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Aspirational laws: performative governance in Mongolia's *fang feng* (*Saposhnikovia divaricata*) trade for the TCM market

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Since Mongolia's transition from socialism in 1991, wild medicinal plants have been harvested from public lands and exported to diverse Asian medicinal markets. This article examines how the post-socialist, market-democratic state has struggled both to regulate the illegal outflow of wild flora and to build a national development industry around cultivated medicinal plants using the instruments of law, techno-science, and research. These competing trade dynamics are explored through the case of *fang feng* (*Saposhnikovia divaricata*), a plant popularly used in Traditional Chinese Medicine (TCM) to treat Covid-19. Wild fang feng, prized for its high metabolic content, is especially lucrative on global markets, fueling a robust gray economy in Mongolia. In response, the Mongolian government—along with its network of industrial, political, and academic consultants—has produced a series of "aspirational laws": frameworks imbued with the hope that their presence will eventually bring national development dreams into being. Although often unrealizable or unenforceable in practice, these laws serve other functions, as explored in the anthropology of the nation-state and economic performativity: they simplify a complex, fragmented market to a narrative of techno-scientific progress, projecting an image of active governance while creating pathways for elite financial gain. This interplay between aspirational regulation and gray economy continues to shape the moral and material terrain of Mongolia's export-oriented medicinal plant trade.

KEYWORDS

***fang feng*, *Saposhnikovia divaricata*, traditional Chinese medicine, Asian licorice, performativity as politics, Mongolia, gray economy, medicinal plants**

Introduction

Since the early 1990s, many rural Mongolians have been earning income by wild harvesting medicinal plants and selling them to international markets. Although the pastoral occupants of the Mongolian steppe plateau have long used native plants for both human and livestock healing (Bold, n.d.; Meserve, 2003), this knowledge was formally suppressed during the roughly 70 years of the socialist Mongolian People's Republic (1924–1991; Bashkuev, 2023). Thus, when the country transitioned to a market democracy in the early 1990s, most Mongolians initially did not appreciate the biodiversity of the steppe's prolifically growing wild plants as either cultural heritage or a healing modality. Rather, within a post-socialist context of high rural unemployment, it became common practice to eke out a living by gathering anything that could be sold on the Chinese market for cash (Ichinkhorloo, 2018).

Anthropological and conservation studies describe how rural Mongolians would salvage scrap metal from Soviet ruins (Ichinkhorloo, 2018; Waters, 2023); become artisanal miners panning for gold, copper, coal, and rare stones (High, 2012, 2017; Munkherdene and Sneath, 2018); or purvey wildlife like wolf pelts, marmot meat, fish, or deer antlers (Empson, 2020; Townsend and Zahler, 2006; Waters, 2023; Wingard et al., 2018).[1] Medicinal plants were another such resource. Wild harvesting trade networks developed around native plants lucrative within the Traditional Chinese Medicine (TCM) sector: most notably, the deep-rooted anti-desertification shrubs of siler root (*Saposhnikovia divaricata*; Ch: *fang feng*; Mo: *derevger jirgerüü*) and Asian licorice (*Glycyrrhiza uralensis*; Ch: *gan cao*; Mo: *chikher övs*).

When these wild harvesting networks first emerged in the early 1990s, the regulatory framework did not yet fully exist in Mongolia to legally regulate the outflow of plants. This gradually changed over the subsequent decades. In 1995, the Mongolian parliament ratified the first Environmental Protection Law (EPL) and the Law on Natural Plants (LoNP), which jointly conceptualized "natural plants"—later defined as plants that grow "without human involvement" (State Great Hural (Mongolia), 2010, article 2^1.1)—as the property of the state. State property could be licensed out to private citizens through permits if deemed appropriate for state goals; but citizens caught with unauthorized plants had to pay penalties compensatory with state losses.

However, whilst carrying out my PhD fieldwork in rural eastern Mongolia between 2015 and 2017, I stumbled into learning about the illegal export of Mongolia's medicinal plants partly because the local wild harvest of the roots of the siler plant was so widespread it was difficult to miss. I henceforth refer to siler by its Chinese name of *fang feng*,[2] because it is predominantly wild harvested in Mongolia for export to the TCM market. When I returned to rural Mongolia in 2023 after the Covid-19 pandemic, I learned that these harvesting activities had not only continued throughout the pandemic despite border closures, but were increasingly developing into syndicates around lucrative plants used in TCM and other Asian medicinal industries like Japanese Kampo or Korean Hanbang.

This paper is in part about the geopolitical dynamics that led to the emergence and continuation of the illegal harvest and export of wild medicinal plants from Mongolia. It focuses primarily on fang feng but also corroborated with examples from Asian licorice. Both are regularly used in TCM—and, for licorice, also in Japanese Kampo (Nomura et al., 2019)—to treat the cold symptoms of viral outbreaks like Sars-Cov-1 and 2 (Dai et al., 2020; Hsu and Xin, 2020; Su et al., 2022).

Centrally, these activities are shaped by a context of competing national, industrial and economic interests between various Mongolian and international actors. First, in Ulaanbaatar, Mongolia's capital city, there exists a group of politically and scientifically minded businessmen who own or direct private national companies. Second, they compete with foreign plant buyers, many of whom arrive in Mongolia to predominantly source non-cultivated plants. TCM is currently experiencing a global boom as an "alternative" or "holistic" healing practice (Zhan, 2009), which includes consumer associations with non-synthetic, "natural" and "wild" medicines (Liu et al., 2016) reflected in Chinese Pharmacopeia standards. Finally, there continues to be a large contingent of low-income rural Mongolians who rely on wild harvesting for subsistence. Given the Mongolian economy's larger dependence on China (Chu et al., 2020), these three groups variously interact in the creation of a gray economy that exports wild plants through familiar post-socialist informal economic practices.

This paper secondly describes the Mongolian government's many successive attempts to regulate this trade through a form of performative politics I describe as "aspirational laws." This term has been used within the field of political science to describe legal regulations that reflect aspirations[3] yet are unenforceable in practice (Harvey, 2004). Since the 1990s, the fledgling market democratic state has pursued a strategy of national development through the private exploitation of the country's enormous resource wealth, most notably culminating in Mongolia's 2011 mining boom (Bumochir, 2020; Husband and Songwe, 2004; Muff et al., 2016). At different moments—for example, when global plant prices surge during the Covid-19 pandemic—government representatives collaborate with plant scientists and the aforementioned urban businessmen to create laws that promote medicinal plants as an additional, more sustainable avenue to national development. Their shared vision is of a niche industry that uses cultivation techno-science to produce medicinal plants and products for the booming Asian medicinal and health markets. These laws are aspirational in a manner like other anthropological work on performativity in economics (Appel, 2017; Callon, 2007; Holmes, 2009; Tsing, 2000): the Mongolian government hopes that through setting standards or creating the discourse, private scientists and business actors will feel incentivized to innovate and make a market into being that reflects their specific political vision for economic growth.

