

The Food Sovereignty in an International Geopolitical Crisis Context: the Case of Chinese, Ukrainian and Russian Experiences during the Ukraine War

السيادة الغذائية في سياق جيوسياسي عالمي متأزم: نظرة على التجارب الصينية، الأوكرانية والروسية إبان الحرب الأوكرانية

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Article abstract:

This contribution looks at the issue of food sovereignty in the context of the war in Ukraine, in particular the strategies developed by China, Russia and Ukraine in this area: how do these three countries go about achieving their food security objectives, and with what results? This analysis (structured around three axes dedicated to each case study) revealed that food security is above all dependent on a strong interventionist policy and that the purely liberal logics are far from being adapted to this objective.

Key words: Public Policies; Cereals; Ukraine; Food Sovereignty.

ملخص المقال:

تبحث هذه المساهمة في مسألة السيادة الغذائية في سياق الحرب في أوكرانيا، لاسيما الاستراتيجيات التي وضعتها الصين وروسيا وأوكرانيا في هذا المجال: كيف تسعى هذه البلدان الثلاثة إلى تحقيق أهدافها في مجال السيادة الغذائية، وما هي النتائج التي حققتها؟ وقد كشف هذا التحليل المقارن (الذي تمحور حول ثلاثة محاور مخصصة لكل دراسة حالة) أن الأمن الغذائي يعتمد قبل كل شيء على سياسة تدخلية قوية، وأن المنطق الليبرالي البحث بعيد كل البعد عن خدمة هذا الهدف.

كلمات مفتاحية: السياسات العامة؛ الحبوب؛ أوكرانيا؛ السيادة الغذائية.

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Introduction

Despite an unstable global context, several major and emerging powers have managed to safeguard their food security through well-designed strategies. For leading grain exporters, this period presented a favorable geoeconomic opportunity, boosting their prosperity and strengthening their position in global markets. For more vulnerable nations, however, it posed a significant challenge, testing their resilience with mixed results.

Through a comparative and resource-geopolitics lens, this study examines the impact of international crises -particularly the war in Ukraine since 2022- on the food sovereignty of China, Russia, and Ukraine. These events exacerbated an already critical global food insecurity, driven by socioeconomic, demographic, environmental, and political factors. In recent years, such disruptions have pushed food sovereignty further out of reach for many countries, in a world where emerging powers are rising, the West is faltering, and new tensions are erupting, with profound implications for stability. The aim is to assess how states adapt to food security challenges and navigate the uncertainties of a new geopolitical disorder, which has at times had dramatic consequences for global agri-food markets. How are states recalibrating their strategies to ensure optimal food security, or to seize greater shares of a rapidly transforming market? To analyze these three countries' food security strategies, the study adopts a descriptive approach, drawing on concepts from many theories. The analysis is structured into three parts: first, China's food security; second, Ukraine's experience; and third, Russia's emergence in global agro-food geopolitics.

1. Food Security in China: Balancing Demographics and Geopolitics

China places paramount importance on food security, a top priority for its government. The country has made significant strides in this area, thanks to agricultural policies that ensure stable and high-quality production. However, its strategic positioning in the global grain market has also been a key factor in this success.

1.1 Growing Needs for a Shrinking Population

The demographic advantage that had long placed China at the forefront has now shifted, favoring its neighbor India, which has established itself through dynamic population growth. This change, long foreseen, had already been anticipated by the United Nations as early as 2012, with projections indicating a decline in China's population before it even reached the symbolic threshold of 1.5 billion inhabitants. Thus, China, which had peaked at 1.41 billion in 2021, will now enter a phase of decline. In 2024, its population stands at 1.4 billion. By 2030, it will have 1.38 billion. And by 2050, 1.24 billion (World Bank Group, 2025). That said, despite this trend, its food needs will remain very substantial.

This situation stems not only from China's still sizable population, but also from the gradual adoption of Western dietary habits linked to the economic rise of emerging nations, particularly China itself. With rapid urbanization and a burgeoning middle class, demand is expected to grow significantly, pushing cereal prices upward (Intercéréales, 2017). This trend, reflecting realities across many Asian societies amid the global economy's eastward shift, has placed tremendous pressure on international markets. In response, nations -China being a prime example- are strengthening their food security strategies to meet sharply rising domestic demand.

