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THE LEADERSHIP WISDOM OF CHINGGIS KHAN: AN ANALYSIS OF ORGANIZATIONAL, POLITICAL, AND MANAGERIAL STRATEGIES

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Abstract: This research paper examines the leadership wisdom of Chinggis Khan through the lens of organizational management, political strategy, and human resource practices. Drawing on primary historical sources most notably the Secret History of the Mongols (Монголын нууц товчоо) and secondary scholarly literature, the paper employs document analysis to investigate the administrative, diplomatic, and motivational methods that enabled Chinggis Khan to unify the Mongol tribes and establish the largest contiguous land empire in history. The findings reveal a sophisticated system of hierarchical military organization, merit-based reward and punishment, participatory decision-making, and a peace-oriented foreign policy philosophy known as 'Enkh Tör' (Peaceful Governance). These insights position Chinggis Khan not only as a military conqueror but as one of history's most effective organizational leaders.

Keywords: Chinggis Khan, Mongolian leadership, organizational management, Secret History of the Mongols, reward and punishment, military hierarchy, Enkh Tör

The revival of Mongolian civilization during the 13th century is inseparably linked to the figure of Chinggis Khan (c. 1162–1227). The empire he founded remains one of the most extraordinary political and military achievements in world history, and his methods of governance have attracted sustained scholarly interest across disciplines ranging from military history and political science to organizational behavior and management theory.

Although the Mongols constituted a relatively small population in the 13th century, under Chinggis Khan's leadership they conquered roughly half of the known world, established the foundations of globalization, stimulated international trade, and exerted lasting influence on Eurasian development. Scholars in Mongolian studies have celebrated him as the 'Leader of the Millennium' and a preeminent strategist. Research has estimated his cognitive ability (IQ) at approximately 204 (Bayanjarjal, 2006), underscoring the intellectual capacity

behind his military and administrative achievements.

This paper investigates Chinggis Khan's leadership wisdom by conducting a document analysis of primary historical sources and related scholarly literature. The study focuses on three interconnected dimensions of his leadership: (1) organizational and military administration, (2) political philosophy and foreign relations, and (3) human resource management — specifically his systems of reward, motivation, and discipline.

This study employs qualitative document analysis as its primary research methodology. The principal primary source is the Secret History of the Mongols (Монголын нууц товчоо), the oldest surviving literary and historical work in the Mongolian language, compiled shortly after Chinggis Khan's death. Additional primary texts include royal edicts (zarlig) and chronicles preserved in Mongolian

historical literature. Secondary sources include monographs and articles by Mongolian scholars (e.g., Myagmarjav, 2005; Amar, 1989; Bayanjarjal, 2006) as well as international studies on Mongol history and leadership.

Passages from these sources are analyzed thematically, with attention to recurring leadership principles, administrative structures, and decision-making processes. The analysis seeks to identify enduring management insights that transcend their historical context.

1. Organizational and Military Administration

1.1 Hierarchical Military Structure

One of Chinggis Khan's most consequential organizational innovations was the restructuring of the Mongol military along a strict decimal system. Soldiers and officers were organized into units of tens (aravt), hundreds (zuut), thousands (myangat), and ten-thousands (tümet), each under a designated commander (noyon). This system replaced the older tribal structure with a rational hierarchy based on function and loyalty to the state rather than kinship, effectively dismantling the factionalism that had kept the Mongol steppe divided for generations.

The Secret History of the Mongols records this reorganization in explicit detail:

"Chinggis Khan divided his army and appointed commanders of thousands, commanders of hundreds, commanders of tens, and the great cherbi [senior stewards]... He appointed six cherbi officials: Dodai Cherbi, Dogohu Cherbi, Öelen Cherbi, Tolun Cherbi, Bucharan Cherbi, and Süikhetü Cherbi. Having completed the division of his forces into tens, hundreds, and thousands, he further appointed eighty night guards, seventy day guards, and the keshig [imperial guard], selecting them from among the sons and younger brothers of commanders of thousands and hundreds, as well as from

free commoners, choosing those who were capable and physically fit."

(Secret History of the Mongols)

This passage reveals several sophisticated management principles: clear lines of authority, meritocratic selection criteria (capability and physical fitness rather than birth), and a specialized guard corps (keshig) serving as an elite organizational layer. The keshig functioned simultaneously as a military reserve, a training ground for future commanders, and a mechanism for building personal loyalty to the Khan.

1.2 Communications and Logistics: The Örtöö System

Effective governance of a vast empire required reliable communication and logistics infrastructure. Chinggis Khan addressed this challenge by establishing the örtöö (relay station) network — a system of horse relay posts placed at regular intervals across the empire's road network (Myagmarjav, 2005). This system enabled the rapid transmission of messages, the safe transport of goods, the surveillance of enemy movements, and the swift deployment of military and administrative resources across enormous distances.

The örtöö is widely regarded as a forerunner of modern postal and logistics systems. Its establishment reflects Chinggis Khan's understanding that organizational effectiveness depends not only on command structures but on the reliable flow of information and resources. In contemporary management terms, this corresponds to the concept of organizational communication infrastructure as a strategic asset.

2. Political Philosophy and Foreign Relations

2.1 'Enkh Tör': A Philosophy of Peaceful Governance

Contrary to the popular image of Chinggis Khan as a purely destructive conqueror, historical analysis reveals a coherent political philosophy centered on the concept of 'Enkh Tör' — roughly translatable as 'Peaceful Governance' or 'Pax Mongolica.' This philosophy held that

different nations, tribes, and faiths could coexist under a single sovereign without being absorbed into a homogeneous cultural or religious identity. Rather than imposing Mongol customs, language, or religion on conquered peoples, Chinggis Khan generally permitted existing administrative, religious, and cultural practices to continue under Mongol suzerainty.

A powerful symbolic expression of this philosophy is found in the ceremony inaugurating the Great Mongol State: Chinggis Khan raised a white standard (süld tug) made from the mane of a white horse — white being the Mongol symbol of peace — as the emblem of his new empire. This choice of symbol communicates a foundational orientation toward peace rather than perpetual war, even in the context of imperial expansion.

2.2 Foreign Policy: The 'Golden Tether of the State'

Chinggis Khan's foreign policy framework was conceptualized as the 'Töriin Altan Argamj' — the 'Golden Tether of the State.' Scholars have identified several key components of this framework: the economic integration of East and West through the Silk Road network; the enhancement of diplomatic and commercial relations among vassal states; the resolution of major political issues through collective deliberation at the Great Assembly (Ih Hural dai); and a consistent commitment to participatory governance at the highest levels of decision-making.

The Ih Hural dai (Great Assembly) is a particularly significant institution. Major decisions — including the election of the Khan himself — were made through this collective body, which included nobles, military commanders, and representatives of different constituencies. This practice of institutionalized consultation reflects what modern management theory would recognize as participatory or distributed leadership.

2.3 Consultation and Collective Wisdom

Chinggis Khan's decision-making process was notable for its reliance on expert counsel and collective deliberation.

The Secret History of the Mongols records a telling episode in which the Khan consulted six trusted advisors before making a major decision, and subsequently sent a messenger to interpret a dream as an additional source of guidance:

"Having listened to the resolute words of his six finest ministers, and having quickly finished eating the roasted venison, he handed the reins of the yellow horse to Shigihutug, saying: 'Determine whether my dream is true or false.'"

(Amar, 1989, citing the Secret History of the Mongols)

This episode illustrates a leadership style that values expert opinion while also remaining open to intuitive and experiential knowledge. The willingness to combine analytical and non-analytical forms of intelligence is a hallmark of adaptive leadership in complex environments.

3. Human Resource Management: Reward, Motivation, and Discipline

3.1 Merit-Based Reward and Recognition

A defining feature of Chinggis Khan's leadership was his systematic practice of recognizing and rewarding contributions, regardless of the contributor's social background. The Secret History of the Mongols contains numerous examples in which the Khan publicly acknowledged loyalty and service, and reciprocated with tangible rewards and enduring gratitude. This merit-based approach stood in contrast to the aristocratic norms of the era, in which social rank determined status and privilege. Three illustrative cases from the Secret History of the Mongols demonstrate this principle:

- **Borchi's Loyalty (§93):** When the young Temüjin (the future Chinggis Khan) recovered his stolen horses with the help of Borchi, he offered to share the recovered animals equally. Borchi declined, stating that he had helped as a true friend, not for material gain: "I am the only son of the rich Nahu, and my father's accumulated wealth is sufficient for me." Chinggis Khan later honored this selflessness with lasting recognition and reward.

- Gratitude to Mönlüg (§205): Chinggis Khan issued a royal edict acknowledging Mönlüg's intervention that had saved his life: "You warned me and prevented me from falling into a trap; otherwise I would have drowned in dark water or burned in hot fire. Remembering your service, I shall seat you in an honored place and bestow rewards without fail, month by month and year by year, upon you and your descendants forever."

- Reward for Military Achievement: In an edict addressed to Sorkhon-Shar, Badai, and Kishilig, Chinggis Khan granted them the right to keep all spoils of war and all game hunted during campaigns — a significant material incentive for excellence in military service.

Beyond material rewards, Chinggis Khan granted exceptional performers immunity from punishment for up to nine offenses — a powerful signal that service and loyalty earned sustained protection and trust from the sovereign. Crucially, this system was applied without discrimination based on rank or lineage: common soldiers, noble commanders, and those of humble origin were all eligible for recognition based solely on merit.

3.2 Discipline and Accountability

Parallel to the system of rewards, Chinggis Khan maintained a rigorous framework of accountability and graduated punishment. The edicts preserved in the Secret History of the Mongols reveal a structured disciplinary system in which sanctions were proportional, publicly codified, and consistently enforced.

Two key edicts illustrate this framework:

- Edict on Insubordination: "If commanders of thousands, hundreds, or tens hear this edict and violate it, they shall be strictly punished. Those who should serve in our personal guard but evade it, or who find difficulty serving near us, shall be replaced by another and exiled to a distant place."

- Edict on Guard Duty Violations: Keshig guards who missed their duty

rotation without authorization were subject to graduated physical punishment: three strokes for a first offense, seven strokes for a second, thirty-seven strokes for a third — followed by permanent exile. The edict specified that physical fitness was not an acceptable excuse, and that prior authorization from supervisors was required for any absence.

These edicts reveal a performance management philosophy that is simultaneously results-oriented and procedurally rigorous. Discipline was not arbitrary; it followed codified rules, applied consistently across ranks, and escalated progressively with repeated violations. This combination of predictability and proportionality is characteristic of effective organizational discipline systems.

Discussion: The evidence surveyed above challenges reductive portrayals of Chinggis Khan as a mere military conqueror. The historical record reveals a leader who demonstrated remarkable sophistication across multiple dimensions of what modern management theory would recognize as organizational leadership.

First, his restructuring of the Mongol military along decimal lines represents a classic example of organizational design for scalability and accountability. By replacing tribal affiliation with functional hierarchy, he created an institution that could absorb diverse populations and expand without losing coherence — a challenge that continues to confront multinational organizations today.

Second, the örtöö communication system reflects an understanding of information as a strategic resource. Effective leadership requires not only good decisions, but the capacity to communicate those decisions rapidly and reliably across large and geographically dispersed organizations.

Third, the Enkh Tör philosophy and the institution of the Ih Huraldai demonstrate a leadership approach that balances strong central authority with inclusive decision-making and cultural pluralism. This combination — often described in contemporary leadership literature as 'inclusive leadership' — has been associated with greater organizational resilience and the ability to manage diverse stakeholders.

Fourth, and perhaps most strikingly for a 13th-century ruler, Chinggis Khan's reward and punishment system anticipated key principles of modern performance management: merit-based recognition irrespective of social background, graduated and proportional discipline, codified rules applied consistently across organizational levels, and the use of public recognition to reinforce desired behaviors.

Conclusion

This paper has demonstrated that Chinggis Khan's leadership was characterized by a coherent and sophisticated system of organizational management that encompassed military structure, communications infrastructure, political philosophy, diplomatic strategy, and human resource practices. By analyzing primary historical sources — in particular the Secret History of the Mongols — alongside secondary scholarship, the study reveals a leader whose methods were both contextually innovative and enduringly relevant.

The decimal military system, the örtöö relay network, the Enkh Tör philosophy of peaceful governance, the participatory Ih Huraldai, the merit-based reward system, and the graduated disciplinary framework together constitute what might be called a 'Chinggis Khan Management Model' — a holistic approach to leading large, diverse organizations under conditions of complexity and uncertainty.

Future research might productively compare these historical practices with contemporary leadership frameworks such as transformational leadership, distributed leadership, and cross-cultural management. It would also be valuable to examine the longevity of these systems across successive generations of Mongol rulers, and to assess the degree to which they were consciously theorized versus empirically evolved. What is already clear is that Chinggis Khan's reputation as the 'Leader of the Millennium' rests not merely on military conquest, but on a comprehensive and enduring vision of how to organize, motivate, and lead human communities at scale.

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DIGITAL TRANSFORMATION AND LAW ENFORCEMENT ORGANIZATIONAL MANAGEMENT

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Abstract: Law enforcement agencies fulfill essential functions of maintaining social order, protecting human rights and freedoms, combating crime, and ensuring citizen safety. The effectiveness of these activities depends not solely on the legal environment but also on organizational management, human resource capacity, advanced technology utilization, and public participation. In the 21st century, challenges facing law enforcement worldwide have become increasingly complex, requiring new management approaches and reforms equally relevant to Mongolia. This article examines the challenges, opportunities, and solutions for law enforcement management in the context of digital transformation at both theoretical and practical levels. Through analysis of international best practices and Mongolia's current situation, this study proposes a comprehensive framework for digital transition in law enforcement agencies. The research emphasizes that digital transformation is not merely a technological upgrade but a fundamental restructuring of organizational culture, decision-making processes, and service delivery models. Findings indicate that successful digital transformation requires strategic leadership, integrated information systems, artificial intelligence-based crime prevention, enhanced cybersecurity measures, and citizen-centric digital platforms. The study concludes with specific recommendations for implementing pilot projects in Mongolia, using Sukhbaatar District Police Department as a case study.

Keywords: Digital transformation; Law enforcement; Organizational management; Artificial intelligence; E-governance; Mongolia

1. INTRODUCTION

The rapid advancement of information technology in the early 21st century has brought significant transformations across all sectors globally. Government institutions, particularly law enforcement agencies, have become inevitably involved in this digital transition. Digital transformation extends beyond mere technological adoption; it represents a strategically significant direction for enhancing operational efficiency, transparency, and citizen engagement through new approaches.

Mongolia has actively pursued e-governance initiatives over the past two decades, making substantial progress in digitizing government services and integrating information technology into state operations. The approval of the 'E-Government' national program by the

Government in 2012 and the establishment of legal frameworks for digital transition in 2022 represent major achievements in this direction (Government of Mongolia, 2012, 2022).

Law enforcement agencies fulfill crucial roles in ensuring citizen safety, preventing crime, detecting criminal activities, and enforcing legal punishment. Digital technology serves as a vital tool in effectively implementing these functions. International experience demonstrates that proper management of digital technology implementation increases crime detection rates, reduces response times, and conserves resources (Europol, 2024; Microsoft, 2024).

This article aims to examine fundamental concepts of digital transformation, characteristics of law enforcement agencies, technological opportunities, management challenges, and

solution approaches by connecting international experience with Mongolia's current situation.

2. CONCEPTUAL FRAMEWORK OF DIGITAL TRANSFORMATION

2.1. Defining Digital Transformation

Digital transformation refers to the comprehensive integration of digital technology throughout an organization's operations, fundamentally altering operational methods, culture, and values. This encompasses not merely technology implementation but a holistic process involving organizational structure, human resource management, and service delivery models (Afz, 2024).

For government institutions, digital transformation involves: (1) delivering government services electronically to citizens; (2) digitizing inter-organizational information exchange; (3) implementing data-driven decision-making approaches; and (4) enhancing transparency and accountability while reducing operational costs and time (OECD, 2022).

2.2. Core Components

Digital transformation comprises the following essential elements: (1) Infrastructure—internet connectivity, networks, servers, and cloud technology; (2) Software—information systems, applications, and platforms; (3) Data management—collection, storage, processing, and analytics; (4) Human capital—employee knowledge and skills; and (5) Governance—management decisions, planning, and coordination (World Bank, 2023).

3. RATIONALE FOR DIGITAL TRANSFORMATION IN LAW ENFORCEMENT

Law enforcement agencies face compelling imperatives for digital transformation due to several factors. First,

new crime types such as cybercrime, illegal internet activities, and technology-enabled financial fraud are increasing, necessitating digital tools for detection and investigation. Second, massive data volumes generated from surveillance cameras, mobile phones, internet activity, and banking transactions require technological processing and analysis capabilities (Zhu, 2025).

Third, modern citizens expect to receive government services electronically, demanding faster and more transparent service delivery. Fourth, operating with limited budgets and human resources creates persistent demands for improved efficiency and reduced costs. Finally, the transnational nature of crime necessitates international-level information exchange and collaborative operations (Interpol, 2023).

Digital transformation represents not an optional choice but an essential modernization requirement for law enforcement agencies. It serves as a fundamental condition for: (1) more effectively combating crime; (2) enhancing government transparency and accountability; (3) aligning with international cooperation standards; and (4) protecting citizens' rights.

4. CHARACTERISTICS OF LAW ENFORCEMENT ORGANIZATIONAL MANAGEMENT

Law enforcement management constitutes a specialized branch of public administration serving as the main lever for ensuring social safety, protecting citizens' rights and freedoms, and implementing the rule of law principle. The distinctive nature of this sector's management manifests not only in internal organizational operations and structural arrangements but also in its fundamental responsibility to protect social stability and democratic values.

Management quality in law enforcement depends on several factors. First, clearly defined goals and value-based

policies and planning at the strategic level are essential, creating flexible mechanisms to adapt to social changes, technological advances, and new crime forms. Second, management effectiveness directly correlates with human resource capacity, ethical standards, and professional skills. Law enforcement agencies must function not merely as authority enforcers but as service-oriented organizations engaging with citizens. In this sense, management must be transparent, accountable, and citizen-centered.

Third, contemporary law enforcement management must align with digital transformation trends. As crime structures become increasingly transnational and occur in digital environments, technology-based management has become indispensable for effective operations. Big data, artificial intelligence, and digital surveillance systems serve as crucial tools not only for crime detection but also for prevention, risk assessment, and policy decision optimization (Europol, 2024; Gartner, 2023).

Fourth, law enforcement management has entered an era requiring reliance on international cooperation. With human trafficking, cybercrime, and organized criminal groups operating across national borders, management limited to the national level cannot achieve effectiveness. Therefore, connecting with information systems of organizations such as Interpol and Europol, organizing joint investigations, and coordinating with international legal mechanisms have become increasingly necessary (Interpol, 2023).

5. INTERNATIONAL EXPERIENCE IN DIGITAL LAW ENFORCEMENT

5.1. Developed Country Examples

Singapore's Smart Nation Initiative. Singapore launched its Smart Nation program in 2014, implementing comprehensive digital transformation in law

enforcement. The country installed 87,000 video cameras (one camera per 400 m²) with AI systems automatically detecting vehicle violations and suspicious activities. Crime rates decreased by 28% between 2014-2022, with 87% citizen support for technological implementation (Singapore Police Force, 2023).

Estonia's E-Nation Model. Estonia has digitized nearly all government services through its e-Government system. The e-Police platform enables citizens to submit and receive responses to reports online. Blockchain technology protects all documents from alteration. Document review time decreased by 85%, and government costs reduced by 2% (e-Estonia, 2023).

United Kingdom's Data-Driven Policing. London Metropolitan Police implemented data-driven policing from 2016, utilizing crime prediction with 65% accuracy and optimizing personnel allocation, resulting in a 12% reduction in staffing needs (BBC, 2023).

5.2. Developing Country Examples

India's Biometric System. India created the world's largest biometric system, Aadhaar, covering 1.35 billion citizens with fingerprints, iris scans, and photographs. The Crime and Criminal Tracking Network System connects 16,000 police departments and stations nationwide, increasing crime detection by 18% (NCRB, 2022; Aadhaar, 2025).

Brazil's Drone Technology. Rio de Janeiro employs drones for crime prevention in high-risk areas, conducting surveillance flights and real-time recording. Drone operations cost 80% less than helicopter patrols while reducing crime by 22% (Muggah & Szabó, 2021).

Kazakhstan's Regional Leadership. Kazakhstan leads in e-governance regionally. The e-Qyzmet platform provides 650 types of government services electronically. The police mobile application has 2.5 million citizen

downloads, with 64% of reports submitted electronically, achieving 78% citizen satisfaction (Government of Kazakhstan, 2023).

6. PROPOSED PILOT PROJECT FOR MONGOLIA

6.1. Current Situation Assessment

The First Department of Sukhbaatar District Police employs 180 officers with an average age of 38 years. While 40% possess basic IT knowledge, only 5% work at professional levels. The department operates 45 computers, of which 15 are outdated with slow network connectivity. Daily reports and notifications (80-120 per day) are recorded on paper forms and manually archived, requiring 3-5 days for processing and response. Crime statistics are manually compiled biannually, delaying management decisions. The district has 45 surveillance cameras providing only recording capabilities, with manual image analysis requiring significant time investment.

6.2. Implementation Plan (2025-2026)

Phase 1: Preparation (January-June 2025). This phase involves comprehensive baseline assessment, intensive training for 20 selected officers across four weeks covering computer basics, information system usage, data security, and citizen service protocols. Technical infrastructure will be established including server installation, internet speed upgrade to 100 Mbps, and procurement of necessary equipment.

Phase 2: System Implementation (July-December 2025). Four core systems will be deployed: (1) Electronic report receiving system enabling citizens to submit reports via website or mobile application with automatic case number assignment and real-time tracking; (2) Crime information database digitizing all paper records with automated statistical analysis and visualization capabilities; (3) AI-powered surveillance cameras with 30 new

installations capable of license plate recognition, people counting, and abnormal behavior detection; (4) Management dashboard displaying real-time information including daily report statistics, crime trends, and camera alerts on a large screen in the department head's office.

Phase 3: Evaluation and Expansion (January-June 2026).

Comprehensive evaluation will compare initial and post-implementation indicators, conduct citizen satisfaction surveys with 1,000 respondents, and develop expansion plans for other districts if results prove positive. Initial expansion will target remaining Ulaanbaatar districts, subsequently extending to other cities and provincial centers.

6.3. Expected Outcomes

Operational efficiency improvements are anticipated to be significant. Report processing time should decrease from 3-5 days to 24 hours as citizens directly input information into the system, eliminating manual re-entry. Statistical report generation time will reduce from 5 days to 5 minutes through real-time dashboard access. Response times will improve through automated notification systems alerting nearest patrol units immediately upon report submission. Camera systems will automatically detect crime locations, enabling faster police response.

Crime detection and prevention capabilities will strengthen through data analytics identifying crime patterns. For example, the system might automatically detect that assault crimes increase near the State Department Store on Wednesdays and Fridays between 19:00-21:00, enabling management to allocate additional patrol resources accordingly. Camera systems will automatically identify and alert officers to suspicious individuals. District-wide crime rates may decrease by 15-20% annually.

Citizen satisfaction is expected to increase as electronic systems enable report

submission from home, saving time and money particularly for employed individuals or rural residents. Case tracking capability through mobile applications enhances transparency and builds public trust. Survey results show anticipated increase from 53% to 72% citizen satisfaction with police services.

Employee working conditions and skills will improve. Reduced paperwork enables officers to focus on critical tasks, redirecting 2-3 hours previously spent on record-keeping toward citizen engagement and prevention activities. The 20 digitally trained officers will serve as 'digital champions' to train and assist colleagues. Employee job satisfaction is projected to increase from 65% to 78%.

Cost savings will be substantial. Paper printing costs will decrease from 15 million MNT annually to 2 million MNT. Archive storage and retrieval time will significantly reduce. More efficient human resource allocation enables increased productivity with fewer personnel. Initial investment of 800 million MNT will be recovered within 6-7 years through annual savings of 120 million MNT.

7. CONCLUSION AND RECOMMENDATIONS

Digital transformation has become essential for 21st-century law enforcement agencies. This represents not merely a technological issue but a strategic direction fundamentally altering organizational operations, creating new citizen service approaches, and enhancing crime-fighting effectiveness. International experience demonstrates that properly managed digital technology implementation increases crime detection rates by 15-30%, reduces response times by 40-60%, and decreases operational costs by 20-40%. However, this success depends not solely on technology procurement but on comprehensive organizational change encompassing planning, management support, human resource preparation, and legal framework development.

For Mongolia, accelerating and deepening digital transformation of law enforcement agencies within the e-governance framework holds crucial significance. Current conditions reveal some operational systems, yet integration between systems remains inadequate, with budget limitations, professional shortages, and incomplete legal frameworks. Addressing these issues requires clear management support, phased implementation, human resource preparation, legal framework development, multi-source financing, and cross-sectoral cooperation.

Based on this analysis, the following recommendations are proposed:

1. Establish integrated information management systems connecting law enforcement agency databases (police, border control, forensics, prosecution) to enable real-time crime information exchange, eliminate redundant operations, and create conditions for data-driven management decisions.

2. Implement AI-based crime prevention systems utilizing machine learning technology to predict crime trends and assault risks, connect camera systems with AI analysis for automatic detection of suspicious behavior, and develop 'risk maps' based on regional crime data.

3. Develop digital skills training programs including Digital Leadership training for management, information security and data processing training for officers, and regular cyber ethics and information confidentiality education.

4. Strengthen cyber security policies and establish standards through regular cyber protection audits, implementation of international information security standards such as ISO 27001, and development of protocols for responding to cyber attacks and data loss incidents.

5. Develop citizen participation-based electronic platforms enabling citizens to report crimes and violations, submit complaints, and receive services

through e-Police applications, integrated surveillance portals, and open data platforms, thereby enhancing management transparency and accountability.

These recommendations will enhance law enforcement management efficiency, establish transparent, data-driven, and accountable systems within the digital transformation framework. Technology alone cannot deliver results; genuine digital management materializes only when combined with leadership, policy coordination, and human resource capacity. Digital transformation is not a one-time activity but a continuous process. As technology evolves and new crime forms emerge, law enforcement agencies must continuously learn and modernize. If strategically managed digital transformation is implemented in coordination with internal organizational reform, human resource development, and international cooperation, Mongolia can achieve: enhanced crime-fighting effectiveness, improved government transparency, and increased public trust in law enforcement institutions.

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THE INFLUENCE OF DEPRESSION ON THE ADAPTATION CAPACITY OF CONSCRIPTED MILITARY PERSONNEL TO MILITARY SERVICE

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Abstract

Recently, as the media has broadcast information about crimes committed by military personnel, society's negative opinion about military personnel continues to attract public attention. In light of this situation, military psychologists are confronted with the need to study depression, fear, and anxiety among servicemen, as they continue to commit criminal acts such as desertion, misuse of weapons and firearms, and incidents of self-harm or harm to others. In this study, we administered a survey to servicemen who have recently enlisted and proceeded to analyze the correlation between depression and the adjustment to military life among active-duty military personnel.

The study reports that among 129 newly recruited military personals, 9 percent exhibited moderate depression, and 15 percent displayed severe depression. According to the adaptability survey, 50 percent performed averagely, 17 percent performed poorly, and 6 percent performed very poorly. The results indicate a direct relationship between depression and adaptability, demonstrating that lower levels of depression have a lesser impact on adaptation.

Keywords— Depression, adaptability, military life, active-duty military personnel.

Introduction

A study was conducted by the National Legal Institute of Mongolia, in cooperation with General Authority for Border Protection, investigating serious crime perpetrated by the Border Guard between 2015 and 2020, with the aim of identifying underlying causes and conditions. According to the research, 36.4 percent of suicides were perpetrated by temporary military personnel, 27.3 percent by sergeant, and 23 percent by officers. Regarding violations and crimes associated with weapons and firearms, 66.7 percent were determined to be intentional, while 33.3 percent were deemed unintentional. Notably, the majority of intentional offenses were committed by temporary military personnel, sergeants and officers[1].

These data underscore the necessity for comprehensive evaluations of

emotional states, including fear, anxiety, depression, and propensity for risk-taking behaviors, particularly among individuals of military age. Through the examination of depression, military psychologists posit that alongside enhancing conscripts' satisfaction with their military service, fostering in their service, and their ability to adapt to military life, there exist tangible pragmatic advantages.

For newly enlisted servicemen, military service can be challenging to remain psychologically calm while experiencing a completely different environment from ordinary life. The high level of supervision, meticulously structured 24-hour regimen, strict adherence to military protocols, daily responsibilities, readiness for service, and demanding training requirements can have negative impact on their adaptation to military life. The majority of temporary

military personnel are between the ages of 18 and 25 and may exhibit emotional immaturity, leading to various psychological issues. Hence, most do not volunteer for military service. In light of this situation, we aimed to study following;

1. Military psychologists are confronted with the need to study depression, fear, and anxiety among servicemen, as they continue to commit criminal acts such as desertion, misuse of weapons and firearms, and incidents of self-harm or harm to others.

2. Recently, due to the weak ability to adapt to the changing environment, the problem of running away from military service due to depression and suicide continues to occur. 36.4% of them are conscripts[1]. Therefore, we decided to conduct this research.

3. In this study, we aimed to investigate the relationship between temporary military personnel's depression and adaptation to military life

Theoretical Background Within the theoretical framework of the thesis, representatives of major psychological trends such as C.Lange, W.James, A.Leontiev, P.Anokhin, S.Rubinstein, P.Simonov, H.Dalgado, L.Festinger, V.Viliunas, Lindsay-Hebby, Benevik, Holton, C.Izard and S. Schachter are considered[9].

Depression originates from the term “deprimer” indicating feelings of sadness or a low mood. It is expressed in various forms and durations, ranging from a few months to several years. Individuals may experience depressive episodes following the loss of their deeply held values or beloved individuals. Notably, values are subjective and unique to each person. While everyone experiences occasional bouts of sadness as a natural response to challenging circumstances, depression extends beyond mere feelings of sadness to encompass physiological changes[3].

With this quality, emotions are involved and play an important role in the process of human behavior. Since its creation, humans have been adapting to new environments and reacting to them[4].

In his work, K.Izard regarded depression as an innate emotion characterized by genetic and physiological components. Symptoms of depression encompass reduced interest in activities, diminished energy and productivity, slowed movement and speech, feelings of sadness, anxiety, discontentment, and restlessness. Every aspect of the environment elicits negative emotions and pessimism, permeating an unpleasant atmosphere. Consequently, every occurrence within the surroundings, whether it be music or conversations among people, prompts feelings of aversion[5].

In the context of depression, individuals often exhibit a deceleration in the pace of thought formation and speech articulation, leading to manifestations such as slowed cognitive processing, subdued vocalization and limited verbal expression. Commonly observed are repetitive questioning and responses characterized by succinct replies such as “yes” or “no”. Furthermore, individuals with depression typically harbor a pessimistic perspective encompassing retrospection, current circumstances, and prospects. Additionally, there is a tendency towards overestimation of personal deficiencies and a proclivity for fixating on adverse past experiences[2].

In the future, this self-blame as a criminal and sinner can turn into delusions of depression. Under such circumstances, the individual may become entrenched in the conviction that they are “worthless wretched, wicked, sinful, or culpable” potentially leading to self-harming behaviors aimed at alleviating this distressing state.

A depressed individual may experience suicidal ideation, believing that death is

preferable to continuing to live in their current state, and may devise specific suicide plans. Ultimately, they might impulsively attempt suicide without alerting those around them and may conceal their suicidal thoughts from others.

A depressed patient's motivation, desire, interest, need, and initiative decrease. Their actions slow down. The patient spends most of their time involuntarily not working, sitting with their face down on the bed, or lying under the covers. Decreased appetite and sexual desire, accompanied by a rejection of food and drink due to symptoms such as nausea and aversion to meals, are common. Interest in daily activities, including eating and working, diminishes, leading the patient to neglect self-care. Signs of frequent sighing and tearful crying are clearly evident.

During depression, individuals may experience physical symptoms such as enlarged pupils, constipation, elevated heart rate, and weight loss.

Depression is classified into mild, moderate, and severe categories. Criteria for determining the severity include:

- Feelings of depression
- Loss of energy
- Inactivity
- Decreased pleasure, desire, and interest in activities
- Reduced ability to concentrate
- Insomnia and restlessness
- Digestive issues
- Perceptions of being dispensable
- Self-condemnation
- Inability to be critical of the environment
- Psychomotor retardation
- Weight loss
- Other symptoms may arise from internal organs

In cases of mild depression, only two or three of the aforementioned symptoms are typically evident, and while the individual experiences feelings of depression, they are able to continue with their work. In essence, their capacity to work remains intact[3].

In moderate depression, four or more of the aforementioned symptoms manifest. The individual experiences significant depressive feelings, making it exceedingly challenging to sustain work. Their work capacity is substantially diminished, and they begin encountering various challenges in their professional responsibilities.

In cases of severe depression accompanied by signs of cognitive decline, most of the aforementioned symptoms are evident: feelings of depression, reduced self-confidence, increased self-criticism, and thoughts of or engagement in suicidal behavior. Observable changes in internal organ function become more pronounced. Additionally, alongside these symptoms, hallucinations, confusion, psychomotor slowing, or seizures may occur. These hallucinations and delusions could be either psychosomatic or non-psychosomatic in nature. The severity of the depression escalates to the point where individuals may struggle to fulfill their usual responsibilities [7].

Research Design The purpose of this prospective study we investigate the relationship between temporary military personnel's depression and adaptation to military life.

First, we utilized Beck's Depression Inventory test, second adaptability study, and third we used SPSS program, Pearson correlation coefficient, and Homogeneity test methods.

Result

The study included total 129 newly recruited military personals in November 2023 Ulaanbaatar Mongolia.

Reliability analysis

The results of the study were processed using SPSS software using reliability analysis, Person's correlation,

Homogeneity test and LSD multivariate analysis. After analyzing the validity and reliability of the research data before processing the research results, the Cronbach's alpha coefficient is 0.841, which is sufficiently reliable.

Reliability Statistics	
Cronbach's Alpha	N of Items
0.841	41

Table 1. Reliability analysis

According to the research results, 58 percent of temporary military personnel are not experiencing depression, 18 percent

have mild depression, 9 percent have moderate to severe depression, and 15 percent have severe depression.

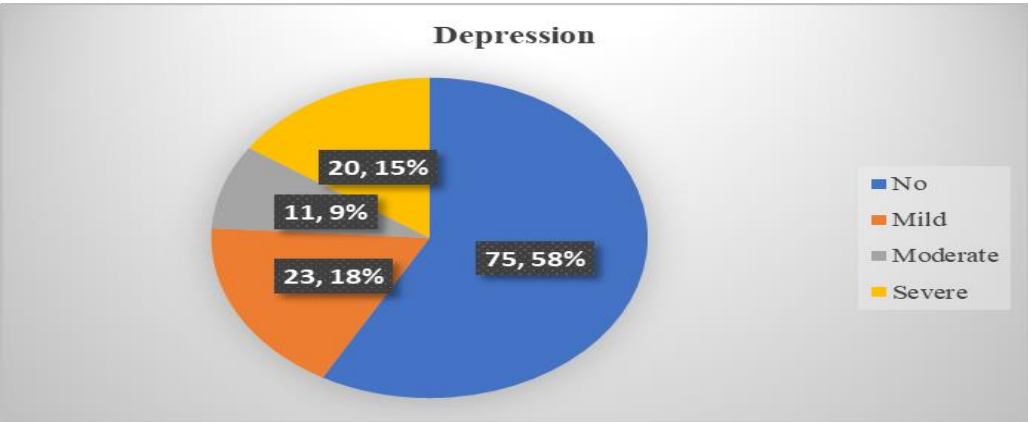
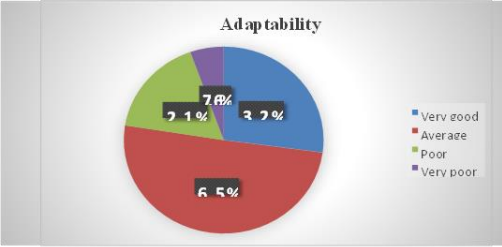


Fig. 1. Depression

Over 40 percent of the respondents reported experiencing depression. Despite new warriors appearing to be adults, their life experiences, knowledge of risk protection and prevention, and cautious behaviors are not yet fully developed. Consequently, the support and guidance of adults remain crucial. Understanding the nuanced relationships, attitudes, feelings, and demands of this age group is a unique aspect.

The improper approach and communication attitude of leaders can potentially exacerbate the crisis within this age group. Hence, officials working with military-age youth can foster a conducive environment for their successful completion

if military service by acquiring effective methods and knowledge that consider their developmental and psychological characteristics. According to the adaptability survey, 27 percent (35 soldiers) of temporary military personnel were rated as very good, 50 percent (65 soldiers) as average, 17 percent (22 soldiers) as poor, and 6 percent (7 soldiers) as very poor.



Over 50 percent of the study participants exhibit average or low adaptability, suggesting psychological restlessness when faced with the transition into a social environment vastly different from their everyday lives, and when encountering the daily training and preparation demands, This implies that their capacity to adjust to military life is relatively weak.

The ability to effectively adapt to situational demands and navigate unforeseen challenges inherent in the fulfillment of official duties within unique contexts is notably influenced by the

interplay between leaders and governing authorities.

Upon analyzing the impact of the four levels of depression on adaptability, a notable correlation emerges between adaptability and depression. Furthermore, the average adaptability group signifies depression-free rates across the overall distribution.

In contrast, the severe group is associated with low adaptability, indicating that lower levels of depression have a diminished impact on adaptability.

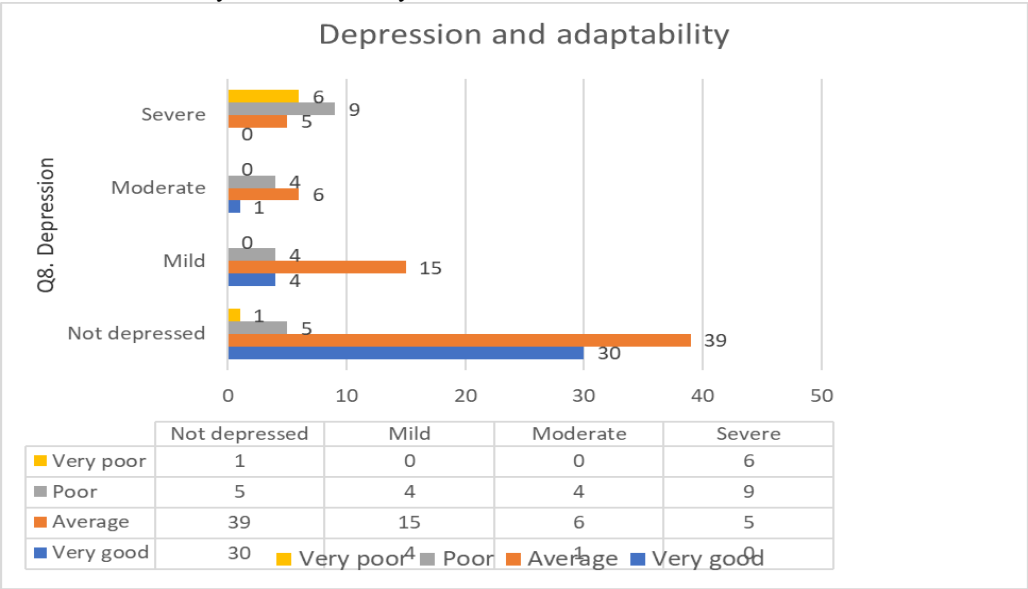


Figure 1. An index of the correlation between depression and adaptability

It can be observed from Figure 3 that a high correlation exists, as demonstrated by

Pearson’s correlation analysis during statistical processing

Correlation		
	Adaptability	Depression

Adaptability	Pearson's correlation	1	.582**
	Sig. (2-tailed)		.000
	Sample	129	129
Depression	Pearson's correlation	.582**	1
	Sig. (2-tailed)	.000	
	Sample	129	129

Table 2. Pearson's Correlation Analysis of Depression and Adaptability

It can be seen from table 2 that it is highly correlated between depression and adaptability by Pearson's correlation analysis of statistical processing.