Although much work on economic performativity emphasizes this ability of laws, techno-science and discourse to create the world it purports to describe, this process can also be open-ended and productive through other effects (Appel, 2017). In the case of the Mongolian plant trade, these laws arguably do not consider the complexity of local circumstances and the contemporary infrastructural and scientific capacities of the Mongolian state. Yet, as described by Appel, the power of performativity lies sometimes in the simplicity of narrative, its ability to leave certain complicating factors out of the national conversation (Appel, 2017; Rahman, 2017). The ongoing powerful international demand for wild plants highly monetarily incentivizes actors both outside and inside Mongolia to continually strive to export its wild plants, but the discourse of aspirational laws casts these complex dynamics in terms of simple problems and solutions: namely, better laws,

1 Similar dynamics were and are happening in Inner Mongolia. See White (2024) for a discussion of precious stones and Zee (2019) for a discussion of desert ginseng (*Cistanche deserticola*).

2 I refer to it by the name *fang feng* mostly to emplace the article in larger debates on the global trade in TCM. This is also because it does not have a strong naming convention amongst the public in Mongolia.

3 The "aspirations" discussed in political science and law are predominantly human rights ideals (Harvey, 2004), but I am referring to the "spectacular accumulation" dreams of elites (Tsing, 2000).

more science, more money and the "problem" of rural harvesters. Nevertheless, this tension between legal representation and living circumstances in this post-socialist context indirectly advances the economic interests of Ulaanbaatar-based political-economic elites, just not exactly in the way as discursively depicted.

Supplying Asian medical industries with wild plants

Within urban Ulaanbaatar, a mention of the illegal medicinal plant trade usually evokes memories of the widespread export of plants to China in the immediate post-socialist period. During Mongolia's latter socialist period (1960s onwards), the rural populace was collectivized into agricultural and husbandry cooperatives (Rosenberg, 1981). Their collapse in the early 90s was followed by a period of sweeping rural unemployment and rapid inflation, contributing to a general sense of political-economic disintegration that was felt throughout the post-socialist region (Humphrey, 1999; Mandel and Humphrey, 2002). Barter networks became commonplace as families learned to pool skills and salvage resources (Humphrey, 2002). When the border crossings opened again, these barter networks became commodity chain-type systems that exported local resources in exchange for goods and cash (Ichinkhorloo, 2018). This included metal, minerals, wildlife and dozens of plant species. In eastern Mongolia, after the local crossings to China were reopened in 1994, Chinese traders arrived and informed the local populace of (then unemployed) pastoral herders that they would buy and export any fang feng roots they collected (Waters, 2023: p. 59). In the Gobi Desert of central Mongolia, residents stripped the fields of an abandoned Asian licorice research station, exporting both its and the surrounding wild licorice to China for income. Because these activities were happening within the vacuum of a stable state, they were generally unregulated, widely participated in and are popularly remembered as a licit form of rural survival between state epochs.

Networks also funnel plants to Ulaanbaatar for national usage. For centuries, pastoral families have been using local plants and folkloric practices for human and animal healing purposes, and, starting in the sixteenth century, Tibetan Buddhist medicine mixed with these practices to become TMM (Bold, n.d.). During the socialist era, TMM was formally banned and popularly denigrated as "backwards" (Bashkuev, 2023).[4] Now, in the post-socialist era, TMM is again legally practicable and undergoing a resurgence, but urban Mongolians remain skeptical (Turk, 2018) and reluctant to exclusively rely on it. Currently, there are a handful of outdoor traders and a gradually growing contingent of health goods companies and clinics offering wild harvested plants for Traditional Mongolian Medicine (TMM; Kloos, 2022b; Turk, 2018). Whereas fang feng is scarcely used in TMM[5] and is harvested exclusively for international export; other plants, like Asian licorice, are used in both TMM and TCM. But traders on outdoor markets in Ulaanbaatar report that they only need a few kilos of supply each year to satisfy urban demand.[6] Because the turnover, quantities ergo profit margins are much higher for TCM-designated plants, fiscally minded rural harvesters orient their activities toward this purpose.

It has now been over 30 years since these practices began. Although the Mongolian state has since legally circumscribed the harvest and export of un-cultivated plants from public lands, these activities continue in a manner directly descended from its post-socialist origins. Arguably, this is because of two main reasons. First, there is a widespread preference in TCM and other Asian medical industries for wild plants. I describe, using the example of fang feng, how wild plants are more likely to match the appearance and metabolic benchmarks in the Chinese Pharmacopeia, creating strong economic incentives for TCM suppliers to go abroad to access uncultivated resources. Their metabolic richness also overlaps with medicinal preferences amongst TCM consumers. Second, informal economic practices remain common throughout rural Mongolia. It is important to emphasize that these resource-exporting commodity chains became a form of rural political-economic infrastructure in the immediate post-socialist decade. They thus existed prior to and could adapt to emerging urban legal changes. The result is an ongoing uneasy alliance between rural harvesters and Chinese or foreign-funded traders that continues because of the large profit margins for wild plants.[7]

Fang feng's wild standard

This illegal trade in rural Mongolia is generally fueled by an ongoing demand within Asian medical industries for non-cultivated plants. Within medical anthropology, the global TCM industry is described as the outcome of concentrated effort by the Chinese state throughout the twentieth century to consolidate Chinese historical medical lore into a "scientized" body of knowledge (Chee, 2021; Hsu, 2008; Kloos, 2022a; Lei, 2014). In the 1950s, the state encouraged scholars to search ancient medical texts in the hope of discovering local plants useful for valuable drugs (Chee, 2021: p. 29–41). Identified plants were gathered at rural

4 Although some folkloric and TMM practices were secretly practiced in rural encampments or pastoral families (Humphrey, 1999; Kloos, 2022b; Turk, 2018).

5 Prior to the arrival of Chinese traders, most rural Mongolians had never heard of fang feng and considered it a weed. I have occasionally heard that it has been used for seasoning in pickling. Until recently, it was referred to as "the root" (*ündes*) because that is the part sold to China and of significance. Generally, it did not have a folklore usage in historical Mongolia. A well-regarded TMM doctor told me that the top of the plant (flowers and stems) is used in rare TMM recipes for intestinal issues; however, this is far from common knowledge amongst practitioners.