China has faced this challenge for decades. The demographic giant acquired nearly \$110 billion worth of agricultural products in 2022 alone, including 11Mt of wheat - notable for a country whose staple food remains rice. Notably, China has been ordering around 10Mt annually in recent years to supplement domestic production that, while massive, proves inadequate due to recurrent droughts and inconsistent yield levels (Abis/Agri Mutuel, 2023).

This situation is further complicated by volatility in international markets, which remain highly unstable despite their substantial size. The global wheat market operates with extremely tight supply-demand margins: of the 800Mt produced worldwide annually, only about 200Mt (25%) enter international trade, and not always driven by commercial considerations (Abis/Allafort, 2023). These fluctuations and uncertainties have led analysts to highlight wheat's "geopolitical hypersensitivity", a coveted commodity that is not only widely traded and consumed, but also heavily stockpiled, creating additional market uncertainties. Indeed, global wheat reserves have reached extraordinary levels, estimated at 270-280Mt, representing nearly one-third of annual world consumption (Abis/Jacquot, 2022).

China has undeniably emerged as the dominant player in this strategic stockpiling, holding 54% of global wheat reserves. This leadership extends to other staples: 69% of world corn stocks and 64% of rice reserves (Bouët, Gouel & Chimits, 2023).

1.2 Food Security Through Unconventional Approaches

China has adopted a multi-pronged strategy to ensure its food security, going beyond conventional stockpiling methods that require extensive international logistics networks. Alongside maintaining massive strategic reserves, the country is actively pursuing unconventional approaches including the acquisition of arable land abroad and significant investments in genetic crop improvements. These measures aim to boost agricultural yields and enable cultivation even in unfavorable climatic conditions (Abis/Échos, 2023). This strategic diversification has proven effective: despite a 20% increase in domestic consumption between 2003 and 2013, China has maintained stable reserves while dramatically scaling up production - from less than 15Mt annually in 1960, to nearly 100Mt by the early 2000s, reaching about 140Mt per year today (Zhao Yu, 2014). This remarkable progression demonstrates how unconventional methods complement traditional food security measures in addressing China's growing needs.

However, should China's population decline stabilize in the long term, the country could significantly reduce its food import needs -or, in the most optimistic scenario, even generate exportable wheat surpluses- provided its much-anticipated technological breakthroughs in genetics and other fields come to fruition. This would mark a strategic transformation from net importer to producer/exporter, fundamentally altering its role in global food markets.

Yet this "category leap" hinges on China's ability to preserve its remaining agricultural foundations. Rapid urbanization poses a major challenge: with 65% of the population already urban in 2023 -a figure projected to approach 80% by 2035 (Bonjean, 2023), particularly around industrial megacities- the virtuous scenario could be undermined. The situation may be further complicated by the concurrent shift toward protein-heavy diets at the expense of plant-based consumption, driven by urban lifestyle changes. All this unfolds as China faces one of its most severe demographic crises: the long-predicted aging of its population, which threatens to strain the very agricultural workforce needed to sustain production.



This demographic decline will likely coincide with a slowdown in China's GDP growth (Esther Duflo, 2024), leaving the country less able to subsidize domestic agriculture and more vulnerable to global grain market fluctuations (Claude Leblanc, 2023). Maintaining competitiveness thus becomes a strategic -even existential- challenge, one requiring bold, calculated solutions. China's response has been decisive: acquiring or leasing millions of hectares of African farmland to cultivate many products for its domestic market (Chaumet & Pouch, 2012). This dual-purpose strategy simultaneously reduces import dependence while expanding economic influence across the continent.

2. At the Heart of the Black Sea: Ukraine's Agri-Food Experience

Black Sea wheat -renowned for its competitiveness- primarily refers to grains produced by Russia and Kazakhstan, but especially Ukraine, which has emerged as a major player in the global wheat market with significant geopolitical and economic clout.

2.1 Ukraine's "Breadbasket" Role in Global Market Stability

Ukrainian wheat, whose supply remains vulnerable to geopolitical crises, has historically contributed to volatility in global cereal markets, a trend that intensified dramatically with the outbreak of war in 2022. From February 24, 2022, when hostilities began, major tensions emerged over access to agricultural commodities, driving unprecedented price spikes. The FAO warned the international community about the historic monthly fluctuations observed in staple food prices. This critical situation unfolded against a unique backdrop: rapidly growing global population (especially in importing nations), increasingly frequent climate disruptions, and protectionist government policies inherited from the COVID-19 crisis (Abis/Macé, 2022). Indeed, the pandemic had severely disrupted global supply chains and accelerated an already advanced deglobalization process, particularly evident in Western countries.

