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Korea United:
North & South Set Aside Differences to Demine

Following a historic summit between leaders from North and South Korea, efforts are underway to clear a path through the DMZ. In the South, efforts are also being made to clear the paths civilians use in areas outside the DMZ.

By Keith Feigenbaum, MAIC

In a land scarred by over a half-century’s worth of fierce political divisions and lingering suspicions, agreement and coexistence have come to be as rare as the landmines are plentiful. Such is the troubled state of the divided peninsula, steps have been taken recently to put aside ideological differences and focus on the estimated 1.12 million mines in the 4 km-wide DMZ, as well as the tens of thousands of mines in “rear areas” situated outside the DMZ.

In June 2000, leaders from North and South Korea met in a historic summit in Pyongyang. The meeting between South Korean President Kim Dae-jung and North Korea’s Kim Jong-il led to efforts to reconstrue the Kyongui (Seoul to Shinuija) railroad and to create a four-lane highway that would link the two countries. Based on the leaders’ desire to create this link, the two sides’ militaries set out in September 2000 to address the unique mine situation.

Efforts Underway

Unlike many mine-affected countries, the vast majority of mines found in the Koreas have had minimal affects on civilian populations. The Korean Campaign to Ban Landmines (KCBL) estimates that at least 1.0 million civilians have fallen prey to mines washed from the DMZ in flooding. Conversely, Kories have the DMZ to thank for its role as a buffer against the tides and South Kyongsang provinces (number of landmines planted in the rear areas to around 68,000.)

To aid the military in demining Korea’s rear areas, GUK, RCBL, and the Japan Campaign to Ban Landmines (JCBL) have also reportedly agreed to begin efforts to map mine fields. According to KCBL Coordinator Cho Jai-kook, the efforts will include surveys of three mine-affected areas that pose a threat to the lives of civilians and soldiers: two of the 21 locations identified by GUK as mine-affected, U.S. Air Force bases surrounded by AP mines and “civilian passage restricted areas” located from 3 km to 30 km south of the DMZ.

Demining the DMZ

A variety of demining methods—ranging from a variety of sources—have been identified as potential clearance methods to be used in creating a path through the DMZ. The South Korean Defense Ministry told the Herald in August 2000 of its plans to initiate a six-stage clearance program (see box on next page for elements of this program).

The equipment used by deminers was expected to consist of a mix of foreign and Korean tools and vehicles. “We have designed remote-controlled ‘armored buckets’ with thick steel plates and bulletproof windows attached to heavy equipment such as excavators, bulldozers, cranes and water sprayers to be used for mine removal,” Lt. Gen. Sun Young-jae of the South Korean Army told the Herald on Sept. 19, 2000: “Our schedule for the mine clearance is flexible as we are giving top priority on the safety of soldiers. We have prepared various safety equipment and methods for our soldiers.”

Demining in Rear Areas

While the DMZ is widely known to be a dangerous, mine-affected area, the effects of mines on other regions of the Koreas are less publicized. Meanwhile, the effects on areas outside the DMZ in North Korea are shrouded from the outside world. But, in South Korea, landmines have been identified in areas frequented by civilians. The mines found in these areas, more so than those located in the DMZ, pose a definite threat to civilians as many have been displaced through flooding or are unimapped.

In a historic article from Dec. 23, 2000, a South Korean Joint Chiefs of Staff (JCS) official said, “The army completed the removal of some 1,100 AP mines planted on top of Mount Kumho (sic) this year, where Nike missile radar systems were located. We have cleared a total of 6,800 mines in seven spots [since 1996] to reduce the number of landmines planted in the rear areas to around 68,000.”

Meanwhile, the North Korean Defense Ministry told the Herald on September 4, 2000: “We are removing mines and treacherous obstacles. We are preparing remote control equipment to be capable of clearing mines and other hazards.”

In a further effort to clear mines, in late 2000, the United Nations Conference on Disarmament (UNCOD) agreed to include “streams of demining” in the list of issues being pursued by the conference.

On September 18, a force of 2,800 South Korean soldiers set out to clear the railway line and road construction area of the estimated 100,000 mines. Of the 2,800 officers, 700 were dispatched from field engineer battalions to begin mine clearance work with a deadline of December 2000 in place (since postponed to September 2001), an official from the South Korean Defense Ministry told the Herald.

The remaining 1,100 AP mines at the railroad junction were removed as of September 18, 2000. The army completed the removal of some 1,100 AP mines planted on top of Mount Kumho (sic) this year, where Nike missile radar systems were located. We have cleared a total of 6,800 mines in seven spots [since 1996] to reduce the number of landmines planted in the rear areas to around 68,000.”

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June 1975

Oper at io n s. v eh icl e pull s as an ar mo r e af ter rem ov ing a mine. Solid ie rs cl ea rings K o r ea n earth Munsan and th en burni ng rhe fu e l. greatly enhancing the safety of deminers.

Another method reported to be under consideration by the South's Defense Ministry was a "scorched earth policy." This method would involve spraying fuel along the South Korean portion of the DMZ between the Imjin River and Chagelan in Munsan and then burning the fuel.

Anticipated Mine Clearance Procedures:
- Use of water sprinklers to uncover mines.
- Insertion of 15-meter-long plastic pipes filled with dynamite and detonators into suspected areas (for mines up to 10 cm underground).
- Use of excavators and bulldozers to remove plants and dig up earth (for mines 20 to 30 cm underground).
- Final inspections by soldiers to ensure the removal of all mines.

More Help on the Way?

