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Informal mining in Mongolia: livelihood change and continuity in the rangelands

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ABSTRACT
Change has been the leitmotif of Mongolia in recent years as the country rides on the back of a mining boom, but enormous upheavals tear apart Mongolian economic, political and social fabrics. Yet, Mongolian imagination continues to be imbued with the idea of nomadic herders, the quintessential pasture and rangeland dwellers of the steppes. The conflicting visions raise the question: “How is the livelihood of Mongolia’s nomadic herders responding to the diverse changes ushered in by the post-socialist economic reforms?” This paper investigates this question in the context of the growing artisanal and small-scale mining, which is described as informal mining, and argues that the Mongolian nomads are continually (re)adjusting their livelihoods through informal mining to cope with the variety of transitions triggered off by processes put in place by state policies. It argues that the nomadic herders are not only responding to climate change or poverty, but are also stepping up to seek a share of the mineral resource wealth that the state is promising to the international investors. The aim of the paper is to offer an alternative interpretation of the commodity rush by erstwhile rural-based nomadic herders of Mongolia, and to link their involvement in informal mining with global debates of political economy.

The hinterland becomes a resource frontier

For hundreds of years, Mongolia remained outside the centre of the world’s attention. Major global political, economic and academic debates left Mongolia by the wayside, almost forgetting the country that was locked away in its pastoral pursuits. For much of the twentieth century, Mongolia had remained a hinterland for Russia, supplying raw material to the Fatherland and providing a space for rolling out Soviet ideologies. With the retreat of the Soviet Union, as Mongolia attempted to adjust the democratic values new to its polity, the country suddenly found its place at the centre stage of global drama of resource exploitation. The economic “transition” has been characterised by an explosion of the informal sector and a massive influx of the rural poor into the capital city. Ever since the opening up of the economy, change has been the leitmotif of Mongolia; are the political, social and economic revolutions summarised eloquently by Bruun and Narangoa (2006, p. 1): “Few other nations have experienced changes as rapid and radical as the Mongols.” Change is also written on the land, as scattered and temporary horse markets in the steppes are morphing into more permanent settlements (Campi 2006, p. 26). More importantly, the vast expanses of the rangelands of the steppes – used for hundreds of years as common pastureland guided by customary
laws – are being fenced, reflecting a transition from the culture of sharing space to privatised spaces with individual control over land. Change is welcomed too. Large and small multinational mining corporations and companies, development agencies, donors and the World Bank, as well as the Mongolian State now consort to present the vast expanses of the steppe lands – formerly traversed by the nomadic herders – as the ultimate resource frontier, the untapped mineral wealth of which is going to revive Mongolia in all its glory. One expects that this return to glory, on the back of a mining boom, will entail enormous changes in Mongolian economic, political and social fabrics.

Yet, Mongolian imagination continues to be imbued with the idea of nomadic herders, the quintessential pasture and rangeland dwellers of the steppes, naturalising a particular conceptualisation of the country as a frontier destination of a different kind (Tavares and Brosseau 2006). This view is reinforced by the vast horizons that surround you wherever you go in this country. These two contrasting visions presenting competing self-images raise the question: “How is the livelihood of Mongolia’s nomadic herders responding to the fundamental transformations ushered in by the post-socialist economic reforms?” Understanding the transition of nomadic herders’ lives is crucial to a deeper understanding of Mongolia. This paper investigates this question in the context of artisanal or informal mining, and argues that the Mongolian nomads are continually (re)adjusting their livelihoods through informal mining to cope with the variety of transitions triggered off by processes put in place by State policies. It shows that the changing livelihoods of nomadic herders offer insights into wider notions of justice and equity, as seen from below by the herders who are stepping up to seek a share of the mineral resource wealth that the state is promising to the international investors. The aim of the paper is to offer an alternative interpretation of the commodity rush by erstwhile rural-based nomadic herders of Mongolia, and to link their involvement in informal mining with global debates of the political economy of mineral extraction.

A relevant question to ask is: “How do the nomadic herders view the political economic transition?” Globally, the onset of neo-liberal economic policies has led to a rapid pace of agrarian change, as many rural poor have responded to the “invisible hand” of the market economy “with their feet”. As Mongolia records one of the world’s highest rates of economic growth, it is worth asking why the nomadic herders are moving into informal mining: is it a push out of nomadic herding or a pull of the material values of commodities and resources?

In the eight-year gap between the two phases of my fieldwork, the country has experienced rapid economic growth and massive transformation; the gap was sufficient to prepare me to understand the changes as an outsider researcher. For example, in 2007, the capital city presented a portrait of tell-tale ravages in unkempt streets, hustlers and beggars soliciting the foreigners, whereas in 2015, the city’s skyline marked by high-rise buildings, tidy and well-lit streets and the innumerable cars choking the roads definitely presented a picture of economic prosperity at least for some segments of the populations. During the intervening years, not only did we watch the Mongolian “case” closely, albeit remotely, but were also involved in researching the mining boom (published as Cane et al. 2015). The secondary data presented in this paper were obtained from different government departments, but the interviews were primarily conducted with fluor spar miners in Ulziit and Huld soums (districts) of Dundgobi aimag (province) during 2015.

