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NATURAL RESOURCE PRESERVATION IN SUBSURFACE BORDER AREAS: SECURITY CHALLENGES AND MANAGEMENT STRATEGIES

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ABSTRACT

Preserving natural resources in subsurface border territories faces challenges like the need for robust legal frameworks, coordinated security measures, and international cooperation. Additionally, addressing resource scarcity and balancing economic growth with environmental protection is crucial. Community-based approaches and inclusive decision-making are also important for effective resource management in these areas.
Given Mongolia's extensive territory and low population density, safeguarding borders and border regions is crucial for national security. Protecting subsoil resources and enforcing border regulations remain key priorities.
The primary concern is that mining operations in border areas have adverse environmental and social consequences, posing significant threats to border security. This research systematically examines both surface and subsurface border protection systems, with special emphasis on preserving natural resources in border territories.
Mining and mineral extraction activities in border regions disrupt the ecological balance and negatively affect the livelihoods of herders. To uphold Mongolia's border security, it is essential to establish stringent legal frameworks and government policies governing mining and mineral extraction in border areas.
Furthermore, developing effective mechanisms to coordinate the utilization of cross-boundary natural resources with neighboring countries will significantly enhance Mongolia's border security posture.

KEYWORDS

Border Territory Concept, Border Security, Subsurface Border Protection, Natural Resources

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Introduction.

Based on historical lessons, Mongolia's small population, extensive territory, and relatively underdeveloped social and economic status compared to more advanced countries in the region and globally highlight the importance of prioritizing border security to safeguard the nation.

In his article "A Systemic Approach to Ensuring Border Security," scholar Dr. A. Ganbileg described the border security system as a comprehensive combination of air, surface, and underground border protection measures aligned with the objective of safeguarding national security and guaranteeing border security. He emphasized that the effective functioning of these three subsystems is essential for ensuring border security, which is an integral part of national security.[1]

The subsurface border protection subsystem, designed to ensure border security from a systems perspective, comprises two sub-elements: the subsurface border protection element and the subsurface natural resources protection element.

[1] GANBILEG, ALAGDAA. (2023). Using A System Approach To Ensure Border Security. *International Journal of Innovative Technologies in Social Science*, (4(40). https://doi.org/10.31435/rsglobal_ijitss/30122023/8096

Expressing this in mathematical notation:

$$\Sigma S_{SS_b}: \{B_s; R_s; \{SS_{b_s;NS_S,}\}\}, \quad (1)$$

Here, ΣS_{SS_b} – a symbol indicating that it is a subsurface border protection system;
B_s- an element of subsurface border protection operations;
NR_s - An element of subsurface resource protection operations;
$\{SS_{b_s;NR_S,}\}$ - a set of interdependencies between subsurface border protection and resource protection operations;

This time, we will focus on the second aspect, which is the safeguarding of subsoil resources.

The Mongolian Border Law specifies that "border territory" refers to the territory of a soum that borders a neighboring country.[1] It emphasizes that safeguarding the state's borders and border territories is crucial for ensuring existential security, a key aspect of national security.

While international treaties govern the inviolability of borders, domestic legislation regulates border security, which is a closely interconnected concept.[2] When examining border enforcement measures from a systems perspective, there is an interdependent system comprising two subsystems of activities: border enforcement governed by international treaties and border security governed by domestic legislation.

When examining border enforcement measures from a systems perspective, there is an interconnected system comprising two functional subsystems: border enforcement measures governed by international agreements, and border enforcement measures governed by domestic legislation. Express this in mathematical notation.

$$\sum S\,RS_m = (\{B_r; \mathrm{BE}_r\{\mathrm{I}_{\mathrm{B_r};\mathrm{BE_r}};\}) \quad (2)$$

Here, $\sum S\,RS_m$ – a symbol indicating that the border regime is a system of measures;
B_r- an element of the border regime's activities;
BE_r - An element of the border regime's activities;
$\{\mathrm{I}_{\mathrm{B_r};\mathrm{BE_r}};\}$ - a set of interdependencies between the border regime and the border regime's activities;

Currently, there is a significant amount of mining and mineral extraction taking place in border areas and strips, leading to disruptions in the natural and ecological balance. This activity has resulted in a shortage of drinking water, degradation of pastures, and negative impacts on the livelihoods of the local population. As a result, many people in border areas are migrating to urban centers, which has implications for border protection and security management.

