

KEY DATA

ANTI-PERSONNEL (AP) MINE CONTAMINATION: MASSIVE

NATIONAL ESTIMATE AT OCTOBER 2020

128 KM²

AP MINE CLEARANCE IN 2023
UNKNOWN

AP MINES DESTROYED IN 2023
767

LAND RELEASE OUTPUT



KEY DEVELOPMENTS

According to the Mine Response Activities Including Mine Clearance Bill, which was enacted in February 2024, a Mine Response Activities Committee will be established in February 2025. The Committee will assume responsibilities similar to a National Mine Action Authority (NMAA). In 2024, there were reports that North Korea was newly emplacing anti-personnel (AP) mines in the Demilitarized Zone (DMZ) that separates North and South Korea, with the risk that heavy rains could result in mines floating into South Korean territory.

RECOMMENDATIONS FOR ACTION

- The Republic of Korea (South Korea) should accede to the Anti-Personnel Mine Ban Convention (APMBC) as a matter of priority.
- South Korea should establish a national mine action authority as soon as possible to assume responsibility for planning and implementing mine clearance.
- South Korea should clear AP mines in areas under its jurisdiction or control as soon as possible, consonant with its obligations under international human rights law.

DEMINING CAPACITY

MANAGEMENT CAPACITY

- Ministry of National Defence

NATIONAL OPERATORS

- Army engineers

INTERNATIONAL OPERATORS

- None

OTHER ACTORS

- United Nations Command (UNC)

UNDERSTANDING OF AP MINE CONTAMINATION

The DMZ and the Civilian Control Zone (CCZ) immediately adjoining the southern boundary of the DMZ remain among the most heavily mined areas in the world due to extensive mine-laying during the Korean War and in the 1960s, in 1978, and in 1988. Restricted Protection Zones (including Military Protection Zones, established for national security purposes, often surrounding military installations), and rear areas (away from the DMZ) are also mined.

In September 2021, the Joint Chiefs of Staff reported to the National Assembly that South Korea had 1,308 confirmed hazardous areas (CHAs) affecting a little over 128km² (see Table 1).¹ More recent contamination data were not available.

Table 1: CHAs in South Korea (at September 2021)²

	Controlled Protection Zones		Restricted Protection Zones	Rear Area	Totals
	DMZ	CCZ			
No. of sites	786	433	22	67	1,308
Area (m ²)	10,030,000	114,780,000	2,470,000	880,000	128,160,000
No. of mines	380,000	389,000	50,000	9,000	828,000

Contamination data were largely unchanged from previous years. A report presented to a side event at the 2019 APMBC intersessional meetings also referred to 1,308 mined areas containing an estimated 828,000 mines.³ Information provided by the Army's Joint Chiefs of Staff in 2018, showed 380,000 of these mines were emplaced in 786 sites within the DMZ.⁴

Mined areas in the DMZ include 771 emplaced minefields which are mapped and 15 undocumented mined areas covering a total of 10.03km². CCZ contamination includes 257 defined mined areas and 176 undocumented sites covering a total of 114.79km².⁵

The Ministry of National Defence previously reported that it had emplaced some 53,000 M14 AP mines around 37 rear air defence bases between 1960 and 1980 and in demining operations conducted between 1998 and 2007 it had cleared around 50,000 of these mines. However, floods, landslides, and changes in topography are believed to have caused mines to move and some 3,000 mines remained to be found and destroyed.⁶

Other estimates have put the number of mines spread across the border, which is 248km-long and 4km-deep, at 2 million. Experts assert that both North Korea and South Korea have poorly managed their mine-laying and do not know exactly

how many they planted or where they are.⁷ The Landmine Monitor reports that more than one million mines have been laid in the DMZ on the border with North Korea.⁸