This paper argues that the nomadic herders are not only responding to climate change or poverty, but are also stepping up to seek a share of the mineral resource wealth that the state is promising to international investors. This argument follows High’s (2008) rebuttal, based on deep ethnographical engagement and attention on the local context, of the widely held notion that informal mining is spreading throughout the global South due primarily to poverty. She suggests that in Mongolia, such mining is linked to customary ideas about patriarchy, generosity and the obligation to share wealth (High 2013, 2014). We extend the thesis by suggesting that the post-Socialist state in Mongolia has treated mining in isolation from the overall social, political and economic transitions being experienced by the nomadic herders, who are responding to the demands of time, created partly not only by the neo-liberal economic policies in particular, but also the contemporary world in general by diversifying their livelihood bases. Commentaries on informal mining in Mongolia have generally
placed such mining within the overall mineral extraction scenario; comparatively little has so far been written about the political economy “as the nomadic herders see it”, linking informal mining with the economic transition to the broader livelihood transitions. Rather than analyse the herders-turned-informal miners as either victims or greedy agents, this paper links the Mongolia-specific research to global findings on contemporary changes in the political economy of livelihood transition. By focusing on an industrial commodity such as fluorspar, which is much lower in value than gold and on which relatively less attention has so far been paid, this paper shows how minerals comprise an important ingredient for the livelihoods of herders trying to cope and change alongside the rapidly changing world.

The paper is based on extensive interviews carried out during two phases of fieldwork – in 2007 and again in 2015. During these phases of fieldwork, the first author investigated the informal mining of the industrial commodity, fluorspar. The second author joined her during the second phase of fieldwork. Ethnographic methods were used to produce the unique insights that this paper presents. The activities that we engaged in the field included, besides preparation before the field, in-depth interviews and close observations of modes of behaviours of miners. The interviews were usually carried out in the local dialect of Middle Gobi province, and the second author participated in her capacity as a speaker of the dialect as the translator of these conversations. Often, we would approach a group of miners working in the field, or during their resting periods, on site. If they agreed to speak, we would spend at least half a day with one group. Some interviews were also carried out in the temporary gers where the miners set up camp. Some family gers were also visited for interviews. Interviews that were carried out with government officials and development practitioners based in the capital city were carried out in English language.

Like gold, metallurgical grade fluorspar is in great demand for steel production as a flux. Mongolia is currently the third largest producer of fluorspar in the world. Baatar and Grayson (2009, p. 3) note that the country can perhaps be described as experiencing a significant “fluorspar rush” in which over thirty private companies and several thousand informal fluorspar miners are involved in a mutually beneficial cooperation, often arising not only spontaneously but also assisted through group-building initiatives supported by donor agencies and political leaders at the district level. Fluorspar is a bulky product, and requires the destabilisation of significant amounts of rocks, making dust a common occurrence in areas of fluorspar mining. A significant part of the fluorspar is exported by rail to China from Mongolia. Parts of the commodity are also shipped worldwide from the port of Tianjin, and northwards through the Tov and Dornod aimags to Russia and Ukraine.

Mineral extraction in times of change

Mining has acted as the magical cornerstone that transformed Mongolia from being the quintessential hinterland into the resource frontier (Rossabi 2005). Taking Mongolia to the market has been accomplished by the opening up of the steppe lands of the country, presenting them as the new frontier for capitalist investment by foreign mining companies (Luvsandorj et al. 2012). There have been intensive critiques of the aggressive pro-investment mining policy pursued by the country; Bulag (2009) critiqued this pro-mining policy as having turned Mongolia into Mine-golia. Other critiques (e.g. Fritz 2008) believe that, in spite of substantial civil and political liberties, the Mongolian polity is troubled enough to designate it as “deviant democracy”. The impressive two-digit figures of growth rates have been largely contributed by a rapidly expanding mining sector.

Mongolia is uniquely endowed with a variety of minerals, and not only does it have a long history of mining, but also mining – particularly of gold – has traditionally been central to Mongolian politics and economy (High and Schlesinger 2010). The protracted Qing period in Mongolian history from the seventeenth century was obsessed with two contrasting objectives of the extraction of gold on the one hand, and the preservation of the Mongol “way of life” on the other. Mineral resources of Mongolia are owned by the state. During the Soviet-influenced command-and-control socialist regime, large-scale mining was seen as the “pillar” of a contemporary and modern industrial society, “bringing
progress and prosperity to the Mongolian steppe ... [and] ... guiding Mongolia away from individualistic nomadism towards the attainment of Soviet Communism” (High 2012, p. 249). For lower value commodities like fluorspar, prisoners were employed to work the mines past which the train lines were constructed to transport the commodity to Russia.