These factors have exposed the fragility of global food security, a highly complex system that continues to struggle to recover, even in so-called developed states like those in Europe. In fact, even before the Ukraine war, these nations were already grappling with food price inflation, which reached nearly 30% for basic goods in 2021 (Abis/Macé, 2022), a trend equally observable across other world regions. The Ukraine conflict has thus only accelerated an already ongoing crisis.

The disruptions to wheat supplies following the outbreak of war -along with sunflower and other agricultural commodities- have become a major source of instability in global food markets, given the strategic importance of Black Sea trade flows. This region hosts exceptionally dense maritime traffic and possesses some of the world's most coveted natural advantages. Foremost among these are the vast expanses of black earth chernozem soils, with their exceptional organic content (3-15%) and remarkable depth (1-6 meters), creating ideal conditions for root development. These fertile plains support diverse crops and produce wheat with naturally high protein content, a rare quality shared by only a handful of global producers. By contrast, French wheat, for instance, is known for its lower protein levels, though compensated by relatively high yields (Grumel-Jacquignon, 2018).

These natural advantages have established the Black Sea countries as leading global wheat exporters, a status that became firmly entrenched after the collapse of the USSR propelled new grain powerhouses like Russia and Ukraine onto the world stage. Russia typically produces around 130 million tons annually, accounting for nearly 15% of global output (Abis/Iris, 2018), while Ukraine's pre-war production reached about 24 million tons per year (approximately 3% of world production).

However, Ukraine's export intensity far surpassed Russia's, with 74% of its domestic wheat production being exported (Waintrop, 2022), capturing 12-13% of global wheat trade (Abis/Agri Mutuel, 2023). The country also holds strategic positions in other key commodities: 15% of world barley exports, over 16% of combined corn and rapeseed exports, and a dominant 50% share of global sunflower oil production (Waintrop, 2022).

As a predominantly rural nation, Ukraine has suffered devastating impacts from nearly three years of trench warfare, with frontlines consistently cutting through its most fertile grain-producing regions. These eastern oblasts and coastal areas -accounting for 60% of Ukraine's wheat production (Abis/Jacquot, 2022)- have become battlegrounds. The ongoing military operations threaten to remove Ukraine from the list of major grain market players, particularly if Russia consolidates lasting control over these territories. Such an outcome would deprive Ukraine of a vital economic asset while simultaneously strengthening its rival's position in global agri-food markets, especially in wheat. More alarmingly, should Russia sustain its current military pressure and mobilization levels, Ukraine could permanently lose direct sea access, a scenario that appears increasingly probable (Szporluk, 2000).

Consequently, the Ukrainian agri-food industry would suffer a critical blow if Odessa -a technological and agricultural hub- were captured, which appears to be one of Russia's primary wartime objectives. This strategically vital city hosts Ukraine's largest port, with an annual handling capacity of nearly 40Mt, connected to the hinterland through an extensive network of roads and railways (Searates, 2025). During the initial months of the conflict, these infrastructures endured intense bombardment that disrupted commercial flows, followed by a Russian naval blockade that exacerbated tensions in already volatile markets (SudOuest, 2022). As fighting intensifies around the city, price fluctuations have resurged, a pattern persisting since the war's outset.

Indeed, from the war's earliest months, tensions mounted over Ukraine's stockpiled wheat from previous harvests, now trapped and unable to reach global markets. An estimated 6Mt of export-bound wheat, requiring at least 100 cargo ships for transport, were stranded. Similarly, 19Mt of corn languished in Odessa and adjacent ports due to Russia's naval blockade and severely compromised port logistics. With 80% of Ukraine's agricultural exports traditionally shipped by sea (Abis/Moullot, 2022), its standing in global food markets faces unprecedented jeopardy. Even improvised overland routes through Bulgaria and Romania proved inadequate, heightening anxieties among African and Middle Eastern trade partners already reeling from record-high prices and crippling contract failures.