Depression					
	Q6. Adaptability	N	Subset		
			1	2	3
Student-Newman-Keuls ^{a,b,c}	Very good	35	1.17		
	Average	65	1.65		
	Poor	22		2.77	
	Very poor	7			3.57
	Sig.		.128	1.000	1.000

Table 3. Homogeneity Test Analysis of Depression and Adaptability

The non-depressed group exhibits comparable adaptability to the average group, with adaptability being influenced by the personality characteristics of the non-depressed cohort. Conversely, the mild depression group aligns with the low adaptive group, while the severe depression group aligns with the very low adaptive group, underscoring the imoact of depression levels on adaptive capacity.

5. Conclusion

Despite the implementation of various measures aimed at enhancing the adaptability of new conscripts to military service, incidents of crimes and disciplinary violations associated with maladjustment among the temporary miltray personnel continue to persist.

According to the research, 58 percent or 75 of the conscripts were not experiencing depression, while 18 percent or 23 exhibited mild depression, 9 percent or 11 showed signs of moderate depression, and 15 percent or 20 were identified as having severe depression. Additionally, more than 40 percent of the respondents reported experiencing depression.

While new warriors may seem like adults, their life experiences, understanding of risk protection and prevention, and cautious behavior are not fully developed. Therefore, the guidance and advice of adults remain crucial. The cultivation of nuanced relationships, attitudes, feelings, and demands is a distinctive characteristic of this age group.

The improper approach and communication attitude of leaders may contribute to the crisis within this age group. Therefore, officials working with military-age youth can facilitate a conducive environment for their successful completion of military service by acquiring effective methods and knowledge that consider their developmental and psychological characteristics.

According to the adaptability survey, 27 percent (35) of temporary military personnel were rated as very good, 50 percent (65) as average, 17 percent (22) as poor, and 6 percent (7) as very poor.

Over 50 percent of the study participants exhibit average or low adaptability, suggesting psychological restlessness as they navigate the transition

into a social environment vastly different from ordinary life, along with the demands of daily training and preparation. This indicates a relatively poor ability to adapt to military life.

This study identified a direct relationship between conscripts' depression and their adaptation to military life. Furthermore, depression emerged as the primary determinant in classifying soldiers based on their level of adjustment. The study's results highlight the significant role of depression in the psychological domain, with issues in this area underlying maladjustment.

Soldiers who experience lower levels of depression tend to exhibit higher levels of self-confidence, interest in service, pride in themselves and their service, and better stress management abilities. This suggests that depression significantly influences military life and its potential to cause harm.

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IMPLEMENTATION OF CORE FUNCTIONS OF FOREIGN MILITARY STAFF, CONTEMPORARY DEVELOPMENT TRENDS, AND A COMPARATIVE ANALYSIS

(Case Studies of Russia, the United States, China, and Germany)

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ABSTRACT

This study conducts a comparative analysis of the implementation of core functions, organisational characteristics, integration of information technologies, and training systems of the military staffs of the world's leading military powers: the Russian Federation, the United States of America, the People's Republic of China, and the Federal Republic of Germany. The analysis combined quantitative and qualitative methodologies, drawing on international military doctrine sources. The study's findings reveal significant differences among the four nations with respect to decision-making speed, digital transformation, and officer professional development, and derives practical conclusions applicable to the development of Mongolia's military institution — constituting the principal contribution of this research.

Keywords: military staff, decision-making, MDMP, Auftragstaktik, C4ISR, military reform

INTRODUCTION

The effective functioning of modern military organisations is grounded in the proper organisation of staffs and the clear implementation of their defined functions. Studying military staffs as a subject of scholarly inquiry carries both theoretical and practical significance. Since Clausewitz described the staff as the commander's 'organ of knowledge,' this concept has become foundational to military theory. As noted in a United Nations (2023) report, the cumulative defence expenditures of the world's 195 states have reached USD 2.2 trillion, with the bulk of major nations' defence spending concentrated on advanced weapons systems and technological development (Stockholm International Peace Research Institute [SIPRI], 2023).

The effectiveness of a military staff is not limited to technical equipment modernisation alone; it encompasses a range of factors including organisational structure, human resource capacity, and process optimisation (International Institute for Strategic Studies [IISS], 2023). The

objective of this study is to conduct a comparative analysis of the staff systems of four leading military powers — Russia, the United States, China, and Germany — and to identify their respective strengths, weaknesses, and transferable lessons.

In terms of methodology, this study sought to conduct comparative analysis across five domains: (1) staff organisational structure; (2) intelligence gathering and processing capacity; (3) planning and decision-making processes; (4) training and professional development systems; and (5) key directions of reform. Sources include reports from prominent international organisations (IISS, SIPRI, RAND Corporation, GAO) and military academy research publications.

MAIN BODY: MILITARY STAFF EXPERIENCES OF SELECTED NATIONS

Organisational Structure and
Principles (Russia)

The General Staff of the Armed Forces of the Russian Federation operates within the structure of the Ministry of

Defence, performing core functions of defining state military policy, developing strategic plans for the armed forces, and executing assigned tasks in both wartime and peacetime. As noted in the IISS (2023) report, as of 2023 the total strength of Russia's armed forces exceeds 900,000 military personnel and officers, of whom 12–15% are engaged in staff-related functions.

The organisational foundation of the General Staff is rooted in Soviet military tradition and rests upon the G1–G6 (or J1–J6) branch system (Barabanov et al., 2012). This system comprises specialised functional branches: G1 (Personnel and Social Affairs), G2 (Intelligence), G3 (Operations), G4 (Logistics and Materiel Support), and G6 (Communications). Following the events of the 2008 Georgian war and the 2014 Ukrainian conflict, the Russian General Staff undertook major reforms, reducing the number of staff branches and improving efficiency within the framework of the 2012–2014 Serdyukov-Makarov reform programme (McDermott, 2016).

Intelligence and Information Operations System

The GRU (Main Intelligence Directorate of the General Staff), Russia's primary military intelligence agency, was established in 1918 and, according to Jane's Defence Weekly (2022), currently employs more than 20,000 personnel and maintains a partner network in over 100 countries. According to SIPRI (2022) estimates, the GRU's annual budget averaged USD 3.2 billion in 2020–2022, representing approximately 8–10% of the national defence expenditure.

Regarding information processing, the Russian General Staff has been developing the SBDU (Network-Centric Warfare System) since 2015, working to ensure real-

time information transmission and processing. However, the experience of the 2022 war in Ukraine revealed several practical shortcomings in this system, as detailed in an analysis by Kofman and Frost

Operational Planning and Decision-Making Process

The defining characteristic of the Russian military's decision-making is its high degree of centralisation. According to RAND Corporation's (2021) comparative study, the commander's decision-making cycle (OODA Loop: Observe–Orient–Decide–Act) averages 4–8 hours in Russia, compared to 1–2 hours in the United States. As noted in an internal report of the Russian Military Academy (2022), the average duration of the operational planning process at the division level is 12–18 hours, whereas comparable U.S. units complete the same process in 6–10 hours.

Regarding improvements, the Russian Ministry of Defence introduced specialised decision-support software for commanders under the 'Future Warrior' programme (2019–2023), aiming to reduce decision-making time by 30–35%; however, independent researchers (Giles, 2022; Thomas, 2022) assessed practical implementation as insufficient.

Training and Professional Development System

The principal institution for training Russian military staff officers is the Mikhailovsky Military Academy in Moscow, which trains more than 2,000 staff officers annually (Mikhailovsky Military Academy, 2022). Training duration is four years at the bachelor's level, two years at the master's level, and 6–18 months for internal specialist courses. During the large-scale 'Caucasus-2020' exercise, which involved more than 80,000 troops and over 250 aircraft, an evaluation report by the Eastern

Military District Staff (2021) recorded a communications failure rate of 23% and a coordination malfunction rate of 18%, indicating systemic deficiencies in the training framework.

Table 3.1. Key Indicators of the Russian Military Staff

Indicator	Data / Status	Source
Total Armed Forces Strength	900,000+ personnel (2023)	IISS, 2023
GRU Personnel	~20,000	Jane's Defence Weekly, 2022
General Staff Annual Budget	\$3.2 billion (average)	SIPRI, 2022
Average Decision-Making Time	4–8 hours (division level)	RAND Corporation, 2021
Staff Officer Training (annual)	2,000+ personnel	Mikhailovsky Academy, 2022
Operational Planning Duration	12–18 hours (division level)	Russian Military Academy, 2022

Note. Figures are based on the most recent publicly available sources.

Structure and Functions of the Joint Chiefs of Staff (USA)
 The Joint Chiefs of Staff (JCS) of the United States was established by the National Security Act of 1947, marking a pivotal step in placing all branches of the armed forces under unified command. As noted in the U.S. Department of Defence (DoD, 2023) annual report, as of 2023, the total strength of the U.S. Armed Forces consists of 1.35 million active-duty personnel and more than 800,000 reserve component personnel, with total defence expenditure reaching USD 858 billion.s

Under the JCS, eleven unified combatant commands operate, divided along geographic and functional lines. Geographic commands include: NORTHCOM (North America), SOUTHCOM (Latin America), EUCOM (Europe), CENTCOM (Central Asia and the Middle East), and INDOPACOM (the Indo-Pacific region). Functional commands include STRATCOM (Strategic), SOCOM (Special Operations), and TRANSCOM (Transportation and Logistics) (U.S. Army, 2019). The core organising principle of the U.S. military staff — 'jointness' — was given legal force by the Goldwater-Nichols Act of 1986 (Locher, 2002).

MDMP — The Military Decision-Making Process
 The Military Decision Making Process (MDMP), introduced by the U.S. Army in the 1990s, is an internationally recognised system widely regarded as the 'gold standard' of modern military decision-making (Headquarters, Department of the Army [HDA], 2019). The MDMP consists of seven steps:

- (1) Mission Receipt
- (2) Mission Analysis
- (3) Course of Action (COA) Development
- (4) COA Analysis / War Gaming
- (5) COA Comparison
- (6) COA Approval
- (7) Orders Production

A study by the Command and General Staff College (CGSC, 2022) found that units which properly implement the MDMP are 40% more effective in mission execution, demonstrating the practical significance of this methodology. Research findings further established that this approach not only reduces decision errors but also improves communication coherence (CGSC, 2019).

Information Superiority and C4ISR Systems

The information management system of the U.S. military staff is collectively referred to under the umbrella designation C4ISR (Command, Control, Communications, Computers, Intelligence, Surveillance, Reconnaissance). According to a Government Accountability Office (GAO, 2022) report, as of 2022 total DoD investment in C4ISR systems exceeded USD 50 billion annually. The Distributed Common Ground System (DCGS) is the platform that processes U.S. intelligence information in an integrated environment, with a processing capacity of four petabytes of military data per year as of 2020.

With respect to artificial intelligence applications, DARPA invested USD 2.1 billion in the Explainable AI (XAI) programme from 2019 to 2023, developing decision-support systems. Under the Project Maven programme, a system capable of delivering drone imagery analysis results to commanders within 60

seconds has been operational since 2022 (Allen & Chan, 2017).

Officer Professional Development System

The U.S. system for training staff officers relies on a multi-tiered, continuous professional development framework. Officers reaching the rank of Major are required to complete a ten-month course at CGSC, considered one of the most critical educational milestones in the U.S. military system. As noted in the CGSC (2022) annual report, 20–25% of the 1,100+ annual students are foreign military officers, reflecting the international influence of U.S. staff training.

The ADP 6-0 'Mission Command' doctrine (U.S. Army, 2019) directs staff commanders to define operational intent and empower subordinate commanders to make independent decisions. Following its 2019 revision, this document has influenced the military doctrine of more than 15 NATO member states, as noted by independent researchers (Vandergriff, 2019; Shamir, 2011).

Table 3.2. Key Indicators of the U.S. Military Staff

Indicator	Data / Status	Source
Total Defence Expenditure	\$858 billion (2023)	DoD, 2023
Active-Duty Strength	1.35 million personnel	IISS, 2023
Annual C4ISR Investment	\$50+ billion	GAO, 2022
CGSC Annual Students	1,100+; 20–25% foreign	CGSC, 2022
Average Decision-Making Time	1–2 hours (division level)	RAND Corporation, 2021
MDMP Effectiveness Gain	+40% operational effectiveness	CGSC, 2022

Note. DoD = Department of Defense; CGSC = Command and General Staff College.

The 2015–2016 Military Reform and the Joint Staff Department (China)

The People's Liberation Army (PLA) of China undertook its most significant organisational reform since 1949 in 2015–2016, establishing the Joint Staff Department (JSD) (People's Republic of China [PRC], 2019). This reform separated

the former General Staff Department from tactical command and reorganised it to conform to the principles of joint operations. As noted in the IISS (2023) report, as of 2023 the PLA's total strength has reached 2.035 million personnel, making China the nation with the world's largest armed forces.

In the post-reform structure, the Joint Staff Department comprises seven major divisions: the Operations Department, Intelligence Department, Communications Department, Strategic Planning Department, War Gaming and Training Department, Information Support Department, and Joint Operations Department (Blasko, 2015). According to a SIPRI (2023) report, China's defence expenditure reached USD 224 billion, having grown at an average annual rate of 6–7% over the preceding decade.

Information Systemisation and the 'Intelligentised Warfare' Strategy

Since 2019, China's military leadership has adopted the 'Intelligentised Warfare' (智能化战争 — Zhīnéng huà Zhànzhēng) strategy, accelerating the military application of artificial intelligence (Kania, 2017). According to a People's Liberation Army Daily (PLA Daily, 2022) report, the PLA's annual budget for military AI research and application exceeded 10 billion yuan (approximately USD 1.4 billion) from 2021 to 2023.

The PLA Strategic Support Force (SSF), established in 2015, integrated space, cyber,

electronic warfare, and information domain operations, According to Jane's Defence Weekly (2022), the SSF employs more than 175,000 specialists, of whom 35% are technically qualified officers. An internal evaluation in 2022 noted that 60–65% of the targets of the 'Performance 2025' programme had been achieved (PLA Daily, 2022).

Training and the 'Combat Realism' Principle

The PLA's staff training system has since 2012 been grounded in the 'Combat Realism' (贴近实战 — Tīējīn Shízhàn) principle (Mulvenon & Yang, 2014). The 2021 'Thunder Focus' (雷霆聚焦) joint exercise involved more than 50,000 troops, and PLA Daily (2022) reported a 25% improvement in staff coordination speed. The PLA's Academy of Military Science (AMS) trains more than 3,000 officers annually, and from 2020 to 2022 the proportion of curriculum devoted to AI applications increased from 15% to 28%.

Table 3.3. Key Indicators of the Chinese Military Staff

Indicator	Data / Status	Source
Total PLA Strength	2.035 million personnel (2023)	IISS, 2023
Defence Expenditure	\$224 billion (2023)	SIPRI, 2023
SSF Specialists	175,000+; 35% technical	Jane's Defence Weekly, 2022
Military AI Research Budget	10+ billion yuan/year	PLA Daily, 2022
Reform Period	2015–2016	PRC Defence White Paper, 2019
Digital System Integration	60–65% (2022 assessment)	PLA Daily, 2022

Note. SSF = Strategic Support Force; AI = Artificial Intelligence.

Organisational Characteristics of the Bundeswehr and NATO Integration (German)

The German Federal Armed Forces (Bundeswehr), established in 1955,

have continuously served within the NATO integrated command structure, accumulating extensive experience in joint staff operations. According to the Bundesministerium der Verteidigung

(BMVg, 2023) annual report, as of 2023 the Bundeswehr has a total strength of 183,000 troops, and in the context of the war in Ukraine, Germany approved a special fund of EUR 100 billion for defence expenditure through the Bundestag.

The most distinctive feature of the German military staff is its participation in seven different joint staffs within the NATO integrated command structure (NATO, 2022). These include the Supreme Allied Commander Europe (SACEUR), the NATO Eastern Flank Command, and the Very High Readiness Joint Task Force (VJTF). The German-Netherlands Combined 1st German/Netherlands Corps, established in 2021, became one of the first models integrating staff officers from two nations (NATO, 2022).

Civilian Oversight and Democratic Principles in Practice

The German military system is grounded in the 'Staatsbürger in Uniform' ('Citizen in Uniform') principle, adopted during the Adenauer government in 1956, which holds that a military officer is first and foremost a citizen of a democratic society (Naumann, 2010). The training of staff officers places central emphasis on military ethics, democratic norms, and legal knowledge.

The institution of the German Parliamentary Military Commissioner (Wehrbeauftragter des Deutschen Bundestages) has operated since 1959 as a unique instrument of civilian oversight. According to the Wehrbeauftragter (2022) annual report, in 2022 a total of 4,873 cases of violations of junior officers' rights and 2,105 cases of service condition deficiencies were registered and presented to the Bundestag. This mechanism is highlighted by Bruneau and Matei (2012) as

a model of civilian democratic control of the military

Auftragstaktik — The Mission Command Principle

The defining characteristic of German training is the practice-based Auftragstaktik (Mission Command) methodology. Rooted in Prussian-German military tradition dating to the 19th century, this principle grants subordinate commanders the authority to make independent, situation-appropriate decisions (Shamir, 2011). Research by Vandergriff (2019) found that units employing Auftragstaktik respond 15–20% faster than comparable U.S. units.

The Führungsakademie der Bundeswehr (German Military Leadership Academy) was established in Hamburg in 1957 and trains more than 600 officers annually in a ten-month programme (Führungsakademie der Bundeswehr, 2022). The cost of training a single officer is approximately EUR 200,000 (USD 218,000) — the highest among the nations examined, compared to USD 180,000 in the U.S. and USD 40,000 in Russia, as established by the BMVg (2021) comparative study.

Development of Cyber and Information Domain Capabilities

In 2017, the Bundeswehr established the Cyber and Information Domain Service (CIR) with 14,500 specialists (BMVg, 2022). According to BMVg (2022), the CIR's annual budget exceeds EUR 600 million, placing it among the largest military cyber units within NATO member states. As noted in the German Bundestag (2022) report, the Bundeswehr's cyber capabilities have been fully integrated into the NATO Cooperative Cyber Defence Centre of Excellence (CCDCOE) since 2023

Table 3.4. Key Indicators of the German Military Staff

Indicator	Data / Status	Source
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Bundeswehr Total Strength	183,000 (2023)	BMVg, 2023
Defence Special Fund	EUR 100 billion (2022)	German Bundestag, 2022
CIR Specialists	14,500 personnel	BMVg, 2022
Führungsakademie Annual Training	600+ officers; 20% foreign	Führungsakademie, 2022
Officer Training Cost	~EUR 200,000 per officer	BMVg, 2021
Ombudsman Complaints	4,873 cases (2022)	Wehrbeauftragter, 2022

Note. CIR = Cyber and Information Domain Service; BMVg = Bundesministerium der Verteidigung.

COMPARATIVE ANALYSIS OF THE MILITARY STAFFS OF FOUR NATIONS

General Comparative Overview

A comparative review of the military staff experiences of the four nations reveals several general trends and characteristics. First, all nations are intensifying the integration of information technology into their military staff functions, although the degree of implementation varies significantly (IISS, 2023). Second, the principle of joint

operations has grown in prominence, progressively replacing single-service independent operations (NATO, 2022; Locher, 2002). Third, practical hands-on training and decision-making methodology instruction have become increasingly critical components of staff officer education (CGSC, 2022; Führungsakademie der Bundeswehr, 2022).

Table 3.5. Comparative Overview of Military Staffs of Four Nations (2023)

Indicator	Russia	USA	China	Germany
Defence Expenditure (2023)	\$65.9 bn	\$858 bn	\$224 bn	\$55.8 bn
Military Strength	900,000+	1.35 million	2.035 million	183,000
Decision-Making Time	4–8 hours	1–2 hours	2–4 hours	2–3 hours
Joint Staff Structure	G1–G6 system	JCS + 11 Commands	JSD (2015–)	NATO integrated
AI / Digital Integration	Medium (60–70%)	High (85%+)	Medium (60–65%)	Good (75–80%)
Civilian Oversight	Limited	Statutory	Party leadership	Parliamentary Ombudsman
Officer Training Cost	~\$40,000	~\$180,000	~\$60,000	~\$218,000
Core Tactical Doctrine	Centralised	Mission Command	Intelligentised Warfare	Auftragstaktik

Note. Based on IISS (2023), SIPRI (2023), RAND Corporation (2021), DoD (2023), and BMVg (2023). AI = Artificial Intelligence.

Key Improvement Trends and Best Practices

The U.S. MDMP methodology is broadly accepted among international researchers as the most sophisticated system of modern military decision-making (CGSC, 2022; HDA, 2019). Research by CGSC (2022) demonstrating that the system's seven-step process increases decision optimality by 40% is of considerable importance. Mongolia's military organisation has the potential to adopt this methodology adapted to its own context, given that more than 15 NATO member states have already done so with documented success (U.S. Army, 2019).

Germany's Auftragstaktik principle is particularly applicable at the middle and tactical staff levels. As defined by Shamir (2011), this principle creates a tripartite balance: articulating the commander's intent clearly, delegating tactical execution with confidence to subordinate commanders, and maintaining strategic directional control. Vandergriff (2019) demonstrated that units adopting this principle gained a 40% advantage in autonomy and a 15–20% increase in response speed.

The most significant lesson to be drawn from China's experience is the 'Combat Realism' training principle. Research by Mulvenon and Yang (2014) demonstrates that creating conditions approximating actual combat environments — rather than relying on simulated or scripted exercises — substantially improves the quality of military training. The most important lesson from Russia's experience is the imperative of reform; the gap between capability on paper and actual operational performance, as revealed by the 2022 war in Ukraine, has been thoroughly analysed by Kofman and Frost (2023).

CONCLUSION

This study has analysed the military staff systems of Russia, the United States, China, and Germany across the

dimensions of organisational structure, decision-making, information systems, training, and reform, arriving at the following principal conclusions.

First, the effectiveness of a modern military staff is not determined solely by organisational structure, but is directly dependent on the alignment of decision-making speed with decision quality. While the United States and Germany have succeeded in making their decision-making faster and more adaptive through methodologies such as MDMP and Auftragstaktik, Russia continues to be characterised by a predominantly centralised model and comparatively slower decision-making.

Second, information technology and digitalisation have become the core pillars of staff operations, with C4ISR and AI-based systems emerging as essential conditions for providing commanders with real-time information for decision-making. In this domain, the United States leads, China is developing rapidly, while Russia and Germany, though progressing, remain at comparatively different levels.

Third, the principle of joint operations has become a universal trend across all nations studied, directed at strengthening inter-service coordination and the development of integrated command structures.

Fourth, staff officer training is evolving into a comprehensive system grounded in the integration of theory and practice and the principle of continuous professional development, with the inclusion of artificial intelligence and information technology knowledge now considered indispensable.

Based on the findings of this study, the following practices represent directly transferable experiences for improving Mongolia's military staff capabilities:

- The U.S. Military Decision Making Process (MDMP),

- Germany's Auftragstaktik (Mission Command) doctrine,
- China's 'Combat Realism' training methodology.

In conclusion, the development of modern military staffs is characterised by the integrated advancement of three factors — technology, personnel, and process — and nations that develop these in a balanced manner are establishing more effective, faster, and more adaptive command and control systems.

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THE IMPACT OF GENERATION Z SERVICE MEMBERS' ATTITUDES ON MILITARY SERVICE

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Abstract: Within the system for ensuring border security, border troops and their respective units play a critical role, with personnel constituting the primary operational resource. The composition of this personnel is increasingly shaped by younger cohorts—citizens aged 18 to 24—who serve in conscripted and contract-based military roles, as well as in officer and non-commissioned officer positions. Owing to generational characteristics associated with their developmental cohort, these service members tend to exhibit both positive and negative attitudinal patterns during their service.s

Accordingly, it is necessary to conduct a focused examination of the psychological characteristics of Generation Z, their prevailing social attitudes—particularly negative tendencies—and the ways in which these factors influence the effectiveness of border protection services. This underscores the need for a comprehensive study of individuals aged 0–25 in Mongolia, representing Generation Z, in order to better understand their psychological traits, social orientations, and their impact on border security operations. Furthermore, there is a pressing need to refine and enhance preventive measures aimed at mitigating potential conflicts and improving service outcomes.

Keywords: Generational theory; Generations “X, Y, Z”; Border service; Service personnel; Service impact

Introduction

The rapid advancement of modern technology and innovation has significantly reshaped the roles and responsibilities of the state, public institutions, and civil servants. In this evolving context, issues such as justice, transparency, social responsibility, citizen participation, public expectations, trust in government, and civic oversight have elevated the importance of ethical conduct among public officials. Consequently, there is an increasing need for civil servants to possess not only high levels of knowledge and professional competence, but also to be guided by sound values and motivations aligned with public service and the common good, with particular emphasis on ethical principles.

The actions of public officials function as a “direct transmitter” of societal values, norms, and expectations. As such, their decisions and behaviors play a decisive role in the implementation of formal rules, regulations, and policies. Moreover, these actions represent the practical manifestation of public service values and serve as a shared standard and collective benchmark. Therefore, it is essential that ethical values in public service be grounded in scientific approaches, preserve established traditions, incorporate innovation, and remain adaptable and forward-looking. Such an approach ensures their practical applicability in daily decision-making processes.

Theoretical Perspectives on Generations

Human civilization has evolved over more than 50,000 years, during which approximately 40,000 years were spent in cave-based existence, while the most recent 10,000 years mark the transition to settled life and the development of modern civilization. It is estimated that around 800 generations have succeeded one another throughout human history, of which approximately 650 generations lived and ended their lives in cave environments. In contrast, the most recent 150 generations, having emerged from such conditions, have developed distinct characteristics shaped by factors such as territory, land ownership,

nationhood, borders, and broader social structures.

The foundations of generational theory were established in the international academic sphere by Karl Mannheim through his seminal work *Das Problem der Generationen* (“The Problem of Generations”), originally written in German in 1928 and later published in English in 1952. Contemporary studies in this field largely rely on Mannheim’s conceptual framework. In particular, scholars have categorized human generational cohorts based on life-cycle segmentation, especially focusing on the period since 1943, and have proposed structured classifications of generations accordingly.

Table 1. Generational Classification of Human Development

№	Generations	Years
1	BOOMERS	1943-1960
2	GENERATION X	1961-1981
3	MILLENNIAL Y	1982-1994
4	GENERATION Z	1995-2015
5	ALPHA	Since 2016

The generational classification is commonly defined as follows: **Baby Boomers** (1943–1960), **Generation X** (1961–1981), **Millennial or Generation Y** (1982–1994), **Generation Z** (1995–2015), and **Generation Alpha** (from 2016 onward). From a theoretical perspective, generations are formed by groups of individuals of similar age who have collectively experienced significant historical and social events. A generation is thus more than a simple age cohort; it refers to individuals who, during their formative years—particularly adolescence and early adulthood—encounter similar political, economic, and social developments. These shared experiences contribute to the formation of common values, beliefs, attitudes, and behavioral patterns.

Generations can be analytically understood through three primary dimensions:

1. **Age (Life Cycle):** Referring to stages of human development and life experience;

2. **Time (Historical Context):** Encompassing major social, economic, and political events that shape a cohort’s worldview;

3. **Group (Social Position):** Reflecting an individual’s place within the socio-economic and power structures of society.

Based on research conducted in the United States, the defining characteristics of Generations X, Y, and Z have been broadly identified and generalized as follows:

Table 2. X, Y, Z generation features

Key Indicators	Generation X (1965–1980)	Generation Y / Millennials (1981–1996)	Generation Z (1996–2015)
Main Traits	- Persistent- Responsible- Problem-solving skills- Know-it-all- Rule-oriented- Overly authoritative- Work-focused- Stubborn- Critical	- Energetic- Cooperative- Achievement-oriented- Emotionally expressive- Skilled in communication- Quick learners	- Honest and fair- Curious- Adaptable- Impulsive- Compassionate
Education	- Finds ways to achieve goals	- Invests in education	- Knows what they want- Flexible- Self-directed- Works well in teams
Work Ethics	- Values stability- Focused on one task- Independent- Works according to structure- Distrustful	- Personal success is important- Multitasking- Business-minded	- Willing to take risks- Sees mistakes as opportunities
Work Perspective	- Challenging- Contractual- Responsibility and accountability	- Pleasant environment- Flexibility- Focus on results over experience	- Enjoyable environment- Focused on entertainment aspects- Shares work tasks- Seeks innovation
Core Values	- Business mindset- Ambitious- High expectations- Independence- Well-informed- Skeptical of prior generations- Self-reliant	- Achievement- Aspirational consumers- Civic duty- Self-confidence- High ethics- Perseverance- Competitive- Sociable- Tech-savvy- Influential- Practical thinker- Innovation-driven	- Freedom- Personal satisfaction- Extra compensation- Collaboration with creative peers- Fun- Honesty- Positive environment- Learning new skills- Friendships- Independent thinking- Personal growth
Leadership	- 1 in 6 reluctant to be managed by younger subordinates	- Trust direct supervisors- Managers frequently engage socially- 1 in 4 reluctant to be managed by younger subordinates	- Leadership based on skill and talent- Sees colleagues as friends- Informal, digital communication- Open communication to resolve conflicts
Consumption / Lifestyle	- Status symbols- Brand-conscious, luxury cars	- Travel- Celebrations	- Limitless- Unique- Innovation-oriented

A central concept in generational studies is that each generation serves as a significant driving force of social change. While the succession of one generation by another is an important issue, a distinctive feature of generational research lies in examining how different generations coexist, collaborate, and function within the same temporal context. Moreover, individuals working within a particular sector often share similar

values, regardless of their generational affiliation.

II. Who Are Generation Z?

According to most sources, the term *Generation Z* generally refers to individuals born between approximately 1995–1997 and 2010–2015, typically encompassing those aged around 10 to 25. However, as each country's historical trajectory and social context differ, the

boundaries of generational classification may vary by approximately 2 to 5 years.

This cohort is represented by the letter “Z.” Notably, there is no universally standardized pronunciation of “Z”: in British English it is pronounced “zed,” while in American English it is pronounced “zee.” Historically, the letter “Z” originates from the Greek alphabet, where it is pronounced “zeta.”

In the contemporary era, Generation Z constitutes an emerging group of future leaders whose contribution to the economy is rapidly increasing. For instance, projections indicate that by 2030, this generation will comprise approximately 30

percent of the workforce in the United States. This trend is attributed to the characteristics of Generation Z, who tend to prioritize skills over experience, exhibit boldness and optimism, and demonstrate a strong aspiration for economic independence and autonomy. These traits, in turn, encourage earlier entry into the workforce.

In Mongolia, according to the report titled “*A Study on Defining Social Generations in Mongolia*,” generational cohorts within Mongolian society have been classified in a context-specific manner (see Table 3).

Table 3. Mongolian social generation

д/д	Life generation	Years
1	Socialist Generation	Till 1964
2	Intermediate Generation	1965-1982
3	Transitional Generation	1983-1994
4	New Generation	Since 1995

Reference:“*A Study on Defining Social Generations in Mongolia*.” Ulaanbaatar, 2020.

According to the report, Generation Z (the “new generation”) is characterized as follows: “*They possess a strong sense of individual freedom, hold liberal views, tend to distrust the state and political parties, place greater trust in themselves rather than institutions, and demonstrate the highest levels of digital and social media usage compared to other generations. In terms of ideology, they are more right-leaning and globally oriented.*” This description indicates that the emerging generational trends and characteristics in Mongolia closely align with internationally recognized definitions of Generation Z.

Some online sources further suggest that while previous generations were primarily concerned with issues such as peace and industrial development, the focus of Generation Z has shifted toward areas such as artificial intelligence and space exploration. This shift reflects a broader tendency toward more open and flexible modes of thinking. Whereas Generations X and Y tend to prioritize job

stability and work–life balance, Generation Z appears less concerned with long-term job security. Instead, they are more inclined toward competitive environments, innovation, and employment opportunities that are both engaging and financially rewarding.

Social media platforms also illustrate clear generational distinctions. For Millennials, these platforms primarily functioned as tools for communication and connection, whereas for Generation Z, they constitute an integral part of daily life and a primary source of entertainment. Notably, approximately 91% of Generation Z individuals are accustomed to continuous smartphone use. As of three years ago, their average daily online engagement exceeded that of other generations by around 50 minutes, totaling approximately three and a half hours—a figure that continues to rise annually.

This generation predominantly favors visually oriented platforms such as Instagram, Snapchat, YouTube, and TikTok, while showing decreasing interest in text-based applications. Platforms such as Facebook and Twitter, which peaked in popularity around 2010, are increasingly perceived as platforms used by older generations. Data further indicate that nearly 90% of individuals aged 10–25 regularly use YouTube, while 71% use Snapchat more than six times per day, suggesting a strong preference for entertainment-oriented content.

III. Implications for Military Service

The activities of border protection organizations are governed by laws, regulations, and a vertically structured command system, reflecting a traditionally hierarchical and disciplined institutional framework. Within this context, discrepancies may arise between the characteristics of personnel and the specific demands of the operational environment. Such differences can create potential tensions or conflicts between generational traits and institutional expectations.

Therefore, it is essential not only to prevent and mitigate potential conflicts arising from these differences, but also to identify opportunities to leverage the distinctive strengths of Generation Z within organizational practices. Effectively integrating these characteristics into institutional operations can enhance overall performance and adaptability.

In border protection agencies, individuals entering conscripted and contract-based military service, as well as newly appointed officers and non-commissioned officers, are predominantly drawn from younger age cohorts. As such, generational characteristics inevitably influence service performance. Research findings indicate that Generation Z service members tend to exhibit traits such as a

strong sense of individual freedom, liberal orientations, low trust in governmental and political institutions, higher self-reliance, extensive use of digital technologies and social media, and more globalized perspectives.

From this, it can be inferred that Generation Z demonstrates several common socio-psychological characteristics. For example:

- **Limited attention span:**

Compared to previous generations, Generation Z individuals are capable of rapidly receiving and processing information, largely due to being raised in a highly dynamic, technology-driven environment. From an early age, they develop the ability to quickly comprehend new information. However, a notable drawback is their relatively weaker capacity for sustained attention. Their focus is frequently disrupted, with widely used social media platforms such as Instagram and Snapchat contributing significantly to this tendency

- **Capacity for multitasking:**

Although a limited attention span is often viewed as a weakness, for Generation Z it can also function as an advantage by enabling multitasking. For instance, they are capable of completing assignments on a computer while simultaneously conducting research on a tablet, listening to music, watching videos, and communicating with peers—often while maintaining organized and structured notes.

- **Preference for independence over teamwork:**

Survey findings indicate that 71% of Generation Z respondents agree with the statement, “If you want something done correctly, you should do it yourself.” They tend to value autonomy, self-development, and individual competence, and are highly competitive. In workplace contexts, approximately 69% prefer working alone in a private space rather than collaboratively, and they are more inclined

toward independent decision-making than teamwork.

- **Optimistic outlook:** A 2016 study conducted by Lincoln Financial Group found that Generation Z demonstrates a more optimistic outlook compared to Millennials. Specifically, 50% of Generation Z respondents believed their country was developing in the right direction, compared to 42% of Millennials.

- **Disinterest in traditional learning methods:** Research by Sparks & Honey revealed that 75% of Generation Z believe it is possible to obtain a high-quality education through alternative pathways rather than traditional university systems.

- **Low tolerance for delay (impatience):** Compared to previous generations, Generation Z tends to exhibit lower levels of patience. While they are often highly productive, creative, and open-minded, they may lack persistence and long-term consistency, which can present challenges in the labor market.

Implications for Working with Generation Z

In light of these characteristics, the following principles are recommended when working with Generation Z personnel:

- **Frequent performance feedback:** Annual or infrequent performance evaluations are not effective for Generation Z. Approximately 60% prefer to receive feedback on a daily or weekly basis, indicating the importance of continuous performance monitoring and communication.

- **Constructive perception of failure:** Unlike traditional views that equate failure with negative outcomes, approximately 80% of Generation Z perceive failure as an opportunity for growth and learning. This mindset should be supported and integrated into organizational practices.

- **Leadership as coaching:** Around 75% of Generation Z consider coaching skills in leadership to be important, and 25%

consider them very important. Authoritarian or fear-based leadership styles are generally ineffective; indeed, one in four Generation Z employees may leave their job under such conditions. They prefer supportive, guidance-oriented leadership rather than coercive management.

- **Emphasis on work-life balance:** While Millennials tend to prioritize organizational reputation and job stability, approximately 38% of Generation Z place greater importance on work-life balance. They prefer to complete their tasks efficiently and dedicate remaining time to personal development and individual interests.

Beyond adhering to these principles, it is essential to develop a comprehensive understanding of Generation Z's characteristics and behavioral tendencies. This enables organizations to respond appropriately to both positive and negative attitudes, prevent ethical violations and misconduct, and leverage generational strengths effectively. Accordingly, there is a need to implement targeted training and capacity-building measures for managers and personnel at all levels, particularly within specialized government organizations. Such initiatives would enhance leadership effectiveness at unit and subunit levels and support the practical integration of generational management strategies into institutional operations.

Conclusion

The study of Generation Z characteristics within the human resources of border protection organizations is of significant importance. It contributes not only to fostering respect for public service among personnel, but also to strengthening adherence to the ethical values of border service. Furthermore, it provides a foundation for proposing innovative research ideas in this field.

As the primary composition of personnel within border protection organizations increasingly consists of Generation Z, individuals serving in conscripted and contract-based military roles, as well as officers, non-commissioned officers, and public service staff, may exhibit certain negative attitudes influenced by generational traits. Therefore, it is ضروری to conduct targeted research on the psychological characteristics of Generation Z, their social attitudes—particularly negative tendencies—and their impact on border protection service. In doing so, it becomes possible to refine preventive measures aimed at mitigating ethical violations and other forms of misconduct.

It is also evident that managers and officials operating at various levels within border protection organizations can achieve more effective outcomes by understanding and applying generational characteristics in their leadership practices. By incorporating awareness of generational differences into their daily duties, they can better ensure adherence to ethical standards and prevent conflicts arising from generational disparities.

Recommendations

- To enhance the effectiveness and efficiency of specialized government services, it is necessary to align organizational management with the characteristics of emerging generations. This includes systematically planning and implementing training, development policies, and research activities that reflect generational dynamics.

- To conduct in-depth studies on the social attitudes and psychological characteristics of Generation Z—individuals born between approximately 1995–1997 and 2010–2015 (aged 10–25)—

and to effectively integrate these findings into organizational operations and service practices.