South Korea has indicated that it has not used AP mines for some years. In 2019, South Korea told the International Campaign to Ban Landmines (ICBL) that it had not created any new mined areas since 2000.⁹ In November 2022, South Korea reported to the Twentieth Meeting of States Parties to the APMBC that South Korea had not "installed any anti-personnel mines in several years".¹⁰ In June 2023, the Ministry of National Defence stated that South Korea "did not plant any new non-self-destructive anti-personnel landmines in new areas during the calendar year 2022."¹¹

Following earlier reports of new AP mine use by North Korea since 2020, the South Korean authorities and media sources have reported that, since at least April of 2024, and possibly as early as the end of 2023, North Korea had again started to emplace mines in the DMZ, including in areas it had previously cleared.¹² This includes reports that North Korean soldiers have laid AP mines on three roads in the DMZ, in mountains and fields,¹³ and along inter-Korean railroads,¹⁴ and that tens of thousands of additional explosives had been used as North Korea sought to reinforce the border.¹⁵

1 Press release from the Office of the Rep. Seol-Hoon, 21 October 2021 (unofficial translation), provided via email from Eum Soohong, member, Korean Campaign to Ban Landmines (KCBL), 16 August 2024.

2 Ibid.; and Yoo Hyun-min, "828,000 landmines buried nationwide...59,000 even south of the Civilian Control Line", *Yonhap News Agency*, 9 October 2020. NB Last year's *Clearing the Mines 2023* report on South Korea inadvertently contained incorrect figures for the Rear Area. Table 1 in last year's report should have stated 67 for the number of sites, 880,000 for the area (m²), and 9,000 for the number of mines (at October 2020), the same data as presented in Table 1 above.

3 PowerPoint presentation by Maj.-Gen. Han Cheol Ki (ret.), Side event to the APMBC Intersessional Meetings, Geneva, 24 May 2019.

4 South Korea Joint Chiefs of Staff (ROK JCS), cited in "Mine Action in the Korean Peninsula", unpublished paper by Eum Soohong, member, KCBL, September 2019.

5 United Nations Command (UNC) South Korea PowerPoint presentation in Geneva International Centre for Humanitarian Demining (GICHD) Side event, UN National Directors' Meeting, Geneva, 11 February 2020.

6 Ministry of National Defence press release, 16 October 2019.

7 "North Korean landmines could float into South Korea, South warn" *Associated Press*, 17 July 2024, at: <https://bit.ly/4dwBwYj>.

8 *Landmine Monitor Report 2023*, p. 51.

9 Landmine and Cluster Munition Monitor, "South Korea", accessed 6 August 2024, at: <https://bit.ly/4ckUAHT>.

10 Statement of North Korea, APMBC Twentieth Meeting of States Parties, Geneva, 21-25 November 2022.

11 Landmine and Cluster Munition Monitor, "South Korea", note 25.

12 North Korea redeploys landmine near Gyeongui Line", *The Dong-A Ilbo*, 5 January 2024, at: <https://bit.ly/3WVWk4Y4>.

13 ICBL/CMC, "International Campaign to Ban Landmines concerned at reported landmine use by North Korea", updated 24 July 2024, at: <https://bit.ly/4fnqDtL>.

14 "Editorial: Resuming loudspeaker broadcasts demands preparedness for any N. Korean provocation", *The Chosun Daily*, 10 June 2024, at: <https://bit.ly/3WMeg2V>.

15 "North Korean landmines could float into South Korea, South warn" *Associated Press*, 17 July 2024.

The mines are understood to be a mix of AP mines and anti-vehicle mines (AV mines).¹⁶ South Korea has ruled out mining roads in the South in response to the fortification by the North.¹⁷

On 17 July 2024, South Korea's Joint Chiefs of Staff highlighted the risk that AP mines emplaced by the North could float into South Korea during heavy rains, and that North Korea might intentionally float mines to South Korea.¹⁸

There was particular concern about a small plastic mine, shaped as leaf, containing 40 grams of explosive which had already been found in South Korea according to the military. Another AP mine used by North Korea is a locally manufactured version of a Soviet box mine, with a wooden body. In the past, such box mines have been swept by water into South Korea and found on beaches and riverbanks.¹⁹

PROGRAMME MANAGEMENT

The southern half of the DMZ is controlled by South Korea but under the Armistice Agreement, the area between the Demarcation Line and the Southern Line Limit (SLL) is under the jurisdiction of the United Nations Command (UNC) and any mine clearance is conducted with its approval.