Wheat emerged as the commodity hardest hit by the geopolitical crisis in Ukraine, experiencing unprecedented price surges. In just 18 months, its per-ton value nearly doubled, initially stabilizing around 300 (Abis/Eco, 2022) before peaking at 300 (Abis/Eco, 2022) before peaking at 477 during critical phases of the conflict (La Tribune & AFP, 2022). This price spike severely strained the budgets of often-fragile importing states, some already facing acute sociopolitical crises. Caught between precarious finances and growing instability, these countries typically responded in two ways: either through what Sébastien Abis (2022) terms "security inflation" - involving violent suppression of "hunger rioters" - or through "fiscal inflation" via increased social subsidies to ease tensions, an approach that inevitably compounds public debt.

Countries like Egypt (which imports 23% of its wheat from Ukraine) and Tunisia (40%) found themselves in this precarious situation. However, the most striking case remains Lebanon, which sourced 51% of its wheat needs from Ukraine before the war (Waintrop, 2022), with other estimates showing 80% from Ukraine and 16% from Russia (Babin, 2022). Since the 2022-2023 naval

blockade disrupted maritime shipments—compounded by international sanctions against Russia—Lebanon’s food security has deteriorated daily, triggering severe sociopolitical consequences. This crisis was further exacerbated by the destruction of Beirut port’s grain silos, leaving the country with just one month of strategic wheat reserves (Babin, 2022). As a result, Lebanon now faces protracted food insecurity, layered atop its ongoing political crisis.

2.2 A post-war context marked by protectionism

One of the war’s most significant global repercussions has been the erosion of economic liberalism worldwide -including in the West- as protectionist and even anti-liberal policies gain traction wherever national interests demand. Even before the Ukraine conflict, this shift was evident in the United States’ adoption of extraterritorial laws that impinge on other nations’ sovereign prerogatives, undermining both globalization’s momentum and the very principle of free trade, a doctrine championed long before 1945.

Faced with what appears to be an accelerating deglobalization process -where legal frameworks recede and economic alliances fracture (evidenced by U.S. sectoral offensives in Europe)- emerging economies are also adopting trade-restrictive measures, albeit as temporary exceptions. Responses diverge: some states implement overt protectionism (export bans), while others leverage strategic reserves to stabilize markets. This is particularly true for demographic and agricultural powers like India (102Mt) and China (133Mt) (Couturier & Doublet, 2022), whose wheat production critically influences global food security. Their domestic decisions trigger immediate international reactions - from trade rebalancing by partners to stock market volatility- as markets scrutinize every policy shift.

India’s case is particularly revealing in this context. As the world’s second-largest producer of wheat, rice, and sugarcane (Landy & Varrel, 2015), the country had been steadily increasing its wheat exports, from 220,000 tons in 2019 to 2.15 million tons (Mt) in 2020 and 7.21Mt in 2021 (La Tribune/Reuters, 2022), contributing to market stability. However, in a dramatic protectionist shift following the Ukraine war, India abruptly imposed a wheat export ban in May 2022, causing prices to spike to \$435 per ton. This decision came after New Delhi had initially pledged to release 10Mt to help stabilize the tight-margin global wheat market. Ultimately, only 3.5Mt were actually exported before the embargo took effect—a shortfall that exacerbated market jitters and price volatility (Agri Mutuel, 2023). The war in Ukraine triggered an unpredictable and uncontrollable domino effect that disrupted not only global wheat markets but also other essential food commodities - particularly edible oils.

Indeed, beyond the 7Mt of Ukrainian wheat trapped in ports and silos since February 2022 awaiting commercialization, the war also disrupted trade flows of other critical agricultural commodities: 1Mt of barley, 15Mt of corn, and 1.5Mt of rapeseed, sunflower seeds, and sunflower oil. This export paralysis occurred despite Ukraine achieving a record agricultural harvest that year - totaling 70Mt across all products for the 2021-2022 season (CESM, 2022) - leaving the country unable to capitalize on these favorable production conditions. The most visible symptom of this blockade emerged in the global edible oil shortage, which triggered protectionist responses from producer nations. In May 2022 -just two months after hostilities began- Indonesia’s government imposed strict regulations on all palm oil exports (including crude, refined, palm olein, and even used cooking oil), following a complete one-month export ban (FAO, 2022).