Since 1993, mineral production has emerged as one of the most dynamic sectors of the Mongolian economy. Mongolia’s economy tripled in size from $3.4 to $11.5 billion between 2006 and 2013; the service sector grew from 37% to 50% of the economy at the expense of the agricultural sector, which declined from 20% to 16% of the economy (Ge and Kinnucan 2015, p. 190). Gold production has grown 10-fold since 1993, and topped 11.4 metric tonnes in the year 2000. Currently 94% of the mining concerns in Mongolia are gold producers (Mongolia Mining Sector Sources of Growth Studies, WHO: 6). Mining dependence of Mongolia has led the country through boom-and-bust cycles, and the Dutch disease in which the other sectors of the economy have lost their competitive edge, thereby invoking speculations about the possibility of a resource curse (Reeves 2011). Yet, it has been observed that the mining soums send out fewer rural migrants to Ulaanbaatar (Amarjargal et al. 2015).

Informal mining began in the mid-1990s, when an old coal mine located close to Ulaanbaatar closed down in 1995. During the Socialist period, coal produced by the state-owned Nalaikh coal mine was primarily used for consumption locally in the capital city, for generating power and also for heating. After the closure of Nalaikh colliery, local urban poor – generally from around the ger district or the poorly serviced slum areas – began to scavenge in and around this colliery, using the coal to ward off the severe winter cold. However, informal mining in Mongolia did not come to global attention until the nomadic herders began to dig and pan for gold from 1999. This was the period when about 130 placer gold mining companies were established. As more gold mining companies were established, the numbers of “wildcatters” – groups of herders who have left their homes and occupations to dig and sift for gold on a part-time or full-time basis – grew exponentially during the first decade of the twenty-first century. The MBDA describe these as the “First” and the “Second” gold rush (Mongolian Business Development Agency (MBDA) in assistance with Eco-Minex International Ltd., and Murray Harrison Ltd 2003). A large number of the miners are women (Purejjav 2011). Besides gold, informally mined coal finds a ready internal market, besides being exported across the border to China. However, in terms of numbers employed, fluorspar comes second in importance to gold. Baatar and Grayson (2009) used Google Earth to survey fluorspar mining activity at both industrial and small scales. They concluded that the distinction between informal and formal mining was quite blurred. Chemically, fluorspar (also called fluorite) is calcium fluoride. A major use of crude fluorspar is as a flux in the iron and steel industry. It is an industrial commodity of low value and high volume, digging of which creates significant amounts of dust, and the sorting process of the material is very labour intensive. Yet, it has a market value that is significant in terms of cash incomes, and offers an alternative to nomadic herding.

The Mongolian state initially ignored artisanal and small-scale mining (ASM), or attempted to manage it locally. Legislative efforts were eventually initiated in 2004, primarily to regulate and formalise such mining and to control the commodity supply chains. Since 2010, amendments to the Minerals Law, Land Law and Personal Income Tax Law have made it possible to collectivise the informal miners into groups, an effort that is described as “formalisation” in Swiss Agency for Development and Cooperation documents (SDC 2013). By the 2014 law, the state allows official trading of gold mined by individuals, and consequently the contribution of such gold to the National Treasury has increased significantly in 2014 (from 3.2 kg in 2013 to 3.2 tonnes in 2014). There is a growing recognition that the minerals policy framework needs to recognise the reality of informal mining; the very term “informal”, however, remains closely associated with illegality (UNEP 2012, p. 50).

What is of interest to scholars of Mongolian political economy is that during the same time period, the informal sector1 of Mongolian economy has burgeoned. Attention has largely focused on the urban sector, linking the transition to a market economy and collapse of manufacturing with rising unemployment and poverty. Existing literature clearly links the growth of the informal sector to
downsizing and privatisation of state-owned enterprises, structural change of economic production, shifts in effective demand for consumer goods and migration from rural areas to aimag centres and the capital city. In 2006, with agriculture included, the informal sector accounted for around 60% of Mongolia’s economy. In 2012, the World Bank’s Mongolia Quarterly Economic Update and the Brookings Institute considered that the informal economy could influence Mongolia’s future growth trajectory. The International Labour Organisation’s (ILO) 2006 report on the informal sector suggested that with the disbanding of the Soviet state in 1990, factories and manufacturing gave way to small-scale businesses and pursuits in order for people to survive, thereby creating a robust informal economy. A similar tone is detected in Morris (2001, p. xi) who suggests that the informal sector is “playing an important role in the transition economy” by absorbing redundant workers, cyclically unemployed, new entrants and “additional workers”. The diversity within the sector was observed early on, and a different view is expressed by Anderson (1998), who prepared a report for the World Bank and identified four reasons for the extreme burst of the informal sector in the Mongolian economy since 1990: the crisis of the early and mid-1990s, during which large pools of labour were released from formal employment; rural to urban migration; the reallocation of resources towards areas neglected under the old system such as services in distribution and transportation; and the institutional environments that hindered the growth of the formal sector. Yet, as noted, the informal sector in the country largely remains illegal and is often perceived to be synonymous with underground activities. Consequently, the literature on informal sector growth has remained delinked with that on informal mining, the term implying illegal mining.

Cane et al. (2015, p. 89) differentiate between artisanal, small-scale, open pit, underground (hard rock) and in situ leaching as various forms of mining. They also differentiate (2015, p. 68) between artisanal miners, unlicensed artisanal miners and small-scale miners, and use the term “artisanal miners” as those who operate either illegally or are in partnerships or cooperatives that pay taxes and are locally regulated. The term “artisanal” can be a misnomer in its implication of a tradition of mining, which is against the core argument of this paper. Instead, the term “informal mining” or “informal miners” in this instance is not to emphasise the aspects of legality or otherwise, but the informal nature of their production and labour organisations. In this sense, the use of the term is in accordance with Murray’s (2003) or Baatar and Grayson’s (2009) use of the term “informal mining” in the context of Mongolia.

