Clearing the Way for a More Productive Future

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For many communities, the land is their livelihood; however, the threat of landmines has affected agricultural communities all over the world. In this article, the author describes how, in Yemen, the United Nations Development Programme and other organizations are using techniques that fully preserve the environment and still allow for safe, successful demining.

by Sophia Aron [United Nations Development Programme]

Yemen is a country of unique geographical beauty, and most of its virgin landscapes remain undisturbed by modernization. In rural areas, tiny villages established hundreds of years ago continue their traditional agrarian lifestyle. In mountainous areas, Bedouin tribes maintain their nomadic way of life. The people of these areas are completely dependent upon their land. The trees, vegetation and animals serve as sources of food as well as income. Landmine contamination is a serious problem for these people. The presence of mines blocks or hinders access to the land that is needed for grazing, water, agricultural production, firewood and other uses. Without full use of this land, villagers and Bedouin tribes are unable to sustain their traditional lifestyles. Indeed, the rate of poverty in mine-contaminated areas has steadily increased as a direct result of the limited access to the natural resources of these lands. The Yemen Executive Mine Action Center is using effective, but environmentally friendly, techniques to clear these mines and give Yemen a safer and more productive future.

Land in Yemen was mined during several conflicts of the latter half of the 20th century. Before 1990 and the unification, North and South Yemen were two countries separated by a border. In the North, there was civil war from 1962–70. During the 1970s, there were three short border wars between the North and South (1972, 1978, 1979). These conflicts were, in many ways, Cold War scenarios, and the border became a typical Cold War border—heavily mined on both sides. After merging in 1990, the border became moot, but what remained was a mined belt that ran through the heart of the country.

Regulations to Protect the Environment

Yemeni tribes have developed a significant set of rules with regard to the protection of the environment—especially trees. When mines are found near trees, it is necessary for safety to remove a limited number of roots and low hanging branches. In these cases, however, the tree is never fatally harmed but cut down as tribal law forbids such practices. Trees are sources of life and income for the local populations. The wood is used for heating, cooking, building and other aspects of village life. Any part of a tree that must be cut for clearance is given to the villagers to whom the land belongs. Agreements over the protection of trees date back many centuries. Today, even deminers must observe these laws while carrying out their work. Only small trees, whose branches cover the ground and obstruct access to mines, are allowed to be pruned. ‘Taller and more established trees are, according to tribal laws, not allowed to be cut back in any way. These laws, in combination with the deminers’ respect for the environment, serve largely to prevent any negative impact on the mountain environment from demining operations.

Using Available Technology and Better Techniques

Recently, Yemen has acquired a new piece of mechanical equipment, the backhoe. This equipment allows deminers to unearth mines and move them to another area where they are manually deactivated or destroyed. The mine is scooped into a shovel that is covered with grates, then the rubble is shaken out, but the mine remains within the shovel. Dirt and other small objects are deposited in one pile while mines and rocks are placed in another. Once this process is completed, the mines are identified and neutralized. To protect the operator, the cab of the machine is armored. As it has only been in use for a few months, there have yet to be any comprehensive studies on its effectiveness and environmental impact. Contamination of the land by mine residue is prevented because the mines remain unexploded.

Animals living in the area are largely unaffected. Before the machine begins its work, an effort is made to remove from the area all animals that could potentially be harmed, while also setting up barriers for larger animals so as to prevent them from entering the area while work is in progress. In the event that smaller animals are caught up in the soil, they will fall through the grates of the machine with the dirt and rocks completely unharmed. This method of demining is currently being used in Yemen primarily to clear mountainous and agricultural lands. It is both efficient and effective, and preliminary reports from the deminers working in the field are mostly positive.

Clearing of desert areas remains a challenge. In these areas, the exact location of mines tends to shift because of the wind; however, their approximate location can be marked with the use of metal rods. Teams also consist of a deminer with a mine detector and a specially trained dog and handler to identify the approximate location of mines. Removal can be a difficult and tiring process, with mines located up to a meter (3.2 feet) below the surface of the sand.

Currently the backhoe is being used to clear limited areas. While it has the potential to be the most effective method of clearing mines in the desert areas, it is, at this time, of limited use because the machine is unable to cross certain areas of sand without becoming stuck. This problem would be eliminated with a machine that utilizes bulldozer-like steel tracks instead of tires, with such a machine Yemen could successfully and more rapidly clear the vast desert land.

Yemen’s environmentally-friendly techniques for clearing mines advance its economic and social progress by protecting the natural resources. The UNDP and YEMAC are literally clearing the way for a safer and more productive future in Yemen.