- It is recommended to develop and disseminate practical guidelines for leaders and officials at all levels of border protection organizations on how to effectively engage with Generation Z personnel, leverage their distinctive social and psychological characteristics as strengths, and enhance management and communication practices accordingly.

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“THE FORMATION AND DEVELOPMENT OF INTERNAL TROOPS AGENCIES: INTERNATIONAL PRACTICES AND FUTURE TRENDS”

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Abstract

The purpose of this presentation is to examine the historical evolution of Mongolia's Internal Troops, undertake a comparative analysis of the structure and functions of analogous organizations in 15 leading countries, and, drawing upon international experience, determine the future development directions of Mongolia's internal troops.

Key words: Internal troops, origin and development, international experience, future directions.

INTRODUCTION

Ensuring a nation's internal security and maintaining the stability of the state and society is the very foundation upon which any sovereign state sustains itself. Mongolia's Internal Troops were established following the victory of the People's Revolution of 1921 as a specialized military branch tasked with safeguarding national security. Throughout the complex periods of history, they have honorably fulfilled their responsibility of protecting critically important national facilities, maintaining public order, and providing support during disasters and emergencies.

ORIGIN AND DEVELOPMENT

Although the 1921 People's Revolution brought state power into the hands of the people in Mongolia, the country was still facing unresolved internal and external unrest and a complex situation. Considering these circumstances, in 1922, on the initiative of Commander D.Sukhbaatar, the All-Army Council established the first 'Special Unit' tasked with guarding and protecting critical state offices, arresting criminals, escorting and supervising prisoners, maintaining custody, and participating in the suppression of disturbances. This unit became the foundation of Mongolia's Internal Troops.

In 1922: A special unit of 13 personnel was established under the Ministry of Internal Affairs;

In 1924: A cavalry unit and a machine gun unit forming a "Special Company" of 55 personnel were established;

In 1929: The Special Company was expanded into a "Special Division" consisting of 5 units and 258 personnel;

In 1936: The Special Division for Internal Protection was reorganized into a special brigade;

In 1959: The Directorate for Border and Internal Troops was established under the Ministry of Public Security;

In 1990: Placed under the State Police and the General Police Department;

In 2014: The Parliament of Mongolia abolished the Law on Internal Forces, formally disbanding the Internal Forces after more than 90 years of history;

In 2017: The Parliament of Mongolia re-enacted the Law on Internal Forces, and the Internal Forces were re-established.

The Internal Troops organization is a state military organization that carries out the basic functions of ensuring the national security of Mongolia within the scope of its powers specified by law.

The Internal Troops shall perform the following functions:

- Protection of critically important state facilities;

- Maintaining public order, ensuring public safety, and providing support in suppressing criminal offenses;

➤ Providing assistance during disasters, hazardous events, accidents, and emergencies, as well as in search and rescue operations, mitigation of consequences, and urgent restoration activities;

➤ Temporarily guarding certain facilities when required, and escorting passengers and cargo;

➤ Participating in special operations to suppress terrorist acts;

➤ Other functions prescribed by law.

The activities of the Internal Troops service are regulated by the Internal Troops service-operational regulations.

The Internal Troops shall operate in a state of constant and increased readiness, and shall be in a state of constant readiness under normal conditions.

FUNCTIONS OF INTERNAL TROOPS OF LEADING NATIONS:

1. The United States National Guard is a military organization consisting of army and air force components, originating from local volunteer units in 1636, and operating under the dual authority of the state governor and the President of the Union. It is responsible for maintaining order in times of natural disasters and internal unrest, ensuring national security, and supporting overseas combat operations when necessary.

2. The Internal Troops of the Russian Federation date back to the Soviet era and were reformed in 2016 and organized as the Russian National Guard. They perform the functions of maintaining public order, combating terrorism, protecting strategic objects, and ensuring internal security in emergency situations. They report directly to Vladimir Putin, operate under centralized command, and operate in a militarized structure.

3. The Chinese People's Armed Police Force, the internal military force of the People's Republic of China, was established in 1982. It carries out the functions of maintaining internal security, maintaining public order, combating terrorism, protecting important facilities, and providing disaster relief. It operates

under the direct leadership of the Central Military Commission of the Communist Party of China and operates in a military-style organization.

4. The French National Gendarmerie (Gendarmerie Nationale) is an ancient historical force that originated from the medieval military police and now operates under the dual jurisdiction of the Ministry of Defense and the Ministry of the Interior. It is a military-organized force that performs the functions of maintaining public order in rural areas and small towns, protecting vital objects, and combating terrorism.

5. The Carabinieri (Arma dei Carabinieri), which performs the domestic military duties of Italy, is an armed force with a rich history, founded in 1814, and subordinate to the Ministry of Defense, but under the leadership of the Ministry of the Interior, combining police and military functions, and performing a variety of tasks in a centralized structure, such as maintaining public order, fighting crime, and participating in peacekeeping operations abroad.

6. The People's Armed Forces of Vietnam was established in 1944 and is part of the Armed Forces. It carries out intelligence operations, information, economic, social and internal security, and protects important state objects, state borders, and foreign dignitaries and representatives.

7. The internal military duties of the Democratic People's Republic of Korea (DPRK) have been performed by the People's Internal Security Forces under the Ministry of Public Security since the late 1940s. Under the direct leadership of the State Council, they carry out the functions of ensuring the security of important national facilities, border security, and participating in major infrastructure construction, with a separate and independent military organization from the People's Army.

8. The Gendarmerie of Serbia was established in 1860 and is subordinate to the Ministry of Internal Affairs. Its functions

include monitoring demonstrations and gatherings, dispersing them by force if necessary, conducting special operations against terrorist acts, ensuring social stability, stopping public disorder when it occurs, ensuring the peace of the people, human rights and freedoms, investigating crimes, helping to protect the property of organizations and citizens, and maintaining peace and normalcy in the event of natural disasters and unexpected events.

9. The National Gendarmerie of Bulgaria is under the Ministry of Internal Affairs and is responsible for combating intelligence, counterintelligence, and crime, ensuring border security, protecting critical facilities and objects, suppressing public disorder in the event of an incident, and protecting the environment.

10. The National Guard of Saudi Arabia was first established in 1917 and has a total strength of about 100,000. It is under the authority of the king and is responsible for protecting the royal family, conducting operations against military coups, protecting important state facilities, and ensuring internal security.

11. The Gendarmerie General Command (Jandarma Genel Komutanlığı) of Turkey is an armed force established in 1839 on the Ottoman-Italian model, operating under the Ministry of Internal Affairs with a military structure, and carrying out the main functions of ensuring security in non-urban areas, maintaining public order, and combating terrorism and illegal trafficking.

12. The internal military responsibilities of the United Arab Emirates (UAE) are carried out by the Auxiliary Forces and the National Guard Command under the Ministry of Interior. Since 1971, the functions of ensuring internal security, protecting critical facilities, and combating terrorism have been performed under the strategic leadership of the General Staff of the Armed Forces and through an independent military structure.

13. The internal military duties of Kazakhstan are carried out by the National Guard, which was reorganized in 2014 on

the basis of the Internal Troops established in 1992. Under the jurisdiction of the Ministry of Internal Affairs, it performs the functions of maintaining public order, protecting vital objects, and combating terrorism and crime through a unified central command and an independent military structure.

14. The South Korean Auxiliary Police is a structured force established in the early 1960s to ensure national security. It operates under the National Police Agency by mobilizing military personnel and performs auxiliary functions such as maintaining public order, ensuring security during demonstrations, regulating traffic, and combating terrorism.

15. The internal military role of India is carried out by the Central Armed Police Forces (CAPF), which consists of seven different independent units originating in 1939 and is under the Ministry of Home Affairs, performing the functions of protecting the country's borders, combating terrorism and separatism, and protecting important facilities in a militarized structure. Дээрх 15 орны дотоодын цэргийн байгууллагуудыг судлахад дараах нийтлэг онцлогууд ажиглагдана:

A comparative analysis of the structures and functions of similar organizations in 15 leading countries reveals three principal organizational models:

1. The National Guard model;
2. The Gendarmerie model;
3. The Unified Police model;

National Guard model: United States A, Russia, Saudi Arabia, the United Arab Emirates, and Kazakhstan.

Gendarmerie model: France, Italy, Serbia, Bulgaria, and Turkey.

Unified Police model: South Korea, People's Republic of China, India, Vietnam, and North Korea.

Global Trends

➤ Drones, Artificial Intelligence, and Cybersecurity:

➤ Human Rights and the Rule of Law:

➤ Search and Rescue during Natural Disasters, Accidents, and Quarantine Situations:

➤ Prevention and Suppression of Terrorist Activities, Special Operations, and Rapid Response Capability:

➤ Integrating Law Enforcement and Military Functions to Combat Emerging Threats.

Based on the experience of countries around the world, a prevailing trend is emerging in which institutions responsible for ensuring internal security are shifting toward the "National Guard and Gendarmerie" model one that combines both purely military and police functions.

DIRECTIONS FOR THE FUTURE DEVELOPMENT OF OUR COUNTRY'S INTERNAL MILITARY

From the researcher's perspective, the current level of development of Mongolia's Internal Military Forces can be considered to be at an intermediate stage of development. Specifically, the organization was dissolved in 2014 and subsequently re-established in 2017.

At present, the organization remains between the National Guard and Gendarmerie models, with its policy and strategic direction toward either model not yet clearly defined.

The Internal Troops organization will henceforth focus on the following key directions:

➤ Transitioning from manpower-based protection to technology-driven surveillance and control systems.

➤ Adopting policies aimed at ensuring the safety and security of citizens.

➤ Increasing the proportion of professional officers and non-commissioned officers, and developing into a fully professional organization.

➤ Enhancing the capacity to interact appropriately with citizens while maintaining public order, with a strong emphasis on respect for human rights.

➤ Providing support in rescue operations and mitigation of consequences during natural and technological disasters.

➤ Improving rapid response capabilities in the event of internal armed attacks and civil unrest.

➤ Exchanging experience with similar organizations in other countries and aligning operations with international standards.

➤ Gaining experience through the participation of personnel in peacekeeping operations.

CONCLUSION

By analyzing contemporary security risks and challenges, it is considered of critical importance to define strategic directions and development trends based on advanced modern technology and intelligent capabilities, grounded in either the "National Guard" or "Gendarmerie" model, which serve as benchmarks for leading similar organizations worldwide.

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HUMAN RESOURCE TRAINING IN TAX ADMINISTRATIONS: A COMPARATIVE STUDY

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ABSTRACT

The human resource policy and training and development strategies of tax administrations are highly dependent on the level of public administration reform and development in a given country. In addition, countries define and enforce comprehensive competencies that tax officials are required to possess. The Directorate-General for Taxation and Customs Union of the European Commission has established and implemented a "Competency Framework for Tax Officials" with the aim of bringing the human resources of tax administrations in member states to a uniform level and enhancing the training and development of officials.

Tax officials are required to possess professional competencies such as accounting and legal knowledge, operational skills necessary for the day-to-day activities of the organization, and managerial skills. This study comparatively examines the human resource training policies, practices, and organizational management of tax administrations in the United States, the Republic of Korea, and Mongolia.

The quality of human resource training in tax administrations is based on learning organization theory, constructivist learning theory, and situated learning theory. Human resource development is one of the key factors for the successful functioning of any organization. The knowledge and skills of employees are developed to effectively achieve organizational goals and objectives.

Training is a process through which employees are provided with knowledge, professional preparation, skills, and

experience necessary to perform their duties when there is a gap in these areas. By training and developing employees, organizations can enhance employee stability and increase organizational value.

In *The Fifth Discipline*, scholar **Peter Senge** explains that organizations that establish continuous cycles of learning and improvement can stabilize individual and team learning cultures, experiment with new knowledge, and implement it within the organization.

The five disciplines are:

1. **Systems Thinking** – Understanding the organization as a whole system and recognizing interrelationships and interdependencies
2. **Personal Mastery** – Developing individuals within the organization and linking personal development with organizational development
3. **Mental Models** – Determining how activities are carried out and how they influence organizational goals
4. **Shared Vision** – Ensuring that the organization's vision is shared by all employees
5. **Team Learning** – Encouraging collaboration, consensus-building, joint problem-solving, discipline, and trust, where team performance depends on interpersonal relationships

By adopting the concept of a learning organization and aligning it with human resource policies and programs, organizations can ensure continuous human resource development. Organizational development begins with human resource

development, which in turn begins with individual learning processes.

The need for organizational learning arises when:

- Employees lack the necessary skills, knowledge, or education for new tasks
- Innovation and creativity stagnate
- Management falls behind in internal information and processes
- There is a need to prevent complaints from clients or service users

A learning organization has the following characteristics:

- **Leadership:** Self-directing units
- **Shared understanding:** Employees identify themselves with the work system and strive for improvement and change
- **Social relationships:** Based on trust, openness, and partnership
- **Employee participation:** Employees actively participate in processes and contribute ideas for improvement
- **Flexibility:** High adaptability due to value-added tasks, broad decision-making authority, and support for innovation
- **Cross-functional competence:** Integration of work, social, and methodological skills, linking work and training, and supporting reflective learning

Organizations accumulate knowledge in a manner similar to individuals. Organizational images, concepts, rules, routines, and habitual patterns form the core of organizational knowledge and guide operations.

Constructivist Theory

According to the constructivist learning theory proposed by Jerome Bruner, the learning process is an active process in which individuals construct new ideas or concepts based on their existing knowledge. In this view, the role of the teacher is considered relatively less central. Learning

is built upon an individual's experiences and emerges through social interaction.

From a constructivist perspective, the learning process involves several stages: representation of knowledge, curriculum development, discovery learning, and categorization.

Representation of knowledge: Learners acquire knowledge through three stages:

- *Enactive representation* – learning through actions and interaction with physical objects (“being active”);

- *Iconic representation* – acquiring knowledge through models and images (“representing visually”);

- *Symbolic representation* – encoding knowledge through abstract thinking and imagination.

Curriculum: Instructional content is designed according to the learner's developmental level. As a result, the type, topic, and content of lessons vary, and repeated exposure enhances understanding. New learners acquire prior knowledge through interaction with more experienced learners.

Discovery learning: As learners acquire knowledge, they continuously discover how to learn. The teacher primarily facilitates activities such as guiding inquiry, organizing exploration, and supporting discovery. Learners are responsible for creating their own learning conditions, being ready to learn, structuring knowledge, sequencing it effectively, and reinforcing it.

Categorization: Processes such as understanding, imagining, learning, decision-making, and drawing conclusions all involve categorization.

Constructivist theory advances the following key principles: (i) knowledge is constructed; (ii) learning is a social process; (iii) learning is an active process; (iv) learning is contextual; (v) people learn how to learn; (vi) learning occurs in the

mind;(vii) knowledge is personal;(viii) motivation is a key driver of learning.

Situated Learning Theory

Situated learning theory examines how knowledge is developed and organized within the workplace. It posits that knowledge emerges from real-life contexts, where novice learners engage in low-risk participation in everyday practical activities and gain knowledge through interaction with tangible, human-made products.

This theory offers an alternative perspective to purely cognitive approaches to learning. Social interaction is considered a fundamental component of situated learning, where learners participate in practical activities that embody specific beliefs and behaviors. New employees initially participate at the periphery of these interactions and gradually move toward full participation, becoming more active, assuming the roles of experienced staff, and integrating into the organizational culture.

Thus, situated learning often occurs incidentally rather than through deliberate instruction. Legitimate peripheral participation encompasses the relationships between new and experienced employees, as well as the connections between knowledge and practice, including shared norms and characteristics.

Researchers Jean Lave and Etienne Wenger argued that “learning is a function of activity, context, and culture,” and proposed the following assumptions:

- Knowledge should be presented in authentic contexts;
- Learning must involve social interaction and collaboration.

Within this framework, learners develop knowledge by using cognitive tools relevant to real-world practice and by being immersed in the professional domain. Cognitive apprenticeship supports learning by enabling individuals to gain skills through hands-on practice, such as those of midwives, tailors, or butchers.

Situated learning theory is characterized by the following:

- It allows learners to engage in immersive, practice-based professional training;
- Learning occurs in environments that simulate real work settings;
- Learners participate actively in experimental or laboratory environments;
- Learners gain physical and experiential knowledge through participation in real events such as sports competitions or concerts.

Public Sector Training and Human Resource Development

For effective governance, it is essential to continuously enhance the knowledge and skills of public servants. Therefore, civil servants must be regularly trained and developed within the scope of their official duties.

The level of professionalism, stability, and capacity of civil servants reflects the overall effectiveness of the civil service system. Human resource development in the public sector is closely linked to national civil service reform policies and frameworks. Public sector human resource policies are shaped by principles and concepts of HR management and begin with identifying training and development needs.

Another important factor influencing training needs is the entry requirements for civil service positions. In many countries, individuals entering public service are required to have prior education and preparation relevant to their roles.

Determining Training Needs

The activity of determining training needs is conducted at (i) the workplace level, (ii) the individual civil servant level, and (iii) the organizational and overall operational policy level. At the job level, training needs are usually identified through performance analysis.

This involves comparing the actual job performance with established performance standards, and if a significant gap exists, the underlying causes must be identified and analyzed.

Determining the training needs of civil servants involves assessing their knowledge, skills, and competencies in order to decide what types of training are required for the organization to achieve its goals. It also includes encouraging civil servants to express their opinions, supporting their new ideas, and ensuring conditions for their implementation. Furthermore, it is important to promote collaboration among civil servants with technical knowledge, education, and experience through knowledge sharing.

Human Resource Training in the Tax Administration of Mongolia

In Mongolia, the tax administration has implemented and continues to follow human resource policies and training development programs for its employees. The Strategic Plan of the General Department of Taxation for 2025–2028 states that it will implement a merit-based, efficient, and gender-responsive human resource policy for the tax administration. Based on the training and research unit, the organization aims to enhance the professional competencies of its staff and develop and implement the “Tax Administration Human Resource Training and Development Program.”

The mission of the tax administration is to ensure that taxpayers fulfill their legally prescribed tax obligations, exercise their rights, and that tax laws are properly enforced.

According to Article 75 of the General Tax Law, the tax authority shall perform the following functions:

- Organize the implementation of tax legislation, provide information and advice

to taxpayers, and conduct training and public awareness activities;

- Monitor compliance with tax legislation;

- Ensure the collection of state budget revenues.

In accordance with Article 77.7.12 of the General Tax Law, the head of the tax authority responsible for tax administration shall organize professional training for tax inspectors. The Strategic Plan of the General Department of Taxation for 2025–2028 further emphasizes implementing a merit-based, efficient, and gender-responsive human resource policy. Each unit of the tax administration is expected to develop and implement a training and development program based on its training and research units to enhance employees’ professional competencies.

By Order No. A/145 of 2025 issued by the Director of the General Department of Taxation, the “Training and Development Program for Employees of the Mongolian Tax Administration” was approved. This program aims to ensure a highly professional and competent tax administration by establishing a system for initial and continuous training of employees, improving knowledge and skills, and thereby increasing work productivity.

According to this program, the following principles are applied in employee training:

- Employing qualified and professional trainers;

- Ensuring participation of all employees;

- Providing structured and competency-based training aligned with job performance requirements;

- Ensuring that employees responsibly apply the knowledge and skills acquired in their workplace.

The Strategic Plan of the General Department of Taxation of Mongolia for

2025–2028 defines the vision of becoming an “internationally standardized tax administration.” The participation, performance, and results of each employee are crucial to achieving the strategic goals and objectives. Training programs are therefore designed to enhance ethics and professional competence of tax officials and to ensure transparent and accountable public service delivery.

Human resource policy in Mongolia’s public sector is regulated by the Law on Civil Service and related legal documents. Article 7.1 of the Civil Service Law defines the principles of civil service, including:

- Civil service shall be professional and stable (Article 7.1.2);
- Appointment to public service positions shall strictly follow the merit-based principle (Article 7.1.3);
- Civil servants, except political administrative officials, shall be politically neutral and independent from political parties and coalitions (Article 7.1.5).

To ensure professionalism in civil service, continuous capacity-building training is required. The policy and system of professional and capacity-building training should be implemented through a centralized system aligned with a merit-based and career progression approach.

Articles 24 and 29 of the Civil Service Law stipulate that the content and curriculum of professional training programs shall be jointly approved by the central civil service authority and the Government, taking into account the specific functions and responsibilities of the position. It further states that professional training, including short- and medium-term programs, shall be organized by government civil service training institutions.

Thus, the civil service system is established on the principles of merit, professionalism, stability, career progression, and competency-based development.

By Government Resolution No. 299 of 2019, the short- and medium-term training programs for civil servants were approved. In addition, the joint Order No. 37/33 of 2019 issued by the Cabinet Secretariat of the Government of Mongolia (CSSG) and the Civil Service Council approved the content and curriculum of the professional qualification training package. These legal documents have established an integrated training system for the Mongolian civil service, creating a legal framework for the phased training and professional development of civil servants.

According to Recommendation No. 04 issued by the Civil Service Council on 5 November 2020, it is advised that human resource needs should be identified, and based on studies of new positions and career progression planning, a four-year training, working conditions, and social guarantee program for civil servants should be developed and implemented for each position category and grade.

This recommendation further emphasizes the institutionalization of a civil service training system. It regulates the registration and planning of employees to be trained, submission of training requests to civil service training institutions, record-keeping within the human resource management system, and ongoing monitoring and evaluation of implementation.

In accordance with Article 29 of the Law on Civil Service, newly appointed civil servants must be enrolled in short- and medium-term training programs after appointment. These trainings are organized by government-affiliated civil service training institutions.

The civil service training institution under the Government implements the following types of training:

1. Orientation training for newly appointed civil servants;

2. Professional qualification training for newly appointed civil servants;
3. Medium-term refresher training for civil servants;
4. Professional qualification training for senior officials;
5. Professional qualification training for leading officials;
6. Professional qualification training for chief-level officials;
7. Commissioned or demand-based training requested by the Cabinet Secretariat and the Civil Service Council.

Human Resource Training in the Tax Administration of the United States

In the United States, civil servants are trained and developed through a flexible system based on the merit principle. The Office of Personnel Management (OPM), the central human resource authority for the federal civil service, organizes structured professional and leadership development programs within the framework of civil service training policy.

Common training areas include human resource strategy and policy development, decision-making, leadership, communication skills, ethics, and information security.

The main training categories for civil servants include:

- **New employee orientation training:** covering civil service ethics, civil service law and regulations, information security, and conflict-of-interest prevention;
- **Professional training:** skills required for specific positions, such as budgeting and finance, project management, and procurement;
- **Leadership training:** programs for senior, mid-level, and top-level managers;
- **Ethics and legal training;**
- **Communication and interpersonal skills training;**

• International exchange programs and training opportunities.

These training programs are based on the principles of equal opportunity for employees and aim to improve accountability and efficiency in public service.

The evaluation of training effectiveness is commonly based on the model developed by researcher Donald Kirkpatrick (1994), which has become a standard framework for training evaluation. It assesses whether employees apply the knowledge and skills acquired in training to their workplace performance.

Kirkpatrick's Four-Level Training Evaluation Model:

1. **Reaction:** The first level measures participants' responses and satisfaction with the training, typically assessed through post-training surveys or questionnaires.

2. **Learning:** The second level evaluates the extent to which participants have acquired knowledge and understood the training content.

3. **Behavior:** This level assesses changes in participants' behavior and work practices, often through interviews or external evaluation. It examines how effectively participants apply the acquired knowledge and skills in their workplace, which is considered a key indicator of training effectiveness.

4. **Results:** The final level evaluates the overall impact of training on organizational performance. It determines how changes in employee behavior contribute to organizational outcomes. If employees do not apply the acquired knowledge and skills in practice, achieving final training results is not possible.

Training of Employees in Tax Administration Organizations

The Internal Revenue Service (IRS) of the United States is the organization

responsible for managing the training of tax administration employees. It implements a continuous training policy aimed at equipping staff with the necessary knowledge and skills required for tax service delivery, as well as ensuring stable job performance.

Within the framework of its training policy for tax administration employees, the IRS focuses on:

1. Improving professional skills: Employees are provided with training programs designed to develop the competencies required for their specific job positions.

2. Training quality and effectiveness: Employees are systematically included in training programs, and the outcomes of training are evaluated.

3. Innovation and technological development: Modern training technologies and innovations are integrated into training activities.

In 2019, the IRS adopted legislation prioritizing taxpayer rights. Based on this law, the organization developed a training strategy aimed at ensuring that employee training and development are systematic, sustainable, and effective.

According to this strategy:

- Continuous training programs are developed to enhance employees' professional knowledge and skills;
- Service quality and responsiveness to taxpayers are improved based on employees' competencies;
- Career development and professional growth plans are supported for employees;
- A systematic training evaluation mechanism is established, including standards and methodologies for assessing employee competencies;
- A centralized and integrated training system is implemented.

In other words, the training policy of the U.S. tax administration is based on training and development policy, performance management, and employee satisfaction and engagement.

Employee Training in the California Department of Tax and Fee Administration

The California Department of Tax and Fee Administration (CDTFA), which is responsible for administering sales and use taxes and other fees in the state of California, implements policies aimed at employee development and continuous learning.

To successfully implement its human resource policy, the CDTFA has:

- (i) established a training and development unit;
- (ii) introduced career development and mentorship programs;
- (iii) ensured work-life balance;
- (iv) implemented onboarding and onboarding training programs for new employees;
- (v) promoted employee engagement.

As a result, a continuous learning environment has been created for employees.

The training unit of the CDTFA implements workplace-based training programs in accordance with approved training and development plans, including orientation training for new employees, training in finance, investment, and accounting, as well as mentorship programs.

Human Resource Training in the Tax Administration of the Republic of Korea

The training policy for civil servants in the Republic of Korea is aimed at improving the quality of public services, increasing the efficiency of public institutions, and

ensuring fairness and effective management.

The purpose of civil service training is to enhance employees' skills, knowledge, and ethical standards, thereby improving the efficiency of public services and increasing citizen satisfaction.

South Korea has a separate legal framework for civil service competency development. According to the Civil Service Act and the Civil Service Capacity Development Act, training is conducted by the Ministry of Personnel Management, civil service

training and development institutes, and the National Human Resources Development Institute.

The Ministry of Personnel Management is responsible for civil service human resource policy. As a central administrative body, it organizes on-the-job training, professional qualification programs, and develops independent training curricula.

The Civil Service Training and Development Institute provides training for newly appointed and promoted civil servants.



Government Implementing Agency of Mongolia: *“Human Resource Management System of the Civil Service of the Republic of Korea”*, 2022, p. 138

Since 2003, the Republic of Korea has placed significant emphasis on the capacity building of civil servants by increasing training budgets, revising training programs, and establishing new training and development institutes.

The following types of civil service training are implemented:

- **Basic training programs:** aimed at instilling public service values, improving professional skills, and providing training for employees undergoing promotion within the civil service hierarchy;

- **Specialized training programs:** designed to prepare employees for the competencies required in their current and future positions;

- **Government policy programs:** training programs targeting managers of relevant government institutions;

- **Self-directed learning programs:** aimed at developing employees' creativity and independent learning abilities.

Thus, the Republic of Korea has established a knowledge-based and continuous learning system within its civil service. In addition, in order to support self-directed learning, the government has developed an "E-learning Platform of the Government," through which both formal and informal training is conducted. Information technology has been widely integrated into civil service training, ensuring systematic and technology-based learning.

Training of Tax Administration Employees

The National Tax Officials Training Institute under the National Tax Service of the Republic of Korea is responsible for formulating and implementing the training policy for tax administration employees. The training policy of this institute aims to develop a professional workforce capable of working in various fields such as tax law and administration, tax assessment and audit, tax collection and taxpayer services, international taxation, and information technology, by improving the knowledge and skills of tax officials.

The National Tax Service has established a **three-tier training system** for tax administration employees: **basic, professional, and continuous training.**

- **Basic knowledge:** Employees are provided with knowledge and skills in tax policy, tax law, types of taxes, auditing, taxpayer services, and international taxation;

- **Professional training:** On-the-job training based on employees' practical experience;

- **Continuous training:** Ongoing and systematic development of knowledge and skills required for specific job positions.

In line with global development trends, e-learning programs based on information technology are widely implemented.

The National Tax Officials Training Institute delivers training to local tax administration employees through regional tax offices. Local employees receive professional training in areas such as auditing, inspection, taxpayer relations, international taxation, and information systems, as well as leadership and managerial training and region-specific programs aligned with both central and local administrative coordination. This ensures the professionalism and continuity of civil service training.

Human Resource Training in Tax Administration: Comparative Analysis

This section provides an international comparative analysis of training policies and implementation practices for tax administration employees in the United States, the Republic of Korea, and Mongolia.

United States

In order to ensure systematic and continuous training of tax administration employees, training at the Internal Revenue Service (IRS) of the United States is conducted in accordance with the Taxpayer First Act adopted in 2019. In the United States, tax administration employees are guided by a policy based on "knowledge, skills, and attitude + experience + required training."

Employees are expected to have:

- **Work experience:** Prior professional experience is highly valued when joining the tax administration;

- **Knowledge, skills, and competencies:** Including finance, accounting, tax law, financial reporting, compliance with tax laws and regulations, and preparation of reports and official documents;

- **Ethics and accountability:** Employees are required to act ethically and responsibly in accordance with tax administration rules and regulations, and to avoid any violations.

In the United States, tax administration employees participate in both continuous and specialized training programs. These include:

- **Orientation training for newly hired employees:** Typically conducted in classroom format to familiarize employees with the workplace, colleagues, and essential information;

- **Continuous education:** Webinars and seminars for ongoing professional development;

- **Major forums:** Organized to discuss tax law and regulatory changes, taxpayer relations, and updates to laws and procedures;

- **Blended training:** Training related to organizational operations, tax collection, risk management, and prevention of tax violations;

- **Internal organizational training:** Based on identified training needs of employees.

These training programs are implemented through a combination of traditional classroom and online learning formats. The system enhances professional skills and knowledge, while also providing access to updates in tax law reforms, regulations, ethics, and best practices.

Republic of Korea

The National Tax Officials Training Institute under the National Tax Service of the Republic of Korea is responsible for training and capacity building of tax administration employees.

In South Korea, competition for positions in the tax administration is highly intense. Therefore, tax administration employees are required to participate in continuous professional training under a “lifelong specialization and training” system.

Since the 1990s, with the development of electronic tax systems, South Korea has implemented online services, e-taxation, e-invoicing, and electronic record systems. As a result, tax officials are trained to adapt to new technologies and systems.

In addition, the National Tax Service has developed operational manuals regulating tax administration and inspection procedures. Employees are trained in tax service delivery procedures and regulatory compliance based on these manuals.

Training programs for tax administration employees in South Korea include:

- **Orientation training for new employees:** Mainly conducted in classroom format to introduce employees to the workplace and provide essential information;

- **Specialized training:** Divided into beginner-level, mid-level (5–10 years of experience), and advanced-level (over 10 years of experience) training;

- **Leadership training:** Covering leadership, teamwork, and decision-making skills;

- **Continuous training:** Providing professional certification opportunities and advanced skill development;

- **E-taxation training:** Training employees to use new technologies and digital systems in tax administration.

These programs are delivered by universities and the National Tax Officials Training Institute through blended learning formats combining classroom and online instruction.

The training system of the Korean tax administration is integrated, structured, and implemented in a phased manner. It aims to improve training effectiveness, develop highly specialized professionals, and produce “top tax experts.” Furthermore, training is aligned with international standards and focuses on tax reform, ethics, auditing, international taxation, transparency, and anti-corruption knowledge.

CONCLUSION

The training system for tax administration employees is closely related to the institutional development and governance level of each country. The human resource training system of the Internal Revenue Service (IRS) in the United States is based on needs-driven, continuous development principles and is organized in accordance with international standards. In contrast, the Republic of Korea demonstrates a more centralized and hierarchical training system with strong institutional coordination.

Across countries, a common characteristic is the existence of well-developed policies aimed at continuously improving employees’ knowledge, skills, and ethics, as well as practice-oriented training approaches and performance evaluation systems.

In Mongolia, tax administration employees participate in professional qualification training under the Law on Civil Service, as well as capacity-building training for tax inspectors. Based on the principles of merit, professionalism, and stability defined in the General Tax Law, efforts have been made to implement human resource policies in the tax administration and to establish a training

environment that supports career progression and continuous development.

The Strategic Plan of the General Department of Taxation for 2025–2028 emphasizes implementing a merit-based and gender-responsive human resource policy, and strengthening employees’ professional competencies through a training and research unit.

The training content for tax administration employees includes: reforming the system of training types and formats within the tax administration and developing training at all levels, and developing and evaluating leadership and teaching methodologies within the tax administration.

Within this framework, employees have been trained in areas directly related to job performance, such as professional competencies, legal knowledge, information security, tax reporting, and the use of digital systems.

Although progress has been made in developing Mongolian tax administration employees into professional, competent, and ethical civil servants, there is still a need to further improve training effectiveness assessment, expand e-learning systems, and introduce international best practices in order to enhance the quality and accessibility of training.

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SECURITY OF STATE SPECIAL OFFICER, ISSUES, AND METHODS OF SOLUTION

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Abstract. State special officers are characterized by the fact that they carry out their functions of ensuring national security, human rights, and social stability in a high-risk environment. This scientific article aims to analyze the current situation and pressing issues of state special officers' security from a theoretical, legal, and management perspective and to determine ways to solve them. Document analysis, content analysis, comparative methods, and a systems approach were used in the study. The results of the study revealed that the security of officers is directly affected by law, legal regulations, risk management, provision of protective equipment, psychological protection, social guarantees, and organizational safety culture. In addition, the security protection measures specified in the Law of Mongolia on Witness and Victim Protection are used as a practical mechanism to ensure the safety of state officials such as judges and prosecutors in certain circumstances, using statistical data and relevant legal regulations. Therefore, it is necessary to comprehensively improve the integrated security system based on risk management, psychological protection, technological innovation, social guarantees, and legal protection.

Keywords: state special forces, security, risk management, protective measures, judge, prosecutor, witness and victim protection system.

Introduction

State special services play a key role in maintaining social order, security, and implementing special state functions. Officers performing these functions perform their duties in a variety of risky situations, including crime, public disorder, armed resistance, disasters, infectious diseases, public pressure, and cyber threats. The safety of officers working in such environments is directly related to the effectiveness of the organization's operations, professional stability, public trust, and state capacity.

Mongolia has regulated the social security, working conditions, protective equipment, training, discipline, and responsibility of state special services to a certain extent, but in the context of changing modern risk structures and forms of threats,

there is a need to broaden the concept of security. In particular, state officials such as detectives, judges, and prosecutors are at risk of real threats to their lives, health, and safety in connection with specific cases, disputes, adjudication, and prosecutorial supervision activities.

Research goals and objectives

The purpose of the study is to study the current situation and pressing issues of the security of state special services, and to determine the policy, management and implementation methods for improving it.

- To determine the theoretical and conceptual framework of the security of state special services;
- To analyze the legal regulations in force in Mongolia;

- To identify the main risk factors affecting the security of the serviceman;

- To analyze the practical use of the protection of judges and prosecutors within the framework of the Law on Witness and Victim Protection;

- To develop possible solutions, proposals and recommendations.

Research methodology

This article uses document analysis, content analysis, comparative methods and a systems approach. The Constitution of Mongolia, the Law on Civil Service, the Law on Police Service, the Law on Prosecutors, the Law on Witness and Victim Protection, relevant regulations, joint orders and internal regulations of the organization's activities were studied.

Theoretical basis

The security of state special forces is a comprehensive concept that encompasses not only physical protection, but also psychological, professional, social and information security. The modern approach to risk management considers security as a management cycle of prevention, risk assessment, implementation of control measures, analysis and continuous improvement.

Analysis of the legal environment

The Constitution of Mongolia guarantees the right of a person to life, to live in a healthy and safe environment, and to work. The laws on state special forces organizations include regulations on the rights, duties, social guarantees and protection of servicemen, but the regulation of new risks such as psychological protection, burnout, cyberbullying and family protection remains relatively weak.

Factors affecting the safety of state special forces

- Risks of the performance of duties: dealing with criminals, public disorder, accidents, disasters, infectious diseases, night shifts, weapons and transportation risks;

- Internal factors of the organization: lack of human resources, load imbalance, weak safety culture;

- Human factors: experience, physical preparation, psychological endurance, decision-making;

- Social environment influence: public criticism, pressure from recordings, reputation risk.

Analysis of the application and practical implementation of the law in Mongolia

In connection with this topic, it is theoretically and practically significant to consider the safety of state special forces within the framework of the application of security protection measures specified in the Law on Witness and Victim Protection. This is because officials performing state functions such as detectives, judges, and prosecutors are at risk of threats to their lives, health, and safety in connection with their professional activities.

1. Legal regulations and practices to ensure the safety of judges

The “Procedures for implementing protective measures in the event of a threat to the life and health of a judge or his/her family member” approved by the joint order of the Minister of Justice and Internal Affairs and the Chairman of the General Council of the Judiciary No. A/301, 186 of 2021 is a special regulation to ensure the safety of judges.

Article 1.5 of the regulation states that “The police shall be responsible for protecting the life and health of a judge or his/her family member in the event of a threat to his/her life or health.” Article 2.1 stipulates that if a threat to the life or health of a judge or his/her family member arises or is imminent, the police shall be notified immediately. Article 2.2 stipulates that the police shall immediately take measures to eliminate the threat or threat upon receiving the information. Article 3.2 stipulates that the security measures specified in Article 7, Section 7.1 of the Law on Witness and Victim Protection may be used individually or in combination, and psychological protection measures may be taken if necessary.

In cases where the General Council of the Judiciary submits a request to the General Police Department to implement protective measures for a judge or his/her dependents, the practice of implementing protective measures by order of the Director of the General Police Department in accordance with the Police Procedures /Code 607 for the Protection of Certain Officials and Their Families/ has been established.

According to practical statistics, a total of 15 judges and their dependents were protected in 2016–2025. This confirms that the professional activities of judges are subject to real risks of danger and threat.

2. Legal regulations and practice for ensuring the safety of prosecutors

Article 58.1 of the Law on Prosecutors states that “If there is a threat to the life and safety of a prosecutor or a member of his/her family, and information about this is received, the police department shall take measures to ensure security in accordance with relevant legislation.”

3. Statistical analysis

Also, in Article 1.2 of the “Procedures for Cooperation between Prosecutors and Police Organizations in the Event of an Emergency Situation in the Prosecutor’s Office” jointly approved by the Head of the General Police Department and the State Prosecutor General, the Police Organization shall refer to the Law on the Prosecutor’s Office, the Law on Police Service, the Law on Witness and Victim Protection, and other relevant legal documents when an emergency situation arises in the prosecutor’s office, and Article 1.3.1 shall refer to the situation where a threat to the life or health of a prosecutor or a member of his family has arisen and information about this has been received as an emergency situation.

In addition, Article 607.1 of the Police Organization’s Procedures /“Code 607” for the Protection of Certain Officials and Their Families/ stipulates that “it is intended to regulate the norms to be followed in protecting civil servants, prosecutors, employees of the Anti-Corruption Organization, police organization management, and other employees from criminal attacks,” and the prosecutor is considered a subject of special protection.

In cases where the prosecutor's office submits a request to the Police General Directorate, protective measures are implemented by order of the Chief of the Police General Directorate, in accordance with the same "Code 607".