These examples represent just a fraction of the protectionist measures adopted by nations worldwide in response to the Ukraine war, a crisis that has dramatically exacerbated global food insecurity and severely strained international trade mechanisms.

3. The Reshaping of Global Grain Markets: Russia's Ascendancy

For Russia, the ambition to establish itself as a major global producer was driven by overt geopolitical calculations. Pursuing an unabashedly geo-economic strategy, Moscow leveraged domestic operators to achieve this goal—though within a significantly more hostile international environment than its Ukrainian neighbor faced, given the two countries' fundamentally different relationships with the West.

3.1 The Rise of Russia's Agri-Food Power: a Geoeconomic Transformation

In the aftermath of the USSR's collapse, Russia faced an unprecedented multidimensional crisis characterized by socio-economic chaos, most alarmingly reflected in its catastrophic decline in grain production. By 1998, cereal output had plummeted to 48Mt, a level not seen since 1968. The following year, Russia's grain reserves experienced a dramatic collapse from 20Mt to just 1Mt, plunging the nation into unprecedented food insecurity (Lezean, 2011).

The situation only stabilized with Vladimir Putin's rise to power in March 2000, which marked the beginning of a state-driven agricultural revival. His administration restored centralized authority through a top-down development policy focused on large-scale farming enterprises. This approach involved eliminating legal and administrative inconsistencies while rolling back IMF-backed liberal reforms, laying the foundation for Russia's eventual resurgence as an agricultural power.

Thus, diverging sharply from Ukraine's agricultural model, Russia established a state-controlled agri-food complex, formalized through the landmark Agrarian Sector Reform Law of July 10, 2002. This legislation created a hybrid system of "state agriculture with private owners", while enforcing a Darwinian "natural selection" within Russia's farming sector. Though resulting in the disappearance of numerous smallholdings, this approach significantly optimized production processes.

Through top-down land consolidation, the state addressed the crisis of indebted small farmers via aggressive interventionism. This centralized model ultimately enhanced Russia's broader food and economic security (Lezean, 2011).

Despite its vast territory (17 million km² for ~145 million people), Russia faces a critical regional imbalance: its Asian east remains sparsely populated, while 80% of Russians reside in the European west. This uneven distribution leaves most land underutilized, with agricultural activity concentrated primarily in the southern regions where grain cultivation thrives.

Of Russia's 216 million hectares of agricultural land, only 122 million are arable. Harsh climatic conditions -particularly short growing seasons- historically limited yields (L'herbier, 2010). Yet, the country's 33 million hectares of fertile black earth (chernozem) ultimately enabled its rise as a top global food exporter by 2014. This "agricultural rent" became vital for economic recovery after the 2008 crisis, which crashed hydrocarbon prices, Russia's traditional revenue source (Abis/IRIS, 2018).

After 17 years of sustained reforms, Russia's agricultural output reached a cumulative 1.58 billion tons of cereals, averaging 93Mt annually, with a record 130Mt harvest in 2017. The country now dominates global wheat markets, producing 60-70Mt yearly (Abis/IRIS, 2018) and nearing 85Mt in 2023, with projections of 90Mt for 2024 (USDA 2023 Report). Similar growth applies to barley (~20Mt) and corn (~15Mt). This strategic expansion dethroned the United States -the unrivaled wheat export leader since 1930 (Abis/IRIS, 2018)- catapulting Russia to agricultural supremacy in under two decades. Moscow now leverages this position for dual objectives: cultivating diplomatic ties with Arab and African partners, and bolstering domestic resilience amid Western sanctions that predate the Ukraine conflict.

In wheat production -the world's most traded cereal- Ukraine (7th largest global producer and 4th largest exporter) possessed all the attributes of an agricultural powerhouse: abundant human and natural resources, and a vital role in global food security. The country ranks as the 5th largest corn producer and 4th largest exporter (meeting 45% of EU demand), alongside significant barley and rapeseed contributions. Yet despite these advantages, compounded by favorable geography and substantial industrial development, Ukraine never cultivated ambitions of geopolitical power through agriculture. Ultimately, its unlimited farming potential never translated into either great-power status or true economic emancipation.

