

## What Happened to the Second World? Earthquakes and Postsocialism in Kazakhstan

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### **Abstract**

There is an assumption that with the disintegration of the USSR the Second World ceased to exist. Yet the demise of the Communist bloc as a geopolitical reality did not mean that it ceased to exert a defining influence over how people think and behave. This article examines how the postsocialist state in Kazakhstan deals with potential crises such as earthquakes and the extent to which the Soviet legacy still shapes intellectual debates, state structures and civil society organisations in that country. Drawing on fieldwork and interviews, this paper re-examines the Second World not only in its historical context but re-establishes it as a conceptual framework for considering DRR in the former Soviet Bloc.

**Keywords:** Second World, Postsocialism, DRR, Earthquakes, Kazakhstan

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There is an assumption that with the disintegration of the USSR in 1991 the Second World ceased to exist. Yet the demise of the Communist bloc as a geopolitical reality did not mean that it ceased to exert a defining influence over how people think and behave. Those who inherited the state apparatus in postsocialist countries like Kazakhstan are not just the heirs of the former system but are still largely the products of its institutions – its schools, universities, bureaucracies and military academies. In particular, their elites and intelligentsia share with their former patrons a particular epistemological framework and a set of procedures that originate in an alternative way of thinking and *modus operandi* to that of the Western liberal tradition and market economy (Cummings 2005). This state of being is generally referred to as postsocialist, a signifier, however, that is often more geographical (the former Soviet Bloc) and temporal (becoming something other than socialist) than cultural (Hann et al., 2002, p. 8; Chari and Verdery, 2009, p. 11). Yet, as Caroline Humphrey points out, the Soviet mentality was a deeply pervasive phenomenon that permeated all facets of society and daily life (Hann et al., 2002, p. 12).

This article examines the extent to which the Soviet legacy still shapes postsocialist Kazakhstan by focusing on how the state deals with potential crisis. Kazakhstan is viewed as one of the “successful” successor states of the former Soviet Union, a recognition internationally acknowledged by its election as a Non-Permanent Member of the UN Security Council in 2016, the first Central Asian state to be accorded this honour. Yet despite economic success and international recognition, the country faces a looming peril. While high

magnitude earthquakes are not common in Kazakhstan, they pose a real and present danger in the populated south and south-east of the country, particularly along the Tien Shan Mountains (Kravchuk, 2009, p. 1). The steps taken by the state to meet this threat provide a fascinating insight into the mentality of government officials, and a way of gauging the extent to which Soviet thinking still dominates government planning and decision-making. Drawing on fieldwork and interviews, this paper re-examines the Second World, the former Soviet Union and associated states, not only in its historical context but also as a conceptual framework in disaster risk reduction (DRR) for discussing the legacy of the USSR. In the process, not only is Kazakhstan still shown to be governed largely by Soviet norms and practices but postsocialism is shown to be much more than a passing phase in the transition to Western democracy.

### **The Three Worlds model**

The Three Worlds model was a child of the Cold War and the intense terminological battles fought by Western intellectuals over how to explain the geopolitical reality of a world system composed of more than a hundred new nation states that emerged with decolonization after World War II. Though the scheme has been labelled “the most primitive system of classification in our social science discourse”, it assumed a commanding authority for over 30 years in explaining the politico-economic determinants differentiating states (Pletsch, 1981, p. 565). First World countries were capitalist, industrial, shared similar political and economic institutions, wielded considerable authority in international economic institutions, and retained influence over parts of the former colonial world. Second World countries advocated socialism and shared certain characteristics such as centrally planned economic systems, single-party states, and mainly medium income levels. The 20 states that comprised the Soviet Bloc remained largely outside of the main international economic institutions and

traded mainly between themselves.<sup>1</sup> These two worlds were engaged in intense competition for political influence over the non-aligned, developing nations that were designated as the Third World. These states shared little in common beyond poorly developed economies given to primary production for export, minimal international influence and poor group coordination over policy issues despite their often enthusiastic membership of the Non-aligned Movement and the United Nations (Harris et al., 2009, p. 11).

The 15 post-Soviet states that emerged after 1991 with the breakup of the USSR were loosely termed postsocialist, a somewhat ill-defined term supposedly signifying a brief period of transition between socialism and liberal-democracy. While there has long been a preoccupation with the Soviet Union as an imperial entity (Nove and Newith, 1967; Sahni 1997; Shahrani, 1993), it is only more recently that scholars have begun to equate postsocialism with postcolonialism and so challenge the Three Worlds ideology that associated the former with the Second World and the latter with the Third World. Sharad Chari and Katherine Verdery argue, instead, for a single analytical field especially after 1989 “when many socialist countries became, like postcolonial ones, synonymous with underdevelopment” (2009, p. 19). It is now argued that these “old labels” no longer serve a useful purpose in either summarising the structural characteristics of national economies or the interaction between countries, and that even the distinction between developed and developing countries is becoming increasingly tenuous given the number of countries that no longer fit either designation (Harris et al., 2009, p. 14).

On the contrary, however, this paper argues that the persistence of the Soviet legacy in a post-socialist country like Kazakhstan extends beyond the supposedly transitional period of postsocialism and marks the Second World as far from an obsolete conceptual paradigm

whatever its original provenance. In purely economic terms, Kazakhstan most closely resembles the profile of a Middle Eastern oil producing state with a medium income level that disguises large disparities in wealth and with GNP almost entirely dependent upon the export of oil and natural gas.<sup>2</sup> Politically, Kazakhstan has found it difficult to steer an independent foreign policy given the country's continuing close relationship to the Russian Federation, and its geo-strategic and military importance in Central Asia.<sup>3</sup> Culturally, too, the influence of the USSR, what some scholars term "Sovietism", remains strong not only in that "particular combination of bureaucracy, clanism, patronage relationships, localism and centralisation" that so characterised later Soviet society but also in the norms, values and attitudes held by people born before 1991 or brought up by parents educated under the former system (Roy, 2002, p. 129; Yurchak, 2005). Viewing postsocialism as a radical break with the past, only produces "blindspots" with regard to the continuities that persist between the old and the new in Kazakhstan – nowhere more so than in the realm of ideas and organisation (Kay et al., 2012, p. 55). This Soviet legacy, however, is not immediately obvious but nothing so much reveals the internal structures of a society than a disaster or how a society prepares to deal with one (Oliver-Smith, 1999, p. 25).

### **The challenges of Earthquake Risk Reduction (ERR) in Kazakhstan**

The significance of this Soviet legacy is not appreciated when it comes to considering ERR in Kazakhstan. The USSR may be "history" to all but a few diehards but its intellectual legacy is still very much alive in the way people think and behave, in how institutions are structured and work, and in the manner knowledge is constructed and disseminated. All this has important bearing in Kazakhstan on DRR in general and ERR in particular. DRR interventions are premised on the expectation that people minimise risk according to behavioural norms largely drawn up by Western-trained experts. There is an institutional

culture inherent in the attitudes and values of world agencies, INGOs, and foreign scholars that ignores or, at best, neglects the existence of alternate rationalities like that which still imbues much of the population of the former Second World (Liu, 2011, p. 116). These external experts not only hold different conceptions of risk from the communities they seek to help but may not even recognise that such differences even exist (Cannon et al., 2014, pp. 17-18). Acknowledging these differences entails moving beyond the international disaster sector's conventional framework of reference and questioning a society's guiding assumptions (Krüger et al., 2015, p. 14). To explore the extent to which Sovietism continues to influence society in Kazakhstan, this paper addresses four key challenges that give insight into how ERR is conceived and practiced in a post-socialist country by looking at the nature of the seismic risk, the inherited intellectual tradition, the organisation of emergency services, and the state of civil society organisations. Rather than being an outmoded term, the Second World remains a potent conceptual force both in DRR and in the wider society.