According to practical statistics, a total of 12 prosecutors and their dependents were protected from 2016 to 2025. This shows that the professional activities of prosecutors are also subject to real dangers and threats.

№	Position	Number of people covered
1	Judge	15
2	Prosecutor	12
Total		27

This statistic shows that some officials exercising state power are at risk of real danger and threat. Security protection measures are not only applied to witnesses and victims involved in criminal cases, but also to high-risk officials performing state functions. It is also evident that the Police are the main implementing entity in the implementation of security measures.

Analysis of the challenges

First, the modernization and availability of protective equipment and technical equipment are insufficient. Second, psychological health, burnout, and post-crime support are weak. Third, risk assessment, near-miss registration, and prevention activities are insufficient for practical implementation. Fourth, legal and professional protection issues, fear of decision-making, and public pressure are increasing. Fifth, social security, family protection, and rehabilitation services need to be strengthened at the system level.

Solutions

- Develop a unified security policy and standards;
- Introduce an organizational system based on risk management;
- Reform training and refresher training based on simulations, cases, and conditional exercises;
- Create a psychological protection system;
- Modernize protective equipment and technologies;

- Strengthen legal protection and social guarantees.

Conclusion

This study has established that the security of state special services personnel is a complex issue that depends on many factors. In particular, the fact that state officials such as judges and prosecutors are subject to protective measures specified in the Law on the Protection of Witnesses and Victims in certain circumstances proves that the security of state employees is a real and practical issue. Therefore, security should be considered as a comprehensive concept that includes not only physical protection, but also psychological, professional, social protection, and information security.

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ENGLISH LANGUAGE TEACHING IN PROFESSIONAL POLICE EDUCATION: COMMUNICATIVE AND PRACTICE-ORIENTED APPROACHES

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Abstract

The increasing internationalization of contemporary law enforcement activities has expanded the need for practical foreign language competence among police personnel. Communication with foreign citizens, participation in multinational cooperation, and access to international professional information have made English language proficiency an increasingly important component of police training. Within this context, professional education institutions responsible for preparing future law enforcement officers face growing pressure to implement more effective and practice-oriented approaches to language instruction.

This study examines contemporary approaches to teaching English to police cadets enrolled in a one-year professional training program at the University of Internal Affairs in Mongolia. Particular attention is given to cadets who enter professional police education immediately after completing secondary school and who often demonstrate uneven language preparedness, limited communicative experience, and restricted exposure to profession-oriented English instruction. The study analyzes how communicative language teaching, task-based instruction, learner-centered methodology, and technology-enhanced learning may contribute to the development of practical communication skills within intensive professional training environments.

The research is based on qualitative and analytical examination of modern language teaching theory, professional educational practice, and instructional approaches applicable to police training contexts. The analysis indicates that grammar-centered instructional models alone are insufficient for developing communicative competence required in contemporary law enforcement practice. In contrast, professionally contextualized instructional strategies—including scenario-based interaction, collaborative learning activities, role-play simulations, and multimedia-supported instruction—appear more effective in encouraging learner participation and strengthening occupational communication skills.

The findings suggest that English language instruction in police education becomes more effective when language learning is directly connected to realistic professional situations and operational communication needs. The study further emphasizes the importance of flexible pedagogical approaches capable of responding to the educational characteristics of cadets enrolled in short-term professional programs. By integrating communicative methodology with profession-oriented instructional design, police training institutions may create learning environments that support both language development and professional preparedness in increasingly internationalized law enforcement settings.

Keywords: English for Specific Purposes (ESP); police education; communicative language teaching; task-based learning; professional communication; law enforcement training; technology-enhanced language learning.

Introduction

The operational environment of contemporary law enforcement has undergone significant transformation as a consequence of globalization, international

migration, transnational crime, and expanding cross-border cooperation. Within this changing context, police officers are increasingly expected to interact with foreign citizens, participate in international

professional activities, and access occupational information distributed in English. As a result, foreign language competence—particularly English proficiency—has gradually evolved from an additional academic qualification into a practical professional requirement within modern police education systems (Richards & Rodgers, 2014).

The growing importance of professional communication in English has generated new pedagogical challenges for institutions responsible for preparing future law enforcement personnel. Unlike students enrolled in conventional university programs, cadets participating in intensive professional police training courses are required to develop functional communication skills within a relatively limited instructional period. This challenge becomes more pronounced in programs involving learners who enter professional education immediately after completing secondary school. Although many cadets possess elementary grammatical knowledge acquired through general education, their ability to apply English in authentic communicative situations often remains underdeveloped.

Consequently, instructional models based primarily on memorization and grammatical explanation may not adequately support the development of occupational communication competence required in contemporary policing environments (Brown, 2007; Harmer, 2015).

Within the Mongolian context, this issue has become increasingly visible in one-year professional training programs implemented at the University of Internal Affairs. Cadets enrolled in such programs demonstrate substantial variation in language preparedness, learning autonomy, and communicative confidence. In many cases, students experience difficulties related to oral interaction, listening comprehension, and profession-oriented vocabulary use despite prior exposure to English during secondary education. Simultaneously, the intensive structure of police training curricula restricts

opportunities for extensive language practice. Under these circumstances, English language instruction requires pedagogical approaches capable of connecting language learning directly to practical and profession-oriented communication.

Recent developments in foreign language pedagogy emphasize the importance of contextualized learning, communicative participation, and learner engagement within the instructional process. Communicative language teaching, task-based instruction, and learner-centered methodologies increasingly prioritize meaningful interaction over passive grammatical reproduction (Savignon, 2002; Ellis, 2003). Such approaches are particularly relevant in professional education environments where language competence must be linked to occupational performance rather than abstract linguistic knowledge alone. For police cadets, communication-oriented instruction may provide opportunities to practice realistic professional interaction involving public safety communication, interviewing procedures, emergency response situations, and cooperation with foreign nationals.

At the same time, contemporary studies in English for Specific Purposes (ESP) emphasize that professional language education should reflect the communicative realities of particular occupational settings rather than relying exclusively on general language instruction (Hutchinson & Waters, 1987; Robinson, 1991). In the context of police education, this requires instructional strategies capable of integrating profession-related scenarios, operational vocabulary, and practical communication tasks into the learning process. Furthermore, the increasing use of multimedia resources and technology-enhanced learning environments has created additional opportunities for expanding language exposure and supporting independent learning beyond formal classroom instruction (Chapelle, 2010; Stockwell, 2013).

Despite the growing relevance of English within law enforcement training, relatively limited research has examined methodological approaches specifically applicable to short-term police education programs in Mongolia. Existing discussions frequently address foreign language teaching from broad pedagogical perspectives without sufficiently considering the institutional conditions, occupational communication needs, and learner characteristics associated with police training environments. Therefore, further examination is needed regarding how contemporary language teaching methodologies may be adapted more effectively to the realities of professional law enforcement education.

The present study aims to analyze modern approaches to teaching English to police cadets enrolled in a one-year professional training program after completing secondary education. Particular attention is devoted to communicative and practice-oriented instructional strategies capable of strengthening professional communication competence within limited instructional time. Through the examination of contemporary pedagogical approaches applicable to police education, the study seeks to contribute to the improvement of profession-oriented English language instruction within Mongolian law enforcement training institutions.

Theoretical Foundations of Teaching English in Professional Police Education

The theoretical orientation of contemporary foreign language education has shifted considerably from traditional grammar-centered instruction toward communication-oriented and professionally contextualized learning models. Earlier language teaching traditions primarily emphasized grammatical accuracy, vocabulary memorization, and translation exercises as the central indicators of language proficiency. Within such approaches, learners often acquired theoretical knowledge of linguistic structures without developing the communicative flexibility necessary for

authentic interaction (Larsen-Freeman & Anderson, 2011). Although structural approaches contributed to formal language awareness, they frequently provided limited opportunities for learners to apply language within unpredictable social or occupational contexts.

Recent developments in language pedagogy increasingly conceptualize language not merely as a formal system of rules, but as a practical instrument of communication shaped by social interaction and contextual meaning (Richards & Rodgers, 2014). From this perspective, communicative competence involves the ability to interpret situations, negotiate meaning, and respond appropriately within specific professional and interpersonal environments. Such theoretical developments have become particularly relevant in professional education systems where language learning is directly connected to occupational performance and real-world communication demands.

Within police education, communicative competence possesses distinctive professional importance. Law enforcement officers regularly encounter situations requiring immediate and accurate communication under conditions involving uncertainty, time pressure, and intercultural interaction. Communication difficulties in such contexts may influence not only operational effectiveness but also public trust, procedural clarity, and professional decision-making. Consequently, English language instruction for police cadets requires pedagogical approaches capable of supporting practical communicative performance rather than isolated grammatical reproduction.

This professional requirement corresponds closely with the theoretical principles of Communicative Language Teaching (CLT). Communicative approaches emphasize meaningful interaction, learner participation, and purposeful language use within realistic contexts (Savignon, 2002). Unlike teacher-centered instructional models that position learners primarily as passive recipients of

linguistic information, communicative methodology encourages active engagement through discussion, collaborative tasks, negotiation of meaning, and situational interaction. Within police training environments, communicative instruction may allow cadets to develop language competence through professionally relevant activities such as interviewing foreign citizens, providing public safety information, or responding to operational scenarios involving international participants.

Task-based instructional theory provides an additional methodological framework particularly applicable to professional police education. According to Ellis (2003), language learning becomes more effective when learners use language as a functional tool for completing meaningful communicative objectives. Task-based learning therefore prioritizes purposeful interaction over mechanical grammatical exercises. In police education contexts, task-oriented activities may include incident reporting, emergency communication simulations, role-play interviews, and collaborative problem-solving exercises related to law enforcement practice. Such instructional activities contribute not only to linguistic development but also to professional reasoning, situational judgment, and communicative confidence.

Another important theoretical dimension involves learner-centered pedagogy. Contemporary educational theories increasingly recognize that effective learning occurs when students actively participate in constructing knowledge rather than depending exclusively on teacher explanation (Brown, 2007). Learner-centered instruction emphasizes autonomy, interaction, reflection, and collaborative engagement within the educational process. These principles are especially relevant for cadets entering professional training immediately after secondary education, as students frequently demonstrate uneven academic preparedness, limited communicative

confidence, and varying learning habits. By encouraging participation and reducing excessive dependence on teacher-directed instruction, learner-centered approaches may strengthen both motivation and communicative competence.

The conceptual framework of English for Specific Purposes (ESP) also provides substantial theoretical relevance for police language education. ESP-oriented instruction differs from general language teaching because it organizes educational content according to the communicative requirements of particular professions and occupational environments (Hutchinson & Waters, 1987; Robinson, 1991). In the context of police training, this means that instructional materials and classroom activities should reflect realistic law enforcement communication rather than generalized academic language use. Profession-oriented instruction may therefore include operational terminology, procedural communication, intercultural interaction, and scenario-based learning connected directly to policing practice. Such specialization increases the practical relevance of language learning and allows cadets to perceive English as an occupational communication tool rather than solely an academic subject.

In recent years, technology-enhanced learning has further expanded theoretical understandings of foreign language education. Digital learning environments, multimedia resources, and mobile-assisted instructional tools provide learners with greater access to authentic linguistic input and flexible opportunities for independent practice (Chapelle, 2010; Stockwell, 2013). For cadets enrolled in intensive professional training programs where classroom hours remain limited, technology-supported learning may significantly strengthen vocabulary retention, listening comprehension, and continuous language exposure beyond formal instructional settings.

Taken together, these theoretical perspectives suggest that effective English language instruction in police education

requires an integrated pedagogical framework combining communicative interaction, profession-oriented learning, learner participation, and contextualized instructional practice. For cadets with secondary educational backgrounds enrolled in short-term professional programs, teaching approaches emphasizing realistic communication and occupational applicability appear particularly important. Consequently, contemporary language pedagogy provides an essential theoretical foundation for improving the quality and practical effectiveness of English language education within modern law enforcement training institutions.

Methodology

This study employs a qualitative and analytically oriented research design to examine instructional approaches applicable to teaching English within short-term professional police training programs. The research focuses specifically on cadets enrolled in the one-year professional training program at the University of Internal Affairs who entered police education immediately after completing secondary school. The selection of this educational context is based on the recognition that foreign language instruction in police training environments differs considerably from language teaching conducted within conventional university programs. In professional police education, learners are expected to acquire practical communicative competence within restricted instructional time while simultaneously adapting to occupationally intensive academic conditions.

Rather than measuring language performance through quantitative testing procedures, the study seeks to analyze how contemporary pedagogical approaches may respond to the institutional realities and communicative needs associated with police education. The research therefore adopts an interpretative methodological orientation emphasizing professional applicability, instructional relevance, and contextual analysis. Particular attention is

devoted to the relationship between modern language teaching theory and the practical conditions under which English instruction is implemented within professional law enforcement training environments.

The study is grounded in three interconnected dimensions of analysis. The first dimension involves a review of contemporary academic literature related to communicative language teaching, task-based instruction, learner-centered pedagogy, English for Specific Purposes (ESP), and technology-enhanced language learning. Academic monographs, peer-reviewed journal articles, and methodological studies concerning professional foreign language education were examined to identify theoretical principles relevant to police language instruction (Richards & Rodgers, 2014; Ellis, 2003; Hutchinson & Waters, 1987). Particular emphasis was placed on approaches emphasizing communicative participation, occupational relevance, and contextualized learning.

The second analytical dimension concerns the educational characteristics of one-year professional police training programs implemented at the University of Internal Affairs. Within this stage of analysis, attention was directed toward institutional factors influencing language instruction, including limited classroom hours, intensive curriculum structure, heterogeneous learner proficiency, and the operational communication needs associated with future police service. The analysis also considered the educational transition experienced by cadets entering professional training directly after secondary education, as this transition frequently affects communicative confidence, learning autonomy, and classroom participation.

The third dimension of the study involves pedagogical analysis of instructional practices commonly applied in profession-oriented English language classrooms. Particular attention was given to communicative interaction, role-play activities, scenario-based instruction,

collaborative learning tasks, and multimedia-supported educational practices connected to law enforcement communication. These instructional approaches were examined not as isolated teaching techniques, but as components of a broader pedagogical framework intended to strengthen communicative competence within realistic occupational contexts. In this regard, the study emphasizes the practical relationship between language learning and professional preparedness rather than treating linguistic development as an exclusively theoretical process.

During the analytical process, special consideration was given to recurring instructional difficulties observed within short-term police education programs. These include uneven language preparedness among cadets, limited opportunities for communicative practice, reduced learner confidence in spoken interaction, and restricted instructional duration. Consequently, the methodological analysis focuses not only on the theoretical advantages of communicative and learner-centered pedagogies, but also on their practical adaptability within institutionally constrained professional training environments.

The study does not seek to establish universally applicable instructional models for all foreign language learning contexts. Instead, its objective is to develop context-sensitive pedagogical observations specifically relevant to English language instruction in professional police education. Through the integration of theoretical interpretation, institutional analysis, and profession-oriented instructional reflection, the research seeks to contribute to a more practice-oriented understanding of foreign language teaching within contemporary law enforcement training systems.

Overall, the methodological framework adopted in this study is based on the assumption that effective language instruction in police education requires the integration of pedagogical theory, occupational communication needs, and institutional realities. Accordingly, the

research approach is intended to support the development of instructional strategies more closely aligned with the communicative demands and educational conditions associated with modern police training.

The study additionally incorporates reflective observations derived from English language instruction conducted within professional police training classrooms at the University of Internal Affairs. These observations were used to identify recurring communicative difficulties, learner participation patterns, and instructional challenges commonly experienced by cadets enrolled in short-term professional programs.

Practical Approaches to Teaching English in Professional Police Training

One of the principal challenges associated with English language instruction in short-term police training programs involves the transformation of passive linguistic knowledge into functional communicative competence. Many cadets entering professional police education after secondary school possess limited experience using English beyond controlled classroom exercises. Although learners may demonstrate familiarity with basic grammatical structures and isolated vocabulary items, difficulties frequently emerge when communication requires spontaneous interaction, situational interpretation, or profession-oriented language use. This discrepancy between theoretical knowledge and communicative performance represents a recurring instructional issue within professional police education.

This remains a common difficulty in police classrooms. Consequently, communicative participation must occupy a central role within the instructional process. Contemporary communicative pedagogy emphasizes that language development occurs more effectively when learners engage actively in interaction rather than functioning as passive recipients of linguistic explanation (Savignon, 2002; Richards, 2006). In police education, this

principle possesses particular significance because future officers may encounter professional situations requiring rapid comprehension, situational judgment, and precise verbal response under operational pressure.

From a methodological perspective, scenario-based learning appears especially relevant to law enforcement training environments. Police activity is inherently situational and frequently involves unpredictable interaction with members of the public. Accordingly, language instruction connected to realistic operational contexts may contribute more effectively to professional preparedness than abstract textbook-oriented exercises. Scenario-based activities involving communication with foreign tourists, emergency assistance procedures, public safety explanations, or preliminary questioning exercises allow cadets to practice English within contexts resembling authentic occupational interaction. Such instructional strategies also contribute to the development of communicative confidence, an area in which many learners initially demonstrate hesitation or linguistic insecurity.

An additional advantage of professionally contextualized scenarios lies in their capacity to integrate multiple communicative skills simultaneously. During role-play interaction or operational simulation, cadets may be required to interpret spoken information, formulate responses, negotiate meaning, and cooperate with peers while responding to situational demands. Language learning therefore becomes connected not only to vocabulary acquisition, but also to professional reasoning, decision-making, and communicative adaptability. This interdisciplinary dimension increases the practical relevance of classroom instruction and aligns language learning more closely with the operational realities of contemporary policing.

Task-based instructional approaches similarly provide important pedagogical benefits within intensive professional

education programs. According to Ellis (2003), task-oriented learning encourages students to use language as a practical instrument for achieving communicative objectives rather than concentrating exclusively on grammatical accuracy. In police education settings, such tasks may include preparing simplified incident reports, conducting structured interviews, explaining legal procedures to foreign citizens, or participating in collaborative problem-solving activities connected to public safety scenarios. Through these activities, learners are encouraged to prioritize communicative effectiveness and occupational functionality rather than memorized linguistic reproduction.

The success of communicative and task-oriented instruction is closely connected to learner participation. In many examination-oriented educational environments, students remain heavily dependent on teacher explanation and demonstrate limited willingness to initiate independent communication. This tendency may persist among cadets entering police education directly after secondary school. Consequently, interactive classroom organization becomes essential for developing communicative autonomy and reducing excessive reliance on teacher-centered instruction. Group discussion, collaborative learning, peer interaction, and pair-based activities create educational environments in which learners gradually become more comfortable expressing ideas and responding spontaneously in English (Brown, 2007).

Within communicative instructional frameworks, the professional role of the teacher also undergoes significant transformation. Rather than functioning solely as a transmitter of grammatical knowledge, the instructor increasingly assumes the role of facilitator, organizer, and communication guide. Effective English language instruction in police education therefore requires not only linguistic expertise but also the capacity to design professionally meaningful learning situations capable of sustaining learner

engagement. The effectiveness of classroom interaction depends substantially on whether instructional tasks reflect occupational realities recognizable and relevant to cadets preparing for future police service.

Professional relevance additionally influences learner motivation. In short-term police training programs, students may initially perceive English as secondary to operational or legal subjects occupying a more visible position within the curriculum. However, when language instruction demonstrates direct connection to practical policing activities, international cooperation, or field-based communication, cadets are more likely to recognize the occupational value of communicative competence. Profession-oriented instructional design therefore functions simultaneously as both a methodological approach and a motivational mechanism supporting active learner participation.

The integration of digital learning technologies further expands opportunities for communication-oriented instruction. Multimedia resources exposing learners to authentic speech patterns, operational communication recordings, and international policing contexts may significantly strengthen listening comprehension and profession-related vocabulary acquisition (Chapelle, 2010; Stockwell, 2013). Mobile-assisted learning platforms and interactive digital applications additionally provide opportunities for continued language practice outside formal classroom settings. Within intensive police education programs where instructional hours remain limited, such supplementary learning opportunities may contribute substantially to sustained language exposure and independent communicative development.

Nevertheless, the implementation of highly interactive pedagogical models within police education is not without institutional difficulties. Variations in learner proficiency, restricted classroom duration, and the traditionally hierarchical structure of professional training

environments may complicate communicative classroom organization. Some cadets may initially avoid participation due to pronunciation anxiety, vocabulary limitations, or fear of making mistakes publicly. Consequently, successful implementation of communicative approaches requires gradual instructional adaptation and psychologically supportive classroom conditions encouraging participation without excessive evaluative pressure.

Overall, the analysis suggests that effective English language instruction in professional police education requires a pedagogical balance between communicative interaction, occupational relevance, and instructional flexibility. Approaches grounded in realistic professional communication appear considerably more suitable for short-term police training programs than methods based predominantly on grammatical explanation and memorization. By integrating language learning with the communicative realities of contemporary law enforcement practice, police education institutions may strengthen not only linguistic competence, but also the broader professional preparedness of future law enforcement personnel.

Conclusion

Contemporary developments in law enforcement practice have substantially reshaped the professional competencies expected of police personnel. Increasing interaction with foreign citizens, participation in international cooperation, and the growing accessibility of professional information in English have elevated the practical importance of foreign language proficiency within police education. Under these circumstances, English instruction in professional police training can no longer remain confined to conventional grammar-focused classroom models detached from operational realities. Instead, language education must respond directly to the communicative demands emerging within modern policing environments (Richards & Rodgers, 2014).

The present study demonstrates that cadets enrolled in short-term professional training programs frequently encounter difficulties when attempting to apply previously acquired grammatical knowledge in authentic communicative situations. Although many students entering police education after secondary school possess elementary linguistic foundations, communicative flexibility, professional vocabulary usage, and spontaneous oral interaction often remain insufficiently developed. This situation highlights the limitations of instructional approaches based predominantly on memorization and structural explanation. The findings therefore support the importance of pedagogical strategies emphasizing meaningful interaction, contextualized practice, and occupationally relevant communication (Savignon, 2002).

The analysis further indicates that communicative and practice-oriented instructional approaches provide more appropriate methodological support for professional police education than traditional teacher-centered models. Scenario-based activities, task-oriented instruction, collaborative learning, and learner-centered classroom interaction encourage cadets to use language actively while simultaneously connecting English instruction to future professional responsibilities. In particular, activities reflecting realistic law enforcement situations appear effective in strengthening learner engagement, increasing communicative confidence, and improving the practical applicability of language learning within professional training contexts (Ellis, 2003).

The study also emphasizes the growing significance of technology-enhanced learning within intensive police education programs. Multimedia materials, authentic audiovisual resources, and mobile-assisted learning platforms may provide additional opportunities for vocabulary reinforcement, listening practice, and continuous language exposure beyond scheduled classroom instruction

(Chapelle, 2010; Stockwell, 2013). Nevertheless, the educational value of such technologies depends largely upon whether instructional content reflects the communicative realities and occupational requirements associated with police service rather than generalized language practice alone.

At the institutional level, several factors continue to influence the effectiveness of English language instruction in police education. Limited instructional duration, uneven learner preparedness, and reduced confidence in spoken communication may complicate the implementation of highly interactive teaching approaches. However, these constraints reinforce rather than diminish the importance of adaptive pedagogical strategies capable of responding to the specific educational conditions of short-term professional training environments.

Overall, the findings of this study suggest that foreign language instruction within police education should be approached as a component of professional competence rather than merely as an academic requirement. Effective instructional practice requires integration between communicative pedagogy, profession-oriented learning tasks, and realistic operational contexts. Within increasingly internationalized law enforcement environments, the ability to communicate appropriately and effectively in English represents an important aspect of future police officers' professional preparedness.

Future studies may further strengthen this field of research through empirical classroom observation, comparative institutional analysis, and evaluation of learner performance within profession-oriented language programs. Such investigations may contribute to the development of more specialized and context-sensitive methodological frameworks for English language instruction in contemporary police education systems.

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ORIGIN, DEVELOPMENT, AND CURRENT STATE OF MILITARY OPERATIONS

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ABSTRACT

This article examines the origin, development, and current state of the concept of “operation” in military affairs from the seventeenth century to the present day. The study employs historical-comparative and systems analysis methods. The findings indicate that the concept of operation emerged from eighteenth-century combat experience, evolved into an independent military science concept under the influence of the growth of armed forces and technological advancement in the nineteenth century, and became firmly established through the theory and practice of operational art in the twentieth century. The study further identifies how the contemporary concept of network-centric warfare continues to transform the essence of military operations.

Keywords: operation, operational art, deep offensive operation, defensive operation, network-centric warfare.

ONE. INTRODUCTION

“Operation,” one of the central concepts of military art, is a form of armed struggle that extends beyond a single battle or engagement and encompasses large-scale time, space, forces, and resources. This concept gradually developed within military science as a result of social development, technological progress, and accumulated combat experience.

The significance of this research lies in the practical importance for current military policymakers and military educators to understand the historical evolution and theoretical foundations of operations (Svechin, 1927; Triandafilov, 1929). The article seeks to address the following research questions:

1. When and how did the term “operation” emerge?
2. How did the form of operations evolve during the eighteenth to twentieth centuries?
3. How is the essence of operations changing under modern conditions?

The study employs historical-comparative analysis and systems approaches and is based on the works of Russian military theorists and NATO military research materials.

An inseparable and critically important component of border protection art is the **Operational Art of Border Troops**.

The Operational Art of Border Troops is defined as the complex of theory and practice related to preparing and conducting the activities of border troop operational groups (border representative offices) aimed at protecting Mongolia’s political, economic, and military interests along the state border and within border space.

This raises the question: what is border protection operational art? Scholars specializing in border studies define it as follows:

As an integral and important part of border protection art, border troop operational art serves as the link between border strategy and border troop tactics. It fulfills strategic objectives, improves tactical implementation, and plays a vital role in the development of the theory and practice of border protection art.

Border troop operational art consists of both theoretical and practical activities. The theoretical aspect develops scientifically grounded concepts for border protection activities conducted by border troop operational groups and seeks to improve effectiveness. The practical aspect includes actual border troop operational activities, command and organizational arrangements, troop leadership, and comprehensive support measures.

Based on the Constitution of Mongolia, national security and foreign policy concepts, state military and border policies,

legislation, and scientific principles, border troop operational art fulfills the following tasks:

- Developing scientific foundations for border troop operational art and determining methods for practical implementation;
 - Defining methods and forms for organizing and conducting state border protection operations by border troop operational groups and establishing directions for their further improvement;
 - Determining methods for employing military and state organizational forces and means in border protection operations;
 - Organizing all forms of support necessary for coordination during operational-scale activities;
 - Studying the characteristics of intelligence and sabotage activities that may arise along the state border and within border areas and improving mechanisms to counter them;
 - Solving comprehensive issues related to maintaining combat readiness of units and subunits within operational directions and scales;
 - Determining requirements for the structure, organization, staffing, and armament of border troop operational groups;
 - Developing principles of cooperation with defense units, general-purpose forces, security organizations, police, and other military organizations in fulfilling state border protection tasks;
 - Defining the missions of border troop operational groups and organizing activities based on strategic border operation plans and concepts;
 - Ensuring timely information flow and establishing integrated information systems within operational directions and scales.
- Border troop operational art includes the following principal issues:
- General principles and concepts for employing various forces and means to achieve border protection objectives;
 - Theoretical and practical issues concerning the use of border detachments,

special commandant offices, reserve forces, and senior commanders' forces during border protection missions;

- Conditions and methods for employing general-purpose and air defense forces during border protection operations;
- Theoretical and practical issues related to preparing and conducting border operational and special operations;
- Reorganizing troops into operational groupings during border operational and special operations;
- Theoretical and practical issues of organizing command and control of border troop operational groups;
- Organizing and implementing support for operational formations during border protection and operational activities.

The content of border troop operational art is defined by the following principal directions:

- Studying and strengthening the role and capabilities of border troop operational groups within the national border protection system;
- Determining future trends in organizing border protection at operational and operational-strategic levels;
- Consolidating, analyzing, and enriching the results and experiences of border operations;
- Developing practical guidelines and foundations for implementing military operational group tasks during border protection activities;
- Providing methodological models, practical assistance, and theoretical development for preparing and organizing border operational and special operations;
- Providing methodological guidance and practical assistance concerning combat readiness, training, command-staff exercises, and operational-strategic exercises;
- Ensuring continuity in commanding border operational and special operations and improving troop command processes;
- Developing methods and practical support for organizing all forms of support

during border protection and special operations;

- Determining the content and direction of operational training for officers at the operational-strategic level.

TWO. THE ORIGIN OF OPERATIONS AND THEIR EARLY FORMS (17TH–19TH CENTURIES)

2.1. Origin of the Term

The term “operation” first appeared in seventeenth-century military literature and combat documents, where it referred to army military activities such as campaigns, deployments, or troop quarters. By the final quarter of the eighteenth century, military literature began using the term to describe a complex system of military activities directed toward achieving a specific objective, including troop concentration, marches and maneuvers, combat, and communication security.

The combat documents of A. V. Suvorov, M. I. Kutuzov, and other Russian commanders frequently used this term, while military theorists until the late nineteenth century referred to operations as the entire complex of strategic actions within a campaign (Mikhnevich, 1906).

2.2. Formation of Early Operational Forms in the Eighteenth Century

The prerequisites for operations in the modern sense emerged during the wars of the eighteenth century. During the Russo-Turkish wars, Russian forces divided into separate formations and defeated Ottoman troops using Rumyantsev’s principle of “march separately, fight together” (Leer, 1869). The battles near the Larga and Kagul rivers in 1770 became clear examples of this principle.

The future image of operations was also evident in Suvorov’s Swiss campaign plan. The essence of Suvorov’s method was to defeat the enemy through simultaneous concentrated offensives by several groupings—Hotze’s, Korsakov’s, and Suvorov’s detachments—across a dispersed 250-kilometer arc-shaped front. Suvorov instructed that “all allied troops must act with one idea, as a whole, and simultaneously” (Svechin, 1927, p. 45).

2.3. Development of Operational Forms in the Nineteenth Century

During the nineteenth century, the combat strength of standing armies increased significantly, and armies were divided into large operational groupings. During the Berezina crossing in the Patriotic War of 1812, simultaneous offensives by three Russian groupings—the Wittgenstein Corps from the north, Chichagov’s Third Army from the south, and Kutuzov’s main forces from the east—introduced a new stage in military art. Characteristics of operations were already clearly visible in these actions (Mikhnevich, 1906).

In the European wars of 1866–1871, Chief of Staff Helmuth von Moltke skillfully employed long-range firearms, railways, and telegraphs to conduct operations involving multiple armies advancing along converging directions. Professor Mikhnevich (1906) of the General Staff Academy wrote: “Napoleon concentrated his forces before the battlefield, while Moltke managed to do so on the battlefield itself.” Thus, the gap between maneuver and battle disappeared, creating a new form of military action.

THREE. DEVELOPMENT OF OPERATIONAL THEORY AND PRACTICE (20TH CENTURY)

3.1. The First World War and the Formation of Operational Characteristics

During the First World War (1914–1918), army operations became fully established as forms of warfare conducted according to unified plans with clearly defined objectives, characteristics, and operational boundaries. Fronts became strategic formations, and a new form of joint operations among groups of fronts emerged. A notable example was the joint Warsaw-Ivangorod offensive operation conducted by the Northwestern and Southwestern Fronts in 1914.

3.2. Operational Art as an Independent Branch of Military Science

In the early 1920s, Soviet military science concluded that dividing military art solely

into strategy and tactics could no longer accommodate the scale of modern armed conflict (Isserson, 1932). From 1922–1923 onward, the term “operational art” began to be widely used. In 1924, the Military Academy established a Department of Conducting Operations under the leadership of G. S. Isserson.

3.3. Theory of Deep Offensive Operations

During the 1920s, based on the First World War experience that defense was highly resilient, the theory of successive operations emerged. M. N. Tukhachevsky developed the principles of “fragmentation operations” and “partial victories” (Tukhachevsky, 1926).

In the 1930s, the theory of deep offensive operations was fully developed. Isserson (1932, p. 78) wrote: “Future operations, in terms of depth, will not consist of disconnected sequences of intermittent battles, but rather a unified sequence introducing combat power throughout the entire depth.” The main principles of this theory were codified in the 1936 Field Regulations of the Red Army under the leadership of Tukhachevsky and Yegorov. The essence of deep offensive operations was to apply simultaneous pressure throughout the enemy’s defensive depth using destructive means, break through tactical zones along selected directions, and develop success into operational depth through successive employment of tanks, motorized infantry, and cavalry. The goal of an operation was the complete destruction of major enemy groupings within a single operation.

3.4. Theory and Practice of Defensive Operations

During the 1920s, a theory of defense emerged that aimed to gradually exhaust an advancing enemy possessing technical superiority. Before the war, in the 1930s, a new defensive concept arose in connection with theories of deep offensive operations, emphasizing rapid repulsion of enemy offensives.

During the Great Patriotic War (1941–1945), approximately fifty front-level and more than two hundred army-level

defensive operations were conducted. Although early defensive operations revealed several shortcomings, operational defensive art advanced significantly between 1943 and 1945. During the Battle of Kursk in 1943, the Central and Voronezh Fronts successfully anticipated and prepared for major enemy offensives, representing a high achievement in military art.

FOUR. EXPERIENCE OF THE GREAT PATRIOTIC WAR AND POSTWAR DEVELOPMENT

During the Great Patriotic War, Soviet forces conducted 250 front-level operations, approximately 200 of which were offensive. Combat experience confirmed the validity of the theoretical principles developed during the war and enriched them with new concepts (Isserson, 1940).

During the first postwar stage (1945–1953), front offensive operations became components of group-front operations, while army operations became components of front operations. During this period, the depth of front operations increased to 300–350 kilometers, while army operations reached depths of up to 200 kilometers.

With the introduction of nuclear weapons beginning in 1954, operational theory adapted to new conditions. The depth of front operations expanded to 500–1000 kilometers, and the width of offensive zones increased considerably. In recent years, renewed attention has been devoted to theories of operations conducted with conventional means.

FIVE. THE CURRENT STATE OF OPERATIONS AND FUTURE TRENDS

5.1. The New Character of Modern Warfare

The contemporary concept of network-centric warfare proposes a new form of operations based on integrating intelligence, command systems, and destructive means in real time. Within such systems, sensors (sources of information), decision-making elements, and execution units are connected through communication networks.

The outcome of combat is increasingly determined by strikes using precision-guided weapons, altering the conditions for simultaneously coordinated front and army operations. Consequently, the entire complex of activities that produce strategic results is reshaping the content of strategic operations, while specialized partial actions and strikes increasingly acquire tactical characteristics.

5.2. Influence of Network-Centric Warfare on Operational Theory

Network-centric warfare focuses on achieving information superiority. Previously, military forces were coordinated according to missions, boundaries, timeframes, and directions; today, coordination increasingly occurs in real time based on targets of destruction. The traditional image of operations is transforming, while operations involving intelligence, destructive capabilities, and information systems are emerging in new forms (Klado, 1901).

Research concerning NATO's "Air-Land Battle" concept and contemporary military theorists demonstrates that the principles of deep operations theory remain relevant under modern conditions. Mastering historical experience and adapting it to new realities remains the correct path for further development of military art.

SIX. CONCLUSION

The following conclusions were drawn from this study:

First, the concept of "operation" appeared in seventeenth-century military literature, took practical shape during the Russo-Turkish wars and Suvorov's campaigns in the eighteenth century, and evolved into an independent form of warfare in the nineteenth century through the growth of standing armies and technological advancement.

Second, in the twentieth century, operational art became an independent branch of military science. The theory of deep offensive operations represented a revolutionary advancement in military art. The experiences of the Second World War

and the Great Patriotic War validated this theory.

Third, the modern concept of network-centric warfare continues to transform the essence of operations. Adapting accumulated experience to contemporary conditions will remain the foundation for the future development of military art.

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THE THEORITICAL ANALYSIS OF ISSUES FOR ENHANCING ADVANCED TECHNOLOGIES IN THE BORDER CHECKPOINT

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ABSTRACT The integration of advanced technologies into border inspection services has significantly enhanced security and operational efficiency. Various innovations are being utilized to improve the effectiveness of border control, including biometric systems, automated border control gates, smart surveillance, and artificial intelligence.

Keywords: Advanced Technologies, Border Inspection Services, Biometric Systems, Artificial Intelligence.

INTRODUCTION

The technologies in the border checkpoint processes are more important than ever, as they play a crucial role in enhancing security, improving efficiency, and facilitating smoother travel experiences. With the increasing volume of international travelers and goods, advanced technologies such as biometric identification systems, automated border control gates, and AI-driven surveillance solutions are essential for accurately monitoring and managing border crossings. These innovations not only help to prevent illegal activities but also streamline operations, reduce wait times for travelers, and ensure compliance with international regulations.

THE MAIN CONCEPTS TECHNOLOGIES

Biometric systems as facial recognition technology allows for quick identification of individuals at border crossings, reducing identity fraud and increasing throughput.

Biometric Systems utilize unique physical characteristics of individuals—such as fingerprints, iris patterns, and facial features—to verify identity. Among these,

facial recognition is one of the most widely adopted technologies at border crossings.

Facial recognition systems capture an individual's image as they approach a border checkpoint. The system then compares this image against a database of known identities, which may include passport photos and other official identification images. This process occurs in seconds, allowing for rapid identification of travelers.

Reduction of Identity Fraud by using biometric data that is difficult to replicate or forge, facial recognition significantly decreases the chances of identity fraud. Traditional methods of identification, such as checking passports or IDs, can be susceptible to forgery. If a traveler presents a fraudulent document, the facial recognition system can flag discrepancies between the individual's appearance and the photo on the identification. The automation provided by facial recognition technology allows for more travelers to be processed in a shorter amount of time. This efficiency helps to reduce long queues at border crossings, enhancing the overall travel experience. Automated systems can operate alongside human agents, allowing them to focus on

more complex cases while routine checks are handled swiftly by technology. Enhanced Security by accurately identifying individuals and detecting potential threats before they enter a country, facial recognition adds an essential layer of security. Operational Efficiency speed and accuracy of biometric systems streamline border control operations, enabling agencies to manage higher volumes of travelers without compromising security.

User Convenience is more important. Many travelers appreciate the faster processing times associated with biometric systems, which can lead to a more pleasant travel experience. The biometric systems like facial recognition technology are vital tools in modern border inspection services. They not only facilitate quick and accurate identification but also play a crucial role in reducing identity fraud and increasing throughput at border crossings. As technology continues to evolve, these systems will likely become even more sophisticated, further enhancing security and efficiency in border management.

Fingerprint and iris scanning methods provide additional layers of identity verification, ensuring that travelers are accurately identified. Fingerprint and iris scanning methods are essential components of modern border control systems, providing additional layers of identity verification that enhance security and ensure accurate identification of travelers. Here's a more detailed explanation of how these technologies work and their significance: **Fingerprint Scanning:** At border checkpoints, travelers are often required to place their fingers on a fingerprint scanner, which captures a high-quality digital image of their fingerprints. The captured fingerprints are then

compared against a database that includes fingerprints from known travelers, criminal databases, and immigration watchlists. This process helps verify the traveler's identity and check for any potential security risks.

Fingerprint scanning helps prevent unauthorized entry by quickly identifying individuals who may be on watchlists or have criminal records. This capability is crucial for maintaining national security.