The Constitution of Mongolia affirms that the country's land, subsoil, forests, water, animals, plants, and other natural resources are under the exclusive control and protection of the state.[3] The Law on Minerals further specifies that minerals found on the surface and subsoil of Mongolia are considered state property.[4]

The subsoil is defined in the law as the space beneath the soil extending from the state border line, including all geological materials such as rocks and minerals. Regardless of whether it is actively used, the subsoil is considered part of a unified state fund.[5]

In a speech, scientist B. Dash-Yondon highlighted the concept of a "third border" for Mongolia, referring to the subsoil border. The exploitation of subsoil resources, particularly through mining activities, creates a unique border condition in the country.

The minerals in this area belong to our nation and all our citizens.[6] As Mongolia has started to "allocate" its abundant natural mineral resources, it is important to note that the number of factors to consider in national security discussions has increased by one.

This is a matter that pertains to all seven key components of security (Sustainability, Economy, Internal, Human, Environment, Information, Science, and Technology) outlined in the recently approved “National

[1] Mongolian Border Law – UB, 2016, Chapter 4, Article 31.4
[2] Bayarsaikhan.M (2022) - "Strategies for safeguarding the security of Mongolia's borders and border regions", research study
[3] Constitution of Mongolia – UB, 1991. Constitution of Mongolia (legalinfo.mn)
[4] Law of Mongolia on Minerals – UB, 2006. Article 5
[5] Law on Subsoil of Mongolia – UB, 1988, Article 4
[6] Dash-Yondon.B., Mongolian development philosophy /problems, methods, benefits/ - UB, 2017, 190p., vol. 44

Security Concept". Natural mineral resources are crucial for any country and are directly linked to security concerns.

Therefore, with Mongolia's distribution of its vast natural mineral resources, it is crucial to recognize that the number of factors to consider in national security discussions has increased by one.

The Law on Minerals defines special needs lands as areas where the exploration, prospecting, and use of minerals are restricted or prohibited by the competent authority for special state or local needs.[1] The Law on Land designates 19 lands as special needs lands, including state border strip lands. However, Article 3.1.2 of the Action Program for the First Phase of the New Revival Policy implemented by the Government of Mongolia prohibits exploration and research in the subsoil of border areas, including border zones and strip lands, except for geological exploration work funded by the state budget in prospective areas within the border zone.

In Article 3.1.2 of the Action Plan for the First Phase of the New Revival Policy implemented by the Government of Mongolia, it is stated that geological exploration work will be conducted[2] in prospective areas located in the border area using state budget funds, with the exception of exploration and research in the subsoil of the border area, including the border area and strip, which is prohibited.

According to Article 26.2.2 of the Mongolian Border Law, the Government is responsible for resolving issues related to the construction, operation, and use of buildings and structures other than those for border protection purposes in the state border area.[3]

While promoting the rational use of minerals in the border area is crucial for its development and economic improvement, the issuance of special permits and licenses in an irregular manner is a significant factor that has negative implications for border security, as well as for Mongolia's independence, national security, territorial integrity, and overall security.

Border security is defined as the protection of national interests at the state border and border areas, ensuring favorable external and internal conditions.[4] According to the Border Law, activities such as mining, mineral extraction, and extraction in border areas have ecological and social impacts that can impact border security.

Ecological impacts:

The use of explosives and toxic chemicals negatively affects the ecology, leading to scarcity of pastures for livestock.

Overuse of groundwater has resulted in a shortage of drinking water.

Migration of border communities to the country's interior has resulted in the loss of ownership of border areas.

Soil and water pollution have created unfavorable living conditions for both people and livestock.

Social impacts:

Challenges in maintaining border security.

Increased crime and conflicts in border areas, with organized groups becoming more active.

