *China and Eurasia Forum Quarterly* 5 (2): 131–148.
- PR.kg. 2008. "Minpromjenergo KR: V reke Naryn nabljudetsja malovodnyj cikl" ("Ministry of Industry and Energy of the Kyrgyz Republic: In the river Naryn a low water cycle is observed") Oct. 16, 2008. Accessed November 11, 2014. <http://www.pr.kg/news/kg/2008/10/16/8203/>
- Radio Free Europe/Radio Liberty. 2010. "Kyrgyz Protest Electricity Price Hike" Feb. 25, 2010. Accessed November 11, 2014. [http://www.rferl.org/content/Kyrgyz\\_Protest\\_Electricity\\_Price\\_Hike\\_/1968192.html](http://www.rferl.org/content/Kyrgyz_Protest_Electricity_Price_Hike_/1968192.html)
- Radnitz, S. 2006. "What Really Happened in Kyrgyzstan?" *Journal of Democracy* 17 (2): 132–146.
- Radnitz, S. 2010. *Weapons of the Wealthy: Predatory Regimes and Elite-led Protests in Central Asia*. Cornell University Press.
- Reeves, M. 2010. "Breaking Point: Why the Kyrgyz Lost Their Patience." *Open Democracy*. Accessed September 6, 2013. <http://www.opendemocracy.net/od-russia/madeleine-reeves/breaking-point-why-kyrgyz-lost-their-patience>
- Reeves, M. 2012. "Black Work, Green Money: Remittances, Ritual, and Domestic Economies in Southern Kyrgyzstan." *Slavic Review* 71 (1): 108–134.
- Robbins, P. 2004. *Political Ecology: A Critical Introduction*. Vol. 20. Oxford: Blackwell.
- Rogers, Stan. 2010. "Kyrgyzstan Reportedly Shuts Off Irrigation Water to 2 Kazakhstani Districts." *Central Asia Online*. May 19, 2010. [http://centralasiaonline.com/en\\_GB/articles/caii/newsbriefs/2010/05/19/newsbrief-06](http://centralasiaonline.com/en_GB/articles/caii/newsbriefs/2010/05/19/newsbrief-06)
- de la Sablonnière, R., É. Auger, N. Sadykova, and D. M. Taylor. 2010. "When the 'We' Impacts How 'I' Feel About Myself: Effect of Temporal Collective Relative Deprivation on Personal Well-being in the Context of Dramatic Social Change in Kyrgyzstan." *European Psychologist* 15 (4): 271–282.

- Saralaeva, L. 2005. "Water War Threatens Treaty," *International War and Peace Reporting*. RCA Issue 337, Feb. 21, 2005. <http://iwpr.net/report-news/water-war-threatens-treaty>
- Sarbaev, K. 2009. Centre Karnegi na temu «Kyrgyzstan i nekotorye voprosy bezopasnosti» (Speech by the Minister of Foreign Affairs of the Kyrgyz Republic at the Carnegie Center roundtable on "Kyrgyzstan and Some Security Issues"). Washington, October 6, 2009.
- Schwartz, K. ZS. 2006. *Nature and National Identity after Communism: Globalizing the Ethnoscape*. Pittsburgh: University of Pittsburgh Press.
- Shmueli, D. F. 2008. "Framing in Geographical Analysis of Environmental Conflicts: Theory, Methodology and Three Case Studies." *Geoforum* 39: 2048–2061.
- Short, J. R. S. 1991. *Imagined Country: Society, Culture, & Environment*. Syracuse, NY: Syracuse University Press.
- Slay, B. 2010. "Recent developments in the Poverty/Energy/Vulnerability nexus in Kyrgyzstan and Tajikistan." Unofficial UNDP Report. Accessed November 11, 2014. [http://europeandcis.undp.org/uploads/public1/files/vulnerability/Senior%20Economist%20Web%20site/Slay\\_PEV\\_paper\\_May\\_2011.pdf](http://europeandcis.undp.org/uploads/public1/files/vulnerability/Senior%20Economist%20Web%20site/Slay_PEV_paper_May_2011.pdf)
- Smith, A. D. 2009. *Ethno-symbolism and Nationalism: A Cultural Approach*. Abingdon: Routledge.