**Mobile people, fixed laws**

In state discourses, nomadism is held high as an iconic cultural symbol. Yet, the number of herder households has decreased from 243,000 in 2002 to 213,000 in 2014. Indeed, there has been a steady decline over the years since the transition – albeit with ups and downs – in the number of herder households. The decline of 30,000 does not take into account the part-time nature of mining involvement of many of those included within the census as “herders”. Interestingly, over 50% of the population live in the capital city, Ulaanbaatar. With only about 1% of the land area devoted to agriculture, livestock grazing has been the main use of the land.

Nomadism has had an interesting trajectory in recent history of the country. Before the revolution in 1921, the administrative areas (the “hoshuu”) were ruled by hereditary secular princes or high-ranking religious leaders in Buddhist monasteries. Rangelands were under the control of feudal officials, clans and tribal groups. Pasture allocation and use were also governed in many areas by informal norms and customs that were accepted by the herdsmen as unwritten laws, as they were allowed to graze specific rangeland areas through rights that were enforced by the hoshuu leader (Johnson et al. 2006). Boundaries were not quite exact in this system, as they were subject to interpretation (Mearns 1996). However, specific groups of herdsmen were broadly associated with geographically defined territories and nomadic movements were coordinated by designated leaders (Sneath 2000). The dismantling of herding collectives in Mongolia in 1992 created a vacuum; neither were the formal regulatory institutions for allocating pasture operating, nor were the customary institutions able to...
effectively fill the void. Increasing poverty and wealth differentiation among the herders, a wave of urban–rural migration and the lack of formal or strong informal regulation led to a downward spiral of unsustainable grazing practices (Fernández-Giménez and Batbuyan 2004). Clearly, private ownership of rangelands had never existed in Mongolian history. Rangelands have always been state-owned property used in common by herders or herder groups. The extent and depth of economic reforms in Mongolia resonate with the eighteenth-century land enclosures in Britain, and the resultant livelihood transitions too have been similarly fundamental in nature, triggering a domino effect in nomadic herders’ livelihoods. For example, in 1994, Mongolia’s parliament passed the Land Law, the implementations of which began in 1998. The law authorised land possession contracts or leases over pastoral resources such as campsites and pastures. Fernández-Giménez and Batbuyan (2004) have shown that poorer herders were largely overlooked in the allocation of campsite leases, making the poor more mobile than before, whereas the wealthier families have become more sedentary.

For the pastoralists, forage was, and still is, the indispensable and finite resource, sustaining their livestock as well as the livelihoods of herder communities. Herders practised “otor” during the spring, in rapid movements chasing soft green grass as the spring ice melted over the steppe. Consequently, nomadic pastoralism has been the dominant aspect of Mongolian economy as the sustainability of livelihoods of many herding households directly relied on it. More importantly, nomadic pastoralism has retained its crucial and almost iconic role in Mongolian culture and psyche in spite of the massive upheavals experienced by the social, economic and political milieu since the transition from a protected, Soviet-style to an open-market regime that largely follows neo-liberal economic policies.

Not unrelated to the state’s pro-mining policy, pasture privatisation has created the phenomenal “Mongolian gold rush”, seen as a scramble for commodities by the herders, and most symptomatic of the rapid transition from one set of values of land to another. The rush has been most remarkable, in its spatial extent, the numbers involved and the speed with which it set in. By 2003, there were at least 100,000 artisanal miners, initially described as ninjas because of their stealth and appearance (Grayson et al. 2004). This figure represented 20% of the working age group population (Navch et al. 2006). More recently, Buxton (2012) has provided an estimate that the numbers could be between 40,000 and 60,000; however, it is useful to remember that such conservative estimates do not take into consideration the low-value industrial commodities such as fluorspar. Moreover, many more people are involved in the informal mining economy not only as miners, but also as traders and shopkeepers. There also are part-time and seasonal miners including students who spend time digging for materials during the summer breaks. Last but not the least, it makes sense to remember that even Buxton’s data represent a significant number for this sparsely populated country.

The rush for material commodities is just one aspect of the wider economic transition that is sweeping through Mongolia. There has been a radical change in almost all aspects of Mongolian socio-economic milieu. The 1998 report by Anderson, based on a broad-based survey, observed that since the 1990s, fundamental changes have altered the mechanisms that determine what is produced, by whom and at what price. There has been a withdrawal of traditional trading partners, the forms and legal protections of property ownership have changed as have the methods of organising productive resources and the distribution system has become primarily market driven as central planning has been abandoned and retail prices largely decontrolled. Concurrent with these changes has been a time of declining production, rapid inflation and falling living standards for much of the population.