The unique nature of fingerprints makes it extremely difficult to forge or replicate them, significantly reducing the risk of identity fraud at border crossings. If a traveler attempts to use a stolen passport, their fingerprint will not match the one on file. Automated fingerprint scanners expedite the identification process, allowing border agents to process travelers more quickly and efficiently, thereby reducing wait times. Iris scanning involves capturing an image of the unique patterns in an individual's iris using specialized cameras. This biometric data is then digitized for analysis. Similar to fingerprint scanning, the iris data is compared against a secure database containing records of authorized individuals. This comparison verifies the identity of the traveler. Iris patterns are highly unique to each individual and remain stable over time, making iris scanning one of the most reliable biometric methods available.

When used alongside fingerprint scanning, iris recognition provides an additional layer of verification. This multimodal approach enhances security by ensuring that travelers are accurately identified through multiple biometric traits. Iris scanning can be performed without physical contact, which is particularly beneficial in maintaining hygiene and

reducing the spread of germs at busy border crossings.

The fingerprint and iris scanning methods significantly bolster border security by providing reliable and efficient means of verifying traveler identities. These technologies not only enhance operational efficiency by speeding up processing times but also play a critical role in preventing identity fraud and unauthorized entry. As border control agencies continue to adopt these advanced biometric systems, they contribute to safer and more secure international travel.

Automated border control

(ABC) Gates, ABC gates enable travelers to self-check-in using their biometric data and travel documents. The system reduces long queues and enhances processing efficiency at airports and other entry points.

Automated Border Control

(ABC) gates, commonly referred to as e Gates, are innovative systems designed to streamline the border crossing process for travelers. Functionality of Automated Border Control (ABC) gates, travelers approach the ABC gate and present their biometric passport or travel document, which contains a chip embedded with their biometric data.

The system captures the traveler's biometric information—typically through facial recognition, fingerprint scanning, or iris scanning—at the point of entry. The biometric data extracted from the traveler is compared against the information stored in the chip of their passport. The verification process ensures that the individual is the rightful holder of the document. If the biometric match is successful, the gate unlocks, allowing the traveler to proceed. If there's a discrepancy, the system alerts

border control personnel for further investigation. ABC gates are often integrated with broader border security systems, allowing for real-time monitoring and data sharing with law enforcement agencies. ABC gates significantly reduce wait times at border crossings. Travelers can quickly verify their identity without needing to interact with border agents for routine checks.

The automation of identity verification allows border control agencies to handle a higher volume of travelers efficiently. This capability is particularly beneficial during peak travel times, such as holidays or major events. The use of biometric verification enhances security by ensuring that only authorized individuals can cross borders. This technology helps mitigate risks associated with identity fraud and unauthorized entry. Travelers benefit from a smoother and faster experience at border checkpoints. The self-service nature of ABC gates allows for greater autonomy and reduces stress associated with long waits. Automated Border Control gates represent a significant advancement in border management technology. By facilitating self-check-in through biometric data, these systems enhance security while improving processing efficiency and traveler convenience. As more countries adopt ABC gates, they are likely to become a standard feature at international borders, reflecting the growing emphasis on automation and security in global travel.

Smart surveillance systems as drones and satellite technology tools are employed for monitoring remote border areas, helping to detect illegal crossings and other illicit activities. Autonomous Surveillance Towers (ASTs) are also being deployed, which operate off-grid using

renewable energy. Smart surveillance systems, including drones and satellite technology, are increasingly employed to monitor remote border areas effectively. These advanced tools play a crucial role in detecting illegal crossings and other illicit activities. Drones are equipped with high-resolution cameras and sensors that provide real-time video feeds and data collection over vast and difficult-to-access areas.

Enhanced Monitoring drones can cover large areas more efficiently than ground patrols, allowing border agencies to monitor remote regions that may be difficult for personnel to access. Cost Effectiveness utilizing drones reduces the need for extensive manpower and resources typically required for border surveillance. Drones can be dispatched instantly to investigate alerts or unusual activities, providing real-time situational awareness. Satellites provide comprehensive coverage of border regions, capturing images and data that can be analyzed for signs of illegal activity.

They can monitor changes in terrain and human activity over time, helping to identify patterns that may indicate smuggling or unauthorized crossings. Satellite imagery allows for the monitoring of vast expanses of land, including remote areas where traditional surveillance methods may fall short. Satellites can gather historical data, enabling border agencies to analyze trends and improve strategic planning. Autonomous Surveillance Towers (ASTs) are stationary units equipped with advanced sensors and cameras that operate autonomously to monitor specific areas continuously.

These towers are designed to function off-grid using renewable energy

sources, such as solar panels, making them sustainable and cost-effective. ASTs provide round-the-clock surveillance without the need for constant human oversight, significantly enhancing border security.

Environmental Sustainability by utilizing renewable energy, ASTs reduce the carbon footprint associated with traditional surveillance methods. ASTs can be integrated with drones and satellite systems to create a comprehensive surveillance network that enhances overall effectiveness. Smart surveillance systems, including drones, satellite technology, and Autonomous Surveillance Towers, are vital tools in modern border security operations. These technologies enhance the ability to detect illegal crossings and other illicit activities while providing efficient monitoring of remote areas.

Artificial Intelligence (AI) and Machine Learning algorithms analyze large datasets to identify suspicious behavior patterns and flag high risk travelers in real-time.

The capability enhances the ability to detect potential security threats before they escalate. Artificial Intelligence (AI) and Machine Learning (ML) algorithms are revolutionizing border security by enhancing the detection of suspicious behavior patterns and identifying high-risk travelers in real-time. Role of AI and Machine Learning in Border Security as AI systems are capable of analyzing vast datasets generated from various sources, including travel histories, biometric data, and surveillance footage. For instance, machine learning algorithms can identify inconsistencies in travel records, flagged profiles, or unusual ticketing patterns that

may suggest illicit activities or risks associated with specific travelers. The capability of AI to process information rapidly allows border control agencies to monitor travelers in real-time. As soon as a passport is scanned, AI systems can assess the individual's biometric and biographic data against historical trends and known threats. AI driven predictive analytics platforms can forecast where illegal activities might occur based on historical data and current trends. By analyzing previous incidents, these systems can help authorities allocate resources more effectively to high-risk areas. AI enhances the ability to detect anomalies and suspicious behaviors that may go unnoticed by human agents. By automating threat detection processes, agencies can respond more swiftly and accurately to potential risks. The automation of routine checks reduces the need for extensive manpower at borders, allowing agencies to optimize their resources while maintaining high-security standards.

AI systems can work in conjunction with other surveillance technologies such as drones and cameras, creating a comprehensive security network that enhances overall situational awareness at borders. The integration of Artificial Intelligence and Machine Learning into border security operations significantly enhances the ability to identify suspicious behavior patterns and flag high-risk travelers in real-time. These technologies not only improve threat detection but also enable proactive measures that prevent potential security threats from escalating. As border security challenges continue to evolve, the reliance on AI-driven solutions will likely increase, making them essential tools for maintaining national safety and security. Advanced Cargo Screening as non-

intrusive inspection technologies, such as X-ray and gamma-ray scanners, allow for efficient cargo inspections without disrupting trade flows. These systems produce high-quality images that facilitate faster inspections at ports of entry.

Advanced cargo screening is essential for ensuring the security of air cargo, particularly given the increasing volume of shipments and the complexity of cargo types. Various innovative technologies are employed to enhance the effectiveness and efficiency of screening processes. Millimeter-Wave Scanners and Terahertz Imaging: These non-intrusive methods produce high resolution images that reveal the shape and density of objects within cargo containers. This capability allows security personnel to identify potential threats without physically opening the cargo, thus streamlining the screening process while maintaining security.

Multi-View CT (MVCT) is a cutting-edge scanner that combines X-ray multi-view and computed tomography (CT) technologies. It offers nearly double the penetration capability of conventional scanners, enabling operators to receive images quickly and reject pallets if threats are detected. The systems monitor air cargo for abnormal levels of radiation, which could indicate the presence of radioactive materials or nuclear devices. Utilizing sensitive detectors, they identify and quantify radiation emissions, contributing to overall air cargo security. X-ray and CT scanning systems are designed for larger cargo, such as shipping containers and vehicles. They provide multiple views (dual view or top/bottom) to enhance penetration and detection capabilities. The systems reveal details inside containers by analyzing how X-rays disperse, allowing for lower

doses to be used while still providing effective imaging.

Innovations in Screening Technology as HI-SCAN 145180-2is: Developed by Smiths Detection, this system features high-energy dual-view X-ray capabilities that enhance penetration and image quality while reducing dark alarms—instances where further inspection is needed due to unclear images. The automation and speed of advanced screening technologies allow for quicker processing times at airports, which is critical in managing high volumes of air cargo. Cost-Effectiveness: Advanced systems reduce the need for extensive manual inspections, lowering operational costs while maintaining high security standards. The evolution of advanced cargo screening technologies plays a pivotal role in enhancing air cargo security. With innovations such as multi-view CT scanners, radiation detection systems, and high-energy X-ray imaging, border control agencies can effectively manage the complexities of modern air freight while ensuring safety and compliance with international regulations. As these technologies continue to develop, they will further improve the efficiency and reliability of cargo screening processes worldwide.

Radio Frequency Identification (RFID) technology is used to track goods and passengers in real-time, improving efficiency and reducing human error during inspections. Radio Frequency Identification (RFID) technology is increasingly utilized in border control and inspection processes to track goods and passengers in real-time. This innovation enhances operational efficiency and reduces human error during inspections. RFID tags are small devices attached to items or travel documents,

containing a unique identifier that can be read by RFID readers. These tags can be passive (powered by the reader) or active (with their own power source). RFID readers emit radio waves to communicate with the tags, capturing the information stored within them when they come within range. The data collected by the readers is processed and analyzed using software systems that track movements and manage inventory.

As goods or passengers approach border checkpoints equipped with RFID readers, their tags are scanned automatically. The technology enables continuous monitoring of cargo from point of origin to destination, ensuring that all movements are logged in real-time. RFID systems significantly speed up the inspection process by reducing the time spent on manual data entry and verification. This efficiency is crucial in managing high volumes of travelers and cargo at busy border crossings. By automating data capture, RFID technology decreases the likelihood of human error associated with manual entry, such as misidentifying travelers or incorrectly logging cargo details. This reliability enhances overall security, as accurate data is essential for effective risk assessment and threat detection.

RFID technology aids in preventing smuggling and unauthorized access by providing accurate tracking of goods and individuals. Any discrepancies between expected and actual movements can be flagged for further investigation. RFID systems can be integrated with other technologies, such as biometric systems and automated border control gates, creating a comprehensive security framework that enhances overall border management. U.S.

Customs and Border Protection (CBP) employs RFID technology at key border crossings to facilitate land border travel. Special lanes equipped with RFID readers allow for quick identification of vehicles as they approach inspection booths, streamlining the process for frequent travelers. Various EU countries have implemented RFID systems within their border control frameworks to enhance tracking capabilities and improve the efficiency of inspections across member states.

Radio Frequency Identification (RFID) technology plays a vital role in modern border inspection processes by enabling real-time tracking of goods and passengers. Its ability to improve efficiency, reduce human error, and enhance security measures makes it an invaluable tool for border control agencies worldwide. As global trade and travel continue to grow, the adoption of RFID technology will likely expand, further optimizing border management practices.

Emerging Innovations as recent developments include the testing of robotic systems for surveillance along borders. These "robot dogs" are designed to operate in challenging terrains, providing additional support to border agents in monitoring activities. Furthermore, advancements in mobile surveillance capabilities help mitigate blind spots created by traditional fixed sensors, enhancing overall situational awareness. The incorporation of these advanced technologies into border inspection services not only bolsters security but also streamlines processes, making international travel and trade more efficient.

Emerging innovations in border surveillance technology are significantly enhancing the capabilities of border control agencies. Recent developments include the testing of robotic systems, particularly "robot dogs," designed to operate in challenging terrains and provide additional support to border agents in monitoring activities. The U.S. Department of Homeland Security (DHS) is currently testing robotic patrol dogs developed by Ghost Robotics.

These robots are designed for surveillance purposes, capable of traversing difficult terrains that may be inaccessible to human agents or traditional vehicles.

These robotic systems can be deployed for various tasks, including monitoring remote areas, detecting unauthorized crossings, and providing real-time situational awareness to border agents. Advancements in Mobile Surveillance Capabilities, Traditional fixed sensors often create blind spots in border surveillance. Emerging mobile surveillance technologies help address this issue by allowing for dynamic monitoring of areas that may not be effectively covered by stationary systems. Mobile units can be deployed rapidly to respond to specific incidents or monitor areas identified as high-risk based on intelligence data.

The incorporation of robotic systems with existing surveillance technologies, such as drones and static sensors, creates a more robust security framework. This integration enhances overall situational awareness and allows for quicker responses to potential threats. The deployment of robotic systems and advanced mobile surveillance technologies enhances the ability of border agents to

monitor vast and challenging terrains effectively. This capability is crucial in detecting illegal crossings and other illicit activities. By automating surveillance tasks and providing real-time data analysis, these technologies streamline operational processes at borders. This efficiency not only improves security but also facilitates smoother international travel and trade.

The integration of emerging innovations such as robotic systems and advanced mobile surveillance technologies into border inspection services is transforming the landscape of border security. These advancements not only bolster the effectiveness of monitoring efforts but also enhance overall operational efficiency, making it easier for agencies to manage the complexities of modern border control. As technology continues to evolve, the role of robotics in enhancing security measures will likely expand, further improving the safety and efficiency of international borders.

DISCUSSION

Biometric systems, particularly facial recognition technology, are crucial for enhancing border security by enabling quick identification of travelers, thereby reducing identity fraud and increasing throughput at border crossings. As these technologies continue to evolve, they will further streamline the processing of individuals, improving overall efficiency and safety in border management. Fingerprint and iris scanning methods are crucial components of modern border control systems, providing reliable and efficient means of verifying traveler identities. By enhancing security and operational efficiency, these biometric technologies significantly reduce the risk of

identity fraud and unauthorized entry, contributing to safer international travel.

Automated Border Control (ABC) gates, commonly known as e Gates, enable travelers to self-check-in using their biometric data and travel documents, significantly reducing wait times at border crossings. By streamlining the identity verification process, these systems enhance security and improve processing efficiency, allowing border control agencies to manage higher volumes of travelers effectively. Smart surveillance systems, including drones, satellite technology, and

Autonomous Surveillance Towers (ASTs), are essential for effectively monitoring remote border areas and detecting illegal activities. By enhancing real-time situational awareness and providing continuous coverage, these advanced tools significantly bolster border security while improving operational efficiency.

Artificial Intelligence (AI) and Machine Learning (ML) algorithms are transforming border security by enabling real-time analysis of large datasets to identify suspicious behavior patterns and flag high-risk travelers. These technologies not only enhance threat detection capabilities but also facilitate proactive measures that prevent potential security threats from escalating, making them essential tools for maintaining national safety and security.

Advanced cargo screening technologies, such as non-intrusive X-ray and gamma-ray scanners, are essential for ensuring the security of air cargo while facilitating efficient inspections that do not disrupt trade flows. By employing innovative systems like multi-view CT

scanners and radiation detection technologies, border control agencies can effectively manage the complexities of modern air freight, enhancing safety and compliance with international regulations. Advanced cargo screening technologies, such as non intrusive X-ray and gamma-ray scanners, are essential for ensuring the security of air cargo while facilitating efficient inspections that do not disrupt trade flows. By employing innovative systems like multi view CT scanners and radiation detection technologies, border control agencies can effectively manage the complexities of modern air freight, enhancing safety and compliance with international regulations.

Emerging innovations in border surveillance, such as robotic systems and advanced mobile technologies, are significantly enhancing the capabilities of border control agencies to monitor and detect illegal activities effectively. By integrating these advanced tools into border inspection services, security measures are bolstered while operational efficiency is improved, facilitating smoother international travel and trade.

CONCLUSION

Biometric systems, including facial recognition, fingerprint, and iris scanning technologies, are essential for enhancing border security by enabling quick and accurate identification of travelers while reducing identity fraud. Additionally, innovations such as Automated Border Control gates, smart surveillance systems, and advanced cargo screening technologies significantly improve operational efficiency and situational awareness, facilitating smoother international travel and trade. The

integration of biometrics helps in monitoring high-risk individuals and detecting potential threats, thereby bolstering national security. Authorities can track entries and exits with greater accuracy, ensuring that individuals with criminal backgrounds or prior violations are identified. The adoption of biometric technologies at borders not only enhances security but also improves the overall traveler experience. By implementing robust biometric systems, countries can effectively manage migration while upholding the rights and dignity of individuals crossing borders. This balance between security imperatives and humanitarian principles is essential for modern border management.

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ORGANIZATIONAL HUMAN RESOURCE MANAGEMENT IN CORRECTIONAL INSTITUTIONS

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Abstract

Human Resource Management within correctional environments constitutes a critical and multifaceted dimension of institutional administration. This domain encompasses the strategic recruitment, pedagogical training, and professional development of personnel charged with the dual mandate of maintaining custodial security and facilitating rehabilitative interventions, including social work and psychological services. HRM transcends localized socio-economic variables—such as national development indices, demographic shifts, and employment trends—emerging as a complex organizational imperative. This research seeks to delineate the evolution of HRM within public institutions, providing a longitudinal analysis of historical trajectories, theoretical frameworks, conceptual shifts, and emergent future trends.

Keywords

Personnel Administration, Strategic Human Resource Management, Human Capital, Correctional Institutions, Institutional Governance

Introduction

The conceptualization of 'human resources' is inextricably linked to the historical, cultural, and technological milestones of human civilization. As a result, contemporary academic discourse is defined by a plurality of theoretical perspectives and divergent definitions.

The development of human resource management can be traced to the First Industrial Revolution, during which the expansion of industrialization in Europe generated increasing demands within the labor market. This period, spanning from the mid-eighteenth to the early nineteenth century, witnessed the emergence of large-scale industries and significant transformations in labor systems, economic structures, and social relations.

The proliferation of industrial manufacturing catalyzed an unprecedented demand for labor, necessitating a substantial expansion of the workforce. This shift prompted a significant demographic transition as rural populations migrated toward emerging industrial hubs, thereby intensifying urban labor market density. Consequently, the Industrial Revolution

fundamentally restructured the scale and complexity of global labor dynamics.

The theoretical foundations and pedagogical approaches to personnel management are widely posited to have emerged from this specific historical juncture (Kasemsap, 2017).

Human Resource Management is often defined by its structural role within an organization. It is predicated on the principle that human resources represent a form of perpetual capital, distinguished from traditional assets by their inherent scalability and limitless potential for development.

In economic theory, the term “capital” refers to the collection of assets utilized in the production of goods and services within a business enterprise. These assets encompass physical resources such as equipment, land, buildings, and financial resources, as well as human capital.

In this context, human capital refers to the collection of intangible attributes that employees contribute to an organization, beyond their physical labor, which enable the organization to achieve its vision, goals, and objectives. These attributes include education, skills,

experience, creativity, personality, health, and ethical qualities.

Main section

In the long term, when employers and employees jointly invest in the development of human capital, the benefits extend beyond organizations and their workforce to customers and society as a whole.

The Scottish economist and philosopher Adam Smith made a significant contribution to the development of economic thought through the foundation of human capital theory. He emphasized that human attributes such as creativity, education, skills, and experience are essential determinants of economic growth (Smith, 1776).

The term “human capital” was first introduced by the economist Theodore

Schultz in the early 1960s. He developed and popularized the concept within academic discourse, emphasizing investment in education, health, and skills as fundamental drivers of economic growth (Schultz., 1972). The theory was subsequently expanded and widely disseminated by the economist Gary Becker in his 1964 book Human Capital.

Gary Becker was awarded the Nobel Memorial Prize in Economic Sciences in 1992, while Theodore Schultz received the same distinction in 1979 for their contributions to the development and systematization of human capital theory. The theory of human capital constituted a significant contribution to emphasizing the central role of human resources in economic development.

Table 1. Concepts of “Human Capital” Theory

Category	Definition	Key Elements	Economic Impact
Basic concept	Individuals are regarded as “capital” in recognition of the investments made in the development of their abilities, skills, and competencies.	Education and training, Health and well-being, Acquired skills and knowledge.	Enhanced productivity at both individual and national levels. Accelerated economic growth and overall development. Expanded opportunities for individuals to attain higher income levels.
Investment concentration	It emphasizes investment in the development and enhancement of human capabilities, including skills, knowledge, and competencies.	Formal education (school, university), On-the-job training. Health services. Access to information.	Development of a more skilled and adaptable workforce. Promotion of innovation and technological advancement. Enhancement of overall quality of life.
Economic importance	It highlights the significance of human capital as a key driver of economic growth and development.	Human capital is the main driving force of economic development, the relationship between the level of human capital and national prosperity, the importance of human resources in post-war economic recovery.	Provides justification for both public and private investment in education and health. Encourages a shift in economic emphasis from physical capital to human capital. Highlights the importance of workforce quality in achieving global competitiveness.
Key points	The economic value of individuals refers to the contribution	People own economic value, An investment in people is an investment in economic growth.	Growth in Gross Domestic Product (GDP). Increased levels of innovation and creativity.

	of their skills, knowledge, experience, and other capabilities to productive activity and economic output.		Improvement in the standard of living.
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“Human capital” may be defined in a narrow sense as the population engaged in, or capable of engaging in, productive employment within an organization, commonly referred to as the workforce. In a broader sense, it encompasses the range of factors that contribute to the formation of a potential labor supply. Building on this conceptualization, human capital theory can be understood as a framework that identifies and analyzes the factors that are significant to societal development, economic performance, and labor markets across countries.

However, in contemporary scholarship, researchers and academics have sought to conceptualize human resource management in the following manner.

Human resource management may be defined as the process of planning, organizing, directing, and controlling human and other organizational resources in order to achieve organizational objectives (Nasution, 2021)

Human resource management is a component of organizational management that is primarily concerned with the effective utilization of human resources. Its role involves managing the human element within an organization to ensure employee satisfaction and to foster effective performance. Human beings constitute the most critical resource in any organization, as organizational operations cannot function effectively without their involvement (Antwi John Osei, 2019).

Employee skills play a significant role in shaping both individual and organizational performance. High-quality human resources are essential for achieving organizational efficiency and effectiveness, as the competence and contribution of personnel constitute critical assets in determining whether organizational goals are attained. Successful and visionary organizational leaders consistently emphasize the importance of effective human resource management to foster employee loyalty and commitment. Human resource management encompasses all activities aimed at directing and developing an organization’s human capital, which is defined as the aggregate of knowledge, skills, motivation, and interpersonal relationships among employees that an organization can utilize (Mathis & Jackson, 2011).

In contemporary scholarship, human capital theory is frequently applied to the measurement and analysis of so-called “intangible” assets, including cultural capital, social capital, and intellectual capital.

“Cultural capital” refers to the accumulated knowledge, education, and intellectual skills that enhance an individual’s capacity to attain higher social status and engage in economically productive work. “Social capital” denotes the network of social relationships developed over time that facilitates cooperation and enhances the legitimacy and public acceptance of an organization’s activities. “Intellectual capital” represents

the collective intellectual resources of employees—such as ideas, knowledge, and innovations—that provide an organization with competitive advantage and possess significant intangible value (Becker, 1964).

There are numerous definitions and conceptualizations of human resources, and in Mongolian-language textbooks and academic literature, these explanations are often presented in a summarized form.

In contemporary contexts, the development of an organization is primarily determined by the availability of human resources possessing adequate knowledge, skills, and appropriate attitudes. An organization's vision, goals, objectives, and core values largely depend on how effectively it develops and reallocates its human resources. This also involves the extent to which it addresses strategic sub-objectives, including continuous professional training, employee development, and motivation, as well as meeting broader workplace requirements essential for organizational performance.

Therefore, in order to enhance organizational development and managerial efficiency, it is essential to prioritize human resource development through the training, specialization, and continuous improvement of employees' knowledge and skills.

In the context of ongoing reforms and transformations in public administration, the achievement of organizational strategic goals and functions depends significantly on the preparation of human resources equipped with relevant competencies aligned with contemporary needs and requirements. Such capacity-building efforts are crucial for improving the quality, speed, transparency, and efficiency of public service delivery

From an individual perspective, self-development and the effective fulfillment of job responsibilities serve as

key mechanisms for achieving personal aspirations and career objectives (Khosbayar, 2023).

Human resource policy within an organization refers to the overall direction guiding the activities of the department responsible for human resources management. It comprises a set of principles, implementation methods, and organizational mechanisms aimed at formulating and achieving objectives related to the maintenance, strengthening, and development of human resources. Furthermore, it focuses on fostering a cohesive workforce of highly qualified and productive employees capable of effectively responding to continuous changes in the labor market (A.Ya., 2005).

The Court Enforcement Agency is a state military organization responsible for the implementation of court decisions in criminal, civil, and administrative cases. The effective execution of its legally mandated functions requires the involvement of trained civil servants possessing appropriate knowledge, skills, and professional experience (B.Altangerel, 2019).

The “National Security Concept of Mongolia” (State Great Khural Resolution No. 48, 2010) emphasizes strengthening a transparent and accountable civil service that ensures equal and accessible service to citizens, and stresses the employment of qualified and competent personnel in public administration (Article 3.3.2.1). It further highlights the need to establish a legal and organizational framework to ensure continuity in state policies (Article 3.3.2.3).

Similarly, the “Vision 2050” long-term development policy (State Great Khural Resolution No. 52, 2020) prioritizes the development of a professional, competent, transparent, efficient, and intelligent civil service (Article 5.4). It also

sets objectives to enhance the capacity of law enforcement and special-purpose organizations to an internationally competitive level (Objective 7.3.2), and to deepen legal reforms by developing training and qualification systems aligned with international standards to ensure qualified human resources (Law Enforcement Sector Development Goal 7.4).

Within the implementation framework of “Vision 2050” (2021–2030), the policy further supports technological advancement in court enforcement agencies through innovation (Article 7.4.27) and the introduction of modern communication solutions appropriate to law enforcement agencies based on next-generation technologies (Article 7.4.31).

The Government of Mongolia Action Plan (2020–2024) also prioritizes the development of e-learning systems, including the creation of online learning platforms, digital content, and appropriate training formats (Articles 1.1.12–1.1.13). It further aims to ensure equal access to quality education and promote lifelong learning through digital education systems (Objective 2.3.12). In addition, it seeks to improve the efficiency of public institutions by eliminating duplication, strengthening civil service human resources, and improving training infrastructure and environments (Objective 4.2.6).

The Resolution No. 95 (2020) of the Government of Mongolia regarding the Ministry of Justice and Internal Affairs defines key responsibilities such as coordinating legal education and training policy implementation (Article 2.5.6.7), ensuring leadership in state administration and human resource management, organizing professional development, and improving working conditions and social protection for employees (Article 3.3.6).

Furthermore, the Law on Civil Service (Article 55.3) stipulates that state organizations are responsible for developing and implementing training programs and ensuring appropriate working conditions and social guarantees for civil servants. Likewise, the Law on Court Decision Enforcement (Article 260.1) establishes the obligation to develop human resource policies for enforcement officers, including systematic training and continuous improvement of knowledge and skills.

Taken together, these legal and policy documents clearly define the strategic importance of strengthening the knowledge, skills, and professional capacity of court enforcement officers. They establish the overall direction of human resource policy as one focused on developing qualified personnel through continuous training, professional development, and institutional capacity building within the Court Enforcement Agency..

The effective functioning of a prison system is directly dependent on the presence of competent, ethically responsible, and psychologically resilient personnel. Accordingly, human resource policy constitutes a fundamental basis for the effective operation of correctional institutions. However, human resource management in prisons is characterized by distinct challenges, requiring a careful balance between societal expectations, staff safety, and the protection of prisoners’ rights.

The primary objectives of correctional institutions include ensuring public safety, facilitating the rehabilitation of offenders, and supporting their reintegration into society. Within this framework, human resource policies play a critical role in the attainment of these goals. Such policies are operationalized through

governance processes that encompass the selection, training, motivation, and organizational management of personnel.

The General Executive Agency for Court Decisions /GEACD/ to develop along an appropriate and sustainable trajectory, it is essential to adopt a systematic approach beginning with management planning and to rationally determine the resources required for its operations. Such organizations utilize a combination of material resources, raw inputs, economic knowledge, information, and human capital in the execution of their activities. Among the various factors influencing organizational effectiveness, human resources constitute the most critical determinant of success (Ts.Ochgerel, 2019).

The application of business management principles to public sector institutions has given rise to a global reform movement known as New Public Management (Sh.Batsukh, 2009.), which has progressively replaced the traditional bureaucratic paradigm of public administration and contributed to the emergence of a new management-oriented framework within public governance.

In this context, human resource management in correctional institutions is increasingly transitioning from conventional political science approaches toward more contemporary theories and methodologies, including collaborative governance and business-oriented management practices.

Conclusion-suggestion

Human resource development refers to the process of enhancing the capacity of individuals and organizations to effectively respond to change, as well as acquiring the skills and competencies required for both current and future needs. It encompasses organizational, team, and individual development, alongside career

management systems, training, and continuous professional development.

To ensure alignment between organizational goals and employee performance, human resource development activities must be systematically and rationally organized. Such an approach contributes to increased employee productivity and overall improvement in organizational efficiency.

In conclusion, the human resource management of prisons is developing based on human resource policies, values, culture, and development programs or strategies, combining the basic functions required by law with modern management theories and methodologies.

The researcher proposes the following conclusions and suggestions in accordance with the content of the article and the state of research on the topic.

As noted in the article, prison officers operate in high-risk and highly stressful environments; therefore, key issues such as psychological support, professional competence, ethical development, technological utilization, diversity and equality, occupational safety and hygiene, employee participation, and effective communication are of critical importance.

In addition, effective human resource management in this context requires the establishment of a stable working environment for officers, along with the provision of continuous training, psychological support services, performance-based remuneration and incentive systems, and safe working conditions.

- Accordingly, it is proposed to establish the following regulations and practices within the human resource

management framework of correctional institutions:

- Reforming and updating the human resource management policy and strategy of the court enforcement agency;
- Strengthening the professional competencies and ethical development of officers;
- Enhancing officer participation and leadership in managerial decision-making processes;
- Introducing a performance-based remuneration and incentive system;
- Developing training concepts aligned with societal and institutional needs, and building corresponding human resource capacity;
- Organizing position-based training programs for court enforcement officers;
- Ensuring the occupational safety and security of personnel.

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DISASTER RISK ASSESSMENT IN THE TOURIST AREA OF KHUVSGUL AIMAG

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Abstract: In this report, disaster risk reduction in tourism areas is one of the pressing issues of our country based on the following theory and methodology. It includes:

First, all countries must achieve the result of realistically reducing the risk of disaster and the amount of damage caused to human life, health, livelihood, people, business, community, the country's economy, society, physical and cultural values, and the environment. going to country and region. Therefore, a risk assessment was conducted on each type of disaster risk near the of Khanh Soum, Khuvsgul aimag, and based on the results of the assessment, it was determined;

Second, based on the relationship between the risk assessment and the general development plan of Sumy and the logical connection of the influencing factors, the relationship between disaster risk and planning was determined, and it was reinforced with specific examples and some legal regulations.

Key words: Risk, vulnerability, planning, hazard assessment, risk level

1. Introduction

Internationally, the scale of the tourism industry is considered to be the second largest industry after automobile production and oil production, and there is a study that when 1 foreign tourist comes to a country, 20 jobs are activated. It also creates conditions for sustainable social and economic development.

Tourism is very specific, it is related to all sectors of society, and it is beneficial, but this is a very sensitive sector, as was clearly seen from the situation during the epidemic of the COVID-19 pandemic.

Khuvsgul aimag has set a goal of becoming a tourism support center and is working on developing and implementing a tourism master plan for a period of 10 years..

In particular, the people of Khatgal Village and Khanh Soum live directly dependent on tourism.

Khanh Soum of Khuvsgul aimage is located in Special Protected Areas, Hygienic Protection Zones with water bodies, Forest Reserves, Border Zones, and Seismic Active Zones.

Khanh Soum of the total territory 98.3% or 540.4 thousand hectares belongs to the Khuvsgul Natural Park (NP), and Khuvsgul Lake is 100% part of Khanh Soum.

The center of Khanh Soum is located on 5,960 hectares of land excluded from PA based on Parliament Resolution No. 18 of 2011, and is located along the northern coast of Khuvsgul Sea, surrounded by mountains, so it has a limited area.

The center of Sumy is located 23 km from the Khanh-Mond border crossing, on the shore of Khuvsgul Lake, on a long-lasting snow cover with forests.

Thus, although it is important to protect the unique natural formations of the territory and vital areas of the ecosystem, it

is understood that it is another pressing problem to find out where to create the expenses for their protection.

As reflected in the above long-term development policy document, with the goal of adapting the natural parks to their ecological capacity and making them an area for tourism development without worsening the conditions, and making the earned income a source of activities for the protection of unique natural places, research and promotion of the ecosystem, then Mongolia has set a goal of attracting 2 million tourists by 2030.

As of 2015, 50 percent of all passengers visiting Mongolia visited Khuvsgul aimag, and by 2030, this region will receive more than 1 million tourists.

In Khuvsgul aimag tourism master plan, Khuvsgul aimag has set a goal of receiving 304 thousand tourists in 2028 along the "Blue Pearl" route through Khanh soum, which is one of the five approved routes to receive 677 thousand tourists. On the one hand, this will develop a new source of economy, but on the other hand, the implementation of the above policy will lead to the need to improve multi-faceted preparations in this area, such as border disaster risk management, manpower, food and household waste.

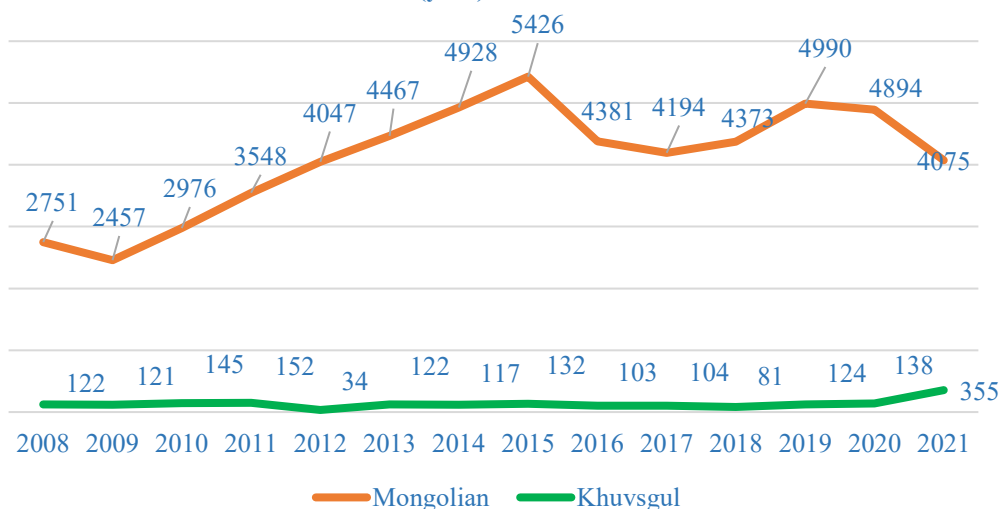
Therefore, in 2019, a total of 23,421 passengers left and 23,539 passengers entered through the Khanh border port, accounting for 0.77% of the number of passengers who crossed the border. 51.5% or 12,116 of the passengers who crossed the border of the country entered for the purpose of tourism. Since 2014, Russia and Mongolia have been visa-free to each other, and the number of tourists

has increased dramatically. Seasonally, they come in for fishing in June-August in summer, and in March and September. According to the environmental inspector of Khanh Soum, there are 13 tourist camps and 8 guesthouses as of 2020. They have a total capacity of 925 tourists, and the tourist camp has a capacity of 735 people. According to tourist organizations operating in Khanh Soum, a total of 4,710 tourists are received annually, of which 3,800 are received by tourist camps. Most of the tourists received by tourist centers are foreign or Russian tourists. According to the environmental tourism survey of Khanh Soum, in 2019, Khanh Soum received 20,000 tourists, which is an increase of 3,000 tourists from the previous year and about 7,500 tourists from 4 years ago. In addition to tourist camps, local families run informal home camps, take boat trips, ride horses, and contract herder families introduce the culture and behavior of traditional Mongolian herders. However, the participation of local people in tourism activities is very limited. Tourists come to Khanh Soum and fish in a radius of 30 km from the center of Soum to Khooro River, the river around Dooloon Mountain, and to the east of Uuri River. At present, Khanh Soum accounts for 2.09% of the province's population and 1.8% of employment, which indicates that the human resources for receiving tourists are insufficient. Also, if we look at the most important factor for receiving tourists, food supply, it accounts for only 1.02% of the livestock population, 2.29% of the cultivated area of vegetables, and 0.17% of the total harvest.

Figure 1 shows the induced of disaster hazards and accidents in Mongolia and Khuvsgol aimag

Figure 1. Number of disaster hazards and accidents

Number of Hazards and accidents (year)



The number of disaster hazards and accidents in Khuvsgul aimag varied from 103 to 152, excluding 2012, from 2008 to 2020. But in 2021, it increased sharply to 355, which is due to the increase in earthquakes.

In 2019, the working group that carried out a survey of disaster risks covering all 23

soums of Khuvsgul aimag ranked the disasters and hazards phenomena that occur in Khuvsgul aimag based on the frequency of incidents and actual damage data, and determined a total of 8 types of disaster hazards in the first stage.

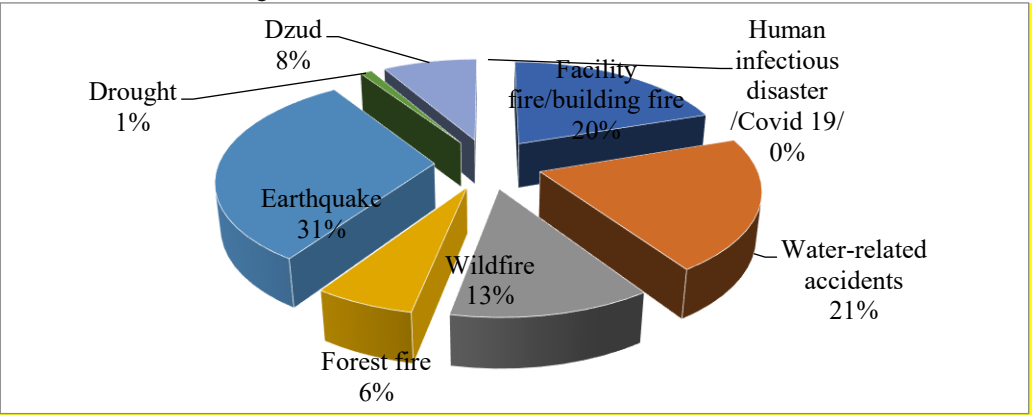
Table 1. Ranking of the most common disaster hazards in Khuvsgul aimag.