Mine action in the Civilian Control Zone (between the SLL and the Civilian Control Line) and the rest of South Korea is overseen by the Ministry of National Defence and is conducted exclusively by South Korean army engineers.

There is not yet a national mine action authority or mine action centre in South Korea and only the South Korean army is permitted to conduct clearance. Government ministries have been discussing creating a mine action authority for several years.²⁰ In November 2022, the Ministry of National Defence resubmitted a bill for an Act on Mine Response Activities, including mine clearance. The bill proposed that the Ministry of National Defence establish a strategy for mine clearance, forms a Mine Response Activity Committee, which will become the national mine action authority, permits qualified NGOs to conduct clearance alongside the military, sets national standards aligning with the International Mine Action Standards (IMAS), and creates an information management system for mine action. The bill needed National Assembly approval for enactment.²¹

The Law on Mine Response Activities Including Mine Clearance was enacted in February 2024. Pursuant to the law, the Ministry of National Defence will develop a "basic" mine action plan every five years and establish a Mine Response Activity Committee to oversee mine action

activities. The law permits qualified organisations to conduct mine detection and clearance activities.²² The law will take effect a year after promulgation, in February 2025, with preparation to operationalise the law expected to take place during 2024.²³ As part of the preparations, the Ministry of National Defence contracted the Korean Campaign to Ban Landmines (KCBL) in August 2024 to develop South Korea's National Mine Action Standards (KMAS), requesting completion by the end of the year.²⁴

The law is the fruition of years of advocacy, and calls for change in the approach to mine action, including for an increase in capacity. A document submitted by the Joint Chiefs of Staff to the National Assembly in 2020 identifying obstacles to mine action pointed to the absence of an institutional framework and the lack of a legal basis for mine clearance, which could only be conducted with the consent of landowners. The memo said existing demining capacity was overburdened and recommended expanding capacity from one brigade to two or three. It also called for quality assurance and post-clearance analysis.²⁵

The Ministry of National Defence announced in 2019 that it had embarked on a three-year programme to complete survey and clearance of rear areas by October 2021. The proposal called for demining capacity to be increased from 6 teams with 200 personnel to 31 teams with 1,200 personnel. It also called for investment in upgrading detectors to detect plastic mines and in mechanical assets.²⁶ The extent to which the Army has progressed in implementing the plan remains unclear, but data provided by the Joint Chiefs of Staff on mine contamination in September 2021 appears to have

16 ICBL/CMC, "International Campaign to Ban Landmines concerned at reported landmine use by North Korea", updated 24 July 2024.

17 "Map Shows Where North Korea Has Placed Land Mines in Demilitarized Zone", *Newsweek*, 30 April 2024, at: <https://bit.ly/3LLpui2>.

18 "North Korean landmines could float into South Korea, South warn" *Associated Press*, 17 July 2024.

19 ICBL/CMC, "International Campaign to Ban Landmines concerned at reported landmine use by North Korea", updated 24 July 2024.

20 Interview with Cho Jai Kook, Coordinator, KCBL, and Eum Soohong, KCBL, in Geneva, 13 February 2020; and email from Eum Soohong, KCBL, 26 January 2024.

21 Emails from Eum Soohong, KCBL, 9 November 2022 and 26 August 2023.

22 Statement of the Republic of Korea on Universalization, APMBC Intersessional Meetings, 18–20 June 2024.

23 Emails from Eum Soohong, KCBL, 26 January and 14 August 2024.

24 Email from Eum Soohong, KCBL, 14 August 2024.

25 Memo from the Engineering Department, Joint Chiefs of Staff, to the National Assembly (unofficial translation by Eum Soohong, KCBL), October 2020.