A contradiction is that in spite of this importance of nomadism to herder livelihoods, state policies and the series of laws enacted in the last two decades tend to favour an extractive use of land. The government has actively pursued foreign investment in mining (Clode 2011). Bulag (2010) described this process as moving Mongolia from land-locked to land-linked. Yet, although about half of the population now lives in the city with herd-based nomadism comprising about 30% of the population, nomadic herding is generally presented in problematic ways as being “at risk” or threatened, either
by climate change (Marin 2010) or by the mining boom, the wilderness and the unspoiled steppes
(Awehali 2011). Along with a penchant for vanishing cultures and concerns over mining-induced dis-
placement of people, one can also trace a romanticism that involves imagining an unreal prosperity
in nomadic herders’ lives. Based on interviews with nomadic herders, Dugersuren (2015) summarises
the sentiments through this statement: “When I was herding I had a plentiful life. Now I am working
for another and have lost my independence.” Such representation as victims often leads to policy
solutions that emphasise “protection” of the herders, as in the policies pursued by the World Bank
(2010).

Mongolia’s presentation by the state and donors to multinational investors as a homogeneous
entity hides a number of diversities. Nomadic herder households are dissimilar, for example in the
size of their animal holdings, which is crucial in determining their well-being and their resilience in
withstanding livelihood shocks (Baival and Fernández-Giménez 2012). The herd sizes for Mongolian
households vary considerably from 1 to more than 2000 animals. In 2000, 63% of households had
fewer than 100 animals, 22% had herds of 100–200 animals and only 12% had herds of between
200 and 500 animals. This large variability is due to the unequal distribution of livestock when live-
stock of collectives (negdel) were privatised in the early 1990s. In 2012, the proportions were 48%,
22% and 25%, respectively (National Statistical Office of Mongolia 2013). These numbers may
seem to be a positive change, but there has been a sizeable shift in the types of animals, with a
large increase in the proportion of sheep and goats in response to the cashmere wool trade and
other end-use demands. These animals are much more destructive of pasture than the big
grazers. Herders who obtained a small number of livestock from the negdel found it difficult to
increase their herd size. In addition, skills and abilities for effectively managing livestock vary
greatly among herders. Herd sizes of fewer than 100–150 animals are generally considered insuf-
ficient to maintain a livelihood for a herding household, and many herders would prefer to have
250–400 animals with a mix of large (camel, horse and cattle) and small (sheep and goats) animals
(Batbuyan and Fernández-Giménez 2012). With 85% of Mongolian households having herds of
fewer than 200 animals, there is widespread poverty among the pastoralists, and they face consider-
able difficulties in sustaining an economically viable livelihood from their animals. With the limited
markets for livestock and livestock products in Mongolia since the 1990s, livestock have served as
the main asset for herders and provide self-sufficiency for most of the rural population (Johnson
et al. 2006).

With its long tradition of mining, in many areas the land is shared between nomadic herders and
those who are involved in mining practices. For example, Sharyn Gol is a coal mine dating back to
Russian times, and Oyu Tolgoi is a recently established very large copper mine operating in South
Gobi. Innumerable small-scale licensed mining companies are now operating in the post-socialist
era, some of which are buying up mineral commodities from innumerable informal miners, and
some of whom are part-time herders and on-selling them for export. Yet, as informal mining
assumes primacy as a source of livelihoods for herder families, new angles of conflicts have emerged.

What triggered the rush for commodities?

Experts have put forth different views to explain the cause of the Mongolian rush for commodities.
Broadly, one can identify four strands of thought: geological, environmental, economic and cultural.

Geologists point out that Mongolia contains placer gold deposits – gold that was brought down
by the wind or water from the original locations elsewhere – in “ribbonlike” (Mongolian Business
Development Agency (MBDA) in assistance with Eco-Minex International Ltd., and Murray Harrison
Ltd2003, p. 49) form of narrow and relatively shallow bodies of ore reserves. In other words, valuable
minerals like gold occur close to the surface, making it rather easy for the ordinary individual with
minimal technology to find a reasonable amount of gold in exchange of labours. Moreover, not
being integrated with the local rock matrix, these gold deposits are relatively easier to extract (Far-
rington 2000). Geologists suggest that the overall geological specificity facilitates the growth of
artisanal mining. A related suggestion is that informal miners mine deposits that are “left behind” by larger mining companies that have either completed their operations or allow informal miners to mine the tailings or within the concession areas (Mongolian Business Development Agency (MBDA) in assistance with Eco-Minex International Ltd., and Murray Harrison Ltd 2003, p. 37).

The environmental wisdom is that successive years of severe dry winters – known widely as dzuds – are said to have triggered off the first push out of nomadic herding into a range of informal mining practices. Indeed, climate-changed Mongolia has experienced more frequent and higher magnitude dzuds in recent years (Bayasgalan et al. 2009). In the winter of 2009–2010, Mongolia experienced the most formidable dzud since the consecutive dzud winters of 1999–2002 in which 30% of the herd perished and thousands of households were left destitute (Fernández-Giménez et al. 2012, p. 836). Indeed, there are widespread reports, from both herders and scientists, that rangeland degradation is occurring in other ecological zones of Mongolia (Swiss Development Cooperation (SDC) and Ministry of Food & Agriculture 2015, p. 8). In explaining the phenomenal spread of informal mining, however, this disaster-based explanation does not take into consideration the remarkable resilience of Mongolian nomadic herders. As compared to this recent phenomenon, nomadic herding had evolved over hundreds of years in the dry temperate rangelands of the country. Ethnographers Goldstein and Beall (1994, p. 14) argue that “most nomads were well aware of the overwhelming and uncontrollable power of nature and their subservience to it” in one of the “least hospitable environment” in central Asia. With hundreds of years of tradition, knowledge and resilience of coping with changing moods of the climate in a harsh environment, one can expect that at least some of the nomadic pastoralists would have been able to deal with the vagaries of winter dzuds more effectively than opt out of their livelihoods altogether.

