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## Mine Action in Yemen: An Example of Success

**By: Faiz Mohammad, Yemen Mine Action Programme, United Nations Development Programme**

During the past 30 years, from the revolution to the period of civil confrontation in 1994, Yemen has witnessed a number of conflicts, each leaving behind a significant level of problems with mines and explosive remnants of war (ERW). In 2000, a Landmine Impact Survey (LIS) was carried out in Yemen. The survey provided vital information about the landmine and ERW impact on the Yemeni communities. A total of 592 communities were identified as heavily impacted by landmines and ERW. Fourteen communities, with a population totaling 36,000, were found to be highly impacted, while medium or low impact was reported in 578 communities with a population totaling 791,400. Although the total number of mine/ERW casualties was not precisely known, the LIS reports indicated the number of mine and ERW casualties to be as high as 5,000 over the previous 10 years, with 200 casualties from 1999 to 2000. A large number of the casualties are believed to be women and children; farming and grazing are the main activities affected by landmines.

### History of Yemeni Mine Action

Mine action in Yemen dates back to 1997 when the government of the United States provided training for mine clearance personnel. In June 1998, a Prime-Ministerial decree was issued for the creation of a National Mine Action Committee (NMAC) to address mine action in Yemen. In the same year, the Yemen Executive Mine Action Center (YEMAC) in Sana'a and a Regional Mine Action Branch in Aden were established to implement mine action projects. In September 1998, a U.N. inter-agency assessment mission was conducted, which gave a high priority to conducting an LIS in Yemen. In May 1999, the United Nations Development Programme (UNDP) started to support the programme by focusing on building a national capacity in order for Yemen to effectively confront the humanitarian and developmental issue of landmines. In October 2003, the programme moved from U.N. execution to national execution.

### Programme Achievements

The year 2005 marks the sixth year of the Yemen mine action programme. During this relatively short period, the programme has made significant progress in eliminating landmine/ERW impacts in the Republic of Yemen. All these accomplishments have turned Yemen into one of the best examples among the mine-affected countries in the world. The NMAC chose the slogan "first in mine action" for itself for a number of good reasons. Some of those reasons are discussed briefly in the text box below to indicate Yemen's historical achievement.

In addition to these achievements, there have been enormous triumphs on a national level such as the over 100 affected communities freed from landmine/ERW impacts by the end of 2004. The two governorates of Aden and Howdaida have been declared

### Yemen's Firsts in Mine Action

- **First in the region to sign and ratify the Ottawa Anti-personnel Landmine Ban Convention (1998).**
- **First in the world to complete a U.N.-certified nationwide socio-economic LIS (2000).**
- **First in the world to develop and approve a five-year Strategic Mine Action Plan (2000); the plan is on schedule and all objectives are met.**
- **First in the region to complete destruction of its national stockpile of anti-personnel landmines in compliance with Article 7 of the Ottawa Convention (2002).**
- **First in the region to move from a U.N.-executed to a nationally executed mine action programme (October 2003).**
- **One of the first in the region to develop and approve a landmine legislation law in accordance with**

"mine free."<sup>1</sup> Over 1,000 landmine survivors have been medically supported in the country and abroad, and mine risk education (MRE) has been provided to over 400,000 men, women and children in the affected communities. More importantly, civilian casualties have been reduced by 80 percent since the completion of the impact survey in 2000.

## Article 9 of the Ottawa Convention (2004).

- **First in the region to have a comprehensive nationwide landmine victim assistance programme including reintegration of survivors.**
- **First in the region to have a national mine dog component with breeding and training capacities.**

### Major Lessons Learned

YEMAC implements mine action in Yemen. YEMAC is a governmental body with over 1,000 personnel in the areas of MRE, survey, clearance, quality assurance, mine detection dogs, and victim assistance. Throughout the years, YEMAC has learned a number of lessons, and it has always tried to adopt the most feasible and effective procedures based on local needs in order to address landmine problem in an effective and efficient way. The following sections describe some key elements that have contributed to the success of the programme in Yemen.

**Government commitment.** One of the major foundations to the success of the Yemen mine action programme is the government of Yemen's (GoY's) commitment and its effective contribution to the programme. Since the inception of the programme, the GoY through the NMAC has helped Yemen fulfill its obligations to the international landmine bans. It provides over 50 percent of programme funds through in-kind contribution of staff, facilities and social benefits for the national staff. On the international level, it was one of the early signatories of the Ottawa Convention; it has destroyed its national stockpile of anti-personnel landmines, and most recently, it has approved a landmine legislation law to put a complete ban on the use, production, transfer and stockpiling of landmines. In addition, NMAC has approved a revised and extended strategic mine action plan for 2004-2009, envisioning an end to the casualties and the suffering caused by landmines/ERW by March 2009 in accordance with Article 9 of the Ottawa Convention. All those achievements would not be possible if the GoY were not firm in its commitment.



A YEMAC MRE session being held for schoolchildren in a high-impact community in Qataba district in Al Dale' governorate.

**Landmine Impact Survey.** One of the major challenges most mine-affected countries are facing today is the lack of reliable and up-to-date information to define the landmine/ERW problem. Yemen was the first country in the world to complete a U.N.-certified LIS in July 2000. This survey covered at least 95 percent of the suspected mine-/ERW-impacted areas in the country with a high degree of confidence. With the completion of this survey, Yemen has at its disposal the most comprehensive set of mine-related socio-economic impact data in the world. These data allowed Yemen to develop effective national mine action strategies and work plans. The LIS information is the benchmark against which mine action successes are measured in Yemen.