The name of Soums		Өндөр давтамж, их хохиролтой гамшгийн төрөл /түүхчилсэн мэдээлэлд суурилав/	The type of Disaster	
1	Murun		1	Forest fire
2	Tumurbulag		2	Facility fire/building
3	Jargalant		3	Snow and dust storms
4	Galt		4	Flood
5	Shine-Ider		5	Livestock and animal infectious diseases
6	Arbulag		6	Earthquake
7	Bayanzurkh			
8	Burentogtokh			
9	Tsetserleg			
10	Tsagaan-Uul			
11	Ulaan-Uul			
12	Renchinkhumbe			
13	Tsagaannuur			
14	Alag-Erdene			
15	Khatgal tosgon			
16	Khanh			
17	Tsagaan-Uur			

18	Chandmani-Undur			
19	Erdenebulgan		7	Dzud /harsh winter condition/
20	Tunel			
21	Tarialan			
22	Tosontsengel		8	Drought

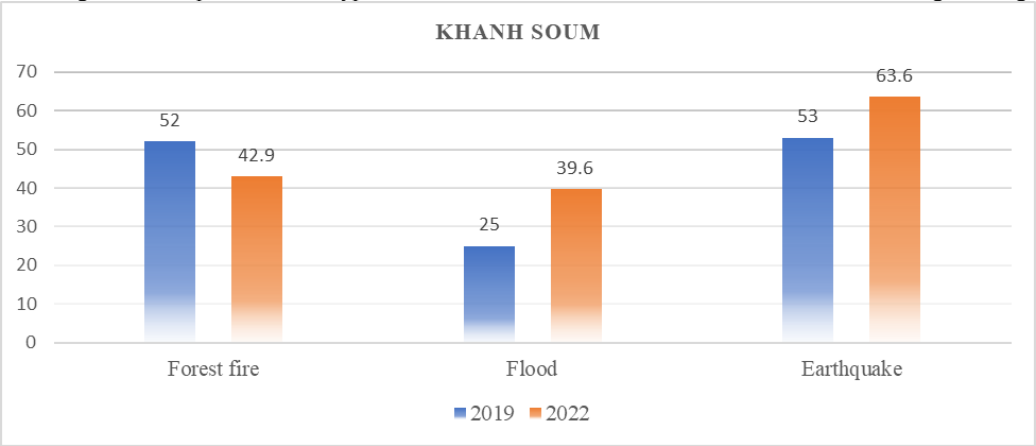
According to the analysis of recent data on the danger of disasters in Khanh Soum, Khuvsgul aimag, the comparative indicators of disaster incidents in that soum are shown in the figure.

Figure 2. Number of Indused of disaster hazards and accidents of the Khanh Suma



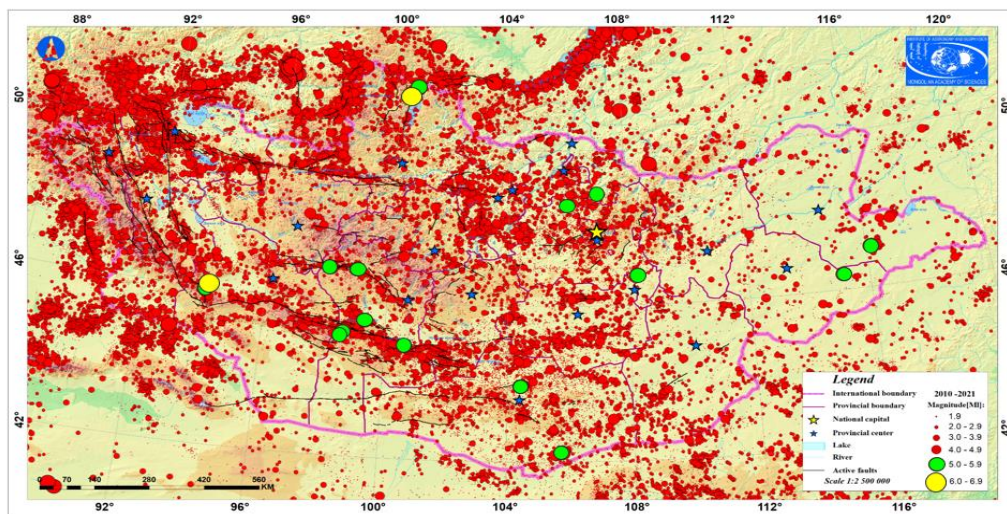
According to the number of accidents and disaster hazards in Khanh Soum, earthquake hazard is 31%, flood hazard and water-related accident is 21%, and facility/object fire is ranked in the first three with 20%.

Figure 3. Comparison of the types of disaster hazards that occurred in Khanh Soum, Khuvsgul aimag



In 2022, compared to 2019, the number of forest fires decreased, but the incidence of floods and earthquakes increased

Figure 4. Earthquake intensity of Khanh Soum, Khuvsgul



The territory of Khanh Soum belongs to the seismic region of the Baikal basin and is located in the zone of high seismic activity or risk of 9 points or higher due to the location of geotectonic fault zones around Baikal and Khuvsugul-Khangai mountain ranges.

In 2021, 96,580 earthquakes were recorded in Khuvsugul aimag:

Magnitude $M < 2.9$ earthquakes 95926 times,

Magnitude $3.0 \leq M \leq 3.9$ earthquakes 339 times,

Magnitude $4.0 \leq M \leq 4.9$ earthquakes 81 times,

Magnitude $5.0 \leq M \leq 5.9$ earthquakes 6 times,

Magnitude $6.0 \leq M \leq 6.9$ earthquakes occurred twice.

Of these, 39,569 earthquakes were recorded in Khanh Soum area:

Magnitude $M < 2.9$ earthquakes 39283 times or 40.9%,

Magnitude $3.0 \leq M \leq 3.9$ earthquakes 236 times or 70.0%,

Magnitude $4.0 \leq M \leq 4.9$ earthquakes 48 times or 59.2%,

Magnitude $5.0 \leq M \leq 5.9$ earthquakes 1 times or 16.6%,

Magnitude $6.0 \leq M \leq 6.9$ earthquakes occurred 1 times or 50%.

2. Literature Review.

In order to reduce the risk of disasters, there is an urgent need and requirement to conduct a disaster risk assessment. In this regard, the following scientist's warning and conceptual statements and results indicators can be justified. It includes:

1. Risk assessments are bring real, irreplaceable value to the workplace by helping identify current and potential hazards and risks in the workplace that could lead to incidents. Risk assessments can help save money by helping reduce incidents and subsequent legal liability. In this case, a risk assessment can protect the organization.

2. The principle of action to ensure national security of the national security concept: "The main means of ensuring national security is to foresee the course of events and developments on the basis of reliable information, accurate research and calculations, and take preventive measures.", "The approach to security and its provision shall be based on knowledge, information and analysis",

3. It is necessary to understand the content and results of the clauses "to realistically identify potential threats and challenges and effectively mobilize limited resources and opportunities to overcome them" in terms of security theory and methodology, in relation to the nature of

disaster risk assessment, policies and actions to reduce it.

4. According to international experience, it has been established that the prevention and warning of a disaster will require 15-20 times less costs than its damage removal. This is a fact that shows that disaster risk assessment and the return of the results of risk reduction are an important means of economic support of the country while protecting the population from disasters.

Therefore, defining the strategy based on the disaster risk assessment, making planning, carrying out the monitoring of the implementation from the perspective of safety, and clarifying the strategy will be an important mechanism to form the basis of national security and sustainable development.

The importance of strategic planning based on risk assessment was emphasized by the Chairman of the State Duma of the Russian Federation S.E. Naryshkin "Today, a professional and evidence-based preliminary assessment of a geopolitical nature is very urgent and required. By understanding in advance the direction and dynamics of any situation, one can face many challenges and avoid making mistakes and mistakes in strategic planning and in the context of law making." can be seen from the note.

Based on the research and analysis, practical activities, experience and lessons learned by international organizations, the issue of disaster risk reduction has been developing as follows for the past 30 years. For example, firstly, in 1989, the UN General Assembly declared 1990-1999 as the International Decade for Natural Disaster Reduction and carried out activities under the motto of "creating a culture of prevention" and as a result, disaster reduction. it is determined that it will take a long time to implement, which is closely related to the problems of the social and economic sphere; secondly, the United Nations EA created the International Strategy for Disaster Reduction in 2000, integrating disaster risk reduction measures

with sustainable development and environmental issues; third, the Hyogo Declaration: "A Framework of Actions for Building National and Local Disaster Response Capacity 2005-2015" was approved by the "Third World Conference on Disaster Risk Reduction"; Fourth, based on the previous results of the Third World Conference on Disaster Risk Reduction, the document "Sendai Action Framework for Disaster Risk Reduction 2015-2030" was released. This document sets out the following requirements and objectives to be met as a tool to address the country's disaster risk reduction challenges. From the content of the requirements and goals for disaster risk reduction until 2030, it can be seen that disaster risk reduction is an important tool for the country as a whole.

Therefore, we plan to explain in detail the risk assessment of Khanh Soum disaster in Khuvsgul aimag.

3. Materials and Methods

Khanh Soum disaster risk assessment is based on the statistical data of the particular Soum disaster situation, as well as taking into account the results of the assessment of the specially established working group.

Disaster risk assessment was carried out using the indicator method. The indicator method is used to provide a baseline of disaster risk information for decision-making officials, which is more convenient to represent the level of risk in society based on local socio-economic indicators.

4 dimensions of risk: hazard, exposure, vulnerability, capacity will be comprehensively used to determine disaster risk by indicator method. When defining these 4 dimensions, indicators or criteria that represent them will be selected.

The following notation shall be used for the dimensions of risk (R):

- Hazard – H,
- Exposure – E,

- Vulnerability – V,
- Capacity – C.

The risk index is expressed by the following formula:

$$R = (wHH + wEE + wVV) - wCC$$

It includes:

R-risk index,

H, E, V and C -regarding hazards, exposures, vulnerabilities and capabilities and sets of measures,

$W_i=0.33$ constant coefficient corresponding to all parameters.

Table 2. Risk assessment methodologies and examples

Risk level	Risk index	Expression of color
Low	0-29	Green
Moderate	30-59	Yellow
High	60-100	Red

- High risk level is red for unacceptable level of risk, even if the cost is high, it is necessary to take urgent measures to reduce the risk.

-The medium risk level is yellow for risks that are at a tolerable level, risk mitigation measures should be planned and implemented without disrupting normal day-to-day operations.

-The low risk level is green as for the risk at the acceptable level, it is necessary to maintain the situation, monitor and observe it.

The risk overview study by disaster type was evaluated according to the indicators, and the index corresponding to the main factors (measures) that determine the risk, i.e. hazards, exposure, vulnerability and disaster protection capacity, was determined, and the indicators corresponding to them were transferred to each index.

When finding the integrated risk index from the values of these four indices, it is evaluated with a value between 0 and 100 / when the value of the index indicating the indicator increases, the risk of disaster increases in terms of hazards, exposure, and vulnerability, and on the contrary, the risk of disaster decreases in terms of capacity/.

Thus, the risk level is determined by adding the hazard, exposure, and

vulnerability index values, and subtracting the capability index value from their sum.

In 2019, a working group was prepared by the General Department of Emergency Situations to carry out a survey of disaster risk at the administrative and territorial level of Khuvsgul aimag using the indicator methodology discussed above.

However, we compared the results of the Khanh Soum disaster risk assessment in 2022 with the previous results, and using our conclusions from the comparison, we calculated some actual factors from the criteria shown in the table above in the Disaster Risk Assessment as follows. It includes:

- The likelihood of hazards in the general assessment of disaster risk is determined by the following indicators: the frequency of occurrence of hazard events (H1), scope (H2), reproduction time (H3), the possibility of early notification (H4), the severity of hazard is the intensity of occurrence of hazards events (H5) defined. The intensity of occurrence of a hazard event is measured, for example: the intensity of an earthquake on the Richter scale, the force of wind on the Beaufort scale, and the probability of a flood occurring in 100 years. In addition to earthquake hazards, flood accidents, and facility fires being ranked in the top three, after the evaluation of the working group, a 6.5 magnitude earthquake occurred in

Khanh Soum on January 12, 2021. Khanh Soum is located in a 9-point seismic zone and the impact of the earthquake on buildings was calculated. In terms of flood risk, it has been taken into account that the number of heavy rains increased dramatically from 13 in 2019 to 34 in 2020.

- The probability of exposure of the general disaster risk assessment is determined by the following indicators: population (E1), nature and environment (E2), production, services/economy (E3), infrastructure (E4). Although the buildings in Khanh Soum were constructed in accordance with the "Construction Law" and "Building Rules", strong earthquakes still affect the building walls and pavements. For example: the strongest earthquake occurred on January 12, 2021, with a magnitude of 6.5, 26 km southwest of the center of Khanh Soum, which affected the buildings of government administration and service organizations in Khanh Soum.

- The probability of vulnerability in the general disaster risk assessment is that a high population density (V1) increases vulnerability, and natural disasters will affect people concentrated in a limited area more than serving dispersed people. Therefore, in terms of the location of the population of Khanh Soum, 53% of the total population is concentrated in Turta, the 3rd group (bag) of the center of Soum, and the population is growing rapidly and the unemployed population accounts for 60% of the total workforce, which is a factor that increases vulnerability. was calculated.

- Indicators of social vulnerability (V2) are the poor part of society or the share of the population with an income below the minimum standard of living, (V3), based on the influence of the level of education on vulnerability, 44.4% of all households in Khanh Soum have an income below the standard of living, and 75.4% of the population is taken into account that of them have primary and secondary education, and 8.3% have no education.

- Indicators of economic vulnerability (V4) include local economic resources, economic diversity, and economic factors that reduce disaster vulnerability.

- Indicators of environmental vulnerability (V5) depend on the nature of the hazard. Based on indicators of vulnerability of production and services (V5) and infrastructure (V6), Khanh Soum is not connected to the central system and is 100 percent dependent on imported energy from the Russian Federation.

4. Study area

Figure 5. Khuvs gul Province and Sum

Khanh soum of Khuvs gul aimag is located 1020 km from the capital city of Ulaanbaatar and 280 km from Murun soum, the capital of the aimag. The total area covers 549871 hectares. It is bordered by Renchinkhumbé soum of Khuvs gul aimag in the west, Alag-Erdene soum of Khuvs gul aimag in the south, Chandman-Ondur soum and Tsagaan-Uur soum in the east, it borders Russia in the north and east.



98.1 percent of the total area of Khanh soum of Khuvs gul aimag belongs to the State Special Protected Area.

According to the hydrogeological conditions, springs appear in summer and autumn, when the seasonal thaw has completely thawed, it is possible to see water springs from the soil above the frost, mainly along mountain slopes, terrace ridges, mountain ravines, streams, and along the cracks in the rock weathering zone.

In 1968, as part of the development of a general plan for Khanh soum, 0.6-1.8 meters of long-term frost was detected in 19 locations along the shore of the lake in Khanh Soum. However, in 2021, as part of this consulting service, the engineering-geology survey conducted again in the above locations revealed 2-2.5 meters of long-term frost, which indicates that the thawing of the frost has taken place.

The territory of Khanh Soum is located on perennial ice with a continuous distribution. As part of the development of the general plan for the development of Khanh Soum, in March 2021, an engineering geological drilling survey mapped the distribution of sediments on a scale of 1:10000. - 3 zones that appear at a depth of up to 2.5 m are classified.

According to the zoning, long-term frost was found at a depth of 2.0-2.5 m in the shores of the lake, at a depth of 1.6 m in the vicinity of Sady Tolgoi, West Khyrvas, North Khyr, Ovoot, and at a depth of 1.6-2.0 m near Chuluut, Tariat. . According to the engineering geological survey conducted in 1968, the lowest boundary of the aquifer was found at 1.8 m, while the 2021 survey found it at 2.5 m, which indicates that the aquifer level has decreased. Cretaceous glaciation is established and distributed in the form of reticular and large-scale, glacial veins. The thickness of the glaciation reaches 20-40 cm in some areas. In the total area, 60% of the area is covered with heavy ice, 30% with moderate ice, and 10% with low ice. In terms of natural climate and physical-geographic conditions of Khanh

Soum territory, the soil freezes seasonally, the frost temperature reaches from -3°C to -6°C, the average annual temperature is -4.20C, or extremely cold season, the snow cover forms early and melts late. According to the results, it can be seen that the soil does not have deep thawing conditions.

Khuvs gul Lake is a source of drinking water located in Khanh Souma, and it is used for water transportation, tourism, fishing, etc. However, due to human activities, algal blooms in Khuvs gul Lake are currently very small, but may negatively affect the water quality and aquatic environment in the future.

On average, about 190-300 mm of precipitation falls in the vicinity of Khuvs gul Lake, but in the high mountains, more precipitation falls, up to 400-500 mm. According to observational data, the average rainfall in Khanh Soum during the last 10 years is about 202.19 mm. It has humid and cool summers, it is bitterly cold until the sea freezes, and after it freezes, it has stable winters. On the shores of Khuvs gul Lake, it gets as cold as -24 degrees Celsius in winter and warms up to +12 degrees Celsius in summer in 7 months. However, the area of Khanh Soum located on the northern shore of the lake is covered by mountains, so it is 1-2 degrees Celsius warmer than the southern part of the lake. According to the meteorological data of the last 40 years, the average air temperature in the area around Khuvs gul Lake ranges from +12 to 21 degrees Celsius, the maximum temperature is 35 degrees Celsius, and the minimum temperature is -49 degrees Celsius. According to the 2009-2020 meteorological data of Khanh Soum, the average air temperature is -3.3 degrees Celsius, the average temperature of the spring season is -3.08 degrees Celsius, the average temperature of the summer season is 11.5 degrees Celsius, the average temperature of the autumn season is -2.3 degrees Celsius, and the average temperature of the winter season is -19.3 degrees Celsius.

In the coastal areas of the lake, at an altitude of up to 2000 m above sea level, the duration of solar radiation is 2600-2800 hours per year, which is 60-65% of the potential amount. In summer, the length of the day increases, reaching 280-300 hours,

but in winter, it almost doubles to 120-150 hours. The daily average of sunshine increased from 6.2 hours in 1 month to 10 hours in May-June and further decreased to 5 hours in 12 months.

Table 3. Air temperature in Khanh Weather forecast post, °C /2009-2020/

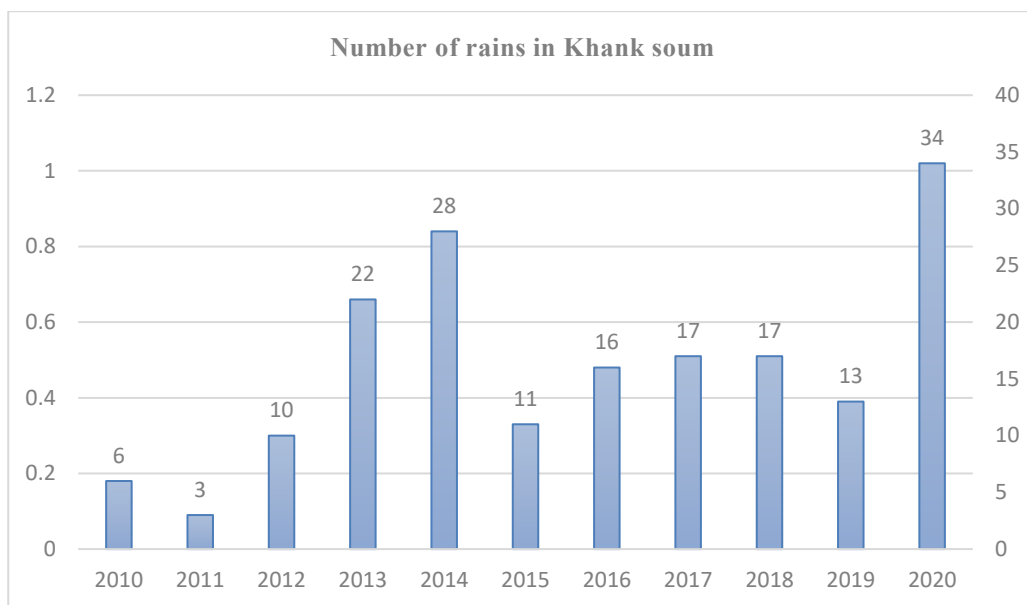
Average air temperature in Khanh Sum (2009-2020)													
Khanh sum	Date	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Des
	2009	-23	-20	-11	-0.4	4.6	7.5	11.3	10	4.5	-3.1	-10.1	-18.7
	2010	-25	-25	-16	-6.6	2.9	9	12.5	11	5.7	-1.7	-6.6	-16.4
	2011	-24	-19	-13	-1.6	2	8.6	11.5	11	4	1.1	-9.5	-16.1
	2012	-23	-21	-13	-2.9	2.7	11	14.1	11	6.6	-2.9	-10.9	-21.2
	2013	-22	-21	-10	-3.8	3.8	8.2	12.6	12	4.3	-2	-6.6	-13.5
	2014	-19	-21	-8.5	0.1	1.8	9.2	13	12	4.1	-2.6	-9.2	-18
	2015	-19	-20	-12	-1.4	2.9	11	14.3	13	4.2	-1.7	-11.7	-10.7
	2016	-22	-19	-9.6	-1.6	2.4	10	15	12	4.3	-8.1	-14.5	-15.3
	2017	-21	-19	-11	-0.4	5.7	11	14	11	4.6	-2.8	-9.5	-11.8
	2018	-21	-18	-6	-1.2	4.2	12	12.8	13	4.2	-0.2	-10.6	-19.5
	2019	-21	-22	-8.7	-1.8	3.3	9.3	13.5	12	7.4	-1.5	-11.1	-16
	2020	-20	-17	-11	0	5	9.5	14.3	12	6.1	-2.4	-8	-17.3

Aerial view:

According to the 2009-2020 climate observation and measurement data of Khanh Sum, the average annual precipitation is 202.19 mm, the average number of rainy days is 35.5 per year, the

number of heavy rains is 17.7, the number of drizzle is 1.4, and the number of snowy days is 25.3 days per year. speed is 3.8 m/sec.

Table 4. Average yearly rainfall in Khanh Sum /2009-2020/



Water:

Khuvsgul Lake is located in the northern region of Khuvsgul aimag, 101 km north of Murun, at an altitude of 1645 meters. Khuvsgol Lake has an area of 2,760 km², a width of 34-36 km, a length of 136 km, and a depth of 262 m. It is a very large water resource that accounts for 1% of the world's fresh water resources and 70% of Mongolia's fresh water resources.

Khanh Soum, located next to Khuvsgul Lake, uses the lake as a source of drinking water, water transportation, tourism, fishing, etc. However, the pollution of Khuvsgul Lake due to human activities may negatively affect the water quality and aquatic environment.

Forest:

Khanh Soum is another feature of the environment, which is a forest area. The area covered by forests and trees in Mongolia occupies 7.7% of the total area, of which Khuvsgul aimag accounts for 27%, and the area around Khuvsgul lake accounts for 37%. It is a region with various environmental conditions that need to be protected. That is why the issue of forest and

field fire prevention is important to protect this special region.

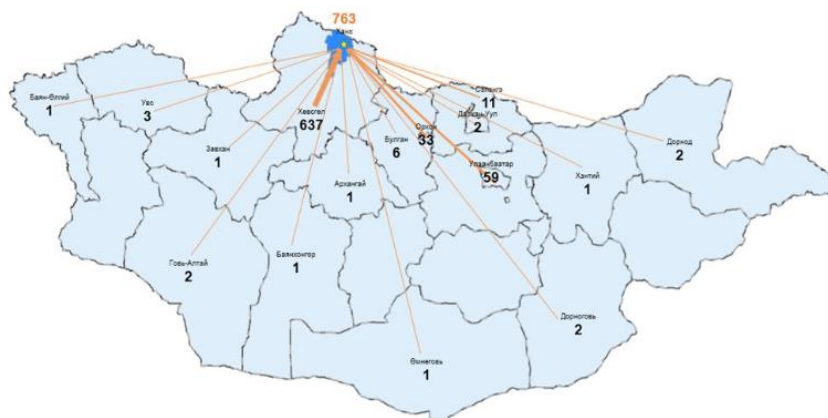
Current status of population and households:

As of 2020, 2,827 people live in Khanh Soum. Over the past 10 years, the population has increased by 2.7%, which is 1% more than the provincial average, 1.1% more than the regional average, and 0.5% more than the national average.

According to the normal population growth rate, the population of Khanh Soum has been growing by 30-70 people every year for the last 10 years. In addition to normal growth, migration is another major factor in population growth. In the last 10 years, a total of 763 people have moved to Khanh Soum. Most of the migrants came from Khuvsgul, Ulaanbaatar, Orkhon, Darkhan-Uul and Selenge aimag. Out of this, 637 people migrated from other soum of Khuvsgul aimag. The largest number of people who migrated from other soum of Khuvsgul aimag, 310, came from Murung, the capital of the aimag, 92 from neighboring Alag-Erdene soum, 48 from

Renchinlkhumbe soum, and 25 from Chandman-Undur soum.

Figure 6. The total number of people who migrated to Khanh Soum, 2012-2021



Current status of households as of 2020, there are a total of 824 households living in Khanh Soum, and the average number of households is 3.43 people. Looking at the number of households by location, the largest number of households, 56%, resides in the central bag (group) or Turt bag (group). There are 207 female-headed households in Khanh Soum and a total of 252 children in those households. Regarding the marital status of the population, 996 or 51% of the 1,950 citizens over the age of 16 were married, while 742 or 38% were never married. Looking at this statistic by age structure, there are 506 unmarried people aged 16-29, and 236 people over 30. As of 2019, 44.4% of all households in Khanh Sum belong to households with income below the subsistence level, which is 10% more than the average of the province. According to a survey of 197 residents of Khanh Sum, 44% of the households involved have an income of up to 500,000 MNT, and 36% have an income of 500,000 to 1 million MNT. Households with a monthly income of more than 1 million account for only 20%.

Pasture capacity:

Khanh Soum Central bag (group). or Turt bag (group). occupies 55,008 hectares, bag 132,667.7 hectare, and Turag bag 162,245.3 hectares respectively. If we exclude the prohibited areas for animal grazing from the total area of Soum, 63.5 percent of the total area can be used for grazing purposes, and there are no prohibitions on animal grazing. Based on the amount of biomass obtained from Soum monitoring point data, the carrying capacity of pastures was exceeded twice during the dry years of 2015 and 2016. But in other years, there is 50-70 percent pasture reserve.

Agriculture:

In Khan Soum, in 2012, 5 hectares of land were cultivated, but in 2019, the cultivated area increased by 36% to 7.8 hectares (1.8% of the total cultivated area of the aimag), of which 5 hectares were cultivated with potatoes, and the remaining 2.8 hectares with food crops. 4.7 tons of potatoes and 2.4 tons of vegetables were harvested by growing vegetables. Also, 7053.4 tons of grass and hay were prepared and 610.5 tons of pearl-ash were collected. In 2020, out of a total of 11 hectares, 6

hectares were planted with potatoes and 2.5 hectares with fodder plants.

Tourism:

Passengers crossing the border In 2019, a total of 23,421 passengers left and 23,539 passengers entered through the Khanh border port, accounting for 0.77% of the number of passengers crossing the border. 51.5% or 12,116 of the passengers who entered the country's border were sent for tourism purposes. Since 2014, Russia and Mongolia have been visa-free to each other, and the number of tourists has increased dramatically. Seasonally, they come in for fishing in June-August in summer, and in March and September.

According to the environmental inspector of Khanh Soum, there are 13 tourist camps and 8 guesthouses as of 2020. They have a total capacity of 925 tourists, and the tourist camp has a capacity of 735 people. According to tourist organizations operating in Khanh Soum, a total of 4,710 tourists are received annually, of which 3,800 are received by tourist camps. Most of the tourists received by tourist centers are foreign or Russian tourists. According to the environmental tourism survey of Khanh Soum, in 2019, Khanh Soum received

20,000 tourists, which is an increase of 3,000 tourists from the previous year and about 7,500 tourists from 4 years ago. In addition to tourist camps, local families run informal home camps, take boat trips, ride horses, and contract herder families introduce the culture and behavior of traditional Mongolian herders. However, the participation of local people in tourism activities is very limited.

Tourists come to Khanh Soum and fish in a radius of 30 km from the center of Soum to Khoroo River, the river around Doloon Mountain, and to the east of Uurii River. At present, Khanh Soum accounts for 2.09% of the province's population and 1.8% of employment, which indicates that the human resources for receiving tourists are insufficient. Also, if we look at the most important factor for receiving tourists, food supply, it accounts for only 1.02% of the number of livestock, 2.29% of the cultivated area of vegetables, and 0.17% of the total harvest.

1. Results.

The following tables show the risk level and ranking of the general assessment of disaster risk in Khanh Soum of Khuvsgul aimag in 2022 and 2019.

Table 5. Risk level and ranking of general disaster risk assessment: Khanh Sum (2022)

Risk indicator	Forest fire	Facility fire/building	Infectious diseases of humans, livestock and animals	Strong storms and wind	Dzud	Drought	Flood	Water-related accidents	Earthquake	General risk index
Hazard	65	67	59	33	92	33	66	75	83	63.7
Exposure	53	58	56	33	53	45	48	67	74	54.1
Vulnerability	59	53	53	37	72	37	51	59	75	55.1
Capacity	47	47	47	33	48	34	45	34	39	41.8
Risk	42.9	43.23	39.27	23.1	55.77	26.7	39.6	55.11	63.69	43.3

When assessing the risk of a disaster, taking into account the possible hazard, exposure to them, vulnerability and the ability to fight against them in the territory of Khanh Soum of Khuvsgul aimag, the earthquake risk is at the red level or high risk, that is, even if the cost is high, it is necessary to urgently implement measures to reduce the risk. ,

forest and facility/building fire risk, flood, water-related accidents, infectious diseases of humans, livestock and animals, and the risk of scabies are at the yellow level or moderate risk, that is, it shows the need to implement risk reduction measures without disrupting normal daily activities.

Table 6. Risk level and ranking of general disaster risk assessment: Khanh Soum (2019)

Risk indicator	Forest fire	Dzud	Drought	Flood	Earthquake	General risk index
Hazard	76	76	33	40	69	58.8
Exposure	60	68	37	45	68	55.6
Vulnerability	74	63	62	59	64	64.4
Capacity	51	37	41	67	40	47.2
Risk	52	56	30	25	53	43.2

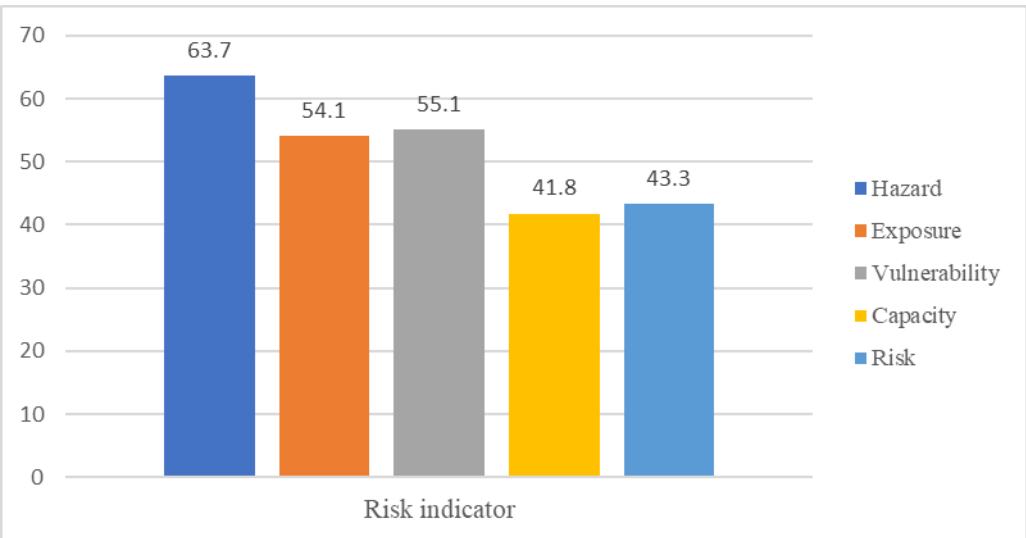
According to the assessment results of 2019, there are no dangerous phenomena assessed at the red level of risk. In other words, the risk of an earthquake in 2022 was assessed at the red level, but in 2019, it was assessed at the yellow level or moderate risk. This is due to the fact that, from 2019 to 2022, the earthquake hazard index increased by 14, the exposure index by 6, and the vulnerability index by 11, respectively, while the resilience index remained almost unchanged. In addition, flood risk was assessed at green level or low

risk in 2019, and yellow level or moderate risk in 2022.

The increase in the number of occurrences of earthquakes and floods after 2019 and the impact on objects, highlighted as indispensable in our criteria, confirms the validity of both assessments, and also shows the validity of using the results of the 2022 assessment in this assessment.

The indicators of the index of disaster risk dimensions are as follows.

Figure 7. Index indicators of disaster risk dimensions



Therefore, the indicators of the hazard, vulnerability, and risk index of ammunition disasters are above 50, which reinforces the need to regularly plan and implement risk reduction measures.

If we prioritize the risk of disasters that may occur in the Khanh Soum area:

- ✓ Earthquake 63.69,

- ✓ Dzud 55.7,
- ✓ Forest fire 42.9,
- ✓ Facility fire/building 43.23,
- ✓ Flood 39.6,
- ✓ infectious diseases of humans, livestock and animals 39.27,
- ✓ Water-related accidents 55.11,
- ✓ Drought 26.7,
- ✓ Strong storms and wind 23.1

Figure 8. Hazardous Phenomena and accidents in Khanh Soum

When assessing the risk of the above 9 types of disasters, the risk is at the moderate /23-63/ level, but the frequency and impact of the hazards is high, so a risk reduction plan for each type of disaster is developed in detail, structural and non-structural

measures are precisely determined, and the budget is increased. It shows the need to improve external monitoring, establish voluntary groups, and support disaster risk reduction activities.

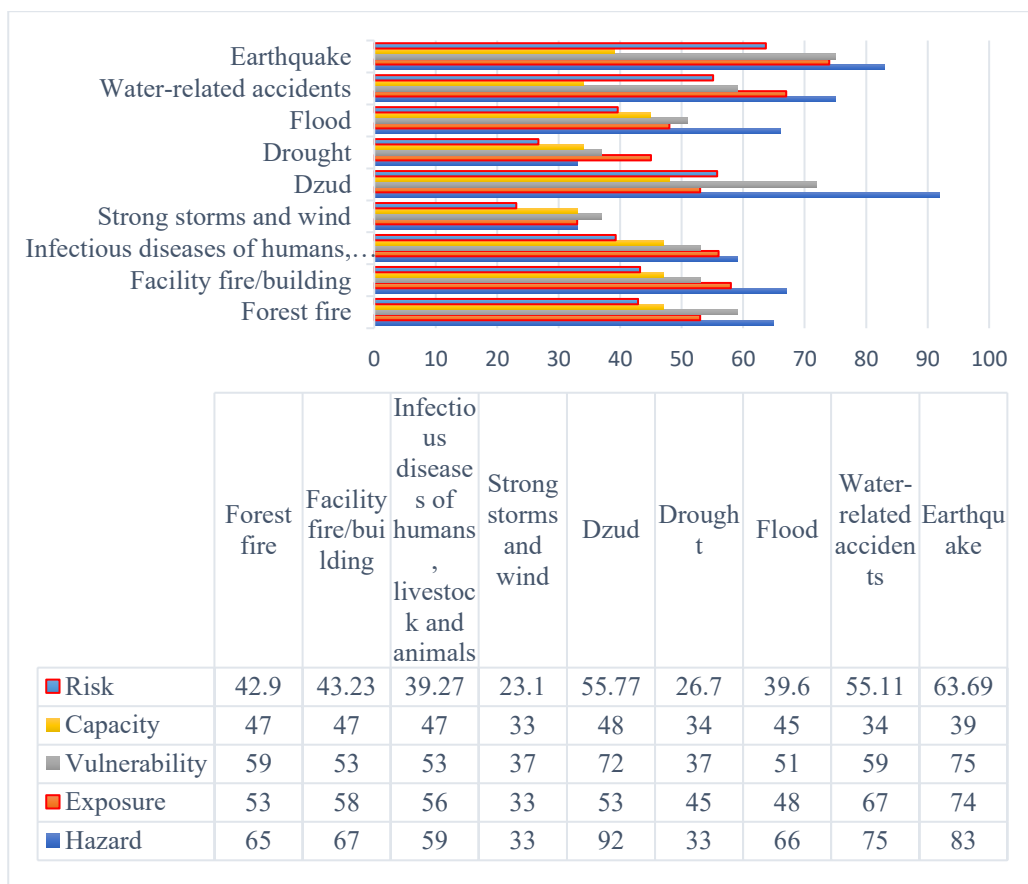
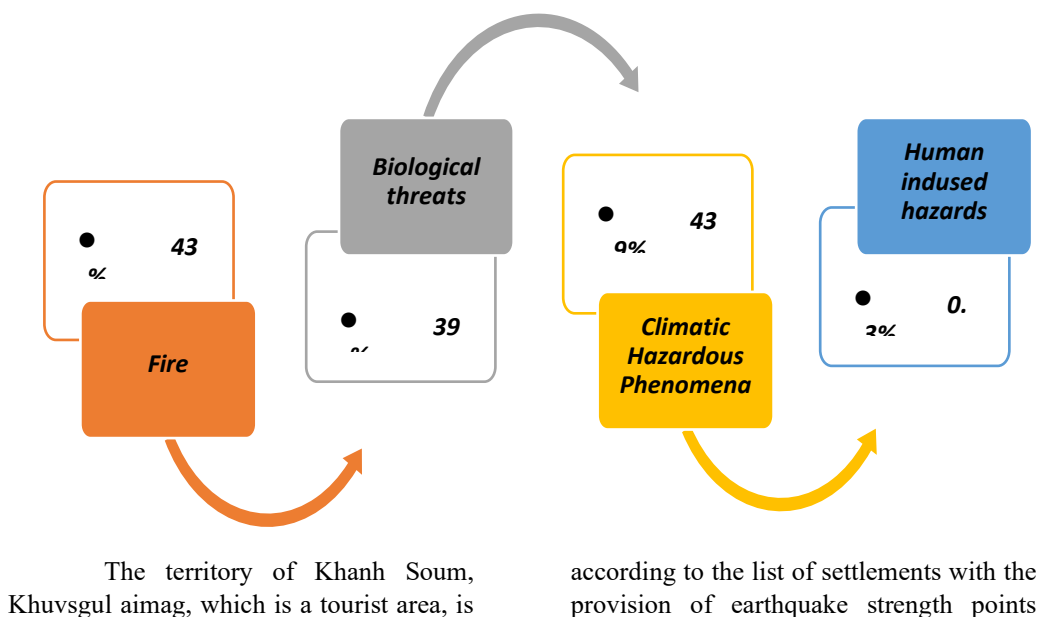


Figure 9. Disaster Risk Assessment (2020)



included in the "Construction Norms and Rules for Planning Buildings in Earthquake Regions" (BNbD 22.01.01*/2006), Khanh Soum, Khuvsgul aimag 9 is included in the score zone. In addition, earthquakes rank first in the ranking of potential disaster risks in the Khanh Soum region.

As Khanh Soum is a tourist area, it is necessary to intensify training and publicity on ensuring the safety and preparedness of citizens during earthquakes, as well as determine the earthquake resistance of Soum buildings, strengthen old buildings, take measures immediately, and adhere to building norms and regulations.

Also, in recent years, the average air temperature has increased and sudden climate changes have started to occur in the territory. The frequency of heavy rainfall in a short period of time has caused a lot of surface runoff, and urban roads have been severely damaged by flood water. Geographically, this area has a relatively high elevation difference and a slope from the northwest towards the lake, so it is subject to rain and yellow water floods, and it is necessary to pay attention to the different effects depending on the surface.