6 Urban informal TMM plant sellers I interviewed in 2023 reported that they purchased around 50 kilos of supply of each plant species from rural harvesters once a year; more kilos for more popular plants. As a comparative, 350 tons of fang feng were formally exported from Mongolia in 2016 (Ürjinbadam, 2017). According to Chinese sources, between 2012 and 2020, 740 tons of fang feng were exported through Erlian, one of China's border crossings with the Mongolian Gobi region (Huoli Erlian, 2020).

7 I describe this alliance as "uneasy" because many rural Mongolians feel morally uncomfortable with the high levels of resource extraction from sacred areas or the steppe, as well as their economic dependence on China. For an extensive discussion on these networks, their functioning, and moral economy, see Waters (2023).

plant collection stations and pharmacologically tested to establish their key active ingredients and possible medical applications (Chee, 2021).[8] In 1953, this compiled knowledge on historical plants, their usages and chemical qualities was published as the first *Chinese Pharmacopeia*, which constituted the benchmark of knowledge on and content standards for TCM medical materials (38). Henceforth updated roughly every 5 years, the Pharmacopeia standards are subject to much debate.[9] This partial revalorization of plants into isolated chemical compounds, specified below as their metabolites, likely enabled their pharmaceuticalization into internationally marketable proprietary medicines (Chee, 2021: p. 29–34; Kloos, 2017, 2022a; Hsu, 2009). Since the 1990s, the Chinese government has promoted the globalization of TCM by streamlining its manufacturing processes, leading to rapid industrial growth but also global pressure for raw materials that meet Pharmacopeia standards (Kloos, 2017: p. 697, 700–701).

Likely because of this process of overlaying historical Chinese medical knowledge with science, the contemporary TCM standard for fang feng in the 2020 *Chinese Pharmacopeia* is seemingly based on non-cultivated plants. The term *fang feng* literally means "to avert wind" and many herbs that can, according to TCM healing philosophy, reduce the effects of wind climatic illnesses have been depicted under this term and recorded in ancient texts dating back to 100 AD (Wang et al., 2020: p. 5321; Lyu et al., 2022: p. 545). Considering the diversity of plants ascribed this term, its sourcing regions have shifted throughout the dynasties but have generally shifted northwards as *Saposhnikovia divaricata* from northeastern China became the preferential species (Lyu et al., 2022: p. 545–547). Historical TCM texts describe fang feng as identifiable through the distinctive "earthworm head" on its roots and the "chrysanthemum heart" of its root cross-section (Shou Yi Zhen Yuan, 2022).

When TCM appearance standards were later constructed for fang feng, they adopted these morphological descriptors as criteria. The criterion of "earthworm head," for example, is found both in the Ming era *Bencao Gangmu* (Li, 2003: p. 1401) and fang feng's first entry in the 1963 *Pharmacopeia* (Shou Yi Zhen Yuan, 2022). It continues to appear in newer grading specifications and is used in markets to distinguish high-quality fang feng up to the present day (Wang et al., 2020). Fang feng's first entry in the *Pharmacopeia* series in 1963 explicitly states that this specification is based on "wild" plants, although this specific word was removed by the 1977 *Pharmacopeia* (Shou Yi Zhen Yuan, 2022). According to Wang et al., China's contemporary standards for commercial grade fang feng were established in the document *76 Standards for Medicinal Product Grades* (1984), which includes only one category—"wild fang feng" (2020: 5321).

In the late twentieth century, fang feng was pharmacologically tested for its active ingredients, which were henceforth added to the Pharmacopeia specifications (Ma, 1994). The roots of the plant were found to contain high levels of 22 coumarins, chemical compounds metabolically produced by the plant that have anti-inflammatory properties. Standards were established based on the content level of the two most common ones[10] [Kreiner et al., 2017; Lyu et al., 2022; Ma, 1994; State Pharmacopoeia Commission (People's Republic of China), 2020; Wang et al., 2020]. The addition of these metabolic compound standards to the Pharmacopeia again favored non-cultivated variants. Compared to cultivated plants, non-cultivated varieties are more exposed to climatic fluctuations and biodiversity in the environment, resulting in more complex metabolic processes that often result in higher chemical content levels (Dixon and Dickinson, 2024; Schippmann et al., 2002; Yang et al., 2018). When fang feng is cultivated, its appearance changes over generations from a dark, woody, thick root to a yellow-gray, long and slender root with fewer cross-sections (Feng et al., 2009; Lyu et al., 2022; Shou Yi Zhen Yuan, 2022; Wang et al., 2020; Wei et al., 2022). These changes are also reflected in the metabolite content: for both fang feng and Asian licorice, the chemical content levels of wild species are much more likely to meet the Pharmacopeia standards than cultivated ones (Applequist et al., 2020; Cui et al., 2023; Feng et al., 2009; Li et al., 2014; Lyu et al., 2022; Shou Yi Zhen Yuan, 2022; Wang et al., 2018). Even though the Pharmacopeia no longer explicitly states "wild" plants, there has been little change or differentiation in the specifications over the last half century. Scientists and industrial actors generally agree that they remain based on wild fang feng, regularly putting forth their own suggestions for updates (Feng et al., 2009; Lyu et al., 2022; Shou Yi Zhen; Wang et al., 2020; Shou Yi Zhen Yuan, 2022).

There are also additional consumer and market practicalities. Research on the preferences of both TCM consumers and practitioners evinces high favorability toward "wild" materials as more effective, more natural, lower in side effects and more traditional (Liu et al., 2016: p. 9; Schippmann et al., 2002). This partiality is also likely linked to romanticized associations linking alternative or emic medicines with anti-modern, environmentally situated or divinatory forms of healing (Chee, 2021; Farquhar and Lai, 2021; Luo, 2017). These consumer or cultural associations combined with studies on the metabolic density of plants materialized in skyrocketing prices during the pandemic for specifically non-cultivated plants. For example, according to the Kangmei Chinese Medicine Network, a platform for TCM resources and market trends, the kilo price for fang feng roots from Inner Mongolia—widely described in the market as largely non-cultivated—rose to seven times that of cultivated roots from other areas in China in early 2020 (2023).[11] Given the confluence of these factors, TCM traders are highly economically incentivized to brave the border to (and the laws of) Mongolia to get wild plants rather than put in the multi-year effort of growing cultivated plants that might not meet Pharmacopeia standards.

8 Singular or a few active ingredients were isolated to create pharmaceutical drugs (Chee, 2021: p. 29–34).

9 Not only does this reduction of medical plants to singular active ingredients not always align with TCM philosophy, but new experiments and technologies continually modify baselines (Chee, 2021).