The economic thesis, put forth primarily by development agencies and donors, is that ASM is a poverty-driven activity, and is based on data showing a stagnant rural economy. The general consensus within the country and among the Mongolia-scholars inclines towards this explanation. The positive side of this explanation is that it helps to differentiate “need” from “greed”, and serves the important purpose of saving the informal miners from the official stamp of illegality. For example, Grayson et al. (2004, p. 3) says, “the gold rush is poverty-driven, not greed-driven, with sudden waves of recruitment from herders who have lost their livestock … and steady influxes from underpaid under-employed rural people and low-paid civil servants”. This explanation is definitely not without foundation. The need to survive and build a livelihood is indeed strong in remote areas of Mongolia, forcing the nomadic herders to take up ASM to supplement meagre cash-based incomes. With changing times, innumerable things have changed for nomadic herders, new ways of life giving rise to new needs that did not exist before. For example, sending children to higher education institutions, not just schools, has assumed great significance with the penetration of modernity, and many herder households have had to adjust to this by establishing a permanent home at the soum centre. It is no longer uncommon to see a mother living in the soum village with her children, leaving men with the livestock in the steppes. A 2014 study by the Swiss Agency for Development and Cooperation found that a significant portion of the incomes from informal mining is spent on paying the exorbitant fees of educational institutions. Another study observed the rise in the numbers and intensity of informal activity during the fee-pay due dates. Similarly, the Russian trucks that replaced the horses have grown old and in turn were replaced by four-wheel drives that easily climb up the crest of a hill or create their own tracks where none exists. The need for cash is indeed a reality in herder households, and there is no doubt that many households are adjusting their livelihoods to meet this need.

The fourth genre of explanation is essentially cultural in nature and emerging from the ethnographic studies of anthropologists such as High (2008, p. 3). Based on her detailed field-based research in Uyang (Uyang soum in Övörhangai aimag) region, High refutes the popular notion that ASM is a poverty-driven activity and suggests that artisanal mining is linked to “Mongolian ideas about patriarchy, generosity and specifically the obligation to share wealth...”. Explaining the “cultural logic” of informal mining, she shows that many “ninja miners” she spoke with during
her twenty-month fieldwork often “cast themselves in opposition to mining companies, which they regard as ‘bad for Mongolia’, ‘they steal our wealth’” (High 2012, p. 257). Although policy-makers, development agencies and donors have cast scant attention to this genre of explanation, it seems sensible when considering the fundamental changes in nomadic livelihoods that were unleashed by economic policies.

**Moving a lot of dirt**

Namkhai,⁴ one of the fluorospar miners we met at a site near Ulziit, claimed that even though he is now mining, he is “still living off the land” and he seemed to corroborate High’s (2012) views. Ulziit is one of the sites located in Dundgobi aimag, and is not easily accessible. One needs to travel southward from the capital city first to Mandalgobi, which is the centre of the aimag, and then further south to Huld and then about 20 km to the south-east one comes across a fluorospar mining site in the southern part of Ulziit soum. Another fluorospar mine can be found a further 30 km or so to the south-east in the north of Manlai area. Both sites, being located away from the soum centres, offer an excellent opportunity to carry out mining under the radar of the capital city. Interestingly, a handful of privately owned companies operated on lease to mine fluorospar in the area, inspiring the herders to start mining the commodity on their own from around 2010. Namkhai had no previous experience of mining, and started to learn more about the commodity as he worked on it. He says that fluorospar “looks different” from the surrounding rocks, and now he has an eye that is sharp enough to identify it from the rest of the rocks. His wife lives in the soum centre with her school-going children; his small herd of about a hundred animals perished in the dzud of 2013. We asked him if mining suits the nomadic culture he had known previously. He thinks although he is now mining, he has not become “sedentarised” as the exhaustible nature of a fluorospar deposit allows him the opportunity to move to a new place when the material is finished in one location. Yet, he, like many other miners who were working with him, realises that mining is not something they can continue to do for many years. He has a plan to establish a local wool factory, and has applied for a loan.