### **A specific earthquake history**

The nature of the specific seismic risk in Central Asia where large-magnitude earthquakes are infrequent though widespread constitutes the first challenge to understanding ERR in Kazakhstan. It is a challenge because state preparedness and public awareness are not priorities compared to other hazards such as floods, mudflows and ice storms. For a start, the earthquake history of Kazakhstan is neither long nor complete. While an initial summary of earthquakes in Russia and adjacent territories was begun in 1893, the compilation of detailed earthquake catalogues was only possible with the introduction of broadband seismographs in 1956 (Rautian and Leith, 2002, pp. 4-8).<sup>4</sup> These records showed that despite Central Asia being among the least well catalogued regions of the former Soviet Union, Kazakhstan was still among the top three seismically active zones (Rautian and Leith, 2002, p. 12).<sup>5</sup>

Earthquakes in Kazakhstan mainly occur along the Dzhungaria and Tien Shen mountain ranges that run along the southern and southeastern boundaries of the country (Dewey and Burke, 1973, Avouac, 2007). Historically, many great trading cities were located in the shadow of these peaks although the population remained predominantly nomadic prior to Russian colonisation in the mid-nineteenth century. There are occasional mentions of destructive earthquakes in the written record though the magnitudes of these events are impossible to estimate (Korjenkov et al., 2003, p. 243). Archaeological excavations of many of the ancient trading cities along the Silk Road also point to repeated signs of earthquake damage (Korjenkov et al., 2003, pp. 253-255; Baitanayev and Yolgin, 2007). Following the waning of trade in the fourteenth and fifteenth centuries, these cities went into decline and the urban centres only revived with Russian colonisation in the second half of the nineteenth century (Tredinnick, 2014, p. 108). Unfortunately, the renewal of city life coincided with a period of intense seismic activity in the region around the principal urban centre of Verney (present-day Almaty) with earthquakes occurring: on 9 June 1887 with an epicentre west of Verney ( $M_s 7.3 \pm 0.5$ ); on 11 July 1889 with an epicentre about 120 km east of Verney ( $M_s 8.3 \pm 0.5$ ); and, finally, on 3 January 1911 with an epicentre south of the city ( $M_s 8.02 \pm 0.3$ ) (Bogdanovich et al., 1914; Molnar and Ghose, 2000; Kulikova and Krüger, 2015). These earthquakes were felt over immense distances, circa two million  $\text{km}^2$  in 1887 and over four million  $\text{km}^2$  in 1911. They were also very destructive killing 328 persons in the former case and destroying 770 brick buildings in Verney alone in the latter case (Hay, 1888, p. 643; Kondorskaya and Shebalin, 1982; Tatevossian, 2007, p. 23, Havenith and Bourdieu, 2010, p. 141; Kulikova and Krüger, 2015).

It is this pattern of low-frequency but high-magnitude earthquakes that constitutes a challenge to understanding ERR in Kazakhstan. The diffuse network of largely unknown faults within the continental interior of Asia slip at a rate of a few tenths to a few millimetres per year and require hundreds or even thousands of years to accumulate sufficient strain. However, they result in a disproportionate percentage of devastating earthquakes with magnitudes over Ms 7 and death tolls in the tens of thousands (England and Jackson, 2011). The flat steppe of the Kazakhstan platform only acts to amplify ground shaking during such events as its thick lithosphere facilitate the transmission of vibrations (ODI, 2016, p. 9).<sup>6</sup> Since 1911, there's been another long period of relative seismic inactivity with only two earthquakes that have struck population centres of any size, at Zaysan in 1990 and Lugovskoy in 2003.<sup>7</sup> Though both these earthquakes were comparatively moderate, respectively Ms 6.9 and Ms 5.4, they are noteworthy for two reasons: first, because they occurred within the last thirty years and give some indication of the damage that a severe earthquake might inflict on the modern urban infrastructure of Kazakhstan; and, second, because the detailed surveys of private houses and public buildings carried out in their aftermath provide evidence as to the structural quality of the built environment.

The report on the Zaysan earthquake that struck the town of Kurshim in East Kazakhstan on 14 June 1990 blamed the extent of the damages on the “inherent insufficiencies of the structural design” and the “insufficient quality of materials and the lack of anti-seismic protection” (Taubaev et al., 1992, p. 43). The structural damage and loss of life (three dead and 10 hospitalised) from the comparatively mild Lugovskoy earthquake of 22 May 2003 was likewise attributed to “the deplorable condition of the housing” (UNDP, 2004, p. 7).<sup>8</sup> The devastation that a high-magnitude earthquake might cause in a large city like Almaty, constructed to the same building standards, can be gauged accordingly. A study (albeit in

1999) concluded that approximately 70% of multi-storey, residential buildings in urban areas had “not been designed to current seismic requirements” (Nurmagembetov et al., 1999, pp. 16, 25). While Kazakh authorities dealt effectively with the scale of the emergency in 2003, a UNDP report concludes that: “The Lugovskoy earthquake and its aftermath have probably been the last tolerant warning nature has given to Kazakhstan” (UNDP, 2004, p. 50).

This prescient remark goes to the heart of the perceptual challenge that makes ERR such a problem in the country. The nature of seismicity in Kazakhstan, long (at least in human terms) periods of low to moderate seismic activity punctuated by intervals when high intensity earthquakes occur, makes for low public appreciation of risk. No one alive remembers the 1911 event and most people do not rate earthquakes seriously enough to warrant undue concern. Studies of risk behaviour show that people “refuse to worry about losses whose probability is below some threshold” and that their “natural predisposition is to protect against high-probability hazards and to ignore rare threats” (Slovic et al., 2000, pp. 69-70).<sup>9</sup> Unlike populations where hazards are considered “a frequent life experience”, the people of Kazakhstan do not seem to be unduly worried by earthquakes and take few steps to prepare themselves against one (Bankoff, 2003).<sup>10</sup> While the USSR cannot be held responsible for the nature of seismicity in contemporary Kazakhstan, the lack of preparedness that characterises state institutions and agencies not yet called upon to deal with a major disaster, are very redolent of its Soviet past.<sup>11</sup>

### **The Intellectual Inheritance of the Soviet Union**

The second way in which the Soviet legacy challenges an understanding of ERR in Kazakhstan has its basis in the alternative epistemology with which natural hazards are framed and the scientific tradition invoked to represent them. The challenge in this instance

lies not in the history of the ground below but in the history of the society above and to the intellectual legacy of Soviet science. Stalin and his heirs were fascinated by the potentialities of engineering. They sought mastery over the environment regardless of whether it was landscape or city.<sup>12</sup> Just as people had to be moulded through education, so nature needed to be redesigned to make it more productive, even if that involved diverting entire rivers or acclimatising new species (Weiner, 1988, pp. 178-182). In fact, the Soviet Union is often presented as showing a particular antipathy towards nature almost as if it was “a consciously antisocialist force which needed to be suppressed” (Weiner, 1988, pp. 168-169).<sup>13</sup>

The controversy over the Medeo Dam indicates just how prevalent such attitudes were among high state functionaries in Kazakhstan like Dinmukhamed Akhmedovich Kunaev who was First Secretary of the Communist Party between 1964 and 1986. The Medeo Dam spanning the Almatinka Gorge was constructed in 1966 to protect Almaty from a repeat of the disastrous mudflow that killed 500 people in 1921. Environmentalists opposed building a dam in an area of outstanding natural beauty, while the authorities advocated what they regarded as a quick solution to a problem. Marc Elie argues that republican leaders in peripheral republics like Kazakhstan favoured massive geo-engineering schemes like the Medeo Dam because such displays of technological prowess helped them to establish their authority vis-à-vis the central government (Elie, 2013). Such geo-engineering solutions gave scientists like the Soviet Institute of Earth Sciences an inordinate influence over political and military affairs in post-Stalinist society (Josephson, 2005; Elie, 2013, p. 332).