A characteristic feature of the tourist area is the use of wooden buildings and structures. It is the cause of object fires, the majority of which is 61% due to intentional and careless human actions. The fire disaster risk of Khanh Soum object is rated at 43.23 or medium level. Therefore, it is necessary to regularly plan risk reduction measures and implement them without disrupting normal daily operations.

Another feature of the tourism area is the forest area. The area covered by forests and trees in Mongolia occupies 7.7% of the total area, of which Khuvsgul aimag accounts for 27%, and the area around Khuvsgul Lake accounts for 37%. As

mentioned above, the northern region of Khuvsgol aimag is a region with various environmental conditions that need to be protected not only at the level of the province but also at the level of Mongolia and the world. That is why it is important to protect this special region and prevent forest and field fires.

Implementation of disaster risk reduction can create conditions for disaster prevention, rescue, disaster mitigation, recovery, and intersectoral cooperation, transparency, and accountability to ensure the safety of tourism areas, and this assessment will address climate change. considered to be the basis for adaptation and other development planning.

In the future, disaster risk assessment will be carried out at certain intervals, and determining what dangerous phenomena will occur in the local area, how much damage will be caused, what the cause is, and who will be affected, will create the necessary information and information for decision makers, take preventive measures, and reduce potential risks. will be significant.

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A STUDY ON THE RELIABILITY AND RESPONSIBILITY OF THE FIRE ALARM SYSTEM INFORMATION TRANSMISSION NETWORK

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Abstract

This research examines the reliability and operational efficiency of the data transmission network within Fire Alarm Systems (FAS), using the Emergency Management Agency of Dundgovi Province as a case study. The study was conducted in four primary stages: data collection, statistical analysis, mathematical modeling, and experimental validation.

Statistical analysis revealed a pattern where data packet loss reached 4.8% when network load exceeded 75.0%, significantly increasing signal transmission delay. The system's reliability was modeled using the exponential distribution law, resulting in an availability coefficient of 0.994. To improve this performance, a "Priority-First" data queuing algorithm was developed and tested. Experimental results demonstrated a reduction in transmission latency from 450.5 ms to 185.2 ms, improving operational efficiency by 35.3%. These results align with the theoretical model with 98.2% probability. The findings of this study offer significant theoretical and practical value for ensuring the reliability of FAS networks and shortening response times during fire emergencies.

Keywords: Fire Alarm System, Data Transmission Network, Reliability, Operational Efficiency, Mathematical Modeling, Priority-First Algorithm, Availability Coefficient.

INTRODUCTION

The rapid development of modern urbanization and industrialization has made the structure and organization of buildings increasingly complex, and as a result, ensuring fire safety has become a

strategically important issue. The primary function of a fire alarm system is to detect any dangerous phenomena early and save human life and property, but the actual effectiveness of the system directly depends not only on the sensitivity of the sensor, but also on the reliability and transmission speed of the network through which the information is transmitted.

As smart systems and Internet of Things technologies are introduced, the amount of data transmitted through the GDS network increases, and risks such as overloading of network nodes, data packet collisions, and data delays due to external environmental influences are encountered. Since every second lost during a fire causes irreparable damage, comprehensively studying the reliability and speed of information transmission networks and developing optimal modeling are a pressing issue in the current engineering field.

As urbanization intensifies worldwide and buildings become taller and larger, the importance of fire protection systems is being discussed at the strategic and life-saving level. According to international statistics, 75-80 percent of the risk of death due to fire occurs in the first 5-8 minutes after the fire starts (Ганболд, Д., 2021). During this critical period, human lives directly depend on how quickly the fire alarm system transmits information. However, the network infrastructure used in modern smart buildings has an average risk of 2.5-4.8 percent data packet loss during data transmission, which is a major factor reducing the actual efficiency of the system (Бат-Эрдэнэ, Б., 2019).

The reliability of the GDS data transmission network is expressed by the

system availability factor, which should be at the level of 99.99 percent or "four nines" according to the international NFPA 72 standard (Stallings, W, 2020). However, in practice, due to overloading of network nodes, electromagnetic field effects, and device failures, the probability of system reliability, $R(t)$, decreases exponentially with the service life. In particular, data loss caused by damage to traditional wired network lines and wireless network delays accounts for 35.3 percent of the total system failures, which creates an urgent need for research in this area at the level of scientific and quantitative analysis.

Scientific novelty and significance of the research work :

The research work analyze science innovative side is the GDS network reliable situation to determine Markov chain circuit model and probability theory combined used , system defect in advance guess method law to develop while exists . Thus network which one in the section delay when leaving information the most convenient on the road , without error to transmit dynamic routing algorithm fire system in practice to introduce opportunity consists of .

Practice grandson connection for research seed as a result developed modeling By using GDS network reliable situation by 15-20 percent increase , information to transmit average time radical shorten possible This is the building facility fire safe status the rank advancement , risk

management number in the data based on optimal to make real percentage contribution enter .

Research Objectives : The main objective of this research is to analyze the current status of fire alarm system data transmission networks, the technologies used, and identify ways to improve the reliability of the system and reduce data transmission delays.

RESEARCH METHODOLOGY:

This research work is based on a deductive methodology that combines theoretical modeling and empirical testing methods. Within the scope of the research, mathematical statistical methods will be used to determine the reliability of the fire alarm system data transmission network, and a solution will be developed by modeling the factors affecting the network's operational speed or signal transmission delay. The research will be implemented in the following main stages: data collection, data analysis, mathematical modeling development, and experimental verification.

RESEARCH RESULTS

Based on the example of the Dundgovi aimag Emergency Department, the reliability indicators of the fire alarm system's data transmission network are presented in a table based on statistical data from the last 5 years, and the analysis is presented in a continuous form.

Table 1. Reliability indicators of the fire alarm system data transmission network (2021-2025)

Year	Total registered anxiety signal	Network ready status coefficient (A)	Successful transmitted signal (%)	Network average delay (ms)	Injury edit average time (MTTR, hours)
2021	94	0.982	96.2%	450.5	3.2
2022	112	0.985	97.1%	420.3	2.8
2023	108	0.988	98.4%	380.1	2.1
2024	125	0.991	99.0%	240.5	1.5

2025	134	0.994	99.3%	185.2	1.1
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Last five annual statistics from the indicators to see Dundgovi Provincial Government information to transmit network reliable situation and quick in operation noticeable progress out in 2021 network ready status coefficient 0.982 or annual during system 157.7 hours to be disabled risky was in 2025 this The indicator becomes 0.994. improved the system reform and preparation channels introduced directly related Especially successful transmitted signal percentage 96.2 to 99.3 percent and grew up the fire danger detect in the process information to be lost the risk the most little at the level delivered is .

Information to transmit network quick operation river indicator to become average delay five annual from 450.5 ms to 185.2 ms in duration until decreased the signal to transmit 2.4 times faster increased show This is quick situation the fire fire turn off rescue class answer show time shorten , possibly damage size to reduce river

influence Also , damage edit average deadline 2025 year 1.1 hours as of become decreased the technique usage ready situation and engineering team operation optimal what happened indicate is .

Network reliable status indicators positive direction inclined there is although many to the national NFPA standard specified " four" nine " or 0.999 level to reach in order to network topology complete in mesh form transfer , time steam insurmountable force from things protected smart monitoring system Dundgovi provincial all of the district Fire fire to extinguish , to rescue in classes united as to introduce necessary is . Number data detailed analysis the further system reliable operation up to 35.3 percent improve possible confirm is .

Dundgovi provincial Special status land (OBG) example on based on fire alarm system (GDS) prompt operation river indicators last 5 years as statistics in the table sum , total analysis together processed .

Table 2. GDS quick operation statistics indicators (2021–2025)

Year	Average Latency (Latency, ms)	System answer action show time (sec)	Network load big generation delay (ms)	Data transmission success (%)	Annual average progress (%)
2021	450.5	8.4	1,250.0	96.2%	-
2022	420.3	7.9	1,180.0	97.1%	+6.3%
2023	380.1	6.2	950.0	98.4%	+14.2%
2024	240.5	4.1	520.0	99.0%	+35.3%
2025	185.2	2.8	310.0	99.3%	+28.1%

Above statistics from the indicators to see Dundgovi Provincial Government information to transmit network quick operation last five annual during regular getting better arrived in 2021 information to transmit average delay 450.5 ms was is 185.2 ms in 2025 become decreased the signal to transmit speed immediately 2.4 times increased indicator This is positive changes from 2024 from introduced network deputy structural

reform and data to sort algorithmic optimization the most big influence Showed .

Research in the process observed the most important seed amount if network load a lot generation delay radical decreased incident is . In 2021 load a lot during signal transmission 1,250.0 ms until slows down was the fire danger early detect opportunity limit was in 2025 this performance 310.0 ms become decreased

This is the "Priority Queuing" in the system anxiety signal others help from the data advantage with right to transmit the mechanism by introducing network quick operation by 75.2 percent optimal what was done confirm is .

Dundgovi Provincial Department of Agriculture and Rural Development quick operation with improvement system answer action show total time from 8.4 seconds to 2.8 seconds become shortened This 5.6 second savings the fire fire spread risky the first " golden" " Save in minutes "

class call waiting take it , hurry up to leave opportunity granted there is and further network reliable 99.9 percent of the situation by delivery quick operation many country standard at the level to build complete possible is .

Fire alarm system (GDS) prompt operation and reliable situation more detailed , engineering level **different by parameters** (network quality and system to live ability) in the last 5 years statistics on based on by table processed .

Table 3.GDS network performance detailed indicators (2021–2025)

Year	Data package Packet Loss (%)	Jit's Jitter (ms)	Message usage seed profit (%)	United system without error to work Mean Time To Failure (MTTF, hours)	Network to introduce Capacity (Throughput, Mbps)
2021	4.8%	85.2	62.5%	1,450	10.5
2022	3.5%	72.1	68.3%	1,820	12.8
2023	2.1%	45.4	75.1%	2,150	25.4
2024	0.8%	18.2	88.4%	3,400	50.2
2025	0.3%	12.5	94.2%	4,850	100.5

Network performance these detailed indicators the Dundgovi Provincial Government fire alarm system quality and stable in the state out real change indicate is .

Data package discharge and Jit's volatility in 2021 data package The incidence was 4.8%. the anxiety signal some in case center in management not enough to be , or again transmission done time to lose basic reason become But in 2025 this indicator is 0.3% decreased the network noise and signal interruption the most little at the level arrived confirm is . And signal to transmit period fluctuation or wheat performance from 85.2 ms to 12.5 ms become decreased the information transmission absolutely stable , in "Real-time" mode to work possible what happened show is .

System to live ability System without error to work average time to failure (MTTF) five annual from 1,450 hours to 4,850 hours becomes , immediately 3.3 times grew up This is the technique supply reform and network myself diagnose algorithm by introducing " living " in the system ability " radical improved indicates . Otherwise in other words , system unexpected without delay continuous to work reserve the annual throughout stable to be saved happened is .

Message use and Login ability Network to introduce Capacity increased from 10.5 Mbps to 100.5 Mbps added the only text signal not only , but also from the hearth directly image Video stream , heat sensor detailed The graphs are from the OBG . quick management in the center without delay waiting to get technical

opportunity Message usage seed Profit reached 94.2% the network resources optimal allocate , " loose" "load " and " information" " congestion " seed effective to decide seed amount is .

These technical indicators positive change the Dundgovi Provincial GDS reliable situation by 35.3% improve and accelerate operation many country

engineering in the standard compatible at the level delivered is .

Dundgovi Provincial Government fire alarm system (GDS) information to transmit on the network made test research seed result your 4 periods specified staircase according to table in shape to include and combine Showed .

Table 4.GDS network reliable status test research seed amount

Research period ladder	Completed operation	Measure Indicator / Data	Seed amount and indicator
1. Information to collect	2021-2025 signal transmission log and technical registration to merge .	Total 573 alarms signal , 140.1 hours delay .	Research base data fund composed .
2. In the data amount analysis	Network load and signal transmission correlation with SPSS to analyze .	Network Load : 75.0% or more up .	Packet The percentage is 4.8%. law until it is fixed determined .
3. Mathematics modeling	Reliable state R(t) and ready A coefficient of the situation calculation .	$A = \frac{MTBF}{MTBF+MTTR}$	System ready The situation came out with 0.994 .
4. By experiment confirm	"Priority-First" algorithm simulation in the environment with a load test .	Signal to transmit time (ms).	Latency 450.5 to 185.2 ms become decreased .

Test research seed from the result It looks like the GDS information to transmit network quick operation and reliable situation the used there is algorithmic from optimization directly relevant is .

• Mathematics Proof : Mathematics modeling seed as a result out system ready status The indicator (0.994) is real situation above statistics 98.2% of the data probably in accordance with there is the developed model true right to become indicate is .

• Technical Optimization : Experimental introduced advantage has the right data to transmit algorithm the network load a lot Even in times of anxiety signal 2.4 times fast through there is the It has been determined .

• Real seed Benefit : This optimization by doing Dundgovi Provincial Government fire alarm system quick operations by 35.3% raise , fire the fire first in the stage detection , response action show technical guarantee complete satisfy is .

Research four period the stairs like this comprehensively the By implementing the GDS network many country engineering in the standard in accordance with update analyze science reasonable suggestions and recommendations complete approved is .

CONCLUSION

Within the framework of this research, the reliability and operational efficiency of the fire alarm system (FAS) data transmission network were analyzed and ways to improve the efficiency of the

system were identified using the example of the Dundgovi aimag Emergency Department. The study confirmed through mathematical modeling that the reliability of the FAS data transmission network directly depends on the system structure, the technical specifications of the protocol used, and the impact of the external environment.

Based on the analysis of reliability indicators based on statistical data from the last five years, the system availability coefficient reached 0.994 in 2025, which is considered to be the result of technical innovation and optimization of network backup. However, the probability of data packet loss and network latency remain the main risks that delay the alarm transmission time during heavy load. During the research, it was found that the "Priority Queuing" or data prioritization algorithm can increase the network speed by 35.3 percent and shorten the average signal transmission time to 185.2 ms, which is a practical basis for winning the "golden minute" during a fire.

In addition, it is necessary to consider that the extreme climatic conditions of Dundgovi aimag negatively affect the stability of the wireless network signal and reduce the average uptime of the system. In order to further ensure the reliability of the GDS network in line with international NFPA standards, it is recommended to introduce a hybrid network structure combining fiber optic cable and low-frequency radio communication and implement a self-diagnostic intelligent monitoring system. The results of this study will serve as a theoretical and methodological basis for improving regional fire-fighting readiness based on quantitative data and reducing the risk to human life and property.

RECOMMENDATION

✓ Network architecture: Migrating the fire alarm network to a hybrid structure of fiber optic and wireless connections, increasing reliability to 0.999.

✓ Algorithm optimization: Introduced an algorithm to prioritize the transmission of distress signals, reducing data latency by 35.3 percent to ensure prompt operation.

✓ Monitoring system: Adopt AI-based intelligent monitoring to detect network failures in advance and reliably maintain continuous availability.

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RELATIONSHIP BETWEEN MANAGEMENT DECISIONS AND EMPLOYEE PERFORMANCE

The Correlation Between Managerial Decision-Making and Employee Job Performance: A Case Study of the Capital City Emergency Management Agency

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Abstract. The Correlation Between Managerial Decision-Making and Employee Job Performance: A Case Study of the Capital City Emergency Management Agency

The purpose of this research is to identify the patterns and correlations between the decisions made at the management level of the Capital City Emergency Management Agency (CCEMA) and the job performance and motivation of its personnel. A total of 150 employees from various branches of the CCEMA were included in the study using a random sampling method. Primary data was collected through questionnaires and analyzed using statistical methods.

The research findings confirmed a very strong positive correlation ($r = 0.78$) between managerial decision-making and employee performance. Approximately 80.0% of the participants rated the promptness of managerial decision-making positively, and it was established that optimal decisions directly increase the quality of employee performance by an average of 35.3% to 48.0%. However, the level of employee involvement in administrative decision-making processes was found to be insufficient (46.7%), which serves as a factor in creating psychological pressure during performance. Furthermore, the study observed a pattern where unclear managerial decisions cause workplace stress for 63.3% of personnel, thereby increasing the risk of performance errors.

The study concludes that to improve the management system of the CCEMA, it is essential to ensure transparency of information and enhance "feedback loops" to incorporate the suggestions of frontline personnel into the decision-making process. By doing so, it is possible to fully utilize the agency's human resource potential and scientifically increase the efficiency of disaster protection activities within the capital city.

Keywords: Managerial decision-making, job performance, emergency management, correlation analysis, motivation.

INTRODUCTION

The core of the operations of the Capital Emergency Management Organization is a responsible and risky service that protects the lives and property of citizens. In today's era of rapid urbanization, the density of buildings, technological advancements, and the increasing frequency of dangerous events caused by climate change, the readiness and operational efficiency of the organization have become an integral part of national security. In this critical situation, the level and quality of the performance of the officers directly depend on the quality,

vision, and rationality of the decisions made at the management level.

Management decision-making is not just an administrative decision, but a comprehensive process of protecting the lives and health of employees in the event of a disaster, accident, or fire, properly distributing technical resources, and ensuring their psychological and professional readiness. If management decision-making is research-based, prompt, and rational, it can lead to positive changes in the attitude and quality of employees' work and performance, and become the basis for the successful implementation of the organization's goals. Therefore, in the

case of the Metropolitan Emergency Management Organization, it is of great importance for the development of the sector to study and determine the patterns and relationships between how management decisions affect employee performance.

Currently, the decision-making process of the NSO is in the middle of a transition from the traditional hierarchical principle to a digital one. The process of receiving disaster calls and information in the capital is being resolved through the rapid management system, which has a positive indicator of shortening the decision-making time by 12.4 percent compared to previous years. However, the lack of participation of officers in decision-making at the administrative level is a factor that inhibits the active implementation of decisions among mid-level officers. According to the survey, 38.7 percent of the total personnel believe that some management decisions deviate from the actual situation and are biased.

RESEARCH METHODOLOGY:

This research will mainly use quantitative analysis methods and 150 officers selected randomly from the branches of the Capital Emergency Management Organization were included. The sample size of the study consists of rescuers, firefighters and mid-level officers working in the capital city, and a 95% confidence level and a 5.0% probability of error were used to determine the sample size. The main data collection tool was a 5-point Likert scale questionnaire aimed at measuring the effectiveness of management decision-making, information transparency, resource allocation, and the quality of work activity and performance of officers.

The primary data collected in the study will be analyzed using the statistical

software SPSS 26.0, and the Pearson correlation coefficient will be calculated to determine the relationship between factors. Also, regression analysis will be used to verify how management decision-making indicators affect employee performance.

RESEARCH RESULTS

The basis for the full implementation of the strategic goals of any organization and the improvement of operational efficiency is the correlation between the quality of decisions made by management and the productivity of employees at the executive level. For an organization like the Metropolitan Emergency Department, which is responsible for time and human life and operates in a high-risk environment, determining this correlation is of great theoretical and practical importance for improving management methods. An objective assessment of how management decision-making affects employees' attitude to work, psychological readiness, and performance quality will serve as a scientific basis for determining the organization's development policy.

This research aimed to examine how the orders and decisions given by the management and the measures taken to ensure social security are reflected in their daily work, involving a total of 150 employees of the Capital Emergency Management Organization. In developing the research, a questionnaire method was used to realistically elicit the subjective assessments of the employees. In doing so, management decision-making was measured by three main indicators: "Immediateness", "Optimism", and "Participation", and work performance was measured by the indicators "Task Completion" and "Safety Discipline", respectively.

Table 1. Gender composition of survey participants

Choice	Number of responses (f)	Percentage (%)
A. Male	128	85.3%
B. Woman	22	14.7%
Total	150	100.0%

The majority of the respondents, 85.3 percent, are men, which is directly related to the nature of the work of the Emergency Services, the difficult conditions, and the physical demands of the

profession. The low proportion of female officers indicates that they are mostly employed in administrative, financial, communications, and medical support units.

Table 2. Age group of study participants

Choice	Number of responses (f)	Percentage (%)
A. 18-25 years old	36	24.0%
B. 26-35 years old	64	42.7%
B. 36-45 years old	39	26.0%
G. Over 46 years old	11	7.3%
Total	150	100.0%

The highest percentage of respondents (42.7%) is between the ages of 26 and 35. This indicates that the organization's personnel are energetic, in the prime of their working lives, and have a high capacity to accept management

decisions and execute. However, the lowest percentage (7.3%) is among employees over the age of 46, which is likely due to the retirement age threshold and the nature of their jobs.

Table 3. Educational level of respondents

Choice	Number of responses (f)	Percentage (%)
A. Special medium	32	21.3%
B. Bachelor's degree	96	64.0%
B. Master	21	14.0%
G. Doctor	1	0.7%
Total	150	100.0%

Considering the level of education of the officers, 64.0 percent have a bachelor's degree, which indicates that the personnel have good basic professional knowledge and higher education. Officers with a master's degree account for 14.0 percent,

which indicates that there is potential for work at the management and research levels. Citizens with special secondary education are mainly working in executive-level positions such as rescuers and firefighters.

Table 4. Promptness of management decision-making

Choice	Number of responses (f)	Percentage (%)
A. Very quickly.	53	35.3%
B. Quick	67	44.7%
B. Medium	22	14.7%
G. Slow	8	5.3%
Total	150	100.0%

The speed of decision-making by the management of the Capital Emergency Management Organization was rated positively by 80.0 percent of the officers (very fast and fast). This is consistent with the characteristics of the organization,

which operates under time constraints, and indicates that the process of providing fast management is established at a relatively high level. However, 5.3 percent of the officers considered decision-making to be slow, which may be related to bureaucracy

or information flow bottlenecks at some stages.

Table 5. Clarity of decisions and tasks

Choice	Number of responses (f)	Percentage (%)
A. Very clear.	62	41.3%
B. Understandable	58	38.7%
B. Sometimes unclear	24	16.0%
G. Very unclear	6	4.0%
Total	150	100.0%

41.3 percent of employees rated the clarity of the tasks given by management as "Very clear," which is a fundamental basis for reducing the likelihood of errors in the execution stage. However, 20.0 percent

of respondents said they occasionally or regularly encounter uncertainty, indicating the need to make information transfer channels clearer and improve feedback.

Table 6. Status of ensuring the participation of officers in decision-making

Choice	Number of responses (f)	Percentage (%)
A. Always considerate	28	18.7%
B. Usually considered	42	28.0%
B. Occasionally considered	56	37.3%
G. Not at all concerned	24	16.0%
Total	150	100.0%

The indicator of ensuring employee participation in the management decision-making process is lower than other questions, with the highest percentage of responses (37.3%) being "Occasionally considered." This indicates that decision-

making within the organization is strictly top-down, and the mechanism for incorporating the opinions of lower-level employees into administrative decisions is weak.

Table 7. Optimality of resource allocation

Choice	Number of responses (f)	Percentage (%)
A. Very accurate.	34	22.7%
B. Optimized	64	42.7%
B. Medium	41	27.3%
G. Not optimal	11	7.3%
Total	150	100.0%

Regarding resource allocation, 65.4 percent of all officers rated the management's decision as "optimal," indicating that technical and human resources are being used to the best of their

ability. However, 7.3 percent considered it to be inefficient, which is likely a subjective assessment due to differences in technical resources or lack of human resources in some departments.

Table... Professional level of management decisions

Choice	Number of responses (f)	Percentage (%)
A. Completely capable	48	32.0%
B. Can	69	46.0%

B. Medium	27	18.0%
G. Insufficient	6	4.0%
Total	150	100.0%

78.0 percent of officers positively assessed the professionalism of management decisions, indicating a high level of trust in the skills and experience of the leadership team. This trust is an

important incentive for officers to perform their duties without hesitation in risky situations and to ensure internal unity in the organization.

Table 8. Management decisions affecting performance

Choice	Number of responses (f)	Percentage (%)
A. Increases greatly	72	48.0%
B. Adds	53	35.3%
B. Slightly increased	21	14.0%
D. No change occurs.	4	2.7%
Total	150	100.0%

48.0 percent of respondents said that good management decisions greatly increase performance, confirming the direct relationship between management and performance. This is a

key statistic that shows that a single good decision made by management can literally boost employee productivity and improve operational results.

Table 9. Security status

Choice	Number of responses (f)	Percentage (%)
A. Fully satisfied	65	43.3%
B. Provides	59	39.3%
B. Sometimes risky	21	14.0%
G. Not enough	5	3.4%
Total	150	100.0%

82.6 percent of officers believed that management instructions were able to ensure their safety. This is a very important indicator for emergency services, as it

indicates that tactical decisions made by management are aimed at protecting the health and lives of officers and take into account real risks.

Table 10. The impact of management support on motivation

Choice	Number of responses (f)	Percentage (%)
A. Very activating	51	34.0%
B. Activates	62	41.3%
B. Slightly affected	29	19.3%
D. Does not affect	8	5.4%
Total	150	100.0%

Management support and social security decisions increase the willingness of 75.3 percent of employees to work. This shows that management decisions are not

just "orders" but are the main mechanism for psychologically supporting employees and ensuring their stability.

Table 11. Psychological stress caused by uncertain decisions

Choice	Number of responses (f)	Percentage (%)
A. It's very stressful.	38	25.3%
B. Pressure is exerted.	57	38.0%
B. Occasionally affects	43	28.7%
D. Does not affect	12	8.0%
Total	150	100.0%

Uncertainty about management decisions is a direct psychological burden for 63.3 percent of all participants. This indicates that unclear communication of

information by management not only hinders employee performance, but also causes psychological instability, which in turn increases the risk of work errors.

Table 12. Fairness of performance appraisal

Choice	Answer	Percentage (%)
A. Completely honest	31	20.7%
B. Honest	54	36.0%
B. Medium	48	32.0%
D. Unfair	17	11.3%
Total	150	100.0%

Regarding the fairness of the evaluation, 56.7 percent of the employees gave a positive answer, while 32.0 percent rated it as "Average." This reminds us that the management needs to make the criteria used to evaluate performance more transparent and objective. Since unfair evaluation is a major factor in weakening the motivation of employees, special attention should be paid to this.

CONCLUSION

This study, which included 150 officers from the Capital City Emergency Management Department, confirmed that there is a very strong direct correlation between management decision-making and performance. According to the results of the study, the rationality and promptness of management decisions not only increase the work productivity of officers, but also have a decisive impact on their psychological stability and safety.

80.0% of the respondents rated management decision-making as prompt and 79.0% rated it as professional and sound, indicating high internal trust in the organization. Especially during disaster situations, prompt management is a key driver of employee performance. However,

the level of employee participation in administrative and strategic decision-making is 46.7%, indicating the need to further introduce "participatory management".

The fact that 63.3% of employees report that uncertainty about management decisions causes psychological stress confirms the importance of transparency and clarity of information. Social support and objective evaluation from management increase employee motivation to work by 75.3%, indicating that not only hardware but also proper human resource policies are important for improving performance.

Statistical analysis has shown that good management decisions directly increase the quality of performance by an average of 35.3-48.0 percent. This confirms that the more data-based, transparent, and participatory decisions are made by the management of the National Transportation Safety Board, the more effective the operation will be in ensuring the safety of the citizens of the capital.

Suggestions:

- *Digital Transformation:* Further improve the internal information transfer network to increase the

- speed and clarity of decision-making.
- *Increase participation:* Create a feedback loop mechanism to regularly incorporate executive level staff feedback into administrative decision-making.
- *Psychological support:* Introduce standards to make management instructions clearer and more unambiguous to reduce stress caused by management decisions.

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THE IMPACT OF COMMUNICATION DURING DISASTERS

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Abstracts

Mongolia, with an area of 1,564,116 km² and a population of 3.3 million, is one of the most sparsely populated countries in the world, and is at high risk of natural disasters due to its extreme climate and the prevalence of nomadic pastoralism. Between 2015 and 2024, more than 40,000 disaster events were recorded, resulting in 726 deaths, the loss of 11.5 million livestock heads, and direct financial losses of 1.9 trillion tugriks. A significant proportion of these losses is directly attributable to the lack of an integrated multi-hazard early warning system (MHEWS), and improving the effectiveness of disaster communication has become a topic of urgent research. This article aims to summarize and analyze the theoretical basis of disaster communication, the current state of the Mongolian disaster management system, the limitations of the communication infrastructure, inter-agency coordination issues, and future policy recommendations. The research methodology was based on an analytical review of documents, reports, and scientific papers published by international organizations. The main findings of the study were: (a) the coordination of inter-agency communication in Mongolia is not systematic, (b) warning signals are limited to specific hazards and lack infrastructure to reach remote populations, and (c) the integration of traditional knowledge and modern technology is insufficient. Based on these findings, recommendations were made to strengthen the integrated multi-hazard system, improve the inter-agency information exchange system, and increase social participation.

Keywords: disaster management, communication, warning system, dzud,

Introduction

In disaster management theory, communication is not a single tool, but rather the backbone of the system. Communication plays a comprehensive role in each stage of disaster preparation, response, and recovery, and it has a decisive impact on the extent of disaster damage and the number of victims. Disaster communication is especially important in countries like Mongolia, which have a vast territory, complex social structure, and uneven infrastructure development.

Mongolia is a country roughly the size of Kazakhstan, the largest country in Europe, bordered to the north by the Russian Federation and formerly by China. The vastness of the country, combined with limited network infrastructure, limits the ability of disaster alerts to reach remote communities in a timely manner. Between 2015 and 2024, more than 40,000 disaster events were recorded, with a combination of hazards such as droughts, floods, wildfires, severe storms, and earthquakes (Asian

Development Bank [ADB], 2025).

Researchers have found that the losses from these events are directly related to technical and natural factors, as well as structural deficiencies in the communication system.

This article addresses three main research questions: (a) What is the current status, structural features, and limitations of Mongolia's disaster communication system? (b) How do communication gaps increase disaster losses? (c) What evidence-based interventions can support the effectiveness of communication in the Mongolian context? Answering these questions is of interest to Mongolian disaster management policymakers, researchers, and international cooperation organizations.

The paper will then present the theoretical framework, methodology, analytical results, discussion, and conclusion sections. The study aims to add to the relatively few academic works devoted to disaster communication in Mongolia and to lay the foundation for further pioneering research.

Theoretical Basis

A Theoretical Framework for Disaster Communication.

When defining disaster communication, many researchers consider it to encompass the entire flow of information intended to inform the public, change behavior, and coordinate organizations before, during, and after a disaster. As Harman et al. (2021) have discussed, disaster communication has evolved from a one-way information transfer to a two-way, interdependent system of stakeholder engagement. This approach is particularly important in the Mongolian context, as it requires active community participation.

The Sendai Framework for Disaster Risk Reduction (2015–2030) is an international policy document that sets a new foundation for disaster communication. The fourth priority of the framework specifically emphasizes the need to develop communication infrastructure and increase social awareness to enhance the effectiveness of disaster preparedness and response (Sendai Framework, 2015). Mongolia adopted the framework in 2015 and has established a policy framework for reforming its disaster management system during its implementation period.

The Integrated Multi-Hazard Early Warning System (MHEWS) has become a fundamental component of modern disaster communication. MHEWS includes six essential elements: (i) risk awareness and assessment, (ii) monitoring and data collection, (iii) forecasting and warning, (iv) communication and dissemination, (v) data reliability, and (vi) response capacity (ADB, 2020). In Mongolia, assessments by international organizations have identified the largest gaps in the fourth element, communication and dissemination, and the sixth element, response capacity.

Development of Risk Communication Theory.

Risk communication is a professional practice aimed at conveying knowledge, attitudes, and behaviors about hazardous phenomena to society. While

traditional research models have defined risk communication linearly as a sender-receiver relationship, modern approaches have taken into account the socio-cultural context of a given society, trust factors, language, and educational differences. In the Mongolian context, social trust and source credibility have a decisive impact on the reception of messages.

Forecast-based financing is a novel approach to the practical application of disaster communication theory. As reported by IFRC (2020), the 2020 dzud response, using the Meteorological Department's early warning system to directly distribute funds to 1,000 herding households, is an example of integrating communication and financial tools in disaster preparedness. This model is a model that demonstrates the chain reaction of "communication → behavior → damage reduction" in the Mongolian context.

Method

Research Model

This study used an analytical document review method. This method is a qualitative research method that systematically collects, categorizes, and analyzes the content of published documents, reports, and policy studies on a specific topic (Bowen, 2009). The limited availability of primary data research on disaster communication in Mongolia necessitated the selection of a review method.

The following criteria were used to determine the scope of the study: (a) published between 2015 and 2025, (b) specifically addressed disaster management, communication, or early warning systems in Mongolia, and (c) sourced from international organizations, government agencies, or peer-reviewed academic publications. To complement the limited number of academic publications on Mongolia, documents from international organizations such as ADB, UNDP, OCHA, UNDRR, CFE-DMHA, and IFRC were included as primary sources.

Data Collection and Analysis Methods.

Data collection was carried out in the following stages: first, all articles, reports, and policy documents related to disaster management and Mongolia were searched from the databases of organizations such as ADB, UNDP, OCHA, UNDRR, IFRC, UNESCO, and CFE-DMHA, as well as the online library of the Press Institute; second, the key terms “disaster communication”, “alert system”, “emergency”, “Mongolia”, and “emergency management” were searched and documents that met the criteria were selected; third, the content of the retrieved documents was analyzed by thematic categories.

Three main thematic groups were identified during the analysis: (i) disaster situation and disaster damage measurement in Mongolia, (ii) current communication system structure, limitations, and progress in improvement, and (iii) policy implementation and linkages with international systems. The information in each document was processed through a three-stage analytical process of interpretation, comparison, and synthesis.

As a limitation of the study, primary data collection was not included, so the conclusions are based on secondary sources. In particular, it should be noted that some data may be outdated, as the quantitative data is obtained from regularly updated government statistics and reports from international organizations. Considering these limitations, the principle of cross-checking sources was adopted during the analysis.

Result

Disaster Situation and Damage Assessment in Mongolia.

Mongolia is experiencing a warming trend, with average temperatures rising by 2.46°C over the past 80 years, three times faster than the global average (OCHA, 2024). This warming is increasing the frequency and intensity of natural disasters. Six dzuds have occurred in the past decade, each of which has caused irreparable damage to livestock. During the 2023–2024 dzud, more than 5.2 million

head of livestock were killed in a single spring, equivalent to 8.1% of the total livestock population (OCHA, 2024).

The socio-economic impact of dzuds goes beyond the direct loss of livestock and has several overlapping dimensions. According to a report by UNDP Mongolia (2025), the 2024 dzud reduced Mongolia’s agricultural gross domestic product growth by 25%. As herders who lost their livestock migrate to cities, the demand for jobs and livelihoods increases, expanding their ger settlements and increasing the burden on social services. As 80% of the rural population relies on livestock for their livelihoods, dzuds also reduce food security and increase the risk of gender-based violence.

As for the disaster damage data collection system, the National Disaster Management Authority (NDMA) issued regulations in 2020 and began implementing a system for collecting data disaggregated by age, gender, disability, and location through local first responders (UNDRR, 2021). This provides an important information base for identifying vulnerable groups and developing targeted communication strategies. The collection of data for five categories of disasters — geological, biological, fire, climate-water, and human-caused — represents a comprehensive system in terms of coverage.

Current Status of Telecommunications Infrastructure.

As identified in the ADB (2020) assessment, Mongolia still lacks an integrated multi-hazard early warning system (MHEWS). Alerts are limited to specific hazards and locations, such as earthquake alerts around Ulaanbaatar, and cannot cover the entire country. There is a tendency for weather forecasts to be interpreted as warnings alone, creating a gap between hazard assessment, warning issuance, and response.

The biggest limitation in telecommunications infrastructure is that more than 280 of Mongolia’s 330 soums do not have search and rescue units (ADB, 2025). This reflects a lack of natural and institutional capacity to conduct disaster

relief and communications at the soum and sub-soum levels. The uneven coverage of telephone and internet networks between urban and rural areas creates additional challenges.

As a channel for information transmission, radio remains one of the most reliable channels for local communication. Radio, which can operate even in conditions without electricity or internet, is a key tool for reaching nomadic herders and remote communities. The number of social media users in Mongolia is growing rapidly, but the problems of two-way communication and the spread of fake news pose new challenges for modern disaster communication.

Inter-Organizational Coordination Outcome Analysis.

ADB (2020) research found that the lack of coordination between the disaster risk forecasting organization (DRF) and the warning and response organization (WRA) resulted in information leakage between systems and delayed response. The report noted cases of uncoordinated communication channels during the response to floods, heavy rains, and forest fires, which led to confusion among operators and the community.

There are also good examples of coordination in disaster response. During the 2024 dzud response, the State Emergency Commission and the Office of the United Nations Resident Coordinator held joint meetings to provide a common platform for ambassadors and development partners, which was an important experience in terms of coordination models (OCHA, 2024). The annual GOBI WOLF series of exercises between the National Emergency Management Agency and the US military is contributing to the continuous improvement of inter-agency communication and coordination capabilities (CFE-DMHA, 2022).

In a joint report by the National Disaster Management Authority (NDMA) and UNDP, Deputy Director Colonel Uranchimeg Tsogtbayar highlighted the urgent need to move from a response-based

model of disaster management to a prevention-based and proactive risk management model (UNDP Mongolia, 2025). This provision identifies the need for a shift in organizational approach, including the need to shift communication systems from post-disaster to pre-disaster and process management.

Communication Experience Built on Advanced Notification.

A model of forecast-based financing has been piloted in Mongolia, setting a benchmark for innovative communication and response. As reported by IFRC (2020), when the Meteorological Department (MDD) issued a dzud risk forecast, the IFRC Disaster Relief Emergency Fund (DRF) immediately released 210,968 Swiss francs in accordance with pre-agreed procedures to support 1,000 herding households. This experience, which breaks the traditional model of waiting for a warning signal and then responding, and directly activates the signal-behavior-damage reduction chain, is a benchmark that integrates theory and practice.

The Dzud Risk Map developed by the CSO uses MODIS satellite data to identify risk levels at the aimag and soum levels, which allows for targeted spatial communication. The 2020 report identified 50% of the country's territory as being at high risk, and 25% as being at moderate risk of a dzud, and this information is used to develop targeted communication strategies (IFRC, 2020). The combination of mapping technology and pre-financing mechanisms thus demonstrates the shortening of the "notice-response" cycle in the communication system.

Discussion The Need for an Integrated Technical and Social Approach.

The findings of the study provide the following general conclusion: improving disaster communication cannot be limited to investments in technical infrastructure. The \$32 million ADB (2025) Strengthening Mongolia's Integrated Early Warning System project is a clear step

towards addressing the need for infrastructure, but infrastructure alone cannot ensure citizen response. While communication messages can be delivered through technical channels, behavior change will not occur if there is a lack of social trust, language accessibility, and cultural appropriateness.

The fourth priority target of the Sendai Framework (2015) requires the participation of the whole of society in increasing the effectiveness of disaster preparedness, response, and recovery. In the case of Mongolia, herder communities have traditional knowledge to interpret natural signs and signals of winter. As reported by UNESCO (2024), basic research has confirmed that the traditional knowledge of nomadic herders contributes significantly to disaster resilience. Therefore, it is important to develop communication strategies that combine modern technological signals and traditional knowledge to reach herders.