About 10,000 tonnes of fluorospar per year is produced from each of these sites, where dust-covered women and men work. The workers form tiny partnerships of family or mixed work groups that are recognised by the local soum and the Ministry of Mines through an application process. The environment is extremely dusty, forcing the women and men to learn to cover their faces to stop swallowing dust. Here, the fluorospar mountain is being quarried for ore using heavy machinery. Three excavators are working to extract ore from the ridge for three groups, each of whom has its own allocated land based on a local approval. In other words, the quarry itself was demarcated into a number of sections, each belonging to a specific group. The loaders wait patiently until the earth movers dig out material from their allotment, and hop onto the trucks after the ore is trucked out of the quarry site. The material is then transported to the dumping site, where the same group manually sort the material into ores of different richness. The selection is purely visual and the sorting is manual, often done squatting on the ground or bending. The duration of work varies depending on the material they are extracting and that needs to be sorted on a given day. Generally, they work from 7 am until around 3 or 4 pm. After sorting, the crude ore is sold to an intermediary for trucking out to a rail depot where it may be further crushed prior to export.

In Ulziit, five men sorting fluorospar by hand and shovelling them into small trailers stopped their work to address our queries. Tovuudorj is a group leader and was a herder until 2010 when he lost all his stock, and instead of returning to herding, took up informal mining from around 2012. Now he leads a partnership of 25 families. Interestingly, with his cash incomes, he has bought more livestock and now hires assistants to look after the herds. His main income source, however, is informal mining of fluorospar. He now owns a number of cars, which he bought from the capital city to sell locally among the miners. Many of these miners are buying four-wheel drive vehicles to replace old-style Russian vans or traditional modes of transport. About the new-found wealth, Tovuudorj observed
“we are walking on wealth … there is wealth everywhere”. When we asked what might be the difference between the traditional and contemporary livelihoods, he seemed to perceive no difference, and said “we still live on the land”.

About 30 tonnes of fluor spar can be produced every day from each site through manual methods. It transpired that all these individuals had previously been herders, but not everyone cited severe winter or loss of herd as the reason for the switch in their livelihood. Some substituted herding by mining because of the better incomes, in particular better cash incomes, whereas others cited “lack of jobs” or “no other alternative”. The predominant reason was their inability, as owners of small herds, to maintain the livestock and earn a living that would enable them to pay for all household needs. Education for children featured heavily in our conversation, and several cited the need for cash to pay for children’s education as the predominant reason for switching livelihoods. For example, Tegshbayar’s father was a herder but after 1999, when he attained maturity, he started working as a truck driver. It was only after 2010 that he quit driving the truck to become a miner. Currently he earns about 3 million tugrugs per year from mining; much of it is spent on keeping his family in the soum centre and educating his children. Does he miss herding? “Yes, sometimes”, he said. It is because as a herder he can “benefit from nature as the animals grow quickly”. Yet, he is doubtful that the money he earns from mining will ever be adequate for him to develop a large enough herd of around 500 animals, and he is keenly aware that those with only small herds are finding it difficult to continue as nomadic herders.

The informal miners envisage different futures; some are ploughing back money into building larger herds, whereas most are clearly moving away from the traditional lifestyle and the way of living: shifting into a more sedentary life at soum centres or aimag centres. They are building assets not necessarily in livestock wealth but diversifying into houses, land and vehicles, and even capital saved in bank accounts and making heavy investments into children’s education. In Huld, the government official also mentioned the rising employment has radically changed not only the lives of the miners, but also the financial situation of the administration; the miners pay income tax and are covered by social insurance. No distinct pattern can be detected within this overall scenario of fundamental transformation.

As the livelihoods transition from herding to mining, the roles of women and men are also changing. In some families, women come out with husbands to work together; at the site in Ulziit where five men were working, alongside worked two women. Women undertake the tasks of packing and sorting, whereas men use shovels and move the heavier boulders. At the Manlai site, which is more remote, there was more a centralised operation in terms of support facilities and ger accommodation for the workers; here, Amartuvshin is a young girl of around twenty years who has recently taken up a job as a cook in the camp where the miners live. About eight men live together in a ger in this camp, and their families are in the soum centre because they no longer have any livestock to look after.

The fluor spar mining area that we studied exemplifies this complexity in conflicts. The opening up of the Mongolian economy created a market for commodities that encouraged the herders to mine other materials. Parts of Ulaanbaatar accommodate an exodus of herders who set up their gers on vacant land around the edges of the city. Some of these migrants are ambitious to pursue other opportunities; for example, Mashbayar and his family (wife and two kids) moved to the ger district after a severe dry winter “dzud” devastated his livestock in 2013 in western Mongolia. He works at odd jobs in the heating/air conditioning industry and is keenly aware of the value of education, and sends his children to school so that they receive a better start in life.

**Change or continuity?**

The answer to the question why Mongolian nomads chose to get involved in informal mining probably lies in a combination of all the four genres of explanation offered by different experts. In a different country setting, Spiegel (2012) stated that the answer to why communities choose to take up informal mining lies within the very local context: the place-history forming the unique background.
A similar argument has been proposed by Lahiri-Dutt et al. (2014), who show how informal tin mining has replaced swidden farming in a small valley in southern Lao People’s Democratic Republic where local environmental degradation, enhanced by the state’s aggressive expansion of larger scale mining, has combined to create a situation of little choice for the rural farmers. Elsewhere, Lahiri-Dutt (2007) has observed that the state’s pursuit of mining creates a model of development that the poor wishes to follow, to claim a right over the natural resources that the state fails to offer to them. For example, when the state takes up land held customarily by indigenous communities for expanding coal mines as has happened in eastern India, those who are displaced by these mines also take up informal coal mining in order to survive. One could then explain informal mining as a political gesture, a politics of protest (Chatterjee 2004) by those who have little power to control their own destinies, but who nevertheless claim a right over the resources. One sees that the informal economy resides in a different domain than it has been conceptualised so far; this domain is characterised by rules and laws that belong to the community that makes a political claim based on moral and political rights. The moral and political economy of informal mining thus becomes clearer for us to acknowledge more explicitly.