As regards earthquakes, the principal interest lay in the degree to which they might be predicted. The architect of this programme, Academician Grigoriy Gamburstev, developed a multi-disciplinary approach using geological, geophysical and seismological data to identify

actual and potential earthquake zones, and, then, to calculate their expected effects. It is due to his influence that the seismic zoning maps of the Soviet Union were drawn up in 1957, 1968 and 1978, and a building code published that is still in force today in Kazakhstan (Gamburtsev, 2013). While not claiming to predict the actual timing of earthquakes, Gamburtsev and his colleagues argued that observation of long- and short-term precursors rendered such precise knowledge redundant (Ulomov et al, 2002, p. 277). Using analogies from meteorology, Soviet seismologists talked about a region's "seismic climate" and how its "seismic weather" varied over time. Just as meteorologists are asked to forecast the weather, Soviet seismologists were asked to predict the place, magnitude, intensity, and timing of earthquakes. These predictions were of three types: long-term, in a large area over years or even decades; medium-term, in a relatively small area within a time span of a few months or years; and short-term, with an accuracy of a few days or even hours. The methodology behind such "prognostic observations" commenced with the proper seismic zoning of an area, followed by the identification of potential earthquake sources, and concluded with a thorough search for precursors (Ulomov et al., 2002, p. 277). Within Central Asia, success was claimed in predicting earthquakes in the Fergana region in May 1967 (Uzbekistan), Gazli in 1976 (Uzbekistan) and Suusamyr in 1992 (Kyrgyzstan) based on an analysis of the deep structure, geological history, seismotectonics and seismogeodynamics of each region (Lapwood, 1970, p. 214; Ulomov et al., 2002).<sup>14</sup>

The extent to which such ideas still influence current thinking in Kazakhstan is hinted at in a paper presented by two divisional heads of the State Emergency Committee at an international symposium in 1997. The presenters outlined a system of earthquake prediction based on "place, time and parameters of earthquake occurrence" and a national strategy involving the compilation of seismic maps based on long-term observations and the

forecasting of where and when these events might occur. The past “seismic climate” of Kazakhstan was also sketched out with its “periods of seismic silence alternate with periods of seismic activity” (Kravchuk and Mazhkenov, 1997, pp. 70-71). The last active phase, they claimed, had been between 1885 and 1911 and had then been followed by a period of relative silence. They concluded that Kazakhstan had entered a new phase of seismic activity since the early 1990s that made it imperative to meticulously analyse daily station observations and to forward the data to the State Emergency Committee for consideration and public announcement. The authors proudly boasted that “the scientists of Kazakhstan have developed new methods of predicting earthquakes on the basis of an analysis of seismological, geophysical, ground deformation, and hydro-geochemical and other data” (Kravchuk and Mazhkenov, 1997, p. 71).

While Soviet earthquake prediction based on long and medium term analyses of past events is little different from the probabilistic assessment of general earthquake hazard in a given area issued by Western seismologists, the short-term earthquake prediction is generally dismissed by external experts as impossible and dangerous (Tengri News, 2014). While the USSR inherited a long tradition of classical seismology and observational instrumentation dating back to pre-revolutionary days (Lapwood, 1970), the failure of influential academicians to accept Plate Tectonics in the mid-1960s ensured that Soviet scientists played no substantial part in the subsequent intellectual revolution in earthquake-related sciences, and that Soviet seismology remained a stand-alone discipline studied in isolated institutes in many former Soviet republics like Kazakhstan.<sup>15</sup> Whatever their seismological credentials, however, such attitudes represent an accepted scientific tradition that has its roots in the way science served the interests of the state in the Soviet Union. The way knowledge was structured and disseminated through colleges of higher education reflected this predisposition to favour all

that was technical and mechanical over the social sciences that were deemed inherently deficient and morally suspect unless carefully directed and monitored. The extent to which this legacy still pervades the former constituent states of the USSR requires careful consideration. In Kazakhstan, ERR continues to be seen as predominantly a matter for state institutes, seismologists and engineers with little regard given to the contribution of the social sciences.

### **The organisation of emergency services**

The legacy of the Soviet Union also looms large over how emergency services are organised and how emergency situations are handled in Kazakhstan. The agency entrusted with response to large-scale emergencies in the USSR was the Civil Defence Force (CDF) whose troops and paramilitary units were deployed on such occasions. These emergencies were mainly conceived of in terms of military threats and there were no national specialised rescue units (Gouré, 1986). The absence of well-defined emergency responders and orientation to war-time conditions resulted in poor coordination that frequently “could not cope with this work in full measure” (Vorobiev et al., 1998, p. 49).

The Chernobyl nuclear power plant explosion on 26 April 1986 stretched the CDF-based system to its limits. Soviet officials were unprepared for the scale of the emergency and unable to take decisive action (Medvedev, 1992). As a result, “thousands of people paid for these mistakes with their health or lives” (Vorobiev et al., 1998, p. 50). The CDF’s blatant ineffectiveness was soon demonstrated again in the Armenian Earthquake of 7 December 1988. It was not the Ms 6.9 tremors so much as poor planning and the post-1950 construction of buildings that accounted for the 100,000 death toll (Verluisse, 1995, pp. 25-27). The government was blamed for its inadequate handling of the emergency: for its failure to

coordinate emergency services, for the absence of a rapid response force, for supplying deficient or obsolete equipment, and for the lack of the necessary legal and regulatory framework (Vorobiev et al., 1998, pp. 51-52). In fact, the initial emergency response relied largely on the efforts of local people and civil society organisations (Verluisse, 1995, pp. 18-22; Vorobiev et al., 1998, p. 51).

The authorities' inability to deny the Chernobyl explosion as a radioactive cloud drifted slowly westwards over northern Europe, and the decision of General Secretary Mikhail Gorbachev to permit international aid in the Armenian Earthquake exposed Soviet deficiencies to the full glare of international and national publicity. In July 1989, Gorbachev created a State Commission for Emergency Situations to organise disaster management and coordinate emergency response across the Soviet Union. According to Marc Elie, however, this was as much a political act as one of reform: when centrifugal forces were in danger of breaking the USSR apart, the creation of a powerful centralised ministry was part of the Soviet authorities' last-ditch attempt "to retain federal executive functions in a disintegrating union" (Elie, 2013, p. 215).

With independence in 1991, the regional office of the State Commission for Emergency Situations became the national emergency responder for Kazakhstan. As in other parts of the USSR, personnel, organisation and policies were transferred seamlessly from the Soviet to the post-Soviet order (Elie, 2013, p. 216). Continuity has proven a powerful force in shaping the new agency's structure and operations in Kazakhstan. The Commission, now Committee, consists of the head or first deputy of the relevant ministries, departments and organisations involved in emergency response.<sup>16</sup> It is charged with the interdepartmental management of all matters pertaining to the "prevention and liquidation of emergencies of natural and man-

caused origin” and exercises responsibility for civil defence, the provision of fire safety, and control over industrial and mining safety (UNDP, 2004, p. 36).<sup>17</sup> As regards earthquakes, the Committee coordinates the National System for Seismic Monitoring and Earthquake Prognosis and issues prognostic observations of “seismic weather” in much the same manner as did its Soviet predecessor (UNDP, 2004, p. 38).

The governing emergency response framework is set out in a National Disaster Prevention Plan which is not so much a code of specific procedures as a guideline of best practice. In effect, emergency management is still primarily a matter of Civil Defence as it was in the USSR. Each ministry, department, and regional/municipal administration (*akimat*) draws up a plan outlining the procedures to be followed in an emergency situation that specifies the units available for deployment, the regulations governing personnel, and the level of support available from other government agencies. Overall responsibility for managing operations during an ongoing event is entrusted to the Committee of Emergency Situations (UNDP, 2004, pp. 39-40).<sup>18</sup>

However, the state of disaster management in Kazakhstan is generally considered to be “ineffective” (UNDP, 2003, p. 2). Former Emergency Situations chairperson, Nurakhmet Bizanov, admitted there were “some deficiencies”, while the UNDP report on Lugovskoy Earthquake was more specific, identifying logistical problems, a population ill-informed about seismic risk, and the “deplorable condition of the housing used for residential, public, and production purposes” (UNDP, 2004, p. 7). In particular, the rural poor were singled out as disproportionately vulnerable and to be most at risk. In turn, the government of Kazakhstan blames any “deficiencies” in organisation and preparedness as inherited from the Soviet Union where emergencies “were seen more as accidental phenomena, which hindered

the implementation of an effective state policy in order to prevent and respond to emergency situations” (Republic of Kazakhstan, 2000, p. 5).

There have been attempts to reform the emergency services in Kazakhstan and shed this Soviet legacy. The International Decade for Natural Disaster Reduction showed how countries like Kazakhstan “had not sufficiently incorporated worldwide experience” into their state system of emergency prevention and response (Republic of Kazakhstan, 2000, p. 5). Acknowledging that the existing state of affairs was “far from ideal”, a National System for Prevention and Liquidation of Emergency Situations was adopted in 1997 and a Natural Disasters Preparedness Plan drafted in 2000.<sup>19</sup> Kazakhstan is also a signatory to the 2005 Hyogo Framework for Action (HFA) whose rhetoric on building “a culture of safety and resilience” at the local level now pervades the lexicon of externally funded projects and domestic programmes. However, the HFA is “still not fully implemented across policy and practice” and the institutional commitment is “neither comprehensive nor substantial” (Okassov, 2013, p. 35).