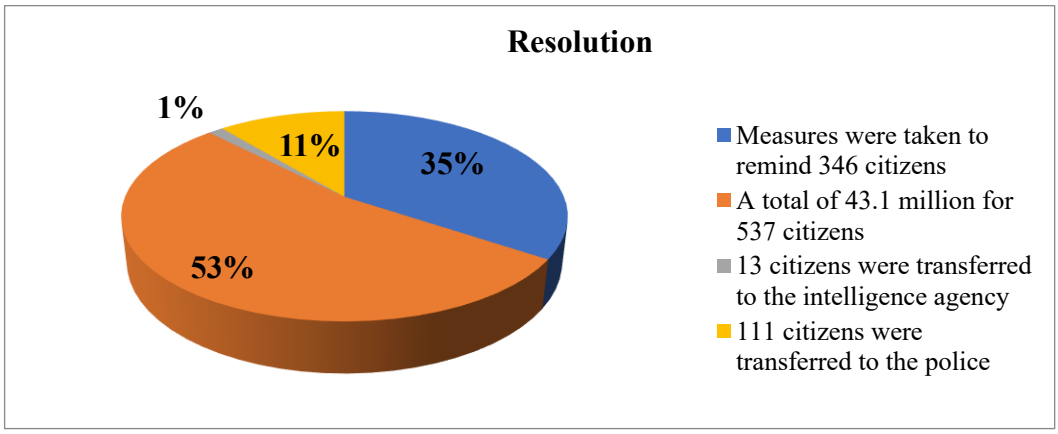
Land disputes in border regions due to personal interests, corruption, and bribery of local authorities.

Related figures show that in the Mining Cadaster Registration System, there have been 35 mineral exploitation licenses issued covering 23.5 thousand hectares, as well as 20 exploration licenses covering 110.6 thousand hectares in the state border areas.

The Border Guard Agency's register indicates that a total of 53 business entities are engaged in mining and mineral extraction in Mongolia's border areas, with 12 exploration licenses, 4 exploitation licenses, 19 exploration licenses, and 18 exploitation licenses issued. Over the past decade, there have been 139 violations of the border regime related to mineral exploration and extraction, with 1 violation involving 4 Chinese citizens and 138 violations involving 1,003 Mongolian citizens.

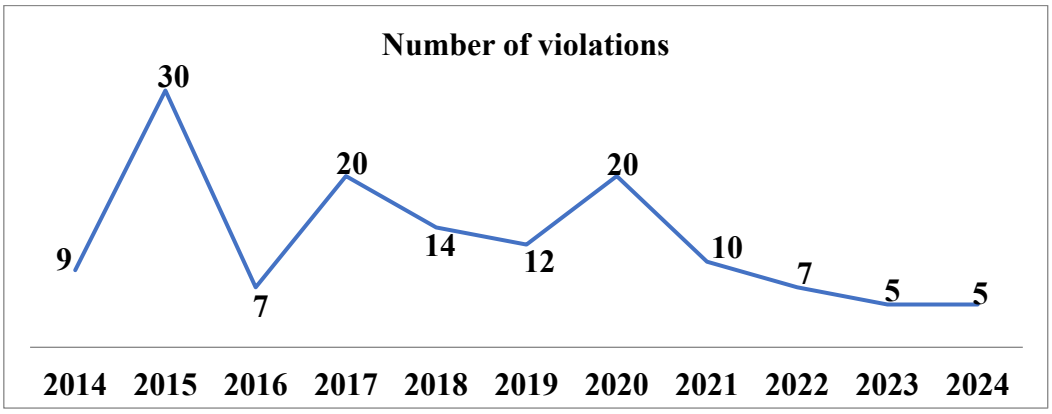
[1] Law on Minerals. UB city. 2006.
[2] Resolution of the Parliament of Mongolia – UB, 2021, Action Program for the First Phase of Implementing the New Revival Policy, Article 3.1.2
[3] Resolution of the Parliament of Mongolia – UB, 2021, Action Program for the First Phase of Implementing the New Revival Policy, Article 3.1.2
[4] Law on the Border of Mongolia. 2016

The border regime violation was resolved as follows:



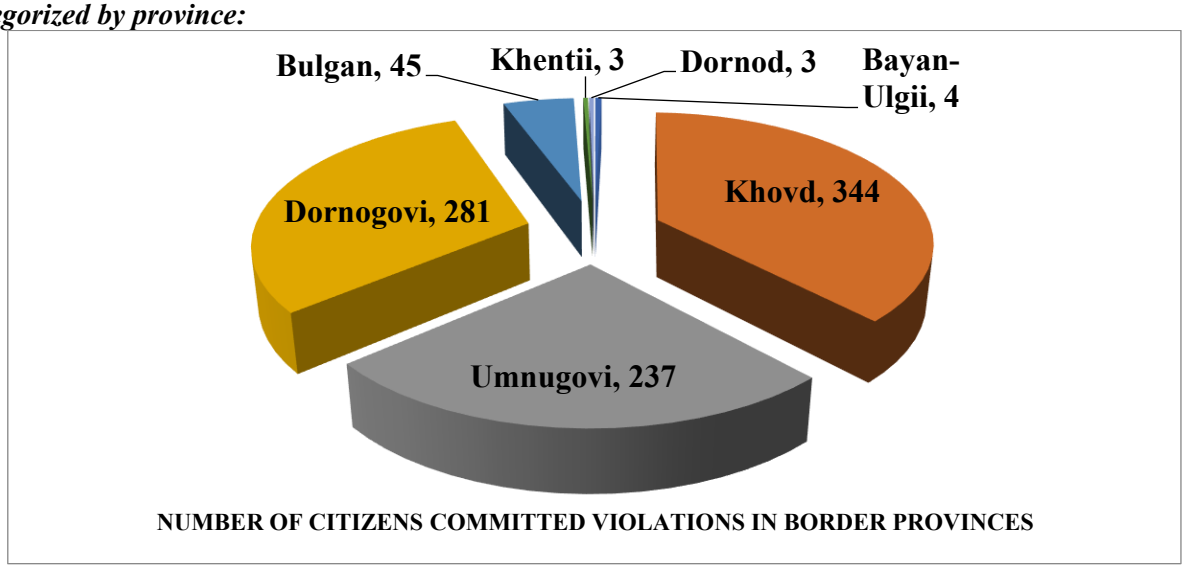
Graph 1

View border regime violations sorted by date of issuance.



Graph 2

The following are the border regime violations that occurred in the border area or border zone, categorized by province:



Graph 3

Data indicate that 18.1 percent of border violations in the past decade were related to mineral exploration and extraction.

Another important issue to consider is the exploitation of natural resources and minerals in collaboration with neighboring countries along the state border and border regions. Currently, there is a lack of effective legal regulations addressing this matter. The Petroleum Law is the only legislation that addresses the regulation of Cross boundary oil reservoirs or deposits through intergovernmental agreements.[1]

Natural resources in liquid and gaseous forms, such as oil, natural gas, and water, are resources that have boundaries extending across multiple countries.

In Mongolia, the implementation of state policies regarding the use and protection of natural resources in border areas reveals various issues:

Illegal gold mining occurs in the border regions of Russia, specifically in Khentii and Dornod aimags in northeastern Mongolia.

Silver mining takes place in the border areas of Russia near Bayan-Olgii aimag.

There are reports of significant natural resource extraction, including oil mining, in the border regions of China near Sukhbaatar and Dornod aimags.

For instance, the ***Asgat silver deposit*** in western Mongolia is located approximately 40 km north of the Tsagaan Nuur free zone on the Russia-Mongolia border. Due to challenging mining conditions, joint research efforts are ongoing with the Russian side.

Exploration work at the Asgat silver deposit has confirmed reserves of C1 2389 thousand tons of ore, containing 912 tons of silver, C2 1644 thousand tons of ore with 482 tons of silver, and P1 6000 thousand tons of ore with 2130 tons of silver. Additionally, the deposit holds reserves of 12.2 thousand tons of bismuth, 106.6 thousand tons of antimony, and 238.2 thousand tons of copper.