10 Cimifugin and 5-O-methylvisamminol.

11 Between 2020 and 2023, Inner Mongolian fang feng (generally acknowledged as "wild" in origin in the market), rose to an average price of CNY 360 per kilo as opposed to cultivated plants from other regions which sold at CNY 20 and 50. In late 2022, due to panic buying, the price of Hailar-origin fang feng, which is where the roots from eastern Mongolia are sold to, rose to CNY 380 per kilo (Kangmei Chinese Medicine Network, 2023).

The fang feng trade as econo-political networks

Because there has been a steady stream of wild plant money flowing into Mongolia from the mid-90s onwards, a meshwork of social infrastructures has developed in rural Mongolia to accommodate it. Because, during socialism, the Mongolian republic did not legally recognize private—but only state and collective—property (Tseveen and Ganbold, 2006), self-interested profiteering was ideologically suspect. Wild harvesting for personal profit is currently not documented for this period.[12] In contrast, during the immediate post-socialist phase, private economic redistributions became the aim of social life and a platform for political influence in lieu of a stable political system (Humphrey, 1999, 2002; Verdery, 1999). Humphrey describes how political enclaves in Buryatia developed around the leaders of former cooperatives, who could leverage their ability to supply goods and resources into local political power and recognition—what she termed "icebergs" or "suzerainties" (Humphrey, 2002: p. 5–20). In eastern Mongolia, petty resource-exporting activities started developing into entrenched commodity chain networks around particularly valuable, lucrative forms of trade, like fang feng. Elsewhere, I describe these as "econo-political networks" (*suljee* in Mongolian), which are social assemblages of people (and families), whereby individuals pool their specific skills and capacities, often to navigate a restriction (like a regulation, law or border crossing), to enable a certain economic aim and redistribute the spoils among the participants (Waters, 2023: p. 10–16). Both fang feng and Asian licorice are exported through a web of Chinese-funded middlemen that each administer an econo-political network often with local political influence.[13]

These social assemblages are particularly effective in rural Mongolia because, partly due to the country's size and population sparsity, much information and activity are regulated through social connections and word-of-mouth. A Chinese trader will contact a Mongolian middleman of repute from a local area and offer them a cut of any proceeds (Waters, 2023: p. 59–73). Then that person will use their family and friend contacts to either directly find residents who harvest plants for them or verbally circulate that there is a buyer. Middlemen, their families and the families of harvesters will create surveillance networks by calling each other and spreading the word if any police or nature protection rangers are on patrol (Waters, 2023: p. 102). Moreover, in rural regions, the members of enforcing bodies, like rangers or the Ecological Police, are often related to or intimately acquainted with the harvesters. In turn, authorities often look the other way; will take bribes from local middlemen to avoid having to arrest people they know; or will only sporadically arrest for the image of enforcement. Once plants have been harvested, they are dried out or processed for export. Prior to Covid-19, they were often exported through private cars or in coal trucks; post-Covid-19, when the Chinese border control got stricter, they are now exported through company paperwork (discussed in the following sections). Harvesting and exporting networks thus have become more clandestine but can continue in many places.

12 Entrepreneurial plant harvesting networks for international profit exist did during the Qing dynastic era (1636–1912). See Schlesinger (2017).

13 I am reminded of other ethnographic work in settings with "weak" states that depict how patronage becomes a means to power across a pluralistic in/formal or il/legal system (Roitman, 2005; Reeves, 2014). The dynamics of these networks are unpacked extensively in Waters (2023).

The aspirational laws governing Mongolia's plant trade

The field of political anthropology, especially the scholarship of Mitchell (1998, 1999, 2002), describes how the post-WWII global order developed around the "market democratic nation state": a limited territory democratically governed by national groups. Imagined and created through new forms of law, discourse, science and politics, it was a political construct that globally competed through the new artifactual of "the national economy". In Mongolia, throughout the 1990s and 2000s, individuals had the opportunity to create the laws of the new state and economy according to international models and a class of elites emerged in Ulaanbaatar to facilitate it (Bumochir, 2018; Rossabi, 2005). Amongst them, several individuals started envisioning how medicinal plants could be leveraged as a national resource to create a modern, scientifically informed cultivation industry, co-collaborating in the formation of laws and political infrastructure according to this aim. I describe these laws as "aspirational" because they represent the conviction of their contrivers and are imbued with the hope that their presence as the economy develops will eventually create the dream they represent. But, as artifacts that represent the national development worldview of their construction (Appel, 2017; Tsing, 2000), they pay little heed to crucial complicating factors such as the TCM market's desire for wild plants and the rural, informal relations that make different forms of trade possible.

Natural plants as national reserves

Scholars of science and technology argue that the age of modernity is predicated on the separation of the social and natural worlds into isolated domains of scientific inquiry (Latour, 1993). In turn, political anthropology details how the nation-state justified its emergence and authority through the ideology that it could bring the insights of this inquiry to bear on problems of the territory, boosting its economy and societal prosperity. Mitchell thus opines that the modern nation-state was characterized by a "politics of national development and economic growth" that was also a "politics of techno-science" (Mitchell, 2002: p. 15). These politics were accompanied by a class of experts who consulted the state on how to rationalize societal issues into simple forces and oppositions, so they could be implemented as modernization and improvement projects (Mitchell, 2002: p. 28–34). Although they differ in their planned economy approach, the scientific pursuits of the modern state also apply to socialist republics (Graham, 1994), which trained the first botanical experts of Mongolia's market democracy. The viewpoint that medicinal plants are a state resource to be governed by science for economic development has shaped the approach of the Ulaanbaatar-based government, its business and scientific advisors since inception in 1992.

In 1992, the first Mongolian parliament passed the Constitution, which defined the material wealth of the territory as the state's property (State Great Hural (Mongolia), 1992). In 1995, it ratified the Environmental Protection Law (EPL), which stipulated that, whilst all the resources of the territory were the state's property, the state had the duty to "coordinate social and economic development with environmental balance" (article 1). The solution of how to maintain this balance was to recast the resources of the territory in the terminology of a public fund: a pool of accumulating economic-cum-ecological resources that it owned but could be allocated out to private citizens in line with state duties. The first iteration of the 1995 Law on Natural Plants (LoNP) brought wild-growing plants on public lands into the fold of state resources, conceptualizing them as a "plant fund" (*urgamliin san*) internally partitioned into three categories based on their population sizes: (1) common, (2) rare, and (3) very rare (article 3). Each category had different legally stipulated scopes of usage—e.g., common plants could be used for all, including commercial, purposes, whilst rare plants could only be used for household and research, but not for commercial gain (article 10). Private citizens could pay a fee to use the state property, but only if their usage did not undermine the resource pool's ability to regenerate.