The possible reasons for this lack of implementation are varied. First, Kazakhstan is a big country and its population of a little over 17 million is spread over 2,000,700 km<sup>2</sup>, an area the size of Western Europe. It is not always easy to reach people living outside of the larger cities. Research carried out by the authors on risk perceptions in South Kazakhstan oblast between 2014 and 2016, for instance, shows low levels of earthquake awareness and education among communities located in one of the most seismically active regions within a 75-km radius of the nation’s third-largest city, Shymkent. A total of 302 surveys were administered across six rural communities: 29.5 per cent of respondents (n = 89) had experienced an earthquake-related event, 28.5 per cent (n = 86) thought an earthquake

possible and a mere two per cent ( $n = 7$ ) anticipated that one might cause injury or loss of life. Furthermore, only 18.2 per cent ( $n = 55$ ) of respondents reported having received any guidance on what to do when an earthquake occurs. It is perhaps unsurprising in this context that just six per cent ( $n = 18$ ) of people had taken any steps to prepare for one. Implementation of ERR programmes is invariably a problem given the prevalence of these attitudes.

However, it may also be worth asking what Kazakhstan gains from signing such publicly recognised international agreements. The answer may lie more in an analogous form of Laura Adams's notion of a "spectacular state" and Kazakhstan's striving to conform to global models of nationhood and shedding its former Soviet association (Adams, 2010). Just as hosting "spectacular" cultural events help create cultural identity at a national level in Uzbekistan, acceding to "spectacular" international treaties helps establish national identity at the supranational level in Kazakhstan. In 2014, Kazakhstan went further in trying to show it had shed its past by creating its own overseas development agency, KazAID, mirrored on its US namesake. As one senior foreign aid worker explains, "Kazakhstan [now] considers itself as a developed country" (Interview with Foreign Aid Worker 1, Almaty 14 July 2015). A senior manager at the Committee for Emergency Situations, Sergazy Sadykov, was even blunter: "We are trying to show that building up resilience isn't something extra or optional – it is the key to making sure we continue to develop as a country" (UNDP, 2015).

### **A lack of mature civil society organisations**

The absence of civil society organisations in Kazakhstan able to play a full role in ERR is another aspect of the Soviet legacy compounded, in this case, by the country's mineral wealth. On the one hand, the country is too rich and, on the other hand, the Soviet state's attitude towards civil society was always ambivalent. Kazakhstan's per capita GDP in 2015

was approximately the same as Russia (Bershidsky, 2015). This is a remarkable achievement for a peripheral state of the former Soviet Union whose independence was marked by several years of severe economic disruption, fiscal uncertainty, social dislocation, lawlessness and despair, a period of complete chaos that has been metaphorically referred to as *dikii kapitalism* or wild capitalism (Nazpary, 2002, pp. 2-4). Kazakhstan's salvation lay in its immense reserves of oil and gas.<sup>20</sup> Producing two per cent of global production, revenue from the extractive sector has steadily increased from US \$2.5bn to \$38bn (2005-2011). Together, oil and natural gas condensate now generate about 25 per cent of GDP and account for about 70 per cent of exports. This subsoil largesse provided the government of Kazakhstan with an annual revenue in excess of US \$30 billion in 2014 (Coronel et al., 2011, p. 27; EITI, 2014). However, the continuing depression in oil prices and the repeated devaluation of the national currency, the Tenge, threaten to undermine the economic development of the country and upset the patron-client relations that underpin social relations and the way the economy operates (Ostrowski, 2010, pp. 19-20). The crisis prompted former President Nazarbayev to immediately declare a moratorium on all kinds of new state-funded initiatives until at least 2018 (Bershidsky, 2015).

Nevertheless, oil wealth and low population squarely place Kazakhstan among medium income countries and therefore not in the group of regular recipients of major financial aid from external donors. Kazakhstan receives the lowest amount of ODA per capita of all Central Asian republics, a mere \$5.18 per head of population compared to Kyrgyzstan's \$90.38.<sup>21</sup> Apart from some of the major UN agencies such as UNDP, UNISDR and UN Women that locate their Central Asian headquarters in Kazakhstan because of its relative stability, there are few international aid agencies or INGOs at work in the country. This absence means there is also few international staff trained in the language and concepts of

ODA and DRR. There are few occasions, too, when the legacy of the Soviet past is directly challenged by alternate, more recent, largely western-inspired theory and practice. Unlike in the developing countries of the former Third World where such ideas are embraced or challenged as the case may be, there is limited exposure in Kazakhstan to their influence and few exponents of their viewpoint. Even basic concept such as “vulnerability”, “resilience” and “adaptation” are largely unfamiliar terms or misunderstood ones. There are also few examples, outside of a limited number of UN- and EU-funded projects, where emphasis is placed on incorporating local knowledge or community participation in DRR. Inadvertently, therefore, emergency response in Kazakhstan largely remains grounded in Soviet thinking and method.<sup>22</sup>

The problem is further complicated by the nature of civil society in Kazakhstan, a state of affairs also partly the legacy of the Soviet period. Whether civil society existed in the USSR and what exactly constitutes civil society in postsocialist societies are a matter of considerable debate (Ruffin and Waugh, 1999; Sajoo, 2002). Olivier Roy argues that three conceptualisations of civil society have been variously applied to Central Asia. It is conceived of first as networks of free citizens such as public interest groups, professional associations, political parties and unions; second, as traditional solidarity networks based on clan affiliation, kinship and patronage; and third as a community of believers living according to Islamic values and ethics (Roy, 2002). Only the first of these models, however, is acknowledged by humanitarian workers and international organisations as constituting civil society in any real, progressive, democratic sense.

The commonly considered opinion held by most scholars and donors alike is similar to the one voiced by Aliya Kabdiyeva and John Dixon who conclude that prior to 1991: “There was

no history of volunteerism in the country” (Kabdiyeva and Dixon, 2014, p. 34). This view is not only one commonly held by outsiders but also represents a decidedly urban preoccupation. Rural areas are decried for their lack of civil engagement and for the absence of group associations (ADB, 2005, p. 2; Nezhina and Ibrayeva, 2013, p. 343). What constitutes civil society is assumed to be primarily an urban phenomenon, the site of NGOs and the Third Sector, to hold liberal democratic ideals, and to be fashioned according to the dictates of Western social scientists. More to the point, the championing of community-based DRR strategies in both the HFA and the Sendai Framework for Disaster Risk Reduction (SFDRR) is premised on the assumption that civil society either reflects this western conceptualisation or some form of village level reciprocity and exchange common to agricultural societies in the former Third World. What exactly constitutes civil society in the Soviet Union and in its post-socialist successors is rarely conceptualised and seldom considered.

This approach, however, overlooks the long and vibrant tradition of self-help and mutual regard at the local level that both underlies the Islamic cultural heritage and predates Communist collectivism. In Kazakhstan, as in Central Asia as a region, civil engagement forms part of a rural tradition that binds people together both within and between communities based on a common cultural inheritance of shared values derived from a nomadic past and a system of “village-based” reciprocity. *Asar* or help given in the building and repairing of houses, collective or reciprocal labour, and contributions towards communal or personal celebrations is a widely shared tradition (Focus Group Discussion, Kelta Mashat 30 June 2015). The Soviet state also put into place numerous new institutions of a civil nature that quickly became integral to both rural and the expanding urban areas including the school system, youth organisations, “Red” teahouses, women’s clubs, peasant and workers unions,

the Red Army, illiteracy campaign groups, atheists' clubs and the like (Shahrani, 1993, p. 130). Paradoxically, too, the Soviet system simply reinforced traditional patterns of domination, solidarity and patronage (Roy, 1999).