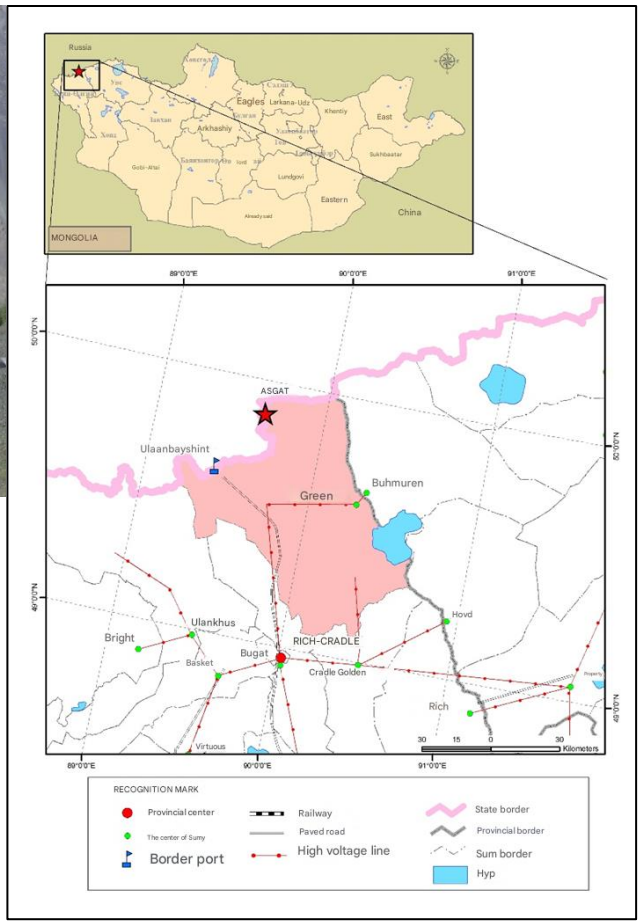


Fig. 1. *The location of "Asgat" silver mine*[1]

[1] Petroleum Law of Mongolia – UB, 2014, Chapter 2, Article 7.1.7

The Ar Bulag field encompasses the eastern portion of Erdenetsagaan soum in Sukhbaatar province and some areas of Khalkhgol soum in Dornod province.

The Ar Bulag depression spans the border between Mongolia and China, with the Mongolian side referred to as North Arbulag and the Chinese side as South Arbulag.

Exploration and production activities have been ongoing in the South Arbulag field near the border since 2008. There is a possibility that oil wells on the Chinese side, located 200-300 meters beyond the Mongolian border, may be extracting oil from the central part of the structure where oil accumulations have been identified in the northeast of the Ar Bulag field on the Mongolian side. In this scenario, as per Article 7.1.7 of the Mongolian Petroleum Law, if a cross boundary oil reservoir or oil field is discovered, it must be managed through an intergovernmental agreement.[1] This legal provision enables the continuation of exploration activities and the negotiation of a joint ownership agreement with China.

However, due to the partial overlap of the area with the Eastern Mongolian Nature Reserve and the national border, the full extent of the deposit's potential reserves has not been determined through exploration efforts.