Although this first iteration of the LoNP put more of an emphasis on conservation than later versions, scientific expertise already played a crucial role in the government's administration of medicinal plants. Individuals and companies who wished to use flora for commercial purposes needed to have an "environmental impact assessment" carried out by a scientific body to receive a permit for usage (State Great Hural (Mongolia), 1995a: chapter 2; State Great Hural (Mongolia), 1995b: article 15). To know the size of its plant reserves, their distribution and the environment impact of usage, the Mongolian government approached relevant scientific organizations to start formulating assessments for each of Mongolia's 7,200 species of plants[14] (State Great Hural (Mongolia), 1995a: article 10). At the time of the research for this paper, the public bodies tasked with plant policy were the Ministry of Environment and Tourism[15] (henceforth: the Ministry) and the plant division at the Academy of Sciences (henceforth: the Academy), respectively. This collaboration continues today and shifts with developments in the LoNP and state structures.

Mongolian elites and cultivation aspirations

During the 90s whilst these new laws were being drafted and passed, a group of well-connected entrepreneurs in Ulaanbaatar started hearing about the rumors of rural harvesting and became intrigued by medicinal plants as a national development opportunity. In contrast to a model of economic development based on the direct export of a resource,[16] the discourse around medicinal plants was characterized by a Lockean argument that raw materials are best appropriated by improving upon them using human ingenuity. But because many of these businessmen did not personally know how to cultivate or innovate plant products, they approached plant scientists, especially at the Academy, and funded plant cultivation experiments and product development based on their business goals. In other words, the same scientists working with the government to establish the ecological assessments and consult on laws were also working with business to create scientific projects and products. These overlaps led to the formation of Ulaanbaatar-based "political-industrial-academic circles" (Campinas, 2022: p. 52), which includes several parliament members and highly educated professionals united in their focus on the scientific cultivation of medicinal plants as a national development industry. In the coming years, these circles often advised the Ministry, creating policy papers and participating in media and, in doing so, have had a sizable impact on the formation of legislation.

A key figure in this group of urban plant enthusiasts was Batbayar,[17] an Ulaanbaatar-native in his late 60s who is known for having founded the first post-socialist internationally-exporting plant cultivation business. Over coffee and cake in an Ulaanbaatar café in wintery 2023, Batbayar recounted the story of how he had several medicinal plants legally reclassified in the early 2000s to protect his business interests. Batbayar had been trained as a nuclear physicist in the Soviet Union and had just returned to Ulaanbaatar when the state collapsed. In the subsequent years, he and his entire highly educated family tried to use their studies to create new businesses. First, he opened a bank with former physicist colleagues that collapsed; then, his older sister returned from doing a second PhD at the Institute of Botany in Beijing. She told him that medicinal plants were a good business opportunity. Having been trained himself as a scientist, he decided he needed to do research to establish which plants would grow the best, which he did by approaching the Academy to look at the plant distribution and resource level charts documented during the socialist era. He hired a handful of scientists and traveled around the country three times to check current plant populations and find a suitable area for cultivation.

Whilst carrying out his research activities on the best locations, he ran into the widespread illegal export of Asian licorice from the Gobi region. These activities angered him because, he opined, they undermined Mongolia's long-term economic potential. Open wild harvesting, in his words, turned a "poor country like Mongolia into a raw material base" for richer countries like China, who purchased cheap wilds plants and resold them at higher prices. Rather, he said, it was better for Mongolia's prospects if Mongolians could harness the value-added potential of the market by cultivating the plants and selling them at the highest market prices. Thus, he decided to cultivate them. He knew that Asian licorice, Mongolian milkvetch (*Astragalus propinquus*) and ephedra (*Ephedra sinica*) were internationally lucrative in various Asian medical traditions. Through physicist contacts in Japan, he negotiated a supplier deal with a major Japanese Kampo, or traditional Japanese medicine,

14 This number was provided by the government representative cited in the article.

15 Its name was changed to the Ministry of Environment and Climate Change in early 2024.

16 As in the mining industry, which Mongolia is economically heavily dependent on (Chu et al., 2020).

17 All names have been anonymized.

manufacturer. Between 2001 and 2008, Batbayar successfully cultivated these plants in a field in the Gobi region, exporting them by train through China onto ships to Japan.

Considering that wild harvesting contradicted his long-term business goals and vision for the country, he joined together with colleagues from the Academy to draft a policy recommendation for the Ministry in the early 2000s. The recommendation advocated that the Ministry reclassify the plants being illegally exported from rural Mongolia from the status of "common" to "rare." According to Batbayar:

> "In order to cultivate plants, you need to have deep knowledge of the plant distribution and population levels…[and I knew that] fang feng was being dug up and exported…During that period, I talked to the government and the Ministry of Environment and I was the one who put these endangered plants on the list of 'rare' plants. I, myself, put the three plants I was cultivating [Asian licorice, milkvetch and ephedra] on the list of rare plants. I quarreled with the Minister at that time and told him, 'You cannot protect Mongolia's nature by sitting between these four walls. You should do this'. I scolded him and created a working group [of scientists and business leaders] and we put twenty species of plants in the list of rare plants."

Together with the initiatives of this working group, Mongolia's parliament updated the list of rare plants in the LoNP in 2004 to include 37 new plants, including all the plants that were being informally exported for TCM. Various plant enthusiasts I interviewed in 2023 retrospectively questioned this decision, because it had been made without any official plant population research and many of the plants were arguably not rare in terms of population. Batbayar argued that this decision had been based on noticeable drops in plant populations when compared to the socialist era plant maps: he had looked at the plant studies carried out in 1978 and then visited those same areas in 1998, noticing a difference and thus recommended the legal provision. Legally, these plants were now debarred from commercial usage.[18]

The gray economy between aspiration and market demand

Despite Batbayar's best efforts, the expansion of the rare plant list did not stop the illegal export of plants from rural Mongolia. The post-socialist region is recognized with the field of informality studies for the commonplaceness of diverse informal, illegal and gray economy practices, likely because of the sudden implementation of global state and market models in the early 1990s that starkly differed from local ways-of-life (Mandel and Humphrey, 2002; Polese, 2023). Without the time to gradually adapt and build up working institutions, people became accustomed to living in faulty formal systems relying on informality to bridge disconnected spaces. In the case of the medicinal plant trade, the laws implemented in far off urban Mongolia conflicted with the firmly ensconced econo-political trade networks in rural areas. But, even more so, these trade assemblages were ongoingly funded by the TCM market, which predominantly wanted wild plants that matched its metabolic and appearance benchmarks. Because the economic development aspirations within the Mongolian government's laws were at odds with the complexity of local circumstances, formal plant companies struggled, and many started participating in familiar post-socialist informal and illegal practices. In tandem, the state adjusts its aspirational laws.