26 Ministry of National Defence press release, 16 October 2019.

remained constant since at least 2019 (see Table 1 above and explanatory text). A Joint Chiefs of Staff memo to the National Assembly reported an increase in the budget for mine clearance from KRW180 million (approximately US\$161,000) in 2018 to KRW330 million in 2019 and KRW8.2 billion (US\$7.3 million) in 2020.²⁷ In 2021, the Army Engineering School launched a demining training programme in demining in which 249 officers participated;²⁸ and in 2022, 317 army officers attended the demining programme at the School.²⁹

In February 2022, 334 Korean NGOs demanded that demining of rear areas should be on the agenda during the presidential election and called for responsibility for mine clearance to be transferred from the Ministry of National Defence to the Ministry of Public Administration and Security, the body in charge of national disasters and public safety. In addition, there were calls for the application of IMAS to mine clearance; public disclosure of information on 37 minefields in the rear areas; development of a comprehensive mine clearance plan; creation of a mine clearance committee reporting directly to the President; and the enactment of a law on mine clearance.³⁰ Several municipalities also called for demining in the rear regions and mine action legislation to be passed following incidents in those areas.³¹

South Korean officials have indicated the progress made prior to the adoption of the Mine Response Activities bill. In a statement to the APMBC Twenty-First Meeting of States Parties in November 2023, South Korea reported that it had

abided by IMAS standards, for example in establishing a mine action programme, procurement of mine action equipment, mine disposal, and risk education and verification.³² South Korea also emphasised how the army has developed demining expertise since 1990, that it launched a specialist unit in 2019, and that it can work simultaneously on up to 16 sites. Moreover, the military collects and analyses all available data; has adopted a transparent coordination mechanism that includes technical working groups; promotes innovation; and implements a principled risk management approach towards residual contamination.³³

South Korea says it uses the latest demining equipment, highlighting the various mechanical assets it deploys (including the Armoured Excavator, Vibrator Skeleton Bucket, and the Spider Excavator), and its use of remote-control systems. It is developing technology at its Future Innovation Centre, has adopted artificial intelligence detection technology, and uses robots to confirm data. It also uses a laser technology to destroy surface mines, and mine and EO detection robots that detect, mark, and clear mines.³⁴

In addition to running expert demining courses at its Engineering School, South Korea sends team leaders on training courses run by the Geneva International Centre for Humanitarian Demining (GICHD), Colombia's International Demining Centre (CIDES), and the Association of Southeast Nations (ASEAN) Regional Mine Action Center Centre (ARMAC) in Cambodia.³⁵

ENVIRONMENTAL POLICIES AND ACTION

It is not known how, if at all, the environment is taken into consideration during planning and tasking of survey and clearance of mines in South Korea in order to minimise potential harm.

LAND RELEASE OUTPUTS AND PROGRESS TOWARDS COMPLETION

South Korea maintains that it is unable to accede to the APMBC. It has said that "In light of the unique security situation on the Korean Peninsula, the Republic of Korea is yet to accede to the Anti-Personnel Mine Ban Convention while it aligns itself with the objectives and purposes of the Convention and remains concerned about the humanitarian impacts of the indiscriminate use of anti-personnel mines".³⁶

Comprehensive data for AP mine clearance for South Korea are not available. South Korea reported to the APMBC Intersessional Meetings in June 2024 that it had cleared 767 AP mines in 2023 while "adhering to core IMAS principles", but it did not provide data about the area(s) cleared or the location.³⁷ At the Twenty-First Meeting of States Parties in November 2023, it had reported that in 2022, 822 AP mines

27 Memo from the Engineering Department, Joint Chiefs of Staff, to the National Assembly (unofficial translation by Eum Soohong, KCBL), October 2020.

28 Statement of the Republic of Korea, APMBC Twentieth Meeting of States Parties (20MSP), 24 November 2022.

29 Statement of the Republic of Korea on Universalisation, APMBC Twenty-First Meeting of States Parties (21MSP), 20–24 November 2023.