This history of civil society remains largely unacknowledged by Western aid donors and international agencies who promote their own vision of civil society; what Olivier Roy calls “a window civil society” (Roy, 2002, p. 130). However, the perceived absence of a recognised mature civil society challenges the premise of community-based DRR that underpins much of the intent of the HFA and SFDRR and hinders its realisation. There is only one civil society member (unspecified) included in the national multi-sectoral platform for hazard reduction in Kazakhstan, few NGOs working at the community level, and, apart from the Red Crescent Society of the Republic of Kazakhstan (RCSRK), even less engaged in DRR (Okassov, 2013, p. 10). Despite the fact that Article 23 of the Constitution of the Republic of Kazakhstan specifically recognises citizens' rights to form associations, in effect the government limits this freedom through the application of the Civil Code of 1996, the fees governing the Registration of Legal Entities, and the Criminal Code of 1998 that makes all association members liable for unlawful interference with the activities of state agencies (Zhovtis, 1999). Under current law, too, NGOs are not allowed to perform the functions of state bodies or to receive state funding but are permitted to participate in certain approved activities in emergency situations.<sup>23</sup> The RCSRK was one of the few independent organisations permitted to operate during the Soviet period and enjoyed, if not state patronage, then effective official sanction (Interview with National Aid Worker 1, Taraz 10 July 2015). Today it continues to play an important role in providing assistance to Emergency Situations personnel and in disseminating educational information to raise public awareness

and knowledge about potential hazards (Interview with National Aid Worker 2, Almaty 13 July 2015; UNDP, 2004, pp. 41-42).<sup>24</sup>

The number of NGOs currently in Kazakhstan apart from the RCSRK is difficult to gauge. There may have been as many as 3,000 NGOs in 1997 before measures to restrict their activities were passed (Horton and Kazakina, 1997, p. 36). One informed estimate puts the current figure at about 1000 (Interview with National Aid Worker 3, Taraz 9 July 2015). Many of the NGOs that work with vulnerable people are grouped together into the Civil Alliance (CA), a collection of local associations at the oblast level working with at risk groups such as the disabled, migrants, single mothers, youth and the like. Again, too, the CA has quasi-official status, with one local aid worker describing themselves as “helpers to the government” (Interview with National Aid Worker 3, Taraz 9 July 2015). While claiming to be an independent organisation, the CA is provided with office space and facilities at the local *akimat* (municipal hall). However, the weakness of all NGOs in Kazakhstan lies in their restricted area of operations and limited resources (Zhovtis, 1999, p. 67). The RCSRK depends for funding on external affiliates or on public donations and business sponsorships and the CA anticipates receiving funding from the national government in addition to their local premises (Interview with National Aid Worker 3, Taraz 9 July 2015). In postsocialist Kazakhstan, it is difficult to completely escape the state’s pall which may not be as all-pervasive as it was in the days of the Soviet Union but is nonetheless still the major player in most areas of economic and social activity.

### **Begging the question**

The Second World may have been little more than a social construction conjured up by Western social theorists to make sense of the post-Second World War world. However, just

because something no longer exists on a map, does not mean it ceases to exist in the minds of the people who lived within its borders, shaping not only the way people thought and behaved in the past but continuing to influence them in the present. As this article has shown, the Soviet legacy is still an important consideration when it comes to understanding ERR in Kazakhstan. The USSR continues to shape the epistemological framework with which people think about nature and their technocratic attitudes towards earthquakes, constraining scientific inquiry. It pervades the organisation and practice of emergency response at all levels of operation, hampering its effectiveness. It also continues to influence the development of NGOs, impeding the growth of civil society. Moreover, the nature of seismicity with infrequent but high magnitude earthquakes only serves to diminish any sense of risk in popular imagination: history compounded by geology As John Heathershaw writes the “state of Kazakhstan is very much a product of adaptation of the hybrid institutions formed in the Soviet era” (Heathershaw, 2016, p. 98). Far from being a transitional phase towards liberal democracy, postsocialism is here to stay for the foreseeable future.

The persistence of postsocialist norms and values in Kazakhstan raises questions about the proper consideration of institutional and local cultures in effective DRR. While the importance of culture to how people perceive and prioritise risk has gained greater consideration in recent years, especially in relation to developing countries, the legacy of the Soviet Union rarely warrants a mention outside of historical treatises. Yet, Sovietism was just as much an all-embracing cultural framework as capitalism, pervading all aspects of life. It continues to influence the norms and assumptions with which people in the former Second World go about their daily routines and practices, and governs what actions they take or do not take in relation to earthquakes, shaping both the “people’s culture” and “organisational culture” of emergency management.<sup>25</sup>

This legacy of Soviet culture combined with the seismic profile of infrequent but destructive earthquakes make ERR a challenge in Kazakhstan. In particular, it begs the question of how to raise people's awareness and make them more resilient if they do not consider themselves to be in danger but are, and are guided by quite such a different conceptual framework of risk and how to respond to it. In particular, understanding the nature of ERR in Kazakhstan highlights why postsocialism should be acknowledged in both the conceptualisation and implementation of contemporary DRR in the former Soviet Bloc. That hitherto it has not been seriously considered is due to a Western myopia that dismisses the Second World as a purely historical concept of little current relevance rather than as a cultural reality that simply never went away.

## References

- Adams, L.L. (2010) *The Spectacular State: Culture and National Identity in Uzbekistan*. Durham and London, Duke University Press.
- Asian Development Bank (ADB) (2005) *Overview of NGOs/Civil Society: Kazakhstan*. Bishkek: International NGO Training and Research Centre. Accessed 31 July 2017. <https://www.adb.org/sites/default/files/publication/28967/csb-kaz.pdf>.
- Avouac, J.-P. (2007) 'Dynamic Processes in Extensional and Compressional Settings - Mountain Building: From Earthquakes to Geological Deformation'. *Treatise on Geophysics*. 6. pp. 377-439.
- Baitanayev, B.A. and Y.A. Yolgin, 'Islamic Architecture on the Territory of South Kazakhstan.' *Oriente Moderno*. 87(1). pp. 35-52.

- Bankoff, G. (2003) *Cultures of Disaster: Society and Natural Hazard in the Philippines*. London, Routledge.
- Bershidsky, L. (2015) 'Kazakhstan Is the Latest Oil-Curse Casualty'. *Bloomberg View* 20 August 2015. Available at: <http://www.bloombergview.com/articles/2015-08-20/kazakhstan-is-the-latest-oil-curse-casualty> (accessed on 20 January 2016).
- Bogdanovitch, K.I., I.M. Kark, B.Y. Korolkov, and D.I. Mushketov (1914) 'The Earthquake in the Northern Districts of the Tien Shan, 22 December 1910 (4 January 1911)'. *Transactions of Geological Committee*. 89. p. 270 [in Russian].
- Brain, S. (2010) 'Stalin's Environmentalism'. *Russian Review*. 69(1). pp. 93-118.
- Brezhneva, A. and D. Ukhova (2013) 'Russia as a Humanitarian Aid Donor'. *Oxfam Discussion Paper*, 15 July 2013.
- Cannon, T., L. Schipper, G. Bankoff and F. Krueger (eds.) (2014) *World Disaster Report 2014: Culture and Risk*. Geneva, International Federation of the Red Cross and Red Crescent Societies.
- Chari, S. and K. Verdery (2009) 'Thinking between the Posts: Post-Colonialism, Post-Socialism and Ethnography after the Cold War'. *Comparative Studies in Society and History*. 51(1). pp. 6-34.
- Coronel, A.L., D. Rozhkov, A. Al-Eyd, and N. Raman (2011) *Republic of Kazakhstan: Selected Issues*. Washington DC, International Monetary Fund.
- Cummings, S.N. (2005) *Kazakhstan: Power and the Elite*. London and New York, I. B. Tauris.
- Dewey, J. and K. Burke (1973) 'Tibetan, Variscan and Precambrian Basement Reactivation: Products of a Continental Collision'. *Journal of Geology*. 81. pp. 683-692.