Competing with metabolic standards

Despite the formation of aspirational laws, the Mongolian state and elites could not affect the major dynamics governing this trade—namely, the dominance of TCM and its wild standards. Batbayar, who had earnestly cultivated plants for the Asian medical market, harshly encountered this reality in two capacities. As noted earlier, the Chinese Pharmacopeia (and the Japanese Pharmacopeia) includes standards based on isolated metabolic content levels based on the history and metabolism of wild plants, but cultivated varieties of both fang feng and Asian licorice commonly do not meet them. Batbayar was shocked to learn this after he exported his first batches of carefully cultivated Asian licorice to Japan and was informed that his plants did not satisfy the standards for the compound glycyrrhizin, the metabolite most used in Asian medical pharmacopeias as licorice's active ingredient:

> "My plants were not the same as wild plants…For example, the glycyrrhizin level of the licorice that I cultivated did not exceed 4 percent. But the glycyrrhizin level of licorice in nature is at least 5.5 percent. So, what can be concluded from here is that licorice cannot be brought to its natural compound level no matter how well it is cultivated. I asked the Chinese [traders] how they grew licorice and sold it to the Japanese at a good price. They said, they mix a certain amount of natural plants with cultivated plants so that the total content of the sample is above 5 percent, which is the compound standard in the Japanese Pharmacopoeia.[19] Cultivation can't match that."

Because plant metabolism is a complex phenomenon, the cultivation science for both Asian licorice and fang feng in China and other major East Asian countries has not yet been able to reliably produce plants that meet their own Pharmacopeia standards. This is *the* overarching geopolitical dynamic why the illegal trade in wild harvested medicinal plants from Mongolia

18 The law at the time allowed exceptions for rare plants used in pharmaceutical production (State Great Hural (Mongolia), 1995b: article 13), but this exception still required a formal state permit and was not accessible to rural harvesters.

19 The glycyrrhizin compound standard in the *Japanese Pharmacopoeia* for glycyrrhiza (species of licorice) is 2.0 percent and was 2.5 when Batbayar was exporting. He is likely referencing the crude glycyrrhiza extract standard of 4.8 percent in the 18th *Japanese Pharmacopoeia* (2021), often rounded to 5 percent as an export specification (Ministry of Health, Labour and Welfare, 2021). Batbayar was particularly interested in extracts as a development avenue. Regardless, both dried products and liquid extracts from cultivated Asian licorice routinely do not meet the glycyrrhizin content standards in pharmacopoeias in the manner detailed in the section "Fang Feng's wild standard."

continues.[20] In China, because cultivators of medicinal plants often cannot meet the standards, it has become a common tactic to source wild plants from other contexts and mix it with cultivated plants to bump the average chemical profile of the batch into a higher price category.[21] Because Batbayar's Asian licorice did not meet certain standards, the Kampo company paid him a lower price per kilo for them. But it was primarily a harsh blow to realize that no matter how well he cultivated them, his plants would never meet the wild standard of Asian medical industries and garner the top market price.

Failed post-socialist aspirations

Enkhtuya is, very similar to Batbayar, an Ulaanbaatar-native in her late 60s who has been involved with the international medicinal plant export since the 90s and is the owner of her own Ulaanbaatar-based company. She enthusiastically met with me in 2023 because she was unhappy with the development of the medicinal plant industry in Mongolia and openly pondered that I, as a foreign scholar, could give the government advice on how to improve their legislation but also help her attract foreign investment. She was remarkably open about her self-diagnosed problems of the Mongolian industry and, in moments that felt like guilt-laden confessions, about her own strategies within it.

Enkhtuya had gotten her start in the medicinal plant industry in the early 2000s, when she worked as a foreign trade contract manager at a traditional Mongolian medicinal factory. Her job was to help foreign companies and traders in search of certain medicinal plants by liaising with Mongolian plant suppliers. It was common business practice at the time that if a foreign company arrived in Mongolia in search of a plant on the rare plant list, they would illegally export wild harvested plants using cultivation permits. And if a foreign partner was caught illegally exporting plants, she would use a legal clause allowing the auctioning of confiscated resources as an avenue to repurchase and export their plants for them (likely an earlier version of EPL, article 54).

One could argue that this phenomenon was a mark of its time. As described by many anthropologists working in post-socialist regions, many of the liberal concepts foundational to market democratic systems, such as the difference between "public" or "private" resources, were initially quite "fuzzy" and "lack[ing] the clear edges of an ideologized notion" (Verdery, 1999: p. 75). For example, the original LoNP did not have a clear definition between "natural flora" and "cultivated plants" (1995: article 1), leaving the door open to interpretation. The definitional ambiguity around concepts was also exacerbated by the slow-moving nature of infrastructural and bureaucratic systems designed to uphold these new ideas, which were (and arguably, still are) in the process of being made (Pedersen and Højer, 2019; Plueckhahn, 2017). Due to local confusion over concepts, the remit of permits and nascent enforcement, formal paperwork had one major benefit: convincing the outside world, where the boundaries between concepts were sharper, of legal legibility. A border guard or a foreign trader might not know what a permit legitimized exactly, but because the state had issued it, plants were exported.

Starting in 2005, the government adjusted its approach to plant resources away from conservation toward conceptualizing them as a sovereign wealth fund: a pool of economically viable resources that could be annually apportioned according to its regenerative ability. This involved the creation of clearer definitional language. In 2005, the EPL was updated to stipulate that citizens could cultivate plants on their land and sell them as private property, but a professional body had to first determine that they were indeed cultivated (articles 6.3 and 6.4)—likely a response to companies using cultivation permits to export wild plants (State Great Hural (Mongolia), 2005). In 2010, the LoNP was updated to contradistinguish "natural plants," defined as plants that grow without human involvement (State Great Hural (Mongolia), 2010: article 2^1.1), and cultivated plants. It created different permit types for each (article 7^1.4). These changes advanced the interests of Ulaanbaatar-based companies in two regards: first, they created a legal permit avenue—a "harvest-and-processing permit" (*tüüj beltgekh zövshöörlöl*)—for formal companies to export rare wild harvested plants; and, second, they strengthened the positions of permitted cultivation companies, who now could export plants without restriction.