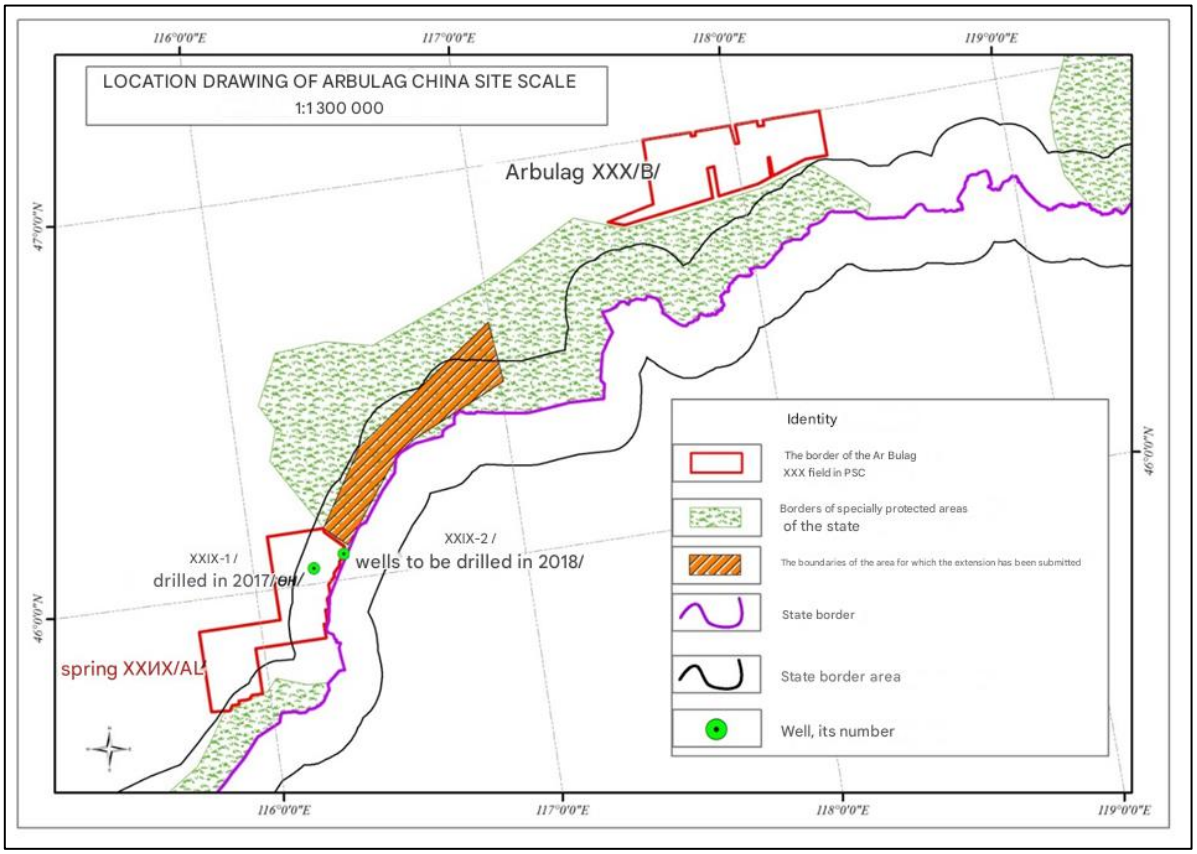


Fig. 2. *Geographical location of the Ar Bulag oil field*[2]

[1] Land Law of Mongolia – UB, 2002, Article 7.1.7

[2] Research report on the "Ar Bulag" field conducted by the Department of Mining, Minerals and Petroleum. UB city 2016

Fig. 3. *Oil extraction on the Chinese side, 200-300m beyond the Mongolian border line*[1]

There are numerous instances where countries have suffered significant economic losses due to the theft of their natural resources. Illegal mining can irreversibly damage ecosystems, leading to environmental degradation and heightened political tensions between nations, sometimes escalating into military conflicts.

These examples serve as valuable lessons for countries to learn from.

1. ***Iraq and Kuwait*** (Oil and the Rumaila Field) - The 1990 conflict between Iraq and Kuwait was triggered by Iraq's claim that Kuwait was extracting oil from the Iraqi section of the Rumaila Field using horizontal drilling, contributing to Iraq's invasion of Kuwait.
2. ***United States and Mexico*** (Gulf of Mexico Oil Field) - Disputes arose in the 2000s between the United States and Mexico over oil extraction in the Gulf of Mexico, where oil fields straddle both countries' borders. Concerns arose about potential exploitation of resources by companies operating in one country at the expense of the other, leading to a 2012 agreement for joint exploitation of cross boundary oil and gas fields.
3. ***Turkey and Greece*** (Water Resources) - Water resources, such as the Maritsa (Evros) river flowing through Turkey and Greece, can also spark cross-border conflicts over water distribution and usage.
4. ***Israel and Palestine*** (Water Resources) - Water plays a crucial role in the Israeli-Palestinian conflict. The Palestinians are upset by Israel's control over a large portion of the West Bank's water sources, leading to international debate about the unequal distribution of resources.

In summary, the underground border security system encompasses various activities aimed at addressing cross-border organized crime, such as drug smuggling, and safeguarding underground natural resources.

Conclusions

The research highlights that ensuring Mongolia's security involves not only protecting its territory and borders but also safeguarding its subsoil and natural resources. It is crucial to accurately identify the location and resources of natural resources within Mongolia's borders, enhance the evaluation by professional organizations, and coordinate relevant laws.

Additionally, efforts must be made to prevent illegal extraction of subsoil resources and promote a policy for sustainable, fair, and accessible resource utilization.

The security of Mongolia is directly impacted by the territory, subsoil resources, mining, and mineral extraction in border areas. Therefore, maintaining border security, responsibly protecting and efficiently utilizing subsoil natural resources, and implementing environmental protection measures are essential for ensuring regional security, supporting Mongolia's economic development, and safeguarding the security of border provinces and local communities.

[1] Research report on the “Ar Bulag” field conducted by the Department of Mining, Minerals and Petroleum. UB city 2016

Recommendation

To bolster Mongolia's border security, several key steps are essential.

Firstly, there needs to be accurate identification and professional assessment of natural resources in Mongolia's subsurface border areas.

Secondly, relevant laws should be harmonized to establish a comprehensive legal framework for subsurface resource extraction along the borders.

Thirdly, stronger enforcement measures must be put in place to deter illegal extraction activities.

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