Although mine clearance and mine identification efforts in both rear areas and the DMZ have thus far been limited to the military and civic groups, in January the South's Sungdo Construction Co. created the demining firm Specialist Demining Engineering (SDE) to aid the Koreas and other mine-affected nations in clearance efforts. The firm's vice president, Koo Ja-ho, recently said the SDE has formed a "technical assistance agreement" with the UK's Specialist Guntha Services (SGO)—one of the world's top-10 mine and UXO clearance companies. Koo expressed to the Herald a desire to aid the Korean governments' demining efforts, saying that private firms are at an advantage over militaries when it comes to insuring operations, gaining funding, and securing the most advanced equipment.

To date, no formal agreement between the private firm and the Korean government has yet to be announced. However, JCS Battle Coordination Division official Lee Kang-woo, head of mine affairs in the division, recently told the Herald the continued page 30.

Southeast Asia Air Combat Data

The Defense Security Cooperation Agency's Tom Smith details the United States' efforts to create an informational and relational database for mine/UXO identification in Southeast Asia and its importance in targeting landmines.

by Tom Smith, Defense Security Cooperation Agency, Office of Humanitarian Demining

One of the greatest challenges in the global effort to remove the deadly debris of war and conflict is the collection of records kept by the combatants from either side in the conflict. In that regard, the United States has realized the importance of, and is making available, data from a variety of sources to assist with the survey and clearance work in Southeast Asia.

Since 1994, the humanitarian demining offices in the Defense Security Cooperation Agency (DSCA) and U.S. Pacific Command, in conjunction with the Federal Resources Corporation and MRJ Technology Solutions, have been developing an informational/relation database derived from the separate declassified tapes of allied air combat and combat support operational activities conducted during the war in Indochina. The output of this analysis will provide nations in the region with accurate target and ordnance data so that host countries can set priorities for UXO clearance operations and assess the probability of UXO contamination in areas identified for economic development.

These combat missions were conducted in Cambodia, Laos, and Vietnam from 1965 to 1975. The original data system was developed by IBM in the early 1960s and captured daily air combat information on the Vietnam conflict in the National Combat Command Information Processing System (NIPS). The data (classified Top-Secret) was maintained by the Joint Chiefs of Staff and in 1976 declassified and delivered to the National Archives for safekeeping.

Four major databases are being reviewed for information that will assist host nations in determining the scope and scale of air bombardment, helping to prioritize bomb and mine clearance operations:

Files Accessed & Data Period

Combat Activities File (CACATA) October 1965 - December 1970
Southeast Asia Database (SEADAB) January 1970 - June 1975
Strategic Air Command's Combat Activities report (SACCOMT) June 1965 - August 1973
Herbicide Data File (HERBS) July 1965 - February 1971

Other databases to be reviewed include the Combat Naval Gunfire Files, Mining Activity Files, and other files relating to friendly and opposing force base camp and artillery data.

Data in the air combat files includes specific mission numbers, type and number of aircraft, location of target, latitude/longitude coordinates, ordnance type, number of ordnance dropped, and additional information on downed aircraft.

The goal of this combined effort is to provide host nation mine action offices with geospatial information (maps, digital, and other data) to support humanitarian demining surveys, setting priorities for demining operations, training, and assessment of the mine and UXO threat to economic development activities. The recovered data are being incorporated into geospatial databases for analysis by the host nation mine action centers using Geographical Information Systems (GIS).

Information for Laos has been retrieved, incorporated into a relational database, and installed at the headquarters of the Lao National Unexploded Ordnance Program (UXO LAO) in the capital city of Vientiane. The air combat information is displayed with vector or raster geospatial data and used to plan UXO clearance operations and to assess the probable impact of UXO on economic development projects.

Herbicide mission data has also
The use of this kind of data, and the integration with facilitating technologies, is unprecedented and is a clear demonstration of the value that technology can play in enhancing demining efforts, reducing costs, and building cooperative efforts between nations. The skills being learned through this process and the knowledge gained will most certainly be of value in other countries and other situations. This and other like initiatives will help ensure that the world will become mine safe sooner rather than later.

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by Faiz Muhammad Fayyaz, Executive Director, Human Survival & Development (HSD)

Pakistan: The Landmine Problem in Federally Administered Tribal Areas

After a decade of fighting, the effects of conflict beyond Pakistan’s border with Afghanistan are seen everyday in border regions. With little government aid available, agencies like HSD are taking the initiative in the country’s battle against mines.

Assessment
In order to assess the depth of Pakistan’s landmine problem, 1997 Nobel co-laureate Rae McGrath, an authority on landmines, visited Human Survival and Development (HSD) in the summer of 2000 at the behest of the Swiss Federation for Mine Clearance and Swiss

Korea United

South Koreans are considering cooperating with SDE in clearing the estimated 20,000 mines on Mt. Changni.

The End in Sight?

When the Korean soil thaws in early spring and the demining effort is continued, the Koreans will be en route to clearing a path not just through the DMZ, but through years of silence and conflict. Though we may never know of advances in clearance operations and mine awareness on the northern side of the DMZ, the North’s pledged cooperation with the South is a huge step towards reconnecting the once united peninsula. Even the People’s Republic of China has pledged technical and personnel support to both Koreas’ efforts, according to the August 23, 2000 Youhap News. It could be said that the mine situation in Korea pale in comparison to such places as Bosnia-Herzegovina or Afghanistan. Perhaps this is true from a numerical standpoint. But when one considers a country divided in two by a guarded, man-made boundary and by stark ideological differences, there are few, if any, situations to rival that of the Koreas. If, in fact, the drive to clear a path for railroad and highway construction is successful in September 2001, the joint efforts of enemies will be responsible for partially reversing in about one year what took over 50 years of animosity to create.

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