The difficulty is that the moral claims made by nomadic herders over the mineral resources are at loggerheads not only with the interests of large- and medium-scale mines, but also with those of the nomadic herders themselves. In other words, those who have not (yet) left herding are competing for the same land, pushing the informal miners to coexist in a contentious but often symbiotic relationship with herders and small-scale or large-scale miners. What is more, their extractive practices can often have detrimental effects on the natural, environmental, social and economic systems of the local regions impacting on herder livelihoods (Sinding 2005, Heemskerk 2013). Thus, any claims that the informal miners make are drowned by scientific evidence of the harm they cause to the elusive greater common good.

Informal miners are perceived widely to be at conflict with nomadic herders because mining of the land encroaches upon the rights of the herders to pasture (Cane et al. 2015). Instead, a more nuanced explanation would be to see these conflicts as arising out of a differential ability to cope with change. Although neither group has any formal legal rights to the land they use for different purposes, the herders’ rights to roam around are enshrined within the country’s psyche. It indeed is true that the herders have no legal protection from the damages to or the loss of their pasture lands or watering sources, and consequently, some have become more vulnerable to the activities of the informal miners. It is not unusual to hear complaints about horses falling into the ditches dug by the miners. It is also important here to remember that herders with small herds have transitioned into informal mining and those with larger herds have been able to withstand the onslaught of change; therefore, the conflicts can be interpreted largely as class conflicts rather than the vulnerability of a livelihood from the activities of another.

The trajectory of change in the lives of all nomadic herders is not the same. The resilience of herders to cope with the vagaries of climate depends on the size of the herd; those with larger herds seem to be better able to ride through a severe winter (Fernández-Giménez et al. 2015). Those with larger herds are also less dependent on the market economy. Consequently, it was only the herders with smaller herds who are transitioning into informal miners. Informal miners claiming the same space but for a different purpose puts them at conflict with those who still herd livestock. The conflict is therefore not just between traditional users of the land – nomadic herders – and new users of the land – informal miners. Essentially, it is a conflict between those who are still able to survive with their traditional occupation and those who are unable to.

It leads us to the earlier question of linking the explanation of informal mining to the large (and expanding) informal economy of Mongolia. International institutions like the ILO have grappled with the dilemma posed by the informal sector, and policy recommendations on it: should it be seen as a source of jobs and income, and its productive potential be improved; or should it be controlled by extending labour standards and social safeguards at the risk of reducing its potential to provide employment? In dealing with Mongolia, Morris (2001, p. 91) notes that the informal sector has a
“distinct flavour” to it, a flavour that is conditioned by its geopolitical situation and nomadic traditions with its historical heritage of Soviet domination and recent experience of economic transition. Given the educated/literate nature of the informal sector workers, and the growing numbers of men and women and their dependence on it for survival, she (2001, p. 90) suggested more research into the multiple aspects of the sector while strengthening organisations and networks of associations and trade unions to provide social insurance and assistance to specific groups. Her suggestion of introduction of grassroots and low-cost methods to improve occupational health and safety is particularly relevant for informal miners working in dust-prone areas such as fluorspar quarries.

Coming back to the question of livelihood transformation, one acknowledges the radical changes that are sweeping through the Mongolian countryside. The largely unwritten community-based management system that the herders had used for generations – leading to the evolution of their grazing rights as a set of social customs that allocate certain pastures to households and regulates the behaviour within and between smaller and larger groups – does not any longer offer the herders exclusive rights over the land. Therefore, one can say that it is possible to see both the herders and the informal miners as equally vulnerable, primarily because the land laws and regulations of Mongolia recognise neither the traditional land rights of the herders, nor the rights of the informal miners. It is the combination of open-market economic trajectory in the absence of land rights, tenure rights and social security that has rendered the rural poor as a whole socially and economically vulnerable. It is this vulnerability that is reflected in large-scale migrations into cities, or in large-scale transitions in livelihoods.

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Notes
1. In the Mongolian context, the use of the term “informal” is vexed, due to its association with illegality. Anderson (1998, p. 3) offers a workable definition: “The informal sector consists of small scale, usually family-based, economic activities that may be undercounted by official statistics, and may not be subject, in practice, to the same set of regulations and taxation as formal enterprises.”
3. Dzud is the local term in Mongolia for a winter so severe that deep snow prevents the horses from licking the snow to reach the grass below to survive. Dzuds occur regularly in Mongolia, and are known to have played a key role in the regulation of livestock size.
4. Names have been altered to protect the identities of these individuals.

Disclosure statement
No potential conflict of interest was reported by the authors.

References