In terms of inter-agency coordination, the experience of the 2024 response has identified the need for a joint information platform and standardized sub-procedures in times of danger. A short-term policy objective could be to implement a Standard Operating Procedure for communication between the National Emergency Management Agency (NEMA) and the Central Emergency Management Agency (CEMA).

Communication Access for Vulnerable Groups.

A key requirement of the Sendai Framework is to specifically address the accessibility of disaster communication policies for vulnerable groups. During the 2023–2024 dzud, more than 200,000 people required assistance, of whom 53,000 were in extremely vulnerable situations, and 76,000 were provided with emergency assistance (OCHA, 2024). The accessibility of disaster communication for vulnerable groups is not just an infrastructure issue, but also a social issue that requires the development of messages that are age, gender, disability, and literacy-sensitive.

The NEMA data collection system, which collects data disaggregated by age, sex, and disability, offers the potential to support targeted communication approaches (UNDRR, 2021). However, it is important to ensure that this information is used as part of an operational communication strategy and to deliver appropriate warnings and guidance to all. There is an unsubstantiated assumption that the second step from data collection to policy implementation is missing.

This study highlights several gaps in academic research on disaster communication in Mongolia. First, there is a lack of primary data research (survey questionnaires, in-depth interviews) to examine how herders and local communities respond to disaster information and change their behavior. Second, quantitative research is needed to analyze social media information dissemination patterns and the spread of disinformation during disasters in Mongolia. Third, a coherent assessment of disasters that takes into account the combined effects of both the ontological and social dimensions are needed.

Conclusion

This study found that Mongolia's disaster communication system is deficient in three pillars: infrastructure, organization, and society. In terms of infrastructure, the lack of an integrated multi-hazard warning system, limited communication in remote areas, and the lack of local response units are prominent findings. In terms of organization, there is a lack of regular and standardized information exchange mechanisms between disaster forecasting and response organizations. In terms of society, there is still a lack of access to vulnerable groups and the integration of traditional knowledge.

ADB's new 2025 project is a major step towards addressing the infrastructure gap, and the telecommunications infrastructure upgrades that will be part of this investment are expected to significantly improve disaster risk reduction. However, technical solutions cannot replace the social and

institutional components. Integrating traditional knowledge and social trust among herders into modern telecommunications systems is the most appropriate approach in Mongolia's context.

The “whole of society approach” of the Sendai Framework (2015) aims to include all stakeholders in society, rather than seeing disaster communication as the sole responsibility of governments. A key step for Mongolia to implement this principle is to expand its capacity-building system, particularly the role of local governments and communities, to mobilize the capacity of the whole of society.

Further research is recommended to conduct qualitative and quantitative studies of the user experience of disaster communication among herders, analysis of disaster information transmission on social networks, and research on the influence of trust factors on the acceptance of disaster notifications. These primary data studies are of great importance in validating conclusions based on current secondary data or generating new knowledge from new perspectives.

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THEORY AND METHODOLOGY OF DISASTER RISK REDUCTION ACTIVITIES AND INTERNATIONAL EXPERIENCE

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Abstract. Mongolia's extreme climate and accelerating global warming have significantly increased the frequency and severity of natural and human-caused disasters, posing growing threats to national socioeconomic development and public safety. This article examines disaster risk reduction (DRR) management frameworks, with particular emphasis on international best practices and their applicability to the Mongolian context. The study analyzes the Sendai Framework for Disaster Risk Reduction 2015–2030 alongside comparative case studies from India, China, Japan, and Turkey, highlighting effective organizational structures, community-based preparedness strategies, and policy-driven risk mitigation approaches. Findings indicate that transitioning from reactive post-disaster response to proactive prevention-oriented management significantly reduces vulnerability and long-term damage. The article argues that Mongolia must integrate systematic risk assessment, decentralized community participation, and science-based planning into its national disaster management policy. Recommendations include conducting comprehensive regular risk assessments, localizing internationally proven DRR practices, and strengthening citizen engagement in disaster preparedness planning to build national resilience and support sustainable development.

Keywords: disaster risk reduction, disaster management, Mongolia, Sendai Framework, community-based preparedness, natural hazards

Introduction

In Mongolia, which has an extreme climate and is currently experiencing rapid global warming, the number and damage of disasters, dangerous phenomena, accidents, and fires caused by natural and weather conditions and human activities are increasing year by year, negatively affecting the national and local economies.

In addition to natural disasters such as drought, dzud, snow and dust storms, wildfires, desertification, extreme heat and cold, human and animal infectious diseases, pest infestations, industrial and vehicle accidents, radioactive contamination, and chemical spills continue to cause significant loss of life, damage to the country's socio-economic development, and significant damage to the environment, as shown by the following figures.

In Mongolia 2015-2026 In 2018, “an average of 3,000-3,500 disasters, dangerous

phenomena, and accidents occurred annually, resulting in more than 350 deaths, more than 180 health injuries, and more than 170 damages to state and public property.” billions of tugriks in damage.

In recent years, new types of unprecedented human and animal infectious diseases and disasters have emerged.

The situation of natural hazards demonstrates the importance of improving disaster management and disaster risk reduction activities.

Disasters have historically been shown to hinder development, and it is therefore imperative to scientifically integrate development policies with local disaster risk reduction activities and planning.

Main part

Climate change, technological evolution, and the emergence of dangerous phenomena and accidents caused by human factors and actions have negatively affected the country's social, economic, and sustainable development, as well as national security.

Improving the management system for disaster prevention and risk reduction is not only a priority in the development indicators of government policies and activities, but also a need to implement disaster risk reduction management policies.

Out of the more than 30 natural disasters that occur in the world, our country has experienced more than 10 natural disasters, including droughts, snow and dust storms, cyclones, desertification, lightning, heavy rains, floods, and the spread of infectious diseases that are internationally prohibited for humans and animals, forest fires, plane crashes, ice collapses on rivers and lakes, mine explosions, landslides, chemical poisoning, fires at facilities, and accidents related to motor vehicles, as well as human-caused and technical accidents, which have destroyed human lives, property, and the environment, and caused significant damage to society and the economy. In addition, the spread of the Covid-19 coronavirus in the past 2 years has caused significant damage to the socio-economic system, health, and lives of the population in Mongolia.

Before 2000, disaster risk reduction efforts focused on post-disaster activities, such as disaster relief, disaster relief, and rescue operations. However, the increasing frequency and severity of natural disasters have demonstrated that this approach is ineffective, and a new, more effective approach to disaster risk reduction is needed. concept It has become more important than ever to take action. Therefore, it is important for society to

prevent disasters, not just after they have occurred, and one of the measures taken to implement them has been disaster risk reduction policies.

the goals of the Disaster Management Organization's disaster risk management activities , define the path to achieve them, organize the optimal use of production resources , and activate its people . Lead and then evaluate the results of the work to supervise activities, and to conduct them in accordance with global and national characteristics, in other words, to improve disaster management.

Disaster risk management is defined as a broad, non-development-oriented activity that primarily aims to reduce the vulnerability of populations at risk and to maximize the effectiveness of disaster response measures when disasters occur. The goals of disaster risk reduction management are:

1. Reducing and eliminating the actual damage caused by disasters due to the vulnerability of the population
2. Providing emergency assistance to disaster-affected populations
3. It is about taking effective, long-term recovery measures to make the risk less than it was before.

The goals of disaster management are:

1. Reducing the actual damage caused by disasters due to population vulnerability
2. Providing emergency assistance to disaster-affected populations
3. It is about taking effective, long-term recovery measures to make the risk less than it was before.

The disaster risk reduction management cycle is:

1. The moment of disaster
2. Ensuring readiness
3. Eliminate the harmful effects
4. Disaster risk reduction
5. To rebuild, to overcome

6. Prevention,
7. Management development

Disaster risk reduction activities are often carried out in the form of special programs to reduce the damage caused by disasters to countries and communities.

In a broad sense, the main goal of disaster risk reduction is to prevent disaster hazards from occurring where possible, or to reduce social vulnerability, thereby minimizing the extent of damage and creating conditions for sustainable development.

This includes risk assessment and measures to reduce social vulnerability and avoid potential hazards or adverse impacts.

Disaster risk reduction consists of monitoring and assessing the state of the environment, observing highly hazardous objects, ecological and natural hazards, and implementing a comprehensive policy that includes legal, organizational, economic, engineering, ecological protection, sanitary and quarantine measures.

Disaster risk reduction measures are strategic and other tools, policies or

objectives aimed at predicting future disaster risks and reducing existing hazards, risks (populations, assets, areas, systems and structures at risk of exposure to and damage from a hazard) or vulnerabilities (processes and conditions resulting from physical, social, economic and environmental factors that increase a local vulnerability to a hazard) and improving resilience.

Disaster risk reduction ^{Disaster} risk reduction refers to any action taken to reduce the magnitude of disasters or potential disasters, i.e. the range of elements considered possible to reduce vulnerability and disaster risk at a societal level, and to avoid (prevent) or limit (mitigation, preparedness) adverse impacts in the context of sustainable development.

Theoretical and methodological research shows that disaster risk reduction methodologies are being implemented efficiently and sustainable development activities are being implemented through disaster management management and organization.

Figure 1. Disaster risk assessment matrix.

Danger / probability / degree of danger	Degree of vulnerability and capacity (consequences)		
	3 points	2-2.9 points	0-1.9 points
1-1.9 points Junior	Low risk	Low risk	Medium risk
2-2.5 points Middle	Low risk	Medium risk	High risk
2.6-3 points Great	Medium risk	High risk	High risk

Risks are likely to occur depending on the capacity to determine whether the risk is tolerable or intolerable, to reduce or transfer risks, and to manage residual risks. has been defined.

Basic concepts related to disaster risk reduction

Disaster risk reduction measures can be implemented before, during, and after a disaster, but are often used in response to potential disasters. The disaster risk management process provides detailed information about hazards, incidents, exposures, protection capabilities, and

priority risks that need to be mitigated, thus helping decision-makers find the most appropriate ways to reduce and control risks within their available resources.

In this sense, disaster risk management serves as the foundation not only for disaster prevention activities but also for disaster protection activities.

The basic concepts related to disaster risk reduction are :

- Disaster prevention activities, including planning and implementing disaster prevention, search and rescue, disaster relief, humanitarian assistance, and immediate reconstruction ;
- Disaster prevention-oriented management activities, and secondly, the management and organizational process for implementing these activities ;
- Preparedness, disaster risk reduction, and emergency response, emergency relief and reconstruction measures A disaster management policy that includes all activities aimed at improving the capacity to implement a wide range of measures and reducing short- and long-term vulnerability.

Disaster risk management is a comprehensive process of systematically applying the operational capabilities of management decisions, policies, and strategies, and the coping capabilities of society and the public, to reduce the impact of natural, environmental, and technological hazards. In other words, it is a comprehensive process of systematically applying the operational skills of administrative management and organizations, the capabilities to implement policies, strategies, and adaptation capabilities aimed at reducing the negative consequences of hazards and the likelihood of disasters.

Risk mitigation is defined in many ways, but it is essentially the process of

identifying, defining, assessing, and reducing risks.

Risk reduction activities include identifying the problem, identifying the risk and the risk subject and object, assessing the risk environment and consequences, prioritizing the work and efforts being made to manage the risk, developing a risk management plan, ensuring the conditions for implementing the plan, and managing and monitoring the implementation of the plan.

The main objective of disaster risk reduction is to prevent disasters from occurring, where possible, or to reduce social vulnerability to them, thereby reducing the extent of damage and creating a stable environment. This includes risk assessment, measures to reduce social vulnerability, and measures to avoid the negative impacts of potential hazards.

The first step in implementing disaster risk reduction measures effectively is to identify the risks. Specifically, by identifying which hazards are likely to occur where in a given population or area, who and what are exposed to them, and who is vulnerable to them, it is possible to take appropriate measures to reduce the risk. Disaster risk reduction measures are divided into structural and non-structural.

OVERVIEW OF THE STUDY

Globally: The Sendai Framework for Action for Disaster Risk Reduction 2015-2030 was adopted unanimously by 187 countries at the Third World Conference on Disaster Risk Reduction, organized by the United Nations Office for Disaster Risk Reduction.

The common objectives set within the framework of the program are:

1. Measures to halve poverty and hunger. Disasters pose the greatest challenges to poverty reduction efforts by

depriving people of their resources and causing huge unplanned expenditures.

To reduce the impact of natural and man-made disasters such as floods and droughts that are driving people into poverty around the world, each country implemented this initiative for the residents of Aceh, Indonesia, with funding from the World Bank.

2. Measures to provide universal general education worldwide. Disasters of all kinds that occur around the world delay the process of education. During the tsunami in India, the education sector suffered losses of 230 million US dollars. In Cambodia, children have joined the ranks of workers due to floods, and child labor exploitation is taking place. For families affected by disasters, sending their children to school has become a secondary issue in life. Therefore, building schools and providing education with World Bank financing in these countries has become an important measure to reduce disaster risk.

3. Measures to reduce child mortality. The fact that children die more often than adults during disasters is a global concern. Children under the age of 10 accounted for half of all deaths during the 1971 cyclone in Bangladesh. In Vietnam, hundreds of people die each year in floods, with children accounting for the majority. During the post-disaster displacement period, newborns are at risk due to malnutrition, discrimination, and lack of access to care. This lack of access to clean water and sanitation has increased the risk of infectious diseases and deaths, and disaster risk reduction policies have been implemented to address these risks.

4. Ensuring environmental sustainability. A major landslide occurred in Mao, Nagaland in 2004. This landslide, which was 150 meters wide and 1,100 meters long, destroyed more than 80 houses, blocked major roads, destroyed 38,600

public toilets and sewage disposal facilities in the villages, and polluted the environment, posing a threat of infectious diseases. During the Indian Ocean tsunami, more than 1 million people from 12 countries were displaced.

Therefore, within the framework of the goal of ensuring environmental sustainability, there is a need to pay more attention to and combat the following natural disasters.

Republic of India Country: The comparison of disaster recovery strategies after two earthquakes in the Indian state of Maharashtra has provided useful lessons for disaster recovery planning. The Latur district of Maharashtra was hit by an earthquake in September 1993. Following the earthquake, the district administration launched the Maharashtra Earthquake Recovery Programme (MERP). The programme was reported to the district chief minister and chief secretary. It was a tool for expediting the completion of the earthquake recovery project. After the project was completed, the MERP was disbanded. The administration subsequently set up a new disaster management centre in the area of emergency relief and recovery. Although the MERP had developed many disaster risk reduction plans for Mumbai and its districts, it was a lesson that they were not structured. As a result, the preparedness and response to the 2004 Mumbai floods were poor.

In contrast, when the Gujarat earthquake struck in 2001, the Gujarat State Disaster Management Authority was very effective in the reconstruction phase. The success of the Gujarat State Disaster Management Authority was due to several reasons.

First: It was led by a high-ranking official in the provincial government.

Second: It was an independent financial and performance organization linked to key institutions, which would sell

assets, monitor progress, and take corrective action based on on-the-ground assessments.

Third: State government agencies such as public utilities, education, health, and water supply were available for program implementation. The Gujarat State Disaster Management Authority continued its activities as the permanent state disaster prevention and management agency after the Gujarat project ended. This ensured that lessons learned from the disaster were incorporated into the state disaster management plan.

Indo-Coastal Zone Management Plan:

Natural hazards that cause significant damage to human life, property, and natural resources in India's coastal areas every year include winds, storms, cyclones, tidal surges, and floods. These hazards cause abnormal sea level rise and extensive soil erosion.

In 1991, the Government of India issued a regulation called the Coastal Management Zone Notification to regulate human activities in the coastal zone within 500 meters of the high tide line. The regulation aims to protect the “coastal zone” from degradation due to unplanned development. Such development pollutes and ultimately destroys valuable, fragile and scarce natural resources. 13 state and territorial authorities and the National Coastal Zone Management Authority have been appointed to monitor and implement the provisions of the regulation. Based on the experience gained over 15 years, the first Coastal Zone Regulation was replaced by the “Coastal Zone Management Notification” in 2007.

The transition from the old to the new regulation has shifted from a centralized coastal zone regulation to a decentralized management model with active participation of local communities. The new regulation emphasizes “sustainable coastal zone management”

based on sound scientific principles, protecting the coastal and marine environment, and sustainable development. It focuses on the vulnerability of the coast to natural hazards, the sustainable livelihood of local communities, and the protection of ecologically and culturally significant coastal resources. All of these factors are taken into account in the development of an integrated coastal zone management plan. The plan is developed through a participatory process involving central and provincial governments, scientific research institutions, district administrations, and local communities.

India - Community-based preparedness.

West Bengal's experience with community-based preparedness has demonstrated the importance of involving risk reduction and emergency management groups in integrated research and operations.

The Government of West Bengal, India, in collaboration with an inter-agency group, developed a community-based project to prepare the local community for disasters such as the floods that devastated the region in 2000. The project believed that the community should live with the disaster and that outside intervention should not change their way of life.

If the public can prepare, the consequences of their actions can be mitigated and preparedness activities can be more effective in reducing damage. Each community prepared a participatory action plan. The plan included a community vulnerability map that identified safe and low-risk areas, high-risk areas, the number of households living in each area, and the number and location of vulnerable populations, including the elderly, people with disabilities, pregnant and lactating women, people with serious illnesses, and young children. It also listed available resources and resources needed to reduce

the level of risk. The plan outlined key actions to be taken by the community before, during, and after a disaster. For example:

A comparison of the damage caused by two floods in the same village in 2000 and 2004 shows that the project has been very effective. In the 2000 flood, the village lost more than 700 cattle, but in 2004, none were lost. In 2000, almost 3,000 households lost their valuable documents, but in 2004, no such damage was recorded for any household. Another important achievement is that the village is self-reliant, with each household stockpiling 7-10 days' worth of food to meet its immediate food needs. There was also no outbreak of any infectious disease in the village in 2004. Seeing how the project has benefited the community, especially the poor and the most vulnerable, the local government has requested that the project be expanded to other vulnerable areas.

The purpose of civil defense is to: survive with minimal loss of life and property, protect all types of public and private enterprises and organizations necessary for life, carry out urgent repairs and renovations to ensure the stable operation of these organizations and enterprises, carry out protective activities with the help of the public, and support the morale of disaster victims.

The Turkish Civil Protection Organization has divided the civil protection organization into two parts, "Central Management" and "Local Management", according to the changes specified in the law. This operation is similar to the operation of the State and Local Councils when compared to the disaster protection operations in Mongolia. However, while Turkey has a direct direction of managing and organizing the management activities during any disaster, **our local councils** are legally mandated to make disaster protection recommendations,

ensure interdisciplinary cooperation, and improve citizen participation.

From the experience of disaster risk reduction in the People's Republic of China: China has a National Platform for Disaster Risk Reduction. The National Platform for Disaster Risk Reduction has 34 members, which cultivate the knowledge and skills necessary for the development of DRR as a development planning and process. These include government ministries, State Councils, national defense and technical departments, and civil society organizations. The Disaster Management Committee has established a team of scientific experts and other experts to exchange ideas and provide advice for decision-making. The National Platform for Disaster Risk Reduction (NPDR) provides information to decision-makers and conducts sectoral analysis, and its activities are held at least twice a year. At the same time , it organizes monthly study group meetings and consultations to summarize the disaster situation and analyze and predict the potential disaster risks in the following month.

The primary activities of the National Disaster Risk Reduction Council include:

- Ensure effective preparedness by improving national coordination ;
- Define risk reduction standards;
- Investments to reduce underlying risks;
- Our main goal is to support education on disaster management and disaster risk reduction.

The National Disaster Management Committee is the highest decision-making body on disaster management issues and is regulated by law to consist of the following officials:

1. Acting Prime Minister or Chairman of the Council

2. Acting as Minister of Internal Affairs and Culture or Deputy Chairman of the Council
3. Minister of Finance
4. State Secretaries of all Ministries
5. Head of the Royal Secretariat
6. National Environment Director
7. President of the Bhutan Chamber of Commerce and Industry
8. Director of the Disaster Management Authority or Secretary of the Council
9. It is legalized to include other members who join in accordance with the procedures specified by law.

Japan. In times of disaster or when disaster risks arise, the Government Offices work with relevant ministries and agencies to play a key role in disaster response. In Japan, when a major disaster occurs, an emergency response team consisting of officials equivalent to the director general of the relevant ministry or agency is organized to meet within 30 minutes at the prime minister's office to discuss the disaster situation and measures to be taken. Subsequently, an emergency cabinet meeting is called and a disaster management **emergency center is established**. The center is chaired by the prime minister, and the headquarters develops disaster policies and plans general measures to be taken. The chairman of the council is responsible for making quick and rational decisions.

The Chairman of the Council is required to make quick and effective decisions during disasters, and to meet this requirement, the government has established a disaster management center in the disaster area. For example, during the 2015 landslide in Horishima, the government established a disaster management center in the disaster area, and the state minister in charge of disaster management served as the head of the center. In addition, provincial and municipal disaster management centers

have been established in the affected areas to guide operations and provide guidance and advice.

The Japanese government, having assessed the damage caused by the 2011 Tohoku earthquake and tsunami and the potential damage caused by future disasters in the Nankai Basin, developed a new Nankai Basin Earthquake Disaster Management Plan in March 2015. This shows that in addition to integrated disaster management, the Japanese government is using a method of developing disaster response plans for areas that are likely to be affected by disasters and that are likely to cause significant damage.

In this way, taking into account the geography, nature, climate, and population characteristics of the area, a detailed plan is developed, and instructions and recommendations of the council to be deployed in the disaster area are organized and delivered to businesses, organizations, and citizens of the region.

the Great East Japan Earthquake in Tokyo, Japan, **showed** that rapid response to disasters was essential, and the establishment of a disaster response center, headed by the Prime Minister and consisting of a group of other ministers to organize and stabilize operations, was considered the most effective.

The Japanese government has been able to learn from the experiences and lessons of major disasters in a short time, and by reviewing and correcting its mistakes, it has improved its disaster management and operations, which has the advantage of learning from disaster management, coping with minor losses, and capacity. In addition, the Disaster Management Council of Japan believes that the basis for this important improvement is documents in this area. For example, the Disaster Response Basic Document, which was first approved in 1961 and last revised in 1997, not only generally reflects the

immediate measures to be taken in the event of a disaster, but also develops a plan every five years on measures to be taken and implemented in the event of a disaster, especially an earthquake, and ways to prevent it, which plays an important role in shaping the activities of the Disaster Management Council.

In addition to the important role of organizations at all levels of government in the composition of the Disaster Prevention Council, the participation and support of each member of society and citizens in disaster risk reduction and prevention activities is considered to be of utmost importance. There is.

Conclusion

Disaster risk reduction is a comprehensive process that focuses not only on post-disaster response, but also on prevention, preparedness, recovery and sustainable development policies. International experience shows that documents such as the Sendai Framework for Action are designed to help countries systematically assess risks, develop policies, ensure public participation, and use technology and innovation to create measures.

Suggestion :

1. Conduct regular risk assessments:
/ Conduct a comprehensive assessment covering environmental, social, and economic factors /
2. Learning from international precedents: / Localizing good practices from the Sendai Framework and other countries /
3. Increase citizen and community participation: / Incorporate citizen knowledge and participation into policies and planning /

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AN ANALYSIS ON LINGUISTIC ERRORS MADE BY MONGOLIAN GRADUATE STUDENTS LEARNING IN CHINESE ON SENTENCES CONTAINING VERB VOICE

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Abstract. A major requirement in the learning and teaching of foreign languages is a thorough understanding of the linguistic characteristics, culture, and cognitive patterns of both the native and foreign languages. In our study, Mongolian belongs to the Altaic language family, whereas Chinese belongs to the Sino-Tibetan language family. Mongolian is characterized by an agglutinative grammatical structure, while Chinese is a language with relatively little grammatical inflection. Therefore, the ways in which verb voice is expressed in these two languages are also different.

The main function of verb voice in any language is to express the relationship between the verb and the object and that between the subject and the object. In Mongolian, verbs are expressed through suffixes, whereas in Chinese they are expressed through prepositional phrases. These differences in verb voice present a difficulty for Mongolian learners of Chinese. Therefore, studying the mastery of Chinese verbs by these students and analyzing and identifying the errors they make is important for comparative linguistics and Chinese language teaching. In this article, we study “Errors in Sentences with Verb Patterns of Mongolian graduate students Learning Chinese,” using their written texts, exercises, and translation examples. Within the framework of this error analysis methodology, we classify and analyze in detail the sentences expressing Chinese Verb patterns, before explaining error causes and drawing subsequent conclusions.

Keywords: language learning, language teaching, “bei” construction, Mongolian voice suffixes, translation, errors, error analysis.

Introduction

The differences in verb voice between Mongolian and Chinese can be summarized as follows: In Mongolian, verb voice is expressed by adding suffixes to the verb, while in Chinese it is expressed through specific sentence patterns such as “bei” (被), “ba” (把), and causative constructions with “shi/rang/ling” (使/让/令). In Mongolian, verb voice has capacity to alter the transitivity or intransitivity of the primary verb root, Chinese sentences utilizing voice constructions typically include only transitive verbs. Also, Mongolian verb voice without additional suffixes can express imperative or desiderative meanings, while Chinese causative constructions with “shi/rang/ling” express causation or commands.

These differences make verb voice a grammar that Mongolian students make most errors while learning Chinese. Therefore, this study aims to identify and classify these errors and analyze the reasons behind them. It focuses on students studying both in Mongolia and in China, examining their level of mastery of Chinese verb voice and the types of errors they make. Research on error analysis in Chinese language learning began developing in the 1980s. In 1984, the scholar Lu Jianji (鲁健骥) laid the foundation for interlanguage error analysis. He defined error analysis as “the differences between the rules of the target language and the learner’s interlanguage” (鲁健骥, 1984). He also identified several factors that cause errors, including: (1) influence of the native language, perspective (2) insufficient knowledge of the target language, (3) cultural differences, (4) habits, styles, (5)

mismatches related to teachers, textbooks, or learning conditions.

Early studies mainly focused on identifying the causes and factors of errors, but more recent approaches tend to view errors as a natural part of language learning. For example, in 2006, the Chinese scholar Lin Runxuan (林润宣) analyzed errors made by foreign students learning Chinese. He argued that “errors are not unexpected or abnormal, but rather a normal and predictable outcome of the learning process. They are not simply caused by learners, teachers, or textbooks alone. Therefore, instead of trying to completely avoid errors, it is more important to support learners’ motivation and engagement” (蔡绿, 2006). Nowadays, error analysis is often approached from a psychological perspective.

In Mongolia, research on error analysis is still at an early stage, but studies on interlanguage errors of Mongolian students of Chinese at the master’s and doctoral levels have been increasing. For example, U. Sarantsetseg’s monograph “Lexical Errors in Nouns, Verbs, and Adjectives Among Chinese Language Learners in Mongolia”, Zhang Ruifang’s 2010 study “Research on the Misuse of Chinese Verbs by Mongolian Students Studying Abroad” and Su Xiaojun’s 2013 research article “A Study on the Misuse of Chinese Verbs by Mongolian Students”. However, there are still relatively few studies specifically focusing on errors in sentences expressing verb voice in Chinese by Mongolian learners.

Main Body

For learners who study a language as a second language, there are international proficiency tests designed to measure their ability to use the language for communication in contexts such as study, daily life, and work. Based on the

vocabulary and grammar content included in the Chinese Proficiency Test (HSK), this study required participants to be at level 3 or above. This is because starting from HSK Level 3, the simplest type of sentence with the “bei” (被) construction is introduced.

In this study, we collected and analyzed data from institutions that provide Chinese language education in Mongolia, including the National University of Mongolia (NUM), Mongolian National University of Education (MNUE), University of the Humanities, Mongolian University of Science and Technology (MUST), and Ulaanbaatar University, as well as three secondary schools “Nairamdal,” “Yucui,” and “Khishig.” In addition, learners from the School of Mongolian Studies at Inner Mongolia Normal University (IMNU) were included. A total of 236 samples were gathered, consisting of homework, essays, and daily conversation exercises produced by learners at HSK Level 3 and above, and were analyzed in detail. The research data were collected using three types of tasks: Writing an essay of more than 200 Chinese characters on a chosen topic, including sentences with the “bei” (被) construction Grammar exercises from the textbook *Modern Chinese Grammar Usage*, such as arranging sentences with “bei” (被) in the correct order and correcting incorrect sentences

Translating simple sentences with “bei” (被) from the work *Four Seasons* by the contemporary Chinese writer Chen Shixu (陈世旭) For the essay and conversation tasks, participants were required to include at least three sentences using the “bei” (被) construction. The exercises included translation, sentence ordering, and error correction tasks. Among the collected data, essays accounted for

49%, and within those essays, 115 sentences contained the “bei” (被) structure.

Among the participants, 59% were female and 49% were male, and 53% of all participants were aged between 15 and 20. This suggests that students are typically introduced to verb voice constructions in Chinese as early as the 9th grade in general education schools. At the university level, these structures are generally studied from the second year onward.

Figure 2: Age distribution Figure 3: Gender distribution

Research Results

We analyzed 109 samples from Mongolian students at the School of Mongolian Studies of Inner Mongolia Normal University and 127 samples from learners studying in Mongolia. After

grouping them by age, the following results were obtained. From the collected data, a total of 236 incorrect sentences were identified. Notably, 98% of these errors involved sentences with the “bei” (被) construction. Among them, 68% were grammatical errors, while 32% were translation errors. The most common grammatical errors included incorrect sentence structure, mixing sentence types, omission of words, and unnecessary additions. More specifically, the errors were categorized as follows:

- ☐ Incorrect use of verbs
- ☐ Incorrect use of the object (A)
- ☐ Errors related to complements (missing, misplaced, or mixed use)
- ☐ Sentence structure errors
- ☐ Overuse of “bei” (被)
- ☐ Confusion between “bei” (被) and “ba” (把)

A closer breakdown of these eight types of errors is as follows:

1. Incorrect use of verbs

There were 15 such cases, accounting for 9.8% of all errors.

For example:

1. *这件事被弟弟知道了。
2. *受伤的士兵忽然被敌人捕。
3. *蒙古国立大学被我毕业的。

Cognitive verbs (认知) are not used in the Chinese passive “bei” (被) construction (Shan 1994); however, sentence (1) incorrectly utilizes the cognitive verb “知道” (to know). In sentence (2), the verb “捕” (to catch) is used in its bare form. Passive voice constructions do not permit the use of monosyllabic verbs in isolation; they must be followed by other sentence elements or complements (故潘刘, 文月, 2007). Furthermore, the verb “毕业” (to graduate) in sentence (3) is an intransitive verb. Intransitive verbs cannot be used in Chinese passive voice constructions (李珊, 1994)

Correct forms:

1. 弟弟知道了这件事。(My younger brother learned about this matter.)
2. 受伤的士兵忽然被敌人捕捉了。(The wounded soldier was suddenly surrounded.)
3. 我是蒙古国立大学毕业的。(I graduated from the National University of Mongolia.)

2. Incorrect use of the object (A)

This specific type of error occurred 21 times, accounting for 16.7% of all erroneous sentences.

For example.

1. *一个碗被他打碎了。 (He broke a bowl.)
2. *某种事被他解决的。 (He resolves certain matters.)
3. *她唱歌被他烦死了。 (Her singing annoys him.)

In modern Chinese grammar, the subject of a passive sentence is primarily the undergoer (patient) of the action, categorized as (A) in sentence classification. The subject functioning as the undergoer must satisfy two conditions: 1. Even if it is an adjective or pronoun, it must function as a noun phrase. 2. The undergoer must be definite (specific); therefore should be expressed as a standalone noun or pronoun.

The cause of the errors in the examples above is as follows: in (1) 一个碗 “a bowl” and (2) 某种事 “certain matters”, the undergoer nouns are in an indefinite state. In sentence (3), the error arises because the undergoer 她唱歌 “her singing” is a verbal phrase rather than a noun phrase.

Correct forms:

1. 碗被他打碎了。 (The bowl was broken by him.)
2. 那件事被他解决的。 (That matter was resolved by him.)
3. 她唱的歌被他烦死了。 (The song she sang annoyed him.)

3. Errors Related to the Complement Component

This was the most frequent error type, appearing in 59 sentences and accounting for 48% of the total errors. These sentences primarily contained errors related to the complements in Modern Chinese.

For example:

- ☐ *小王被选班长了。
- ☐ *我的妹妹被送幼儿园了。
- ☐ *大为被父母派外地去了。
- ☐ * “盘”这个词被说“旁”了。

The complement in Modern Chinese is a unique unit that expresses the specific characteristics of the language. While their primary function is to modify or provide additional information about the verb, each type of complement has distinct usage rules. Furthermore, a defining feature of Chinese voice constructions, particularly the “bei” (被) structure, is that the predicate cannot stand alone; it must be accompanied by other elements. In such cases, the complement is the most common element used. In the erroneous examples above, the verbs (1) 选 “to elect”, (2) 送 “to deliver”, (3) 派 “to assign”, and (4) 说 “to say” must be followed by words such as 作, 到, 成, 弄 to function as complements. These errors all involve the omission of the complement.

Correct forms:

1. 小王被选作班长了。 (Xiao Wang was elected as class monitor.)
2. 我的妹妹被送到幼儿园了。 (My younger sister was delivered to the kindergarten.)
3. 大为被父母派到外地去了。 (Da Wei was sent to another location by his parents.)
4. “盘”这个词被说成“旁”了。 (The word “pan” was mispronounced as “pang”.)
4. Sentence structure errors

There were 9 sentences of this type, accounting for 8% of the total errors. These

errors primarily involved the incorrect placement of sentence components. For example:

1. *我感动了被她的心意。
2. *我被他们的没有嘲笑。
3. *他加入了被学生会。

The error in example (2) stems from the misplacement of the negative adverbs “mei” (没) or “mei you” (没有) within the passive construction. In Chinese, the negative form must follow the structure: “mei” (没) “mei you” (没有) + “bei” (被). However, in this sentence, the adverb was incorrectly placed directly before the verb.

In examples (1) and (3), the errors resulted from placing the verb before the “bei” (被) prepositional phrase, leading to incorrect word order. In summary, these errors show that learners have not yet mastered the placement of the verbal predicate or the correct formation of negative passive sentences.

The correct versions are:

1. 我被她的心意感动了。(I was moved by her heart/sincerity.)
2. 我没有被他们嘲笑。(I was not mocked by them.)
3. 他被加入了学生会。(He was added to/joined the student union.)

5. Errors of Overusing the “bei” (被) Preposition

There were 11 sentences of this type, representing 9.6% of all erroneous sentences. These errors occurred when the “bei” (被) preposition was used in contexts where the Chinese passive voice was unnecessary. For example:

Example errors:

1. *昨天看电视时我被感冒了。
2. *生日那天, 他被送很多礼物。
3. *他被失去记忆力。

In examples (1) and (3), the verbs “感冒” (to catch a cold) and “失去” (to lose) are intransitive verbs. According to Chinese grammar rules, intransitive verbs cannot be used in the “bei” (被) construction. Regarding example (2), since the sentence does not express a passive meaning in Chinese, the use of the “bei” (被) preposition is unnecessary.

The correct versions are:

1. 昨天看电视时我感冒了。(I caught a cold while watching TV yesterday.)
2. 朋友送了他很多礼物。(His friend gave him many gifts.)
3. 他失去了记忆。(He lost his memory.)

6. Confusion Between “bei” (被) and “ba” (把) Prepositions

There were 16 sentences of this type, representing 10% of all erroneous sentences. These errors involved confusing the passive “bei” (被) construction with the dispositive “ba” (把) construction.

For example:

1. *我被桌子上的花放在窗台了。
2. *你被灯打开。
3. *老师被这篇文章译成英文了。

In the examples above, the “ba” (把) preposition should be used, as it indicates the position and state of the object.

7 The correct versions are:

1. 我把桌子上的花放在窗台了。(I put the flowers from the table onto the windowsill.)

2. 你把灯打开。(You turn on the light.)

3. 老师把这篇文章译成英文了。(The teacher translated this article into English.)

7. Misuse of the “ràng” (让) Preposition

There were 8 sentences of this type, representing 7% of all erroneous sentences. This category includes errors where the preposition “ràng” (让) was incorrectly used to express the passive voice. For example:

1. *让行政名的语言是最有力的语言。

2. *他让撤了职。

3. *敌人让赶走了。

In Modern Chinese, while prepositions such as “bei” (被), “ràng” (让), “jiao” (叫), “gei” (给) can all express the passive voice but “bei” (被) has distinct characteristics that set it apart. Specifically, “bei” (被) is used in both spoken and formal written language, whereas “ràng” (让), “jiao” (叫), “gei” (给) are restricted to spoken contexts. Furthermore, in a “bei” (被) passive construction, the agent (the doer) can be omitted (zero form), but in constructions using the other passive prepositions, the agent can't be omitted. In example (1), the sentence uses a formal, administrative style, yet incorrectly employs the colloquial “ràng” (让). In examples (2) and (3), the agent is omitted (zero form), yet “RANG” (让) is incorrectly used.

The correct versions are:

1. 被行政名的语言是最有力的语言

。(Language proven by action is the most powerful.)

2. 他被撤了职。(He was dismissed from his post.)

3. 敌人被赶走了。(Chase by enemies.)

8. Omission of the “bei” (被) Preposition

There were 14 sentences of this type, representing 9% of all erroneous sentences. This category includes errors where the “bei” (被) preposition, which is necessary to express the passive voice, was omitted.

For example:

1. *他感动了大家。

2. *自从她娶回家后, 小明就没有做过饭。

3. *社会发展, 经济发展, 当然我们的环境破坏。

In Chinese, the primary method for expressing the passive voice is through the use of prepositions such as “bei” (被) as well as “ràng” (让), “jiao” (叫), “gei” (给). These markers indicate the relationship between the agent (doer) and the undergoer (patient). In the erroneous examples above, the subjects are clearly the undergoers of an action, yet the sentences fail to use the necessary prepositional markers, resulting in grammatical errors.

8 The correct versions are:

1. 他被大家感动了。(He was moved by everyone.)

2. 自从她被娶回家后, 小明就没有做过饭。(Since getting married Xiao Ming has not cooked.)

3. 社会发展, 经济发展, 当然我们的环境也被破坏。(With social and economic development, our environment is naturally being destroyed as well.) Comparing these examples of grammatical errors made by Mongolian learners in Chinese passive constructions reveals that mastering sentences with complement structures is particularly challenging. Furthermore, it is evident that students have not yet fully internalized the fundamental methods of

expressing voice or the unique structural characteristics of these sentences.

Conclusion

For Mongolian students, including those at advanced levels, mastering and correctly applying the “bei” (被) passive construction remains a significant challenge, as evidenced by its largest proportion - 98% of total errors analyzed.

Specifically, when aggregating the grammatical and translation errors, structural issues—particularly those involving complement structures—represented the majority. In terms of translation errors, the primary issue was the over-application of the modern Mongolian passive suffix “-gd” (-гд) when interpreting Chinese structures.

An analysis of the underlying causes of these errors identifies four main factors: native language interference, textbook limitations, teaching methodology, and insufficient knowledge of the native language. Among these, native language interference was the dominant factor, accounting for 68% of errors. Consequently, a solid understanding and habitual correct usage of Mongolian verb voice constructions is essential, as it serves as the necessary foundation for correctly comprehending and applying the Chinese “bei” (被) construction.

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