Worse still, the country has consistently confined itself to a logic of withdrawal, likely stemming from the dream of one day joining the Western world—first through its military arm, NATO, and then through the EU (the order matters). The reason for this is that a significant portion of Ukrainian elites were seduced by a Western model that was touted as perfect (the "End of History" thesis), a vision widely embraced during the post-communist phase, where the dynamics of acculturation irreversibly buried any national ambition that was authentic and rooted in popular sentiment. However, in Russia, things would evolve differently, thanks to the rise of an openly nationalist elite deeply distrustful of Western values. Moreover, the conflict between the *siloviki* (the circle close to the President) and the oligarchs who profited from the era of openness to enrich themselves (the "Chubais parenthesis") (Aslund, 2007) would soon expand to affect all sectors of activity.

Despite its weaknesses, the Russian experience illustrates, first, a pursuit of self-sufficiency, and second, a quest for power, an evolution perceived differently across the world, depending on whether one belongs to that "dying World" (to borrow Gramsci's phrase) or to a West that is "deindustrializing" (to use Emmanuel Todd's term) (Todd, 2024), all while morally disarming itself. Or, alternatively, whether one hails from the "Global South", a term whose contours remain imprecise for now but which refers to the rest of the world, in other words, those left behind by "happy globalization", the heirs of the Third World.

Russia, often criticized for its "agricultural rearmament" (AFP, 2023), currently accounts for nearly 10% of global wheat production and roughly 20% of worldwide wheat exports. In fact, it can be described as an agricultural superpower, a status achieved primarily through its wheat exports, but also thanks to its vast potential in producing fertilizers essential for farming, including gas-based products, ammonia, and urea, in which the country is abundantly rich. This input is traded across all five continents, even in regions where Russian goods sometimes face trade barriers (due to Western sanctions). Yet, it has firmly established itself (a quarter of the fertilizers used in the EU are Russian) (Abis/Moullot, 2022), directly contributing to the strengthening of this "continent-sized country's" soft power.

3.2. At the Heart of Russia's Agri-Food Emergence: a Sovereignist and Geopolitical Assertion

Today, with Russian advances on multiple fronts and Ukrainian difficulties in securing and delivering Western aid, Ukraine could likely lose more of its agri-food advantages - particularly around the Dnieper region. First, through the loss of arable lands that would become Russian territory (Lecomte, 2023), and the inability to optimally exploit remaining lands due to wartime conditions. Second, through damage or blockages affecting agri-food distribution networks caused by military operations - especially if Russia succeeds in establishing a land bridge between Crimea and Odessa, the strategic linchpin of the Black Sea chessboard (nearly half of Russian wheat exports transit through the Kerch Strait to the Black Sea) (Fages, 2018).

Moreover, at the start of the war, nearly 170 cargo ships were temporarily blocked -including bulk carriers dedicated to grain transport- immediately impacting global markets (Favier, 2022). This underscores the geopolitical significance of grain shipping routes.

From an economic standpoint, the fall of Odesa would mean direct control over a quarter of the world's wheat exports. To put it differently, beyond the approximately 24Mt coming from Russia (Zonebourse, 2024), the country could also gain influence over a significant portion of Ukraine's typical 20Mt exports. In essence, this would grant Russia substantial control over a major share of global wheat exports, estimated at about 200Mt (from a total production of almost 800Mt) (Baudart, 2024).

Should the "Odesa Trap" close on Ukraine, the consequences would prove catastrophic - not just for Ukrainians, but for all Black Sea wheat importers and, ultimately, wheat consumers worldwide.

Conclusion:

In summary, the comparative analysis confirms Russia's role as an agro-exporting power, using food as a geopolitical lever. Its rise has been gradual, supported by consistent, long-term state intervention, in stark contrast to Ukraine, where the agricultural sector was besieged by external actors under an outward-oriented strategy born of liberal reforms. The country's food sovereignty has thus been permanently compromised.

As for China, it combines a quest for self-sufficiency with large-scale land acquisitions abroad to secure its supplies. For Beijing, the demographic challenge is particularly urgent in the context of a "food war", with its international expansion frequently hindered by the West.

Ultimately, while global food security is currently assessed through the lens of "aggressive" stockpiling strategies -relying on grain reserves, the largest of which are in the West (as well as India and Japan)- the future may well hinge on genomic research, a field accessible to only a handful of nations.

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