In the late 2000s, after Enkhtuya had illegally facilitated the export of many wild plants out of Mongolia, she started imagining the long-term business potential of this trade—she thought, since she had experience in plant exporting, that she could make a value-added product using medicinal plants and export it as a national food product. In 2012, she read the contemporary President's election agenda to focus on environmentally friendly production, which emphasized the new Mongolian loanword of "innovation" (*innovaz*) and she was convinced that the government would support her goal of export-focused plant products. She approached a scientist and together they created a patent for pine nut products amongst others; she also wrote a business plan and received a harvest-and-processing permit from the Ministry to gather the raw plant materials. Then she went to a rural area in 2013 to source the materials:

> "I intended to work according to the law, but from the beginning when I went to the rural government, they were closed off to me. I was told by the central government that there were 130,000 kilos of pine nuts available this year and I was planning to get 40,000 kilos. I didn't have all the money upfront, but I was planning to gather some money from contacts. But I was told 'if you don't pay today, the Chinese [traders] will come tomorrow and buy all of it up'. Two to three days later, I called them [and had the money] and they said all the nuts were gone."

Despite doing "everything right" and firmly believing in the promise of development through plant products, Enkhtuya had been unable to carry out her dream. She had met the brick wall that I described toward the beginning of the

20 In fact, the Chinese Pharmacopoeia Commission has officially recommended the import of rare species from neighboring countries to continue meeting market demand whilst national wild resources recuperate. This includes fang feng from Mongolia (Zhu, 2005).

21 This is a common practice. The Kangmei Chinese Medicine Network describes how this was done for fang feng during the pandemic (2023).

paper—the uneasy alliance between the TCM industry and rural Mongolian econo-political networks. Many companies and urban plant traders I talked to mention their difficulty sourcing plants from rural regions, where Chinese-funded middlemen quickly buy resources from local individuals faster and in larger quantities than urban Mongolian companies who sporadically arrive.

The outcome of these dynamics has been the emergence of a gray economy: an econo-political assemblage that cuts across and fuses legal and illegal, formal and informal registers. Enkhtuya's interview had the feel of a confessional, because she, despite her dreams for the industry, had often participated in various activities that contradicted them in her eyes. Upon having difficulty accessing raw resources for her pine nut products in 2013–2014, she talked to a colleague about the fang feng trade who advised her that if she couldn't compete with the Chinese-funded networks, she might as well join them. Echoing her activities in the traditional Mongolian medicinal factory in the early 2000s, Enkhtuya was approached three times by Chinese companies who had already sourced fang feng from rural areas and she agreed to export it using the guise of her formal company and permit. Asking her why, she answered with the Mongolian idiom, "so that both mother and calf would not be exhausted" i.e., so that everyone would stay well-nourished and able to continue on tomorrow. This gray economy exports metabolically rich fang feng through three prongs that work together—(1) the formal company that provides paperwork; (2) the TCM traders who provide the financing; and (3) the rural residents who provide the labor.

Performative reverberations of aspirational laws

Even though the aspirational laws of the Mongolian government might not perfectly represent the complexity of the lived medicinal plant trade, they still do *something* through their performative effects in the social world. This concept of performativity—that speech acts can have power not only in what is said but in the act of being said—originates from the linguistic philosopher John Austin. It has been influentially reconceptualized by the economic sociologist Michel Callon in his argument that "economics, in the broad sense of the term, performs, shapes, and formats the economy, rather than observing how it functions" (1998a: 2). Callon's insights have inspired a plethora of recent anthropological scholarship on the subject of "economic performativity," which discusses the economy as a socio-material domain constructed through speech acts and socio-technical arrangements by economists, governments, consultants and everyday people reading market theory (Appel, 2017; Butler, 2010; Çalişkan and Callon, 2009; Callon, 1998a,b, 2007; Holmes, 2009; Rahman, 2017; Tsing, 2000). The aspirational laws surrounding the governance of Mongolia's export-oriented medicinal plant trade are performative: even if the world as represented in law does not perfectly correspond to lived conditions, it is hoped that, through their legal existence as solid speech acts in a rapidly changing context, they will eventually shape this world into being.

Techno-scientific aspirations

With the reformulation of laws in the mid-2000s, the Mongolian government strengthened the involvement of scientists in the regulation of the nation-state's economic plant fund. As stated, the 2005 update to the EPL stipulated that a professional body had to verify that plants were cultivated for companies to receive an export license. In 2010, reformulations to the LoNP added the innovation of an "ecological economic assessment": a complex calculation that estimated a species' value to the state by taking into consideration its population size, global market value, speed of regeneration, and more (State Great Hural (Mongolia), 2010). According to law, it should be recalculated for all 7,200 plant species every 5 years (article 7^1). These changes placed a great burden on the roughly-8-person team hired between the Academy and the Ministry to carry out these duties. For one, the legal changes assumed that they could scientifically distinguish between "natural plants" and cultivated ones, but, as described, there was an ongoing debate in China over the difference between wild and cultivated fang feng. Given this, the only way that scientists could verify cultivation was to travel to company fields and view the plants growing in the ground.[22] At the same time, given the size of Mongolia's territory, it was impossible to carry out population surveys on all plants every 5 years.[23] The impracticality of these laws further contributed to the strength of the gray economy as modus operandi.

In 2018, the Ministry decreed a 5-year total ban on all fang feng harvesting activities, which included the crucial years of the Covid-19 pandemic (of 2020–2022) (Ministry of Environment and Tourism, 2018). I had assumed that this total ban would, in combination with the closed border crossings to China, effectively dampen down wild harvesting for export. However, when I returned to my PhD field site in 2023, I learned that these activities had continued unabated. In late 2023, I had the opportunity to approach the Ministry to ask how it hoped to regulate the unrelenting outflow of fang feng.

We met with a well-spoken representative, who escorted us into a stylish meeting room within an exhibit on mining reclamation, glossy pictures expressing a hope in technology's ability to deliver a prosperous future. The initial formal intent of the ban had been to allow the resource pool to recover. But, at the same time, the Ministry knew about the dilemma of the wild standard. Mongolian companies were bringing their cultivated fang feng to the border, but TCM procurers would not pay top prices for them, which disincentivized companies from engaging in fang feng cultivation. So, in 2018, at the same time as implementing the ban, the Ministry

22 Later, the provision was added that the natural protector office of the local state (*aimag*) could carry out the check for cultivation. But, when we went to a local state office to ask about this process, I was told that they weren't familiar with it. Likely, it differs from state to state but this anecdote further evinces rural confusion over urban laws and how they function differently in practice.

23 These surveys have not happened in the post-socialist period for many plants. Other plants, like fang feng, have been surveyed more frequently, but many scientists noted how difficult it is to do them regularly.

submitted an official request to the Academy to carry out research on the metabolic averages of cultivated Mongolian fang feng:

> "One of the biggest reasons to do this research is to help companies. For example, when they are exporting cultivated plants, Chinese traders usually price them the same way as cultivated plants in China, but the compounds in Mongolian plants are much higher. So, we need to make a standard for Mongolian cultivated fang feng to get a fair price."