- Elie, M. (2013) 'Coping with the "Black Dragon": Mudflow Hazard and the Controversy over the Medeo Dam in Kazakhstan'. *Kritika: Explorations in Russian and Eurasian History*. 14(2). pp. 313-342.
- Elie, M. (2013) 'Late Soviet Responses to Disasters, 1989-1991: A New Approach to Crisis Management or the Acme of Soviet Technocratic Thinking?' *The Soviet and Post-Soviet Review*. 40. pp. 214-238.
- EITI (2014) 'Kazakhstan: US \$30 billion government revenue per year'. *Extractive Industries Transparency Initiative*. 5 December 2014. Available at: <https://eiti.org/news/kazakhstan-us-30-billion-government-revenue-year> (accessed on 20 January 2016).
- England, P. and J. Jackson (2011) 'Unchartered Seismic Risk'. *Nature Geoscience*. 4. pp. 348-349.
- Gamburtsev, G.A. (2013) 'History of Experimental Seismology in the Soviet Union'. *Seismic Technology*. 10(2). pp. 1-8.
- Giess, P.G. (2013) *Pre-Tsarist and Tsarist Central Asia: Communal Commitment and Political Order and Change*. London and New York, Routledge.
- Gouré, L. (1986) *Civil Defence in the Soviet Union*. Westport, CT, Greenwood Press.
- Hann, C., C. Humphrey, and K. Verdery (2002) 'Introduction: Postsocialism as a Topic of Anthropological Investigation' in Chris. M. Hann (ed.) *Post Socialism: Ideals, Ideologies and Practices in Eurasia*. London and New York, Routledge. pp. 1-28.
- Harris, D., M. More and H. Schmitz (2009) *Country Classification for a Changing World*, IDS Working Paper 326. Brighton, Institute of Development Studies.
- Hatherley, O. (2015) *Landscapes of Communism: a History through Buildings*. Milton Keynes, Allen Lane.

- Havenith, H.-B. and C. Bourdieu (2010) 'Earthquake-Induced Landslide Hazards in Mountain Regions: A Review of Case Histories from Central Asia'. *Geologica Belgica*. 13(3). pp. 137-152.
- Hay, M.B. (1888) 'The Earthquakes of May and June, 1887, in the Verny (Vernoe) District, Russian Turkestan, and Their Consequences'. *Proceedings of the Royal Geographical Society and Monthly Record of Geography*. 10(10). pp. 638-646.
- Heather Shaw, J. (2016) 'Central Asian Statehood in Post-Colonial Perspective', in E. Kavalski (ed.) *Stable Outside, Fragile Inside? Post-Soviet Statehood in Central Asia*. London and New York, Routledge. pp. 87-101.
- International Federation of Red Cross and Red Crescent Societies (IFRC) (2003) *Kazakhstan: Earthquake Information Bulletin No. 1/2003*, 28 May 2003, available at: <http://reliefweb.int/report/kazakhstan/kazakhstan-earthquake-information-bulletin-no-12003> (accessed 16 June 2016).
- Johnston, A.C. and L.R. Kanter (1990) 'Earthquakes in Stable Continental Crust'. *Scientific American*. 262(2). pp. 68-75.
- Josephson, P. (2005) *Red Atom: Russia's Nuclear Power Program from Stalin to Today*. Pittsburgh, University of Pittsburgh Press.
- Kabdiyeva, A. and J. Dixon (2014) 'Collaboration between the State and NGOs in Kazakhstan'. *International Journal of Community and Cooperative Studies*. 1(2). pp. 27-41.
- Kay, R., S. Shubin and T. Thelen (2012) 'Rural Realities in the Post-Socialist Space'. *Journal of Rural Studies*. 28. pp. 55-62.
- Kondorskaya, N.V. and N.V. Shebalin (eds.) (1977) *New Catalog of Strong Earthquakes in the U.S.S.R. from Ancient Times through 1977*, NOAA National Geophysical Data Center Report SE-31, Boulder, Colorado, 1982. (Update and English translation of

Noviy Katalog Sil'nykh Zemlyetryaseniya na Territoriy SSSR s Drevneyshikh Vremenyam do 1975 g., USSR Academy of Sciences, Moscow, 1977), available at: <http://earthquake.usgs.gov/learn/today/index.php?month=1&day=3&submit=View+Date> (accessed 16 June 2016).

Korjenkov, A., K. Baipakov, C. Chang, Y. Peshkov and T. Savelieva (2003) 'Traces of Ancient Earthquakes in Mediaeval Cities along the Silk Road, Northern Tien Shan and Dzhungaria'. *Turkish Journal of Earth Sciences*. 12. pp. 241-261.

Kravchuk, A. (2009) *Republic of Kazakhstan Disaster Risk Reduction Review*. UNDP, July 2009, available at: [http://www.preventionweb.net/files/10481\\_DRRReviewKaz.pdf](http://www.preventionweb.net/files/10481_DRRReviewKaz.pdf) (accessed 20 March 2017).

Kravchuk, A.V. and S.A. Mazhkenov (1997) 'Monitoring of Seismic Hazards and Earthquake Prediction in Kazakhstan', in *Earthquakes and People's Health Vulnerability Reduction, Preparedness and Rehabilitation, Proceedings of a WHO Symposium, Kobe, 7-30 January 1997*. Kobe, Japan, World Health Organisation Centre for Health Development. pp. 69-71.

Krüger, F., G. Bankoff, T. Cannon, B. Orłowski, and L.F. Schipper (eds.) (2015) *Cultures and Disasters: Understanding Cultural Framings in Disaster Risk Reduction*. New York and London, Routledge.

Kulikova, G. and F. Krüger (2015) 'Source Process of the 1911 M8.0 Chon-Kemin earthquake: Investigation Results by Analogue Seismic Records'. *Geophysical Journal International*. 201(3). pp. 1891-1911.

Lapwood, E.R. (1970) 'Seismology in the Soviet Union'. *Geophysical Journal International*. 20. pp. 207-222.

Liu, M. Y. (2011) 'Central Asia in the Post-Cold War World'. *Annual Review of Anthropology*. 40. pp. 115-131.

- Medvedev, Z. (1992) *The Legacy of Chernobyl*. New York and London, W. W. Norton & Company.
- Mikhailova, N.N. and N.N. Poleshko (2011) 'The Tekeli Earthquake of 2009 in Kazakhstan: Source and Effects'. *Seismic Instruments*. 47(2). pp. 180-190.
- Mikhailova, N.N., A.S. Mukambayev, I.L. Aristova, G. Kulikova, S. Ullah, M. Pilz and D. Bindi (2015) 'Central Asia Earthquake Catalogue from Ancient Times to 2009'. *Annals of Geophysics*. 58(1). pp. 1-9.
- Molnar, P. and S. Ghose (2000) 'Seismic Moments of Major Earthquakes and the rate of Shortening across the Tien Shan'. *Geophysical Research Letters*. 27(16). pp. 2377–2380.
- Mushketov, I.V. (1890) 'Le Tremblement de Terre de Verny, 28 Mai (9 Juin) 1887'. *Memoires du Comite Geologique de Saint-Petersbourg*. 10(1).
- Nazpary, J. (2002) *Post-Soviet Chaos: Violence and Dispossession Kazakhstan*. London and sterling-Virginia, Pluto press.
- Nezhina, T.G. and A.R. Ibrayeva (2013) 'Explaining the Role of Culture and Traditions in Functioning of Civil Society Organisations in Kazakhstan'. *Voluntas*. 24. pp. 335-358.
- Nove, A. and J.A. Newith (1967) *The Soviet Middle East: A Model for Development?* London, George Allen and Unwin Ltd.
- Nurmagembetov, A., N. Mikhailova, and W. Iwan (1999) 'Seismic Hazards of the Central Asian Region', in S.A. King, V.I. Khalturin and B.E. Tucker, *Seismic Hazard and Building Vulnerability in Post-Soviet Central Asian Republics*. Dordrecht and Boston, Kluwer Academic. pp. 1-43
- Overseas Development Agency (ODI) (2016) *Earthquake Science and Hazard in Central Asia: Conference Summary*. London, Overseas Development Institute.