- Snow, D. A. and R. D. Benford. 1988. "Ideology, Frame Resonance and Participant Mobilization." *International Social Movement Research* 1 (1): 197–219.
- Snow, D. A., E. B. Rochford, S. K. Worden, and R. D. Benford. 1986. "Frame Alignment Processes, Micromobilization and Movement Participation." *American Sociological Review* 51: 464–481.
- Steinberg, G. M. 1987. "Large-scale National Projects as Political Symbols: The Case of Israel." *Comparative Politics* 19: 331–346.
- Swyngedouw, E. 2009. "The Political Economy and Political Ecology of the Hydro-Social Cycle." *Journal of Contemporary Water Research & Education* 142 (1): 56–60.
- Temirkulov, A. 2010. "Kyrgyz 'Revolutions' in 2005 and 2010: Comparative Analysis of Mass Mobilization." *Nationalities Papers: The Journal of Nationalism and Ethnicity* 38 (5): 589–600.
- Toktonaliev, T. 2009. "Kyrgyz Leader Edges Toward Reform." *Institute for War and Peace Reporting* Oct. 26, 2009. (IWPR) RCA Issue 591. <http://iwpr.net/report-news/kyrgyz-leader-edges-towards-reform>
- Trautman, T. 2010. "In Kyrgyzstan, The Utility of Revolution – Again." *World Politics Review*, April 13, 2010. Accessed December 2, 2014. <http://www.worldpoliticsreview.com/articles/5404/in-kyrgyzstan-the-utility-of-revolution-again>
- Trilling, D. 2010. "Under [Water] Pressure, 'Fraternal' Kazakhstan Reopens Kyrgyzstan Border." *Eurasianet*. May 20, 2010. Accessed November 11, 2014. <http://www.eurasianet.org/node/61105>
- Tudoroiu, T. 2007. "Rose, Orange, and Tulip: The Failed Post-Soviet Revolutions." *Communist and Post-Communist Studies* 40 (3): 315–342.
- UN Office for the Coordination of Humanitarian Affairs. 2009. "Kyrgyzstan: Winter Energy Crisis" OCHA Situation Report. Jan. 12, 2009.
- USAID. 2008. *Kyrgyzstan Household Energy Analysis and Proposed Social Protection Measures*. Bishkek, November 2008, 4.
- Wood, D. 2010. "Electricity Plays Key Role in Kyrgyzstan Uprising." *World Resources Institute*, April 19, 2010. Accessed September 6, 2013. <http://www.wri.org/stories/2010/04/electricity-plays-key-role-kyrgyzstan-uprising>
- Wooden, A. E. 2013. "Another Way of Saying Enough: Environmental Concern and Popular Mobilization in Kyrgyzstan." *Post-Soviet Affairs* 29 (4): 314–353.
- Yuldasheva, N. 2008. "Problemy V Jenergetike Kyrgyzstana Svjazany S Otsutstviem Nauchno Obosnovannogo Podhoda I Nejeffektivnogo Upravlenija, A Takzhe Neracional'nogo Puska Vody V Interesah Sosednih Gosudarstv." ("Problems in the energy sector of Kyrgyzstan related to the lack of scientifically proven approaches and mismanagement and unsustainable water release for neighboring states.") *24.kg*, Nov. 5, 2008. Accessed November 11, 2014. <https://ca-news.info/2008/11/05/61>
- Zimmerer, K. S., and T. J. Bassett, eds. 2003. *Political Ecology: An Integrative Approach to Geography and Environment-Development Studies*. New York: Guilford Press.
- Zozulinsky, A. 2010. "Kyrgyzstan: Power Generation & Transmission." *US Embassy Bishkek*.