30 Jin-yong Cho, "Removal of rear mines such as in Naju and Boseong urged to be adopted as 'the presidential election task'", *Janbo*, 16 February 2022, at: <https://bit.ly/3Qju9D>.

31 See: "Goyang City Council: Necessary to revise the Special Act on Support for Victims of Landmine Explosion", *Newsis*, 21 January 2022, at: <https://bit.ly/3xBudvd>; "Gimpo city council calls for realistic compensation for victims of landmine accident in Han River estuary", *Siminilbo*, 20 January 2022, at: <https://bit.ly/3zUtCr>; "Yeoncheon County Council, Resolution Calling for Enactment and Revision of Landmine-Related Laws", *Yonhap*, 15 February 2022, at: <https://bit.ly/3MZS516>.

32 Statement of the Republic of Korea on Universalisation, 21MSP, 20–24 November 2023.

33 Presentation by The Republic of Korea Ministry of National Defence and UN Development Programme (UNDP), at the 27th International Meeting of Mine Action Directors & UN Advisors (NDM27), 29 April 2024.

34 *Ibid.*

35 *Ibid.*

36 Statement of the Republic of Korea on Universalisation, 21MSP, 20–24 November 2023.

37 Statement of the Republic of Korea on Universalization, Intersessional Meetings, 18–20 June 2024.

were cleared from an area of approximately 377,000m², but again, did not state where the clearance took place.³⁸ According to online media, 120,000m² of minefields in rear air-defence sites south of the CCZ were cleared from April 2020 to July 2023 with 180 mines found and destroyed.³⁹ In October 2019, the Ministry of National Defence had declared its intent to clear all mines from the rear area, although the task remained unfinished in 2023.⁴⁰

From April to November 2022, South Korea resumed operations to exhume remains of Korean War casualties, with a total of 45 bodies found, and conducted demining in the Baekmagoji area of the DMZ. Operations had been suspended following threat of hostile actions from North Korea in the border area.⁴¹ In November 2022, in its statement to the Twentieth Meeting of States Parties, South Korea reported it was "continuing with its mine clearing efforts, where possible, in a systemic and phased manner" and in line with

IMAS, but did not provide information on the area cleared or number of mines found and destroyed.⁴²

South Korea reported clearing 158 mines (not disaggregated by type) and 2,410 items of unexploded ordnance (UXO) in the course of operations to exhume remains of Korean War casualties around Arrowhead Hill in the DMZ in 2020. North Korea, however, did not conduct clearance in the DMZ as provided for in the September 2018 Panmunjom Declaration.⁴³

In 2023, the Ministry of National Defence was planning to conduct exhumation operations in the Baekmagoji area from April to November and further demining around seven rear air-defence sites south of the CCZ.⁴⁴ The Agency for KIA Recovery & Identification under the Ministry of National Defence (MAKRI) is responsible for these operations. MAKRI is also collaborating with the US Department of Defense POW/MIA Accounting Agency to recover the remains of American soldiers from the DMZ.⁴⁵

38 Statement of the Republic of Korea on Universalisation, 21MSP, 20–24 November 2023.

39 "Civilian, Government, and Military Collaborate for Public Verification... 'Beyond Normal' National Safety", Ministry of National Defence, 10 August 2023, at: <https://bit.ly/3Phqc9i>.

40 Email from Eum Soohong, KCBL, 26 August 2023.

41 Emails from Eum Soohong, KCBL, 3 and 11 April 2022 and 26 August 2023; and "We will not forget the noble sacrifices of our national heroes", Ministry of National Defence, 30 November 2022 at: <https://bit.ly/3szd2LQ>.

42 Statement of the Republic of Korea, 20MSP, 24 November 2022.

43 Jung Bitna, "Unearthed 143 remains of this year's Arrowhead Hill", *Yonhap News Agency*, 19 November 2020.

44 Email from Eum Soohong, KCBL, 4 September 2023.

45 Email from Eum Soohong, KCBL, 26 August 2023.