- Okassov, S. *Kazakhstan: National Progress Report on the Implementation of the Hyogo Framework for Action, 2011-2013*. Available at [http://www.preventionweb.net/files/31269\\_kaz\\_NationalHFAprogress\\_2011-13.pdf](http://www.preventionweb.net/files/31269_kaz_NationalHFAprogress_2011-13.pdf) (accessed: 20 June 2016).
- Oldfield, J.D. (2005) *Russian Nature: Exploring the Environmental Consequences of Societal Change*. Burlington, VT, Ashgate.
- Oliver-Smith, A. (1999) 'What Is a Disaster?' In A. Oliver-Smith and S. Hoffman, *The Angry Earth: Disaster in Anthropological Perspective*. New York, Routledge. pp. 18-34.
- Ostrowski, W. (2010) *Politics and Oil in Kazakhstan*. London, Routledge.
- Pletsch, C.E. (1981) 'The Three Worlds, or the Division of Social Scientific Labour, Circa 1950-1975'. *Comparative Studies in Society and History*. 23(4). pp. 565-590.
- Power, M. and G. Mohan (2010) 'Towards a Critical Geopolitics of China's Engagement with African Development'. *Geopolitics*. 15(3). pp. 462-495.
- Purvis-Roberts, K.L., C.A. Werner and I. Frank (2007) 'Perceived Risks from Radiation and Nuclear Testing Near Semipalatinsk, Kazakhstan: A Comparison Between Physicians, Scientists, and the Public'. *Risk Analysis*. 27(2). pp. 291-302.
- Raab, N. (2014) 'The Tashkent Earthquake of 1966: The Advantages and Disadvantages of a Natural Tragedy'. *Jahrbücher für Geschichte Osteuropas*. 62(2). pp. 273-294.
- Rautian, T. and W. Leith (2002) *Composite Regional Catalogues of Earthquakes in the Former Soviet Union*. US Geological Survey Open File Report 02-500. Washington, Department of the Interior.
- Republic of Kazakhstan (2000) *Kazakhstan Natural Disaster Preparedness Plan, Project of the Government of the Republic of Kazakhstan KAZ/98/003/B/07/99*.

- Roy, O. (1999) 'Kolkhoz and Civil Society in the Independent States of Central Asia', in M. Holt Ruffin and D. Waugh (eds.) *Civil Society in Central Asia*. Seattle and London, University of Washington Press. pp. 109-121.
- Roy, O. (2002) 'Soviet Legacies and Western Aid Imperatives in the New Central Asia' in A.B. Sajoo (ed.) *Civil Society in the Moslem World: Contemporary Perspectives*. London and New York, I. B. Tauris Publishers. pp. 123-148.
- Ruffin, M. Holt and D. Waugh (eds.) (1999) *Civil Society in Central Asia*. Seattle and London, University of Washington Press.
- Sahni, K. (1997) *Crucifying the Orient: Russian Orientalism and the Colonisation of Caucasus and Central Asia*. Oslo and Bangkok, The Institute for Comparative Research on Human Culture and White Orchard Press.
- Sajoo, A.B. (ed.) (2002) *Civil Society in the Moslem World: Contemporary Perspectives*. London and New York, I. B. Tauris Publishers.
- Schatz, E. (2004) 'What Capital Cities Say About State and Nation Building'. *Nationalism and Ethnic Politics*. 9(4). pp. 111-140
- Schulte, S.M. and W.D. Mooney (2005) 'An Updated Global Earthquake Catalogue for Stable Continental Regions: Reassessing the Correlation with Ancient Rifts'. *Geophysical Journal International*. 161(3). pp. 707-721.
- Shahrani, N. (1993) 'Soviet Central Asia and the Challenge of the Soviet Legacy'. *Central Asian Survey*. 12(2). pp. 123-135.
- Slovic, P. (1987) 'Perception of Risk'. *Science*. 236(4799). pp. 280-285.
- Slovic, P., B. Fischhoff, S. Lichtenstein, B. Corrigan and B. Combs (2000) 'Preference for Insuring against Probable Small Losses: Insurance Implications', in P. Slovic, *The Perception of Risk*. London and Sterling, Earthscan. pp. 51-72.

- Stronski, P. (2011) *Tashkent: Forging a Soviet City, 1930–1966*. Pittsburgh, PA, University of Pittsburgh Pres.
- Tatevossian, R.E. (2007) ‘The Verny, 1887, Earthquake in Central Asia: Application of the INQUA Scale, Based on Coseismic Environmental Effects’. *Quaternary International*. 173–174. pp. 23-29.
- Taubaev, A.S., E.T. Kenjebaev, E. Hampe, H.-G. Schmidt and J. Schwarz (1992) ‘Engineering Analysis of Earthquake Damage in Catalogue-like form: Case-Study of Eastern Kazakhstan Earthquakes of 1990’. *Proceedings of the 10th WCEE Madrid*, Vol. I. pp. 39-48.
- Tengri News (2014) ‘Devastating Earthquake in Kazakhstan Both Distant and Imminent: Cambridge Professor’. *Tengri News*. 9 September 2014. Available at: <http://en.tengrinews.kz/science/Devastating-earthquake-in-Kazakhstan-both-distant-and-255918/> (accessed on 12 January 2015).
- Tredinnick, J. (2014) *An Illustrated History of Kazakhstan: Asia’s Heartland in Context*. Hong Kong, Odyssey Books and Map.
- Ulomov, V.I., T.I. Danilova, N. S. Medvedeva and T.P. Polyakova (2006) ‘Seismogeodynamics of Lineament Structures in the Mountainous Regions Bordering the Scythian-Turan Plate’. *Izvestiya, Physics of the Solid Earth*. 42(7). pp. 551–566.
- Ulomov, V.I., T.P. Polyakova, and N.S. Medvedeva (2002) ‘On the Long-Term Prediction of Strong Earthquakes in Central Asia and the Black Sea-Caspian Region’. *Physics of the Solid Earth*. 38(4). pp.276-290.
- United Nations (2015) *Total Population - Both Sexes, World Population Prospects, the 2015 Revision*. United Nations Department of Economic and Social Affairs, Population Division, Population Estimates and Projections Section, available at: <https://esa.un.org/unpd/wpp/> (accessed on 20 March 2017).

- United Nations Development Programme (2003) *Helping Local Communities to Cope with Consequences of the Recent Earthquake in Southern Kazakhstan*. Available at: <http://www.undp.kz/projects/files/1222-77605.pdf> (accessed 19 January 2016).
- United Nations Development Programme (2004) *Lessons from the Lugovskoy Earthquake of 23 May 2003 for Kazakhstan*. Almaty, United Nations Development Programme in Kazakhstan and Ministry of Education and Science of the Republic of Kazakhstan.
- United Nations Development Programme (2015) 'Bottom up Disaster Risk Reduction in Kazakhstan'. UNDP. Available at: <http://www.undp.org/content/undp/en/home/ourwork/ourstories/bottom-up-disaster-risk-reduction-in-kazakhstan.html> (accessed on 20 January 2016).
- Verluse, P. (1995) *Armenia in Crisis: the 1988 Earthquake*. Detroit, Wayne State University Press.
- Vorobiev, Y.I., N.I. Loktionov, M.I. Faleyev, M.A. Shakhramanyan, S.K. Shoygu and V.P. Sholokh (1998) *Disasters and Man: The Russian Experience of Emergency Response*. Moscow AST-LTTE Publishers 1998).
- Weiner, D.R. (1988) *Models of Nature: Ecology, Conservation, and Cultural Revolution in Soviet Russia*. Bloomington and Indianapolis, Indiana University press.
- Wolf-Phillips, L. 'Why Third World? Origins, Definition and Usage'. *Third World Quarterly*. 9(4). pp. 1311-1327.
- World Bank. *Gross National Income Per Capita 2014, Atlas Method and PPP*. Available at <http://databank.worldbank.org/data/download/GNIPC.pdf> (accessed 30 December 2015).
- World Bank (2016) *Net Official Development Assistance and Official Aid Received (Current US \$)*. World Development Indicators, World Bank. Available at:

[http://data.worldbank.org/indicator/DT.ODA.ALLD.CD?end=2013&start=2012&year\\_high\\_desc=true](http://data.worldbank.org/indicator/DT.ODA.ALLD.CD?end=2013&start=2012&year_high_desc=true) (accessed on 20 March 2017).

Yurchak, A. (2005) *Everything Was Forever, until It Was No More: The Last Soviet*

*Generation*, Princeton Oxford, Princeton University Press.

Zhovtis, E. (1999) 'Freedom of Association and the Question of Its Realisation in

Kazakhstan', in M. Holt Ruffin and D. Waugh (eds.), *Civil Society in Central Asia*.

Seattle and London, University of Washington Press. pp. 57-70.