They formed a working group that traveled across the country collecting cultivated fang feng samples to establish their metabolic content. Their goal was to scientifically establish a standard that showed that cultivated Mongolian fang feng was as high in metabolic compounds as wild Chinese fang feng—thereby providing a government sanctioned avenue for formal Mongolian companies to circumvent the issues of the wild standard, so they could garner the highest profits on the international market.

I was skeptical. Fang feng was being cultivated for the first time in Mongolia by companies on virgin soils that had historically not been used for agriculture. They were also using seeds plucked from wild plants. But, as soils and seeds changed through successive cultivation and domestication, Mongolian fang feng would likely physically and metabolically resemble Chinese cultivated fang feng.[24] This would render moot any standard created based on first-generation cultivated plants. To me, it seemed like much hope was being placed in techno-science to do more than it reasonably could or should do. I expressed this doubt to the representative and was told that this was the normal process of experimentation in lawmaking.

Discursive simplifications

I had the feeling in this and other discussions within the political-industrial-academic circles of Ulaanbaatar that the terminology of science, laws and standards had the function of framing (Callon, 1998b) or reducing complex problems in the plant trade down to simple solutions. This was partly the politics of techno-science as described by Mitchell: the streamlining of the socio-material world to promote national development dreams that often, in its misrecognition of complexity, led to unintended aftermaths (2002). This was also, in the words of Tsing, the "dramatic performance [that] is the prerequisite of…economic performance" (2020: 118), the "conjuring trick" (2020) that motivates investors and companies to create opportunities for potential transnational spectacular accumulation (139–142). In the context of Mongolia where the institutional capacity or the techno-science did not exist, laws relied on performativity to have socio-material effects. Much scholarship on economic performativity has depicted the power of speech acts to fashion the world they purport to describe (MacKenzie et al., 2007), and it was likely the hope of the Ministry that, through the existence and tweaking of laws, it would direct the strivings of entrepreneurs like Enkhtuya to eventually create the innovations it desired.

Recent scholarship has ventured further to unpack how performativity has effects in situations where the loop between conviction and practice is open-ended or fails (Appel, 2017; Rahman, 2017). In her work on representations of the oil economy within dictatorial Equatorial Guinea, Appel describes the surreal experience of attending an investor conference. There, the ills of the national economy were articulated in terms of resource curse theory rather than the political realities outside the conference's doors. The resource curse discourse created three scales that productively worked together: (1) the world as is, (2) its representation in the discourse, and (3) the space of the "as if" or the practices of "misrepresentation, simplification, forgetting, longing" between them (Appel, 2017: p. 296). In Mongolia, the vision of company-led cultivation through techno-science and standards has a simplification effect: as an ideology of national development, it frames the problems within this industry in terms of factors of non-development or non-expertise, i.e., the lack of technology, appropriate standards, sufficient money to create the appropriate innovation and, antagonistically, the everyday non-modern rural harvesters who create competition for companies. Even if the laws were unrealizable, the government looked like it was doing something highly technical to solve the problem; even if the techno-science did not exist, the Ministry could say the experts were working on it. In this narrative, there is little talk of Asian medicine's wild standards; Mongolia's economic dependence on China; the preference of global consumers for wild plants; historically ensconced rural harvesting networks; poor enforcement and infrastructure in Mongolia; post-socialist conceptual fuzziness; or even, crucially, the participation of formal companies in the illegal export of Mongolia's wild plants.

Reinforcing development dreams

In the export-focused trade of fang feng from Mongolia to China, aspirational laws have two overarching functions. First, they reflect the national development ethos of their creators, who envision an industry spearheaded by urban-based plant cultivation and product companies. They are vested with performative power to shape a hoped-for world into being. Since the early 90s, the Mongolian government has attempted three different aspirational law regimes in the governance of medicinal plants—(1) conservation through the rare plant list; (2) permit allocation of an economic wealth fund; and (3) techno-scientific standards—in hopes of finding a mechanism that encourages a socio-material shift toward cultivation companies. This search continues.

However, no matter how perfectly constructed Mongolian state laws are, they cannot affect the preferences of foreign consumers for metabolically uncultivated "wild" plants institutionalized into industries as standards. In such contexts where speech acts cannot move crucial elements of the socio-material world, aspirational laws have secondary discursive effects. Within the setting of

24 Plant metabolomics is currently a growth area within the sciences, but recent studies indicate that changes to the soil microbiome through successive cultivation has a significant effect on the secondary metabolic capacities of plants (Li et al., 2020). This can lead to a domestication pathway causing changes in the plants over time (Fuller et al., 2023). This indicates the potential for rapid metabolic changes within a few generations of certain planting patterns.

post-socialist Mongolia, the gap between law and circumstances was often bridged through new iterations of the gray economy. The simplifications of development discourse masked the involvement of companies, lending them moral power that reinforces their political-economic goals over time.

These dynamics were evident during the Covid-19 pandemic. Fang feng reached its highest global market price to date. Yet, the border crossings to China were closed for regular traffic, stopping the ability of rural Mongolians or small-scale middlemen to make petty income from this boom. But formal companies could still export under guidelines. High-level negotiations also enabled fang feng's limited export,[25] as it was now a matter of Chinese national health security. Echoing the experiences of Batbayar and Enkhtuya, Mongolian companies bought up wild harvested plants from rural people and middlemen and mixed it with their cultivated batches, bumping up the metabolic averages of their batches. Because their formal permits were the only means of exporting fang feng, the illegal profits previously earned by everyday rural people were redirected through companies as the new gatekeepers to the Chinese market.

To urban Mongolians and the outside world, it looked like company-led cultivation as development project was working. These companies were profitable, and their hype was increasing in Mongolia as vanguards of new global health and medical trends. The accusations toward rural harvesters as "backwards" remnants of socialism and obstructions to modern development increased. Mongolian companies connected to econo-political networks had both the moral cover of working toward national development whilst financially benefiting from the gray economy. The (mis)representations of performativity served to reinforce development dreams by holding world and representation apart, gray economy and company-led cultivation, by distracting and masking their continual interconnectedness.

Data availability statement

The interviews in this article are not readily available to protect the identities of the participants. For more information and questions, please contact waters@eu.cas.cz.

Ethics statement

All research was carried out according to ethical regulations as submitted in the fellowship's ethics review and according to the regulations of the American Anthropological Association. This study was conducted in accordance with local legislation and institutional requirements. The participants provided their written informed consent to participate in this study and all potentially identifiable information was anonymized.

Author contributions

HW: Writing – original draft, Writing – review & editing.

25 Fang feng continued to be exported during the pandemic as part of the Chinese state's *Administrative Measures for the Import of Medicinal Materials* (Huoli Erlian, 2020).

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The author declares that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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