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<sup>1</sup> At its height in 1987, the Second World included Albania, Angola, Bulgaria, China (PRC), Congo (PRC), Cuba, Czechoslovakia, Germany (GDR), Hungary, Kampuchea, Korea (DPRK), Laos (LPDR), Mongolia, Mozambique, Poland, Rumania, the USSR, Vietnam, Yemen (PDRY), and Yugoslavia (Wolf-Phillips, 1987, pp. 1325-1326)

<sup>2</sup> In terms of per capita GDP, Kazakhstan ranks in the mid-70s out of a total of 213 states, roughly comparable to Brazil and Malaysia (World Bank, 2014).

<sup>3</sup> Kazakhstan has a 5,000km long border with the Russian Federation, leases the Baikonur Cosmodrome to the latter, and has a large ethnic Russian population still comprising over a quarter of the population.

<sup>4</sup> There are four principal seismic catalogues for the USSR including the *Obninsk Bulletin* (1955-1999), the annual series of *Earthquakes in the USSR* (1962-1994), the *New Catalogue of Strong Earthquakes in the USSR* by N. V. Shebalin and N. V. Kondorskaya in 1974 (1900-1973), and the *General Catalogue of Earthquakes in North Eurasia* compiled by the Institute of Earth Physics (1900-1990). Subsequent revisions of these catalogues have expanded the timeframe covered to include a record of 241 major earthquakes before 1900 (Mikhailova et al. 2015:4).

<sup>5</sup> The other two particularly seismic areas are Kuril-Okhotsk, and Kamchatka and the Komandorskaya Islands.

<sup>6</sup> Southeast Kazakhstan is not unique in this respect and shares a common earthquake hazard profile with other parts of the world such as the US Midwest, Peninsula India, Western Australia, the southern East African Rift system, South Sudan, and possibly Siberia north of Mongolia (Johnston and Kanter 1990; Schulte and Mooney 2005).

<sup>7</sup> The epicentres of both the Ms 6.9 Kemin-Chu earthquake of 1938 and the Ms 7.3 Suusamyр earthquake in 1992 lay in neighbouring Kyrgyzstan although felt over large areas of Kazakhstan. Some geophysicists consider the 1938 event as the last of the destructive seismic sequence that started with the 1887 Verney event (Kulikova and Kruger 2015). Other comparatively moderate to severe earthquakes signal an upsurge in seismic activity especially since the 1990s and include Sarykamyshekoye 1970 Ms 6.8, Zhalanash-Typskoye 1978 Ms 7.0, Baisorumskoye 1991 Ms 6.3, Telekiskoye 1994 Ms 6.5, and Kegenskoye 1993 Ms 6.5 (Kravchuk and Mazhkenov 1997:70-71). More recently the town of Tekeli was struck by a Ms 6.3 earthquake on 30 June 2009,

the second earthquake or similar magnitude to have struck the area in the last 16 years, the previous one having occurred in 1993 (Mikhailova and Poleshko 2011).

<sup>8</sup> An IFRC report noted how approximately 3,000 of the 4,192 residential houses in the six most affected villages were destroyed or beyond repair, and a further 20 per cent of dwellings were less severely affected. In addition, a total of 66 per cent (46) of the administrative buildings (health facilities and schools) were also severely damaged (IFRC 2003). A similarly sized earthquake of Ms 5.1 devastated the capital of the Uzbek SSR, Tashkent, in 1966 destroying most of the historic downtown area of the city (Raab 2014).

<sup>9</sup> Studies of risk perception are largely based on populations in Western industrial countries. In the study referred to here, the research was on the inclination to take out insurance against low probability natural hazards such as floods and earthquakes. In an earlier article, Slovic argues that people tend to dismiss risks that are perceived as being uncontrollable, have catastrophic potential or result in fatal consequences (Slovic 1987).

<sup>10</sup> Interestingly, such attitudes stand in direct contrast to the population living around Semipalatinsk, the former Soviet nuclear test site in Kazakhstan, where villages were found to be very risk-adverse, tending to think that any exposure to radiation would cause illness, regardless of the dose (Purvis-Roberts 2007).

<sup>11</sup> A singular exception in this respect is President Nazarbayev's decision to relocate the nation's capital from Almaty to Astana in 1997. Though many reasons were cited for this move, one was the seismicity of the former capital (Schatz 2004a:122-123).

<sup>12</sup> On the communist influence on urban architecture, see Owen Hatherley's *Landscapes of Communism* (2015). On Soviet architecture in Central Asia, see Paul Stronski, *Tashkent: Forging a Soviet City, 1930–1966* (2011).

<sup>13</sup> A more nuanced interpretation has emerged in recent years: scholars do not deny the extensive environmental problems bequeathed by the USSR but they argue that state policy was not uniformly nor even essentially anti-nature and that much of the criticism of Soviet environmentalism is based more on Western "imaginings" influenced retrospectively by the fallout (both literally and figuratively) from Chernobyl (Oldfield 2005: 1-41). Controversially, Stephen Brain, using Soviet forestry policy as an example, even argues that Stalin was something of an environmentalist at heart (Brain 2010).

<sup>14</sup> "Seismogeodynamics" appears to involve a comparative study of the physical processes or lineaments ("seismic sutures" according to Gamburtsev) especially preceding earthquakes with a view to estimating "the seismic potential of the relevant structures and develop methods of long-term prediction of a seismic situation" (Ulomov 2006: 552).

<sup>15</sup> James Jackson (Cambridge University), personal communication, 7 April 2017.

<sup>16</sup> The history of this agency is complicated. Established as the Permanent Emergency Commission of the Council of Ministers of the Kazakh SSR in 1988, it was reorganised as the Commission of the Council of Ministers of the Kazakh SSR for Emergency Situations in 1989, later becoming the Security Council of the Kazakh SSR in 1991. After independence, it became first the State Committee on Emergency Situations of the Republic of Kazakhstan in 1995 before being reorganised as the Committee of Emergency Situations and later as the Agency on Emergency Situations. It was made into the Ministry of Emergency Situations in 2004 only to be abolished on 6 August 2014 when its functions and responsibilities were subsumed within the Ministry of Internal Affairs as the Committee on Emergency Situations.

<sup>17</sup> The meaning of the Russian word "ликвидация" usually translated into English as "liquidation" has the connotation of both recovery and reconstruction. For instance, the civil and military personnel who were called upon to deal with consequences of Chernobyl were referred to as "liquidators".

<sup>18</sup> The Ministry/Committee of Emergency Situations is tasked with assessing the situation, activating search and rescue operations, deploying and controlling units, carrying out rescue and other related work, rendering medical assistance, restoring communications, ensuring the security and safety of major facilities, monitoring the evacuation of people, and organising restoration and reconstruction work.

<sup>19</sup> The plan aims to establish a comprehensive regulatory legal framework for all kinds of emergencies, to create an integrated and professionalised state system of emergency prevention and response, and to develop an effective administration structure to coordinate and manage operations (Republic of Kazakhstan 2000:5, 11).

<sup>20</sup> In 2013, Kazakhstan produced over 570 million barrels of oil and 40 billion cubic metres of natural gas in addition to: 50 tonnes of gold, 20 tonnes of uranium, 500,000 tonnes of copper, 100,000 tonnes of lead, 300,000 tonnes of zinc and 100 million tonnes of coal (EITI 2014).

<sup>21</sup> On a per capita basis, the other republics receive: Turkmenistan \$6.94, Uzbekistan \$9.78 and Tajikistan \$45.06. All figures are based on received ODA for 2013 and total population for 2015 (UN 2015 and WB 2016).

<sup>22</sup> Recently, the government of Kazakhstan has shown more interest in including civil society organisations and devolving certain state services (Personal communication, Red Crescent spokesperson, Almaty, 19 June 2018).

<sup>23</sup> Approved activities include logistical support, medical aid, family reunion assistance, and the protection of industrial and civil facilities.

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<sup>24</sup> The RCSRK has fulfilled this latter role on several notable occasions as, for instance, in its Public Awareness Project in Almaty. In this campaign, its members engaged the public through apartment owner cooperatives, organisations that are also a legacy of the Soviet period. Through this means, the RCSRK was able to reach about 10,000 urban apartment dwellers, to encourage the formation of initiative groups, and to instruct trainers on what people should do in case of emergencies (UNDP 2003:43).

<sup>25</sup> On these two cultures, see the *World Disaster Report 2014* (Cannon et al. 2014:17-18).