**Integrated mine action response.** Coordination of mine action activities is an essential and important part of any mine action programme in order to provide rapid and on-time responses to the affected population. Because MRE, clearance operations and victim assistance are all implemented by YEMAC, the programme entertains a centralized planning and coordination mechanism that will eventually result in delivering an integrated mine action response to the affected communities. Once a national plan is approved and communities are selected, a mine action response is provided as a complete package to the affected communities, including MRE, clearance of affected lands and support to landmine survivors. When a community is declared

"mine free," it means that the population is trained on safe behavior, the suspected lands are cleared and returned for use, and the survivors are medically and socially supported. This methodology has resulted in the programme gaining an excellent reputation and widespread respect throughout the country.

**Cluster clearance approach.** The first strategic mine action plan for 2001–2005 primarily focused on high-impacted communities with higher rates of casualties and restricted access to vital resources such as water, agriculture and grazing lands. Later, however, it was found that a high-impact community could not be freed unless the neighboring communities that share the same land with the high-impact communities are cleared as well. YEMAC has therefore adopted a cluster clearance approach. Under this approach, the focus is high-impact communities and those medium- and low-impact communities that are clustered near each other. This approach is not only an advantage for logistical efficiency, but also more effective in eventually reducing the risk of landmine casualties.

**Restructuring clearance unit.** YEMAC's experience indicates that most minefields are small in size and therefore a full clearance unit (54 deminers) could not be employed at one time. Instead, smaller teams and clearance platoons are more effective and feasible in the Yemeni situation at present. As such, YEMAC plans to establish more technical survey teams supported by mine dogs and restructure its clearance units into independent platoons by providing additional equipment and medical support in order for the platoons to operate in a logistically independent way and exercise one-man-one-lane drills. Based on the revised strategic plan, some 83,000,000 square metres (32.05 square miles) of affected land is planned to be cleared and returned for intended use in 2005. The restructuring is essential for the programme in order to follow up and reach the GoY's overall goal to fulfill its Ottawa Convention obligation by March 2009.

**Mine risk education approach.** YEMAC has an effective and efficient MRE component, which is carried out in collaboration and coordination with the provincial authorities. Based on the national plan, MRE teams—both men and women—move to the target governorate ahead of mine clearance teams. MRE starts in the capital city through a major workshop and an exhibition center. The MRE workshop is usually opened by the chairman of NMAC and most of the senior staff of the governorate participants, including the governor, the chiefs of justice, administration, security and health, and members of the provincial council, etc. This event is well-covered by the local news as well as by the members of the local council, who take MRE message to the communities. The exhibition center, which contains models of landmines, videos, posters and other MRE materials that are put on display, remains open for several days with MRE instructors available throughout the day to provide information on safe behavior, recognition of mines/ERW, and reporting mines/ERW and mine incidents. From there, the MRE teams move to the target affected communities that have already been informed by the location administration. Upon arrival in the affected communities, MRE teams conduct specialized MRE training for various target groups such as men, women and children, at mosques, schools, and other public places. At the end of the visit, a community-based instructor is trained to act on behalf of the MRE department and the programme as a liaison to the community.



A YEMAC victim assistance medical team member examines two young mine survivors after an incident in Hababuh village of Thula's district in Dhamar governorate.

**Victim assistance.** Victim assistance is another successful element of YEMAC provided to the affected communities. The medical teams—both men and women—of YEMAC, in accordance with the national plan, travel to target communities to visit landmine survivors registered by the LIS. The teams check each survivor in order to find out his/her medical problems and needs. Once these needs are identified, the survivor is transported to a major hospital where he/she undergoes proper medical examinations. During this phase, survivors are housed in a hotel and all costs

related to transportation, accommodations and medical examinations are covered by the programme. When medical examinations are done, the survivors receive appropriate treatment based on their needs for surgery (eye, ear or limb) and physiotherapy. Lastly, additional support is provided to those with a special need such as a wheelchair, eyeglass, hearing aid or artificial limbs.

In 2004, YEMAC took another important step to ensure that landmine survivors are re-integrated into their societies. An indigenous landmine survivors' association was established to complete what YEMAC has left unfinished. With the help of the YEMAC database, this association brings together landmine survivors from the affected communities and provides them with various types of training based on their education, skills and disabilities. Once the training is completed, the association will establish a small enterprise for the survivor in his/her own society with financial assistance provided by the association. Presently, there are over 80 men and women undergoing training in stitching, handicrafts, telecommunication and propane gas sales. Once this group is trained and the relevant business is established for them, another survivors' group will replace them.

### Current Problems

Mine action in Yemen has been running smoothly in accordance with the national five-year strategic plan without much disruption in the past few years. Due to the complexity of landmine problems and lack of appropriate technology and field requirements, however, no mine action programme can be free of problems. Some common problems encountered during the mine clearance operations in Yemen include steep terrain, moving dunes, lack of technology, nuisance mining, soil contamination and funding.

**Steep terrain.** Clearance of minefields on the top of hills with steep terrain is one of the major problems deminers in Yemen face, as most of the high-impact communities and places where most casualties occur are located in the mountains. To reach these locations, deminers have to walk up steep mountains one to two hours every day with the added hassle of carrying all their demining equipment. This daily exercise frustrates deminers greatly and considerably reduces the number of hours they are able to conduct demining work. As a result, operations can become extremely slow and dangerous. YEMAC had two demining incidents in 2004 alone in such areas. In an effort to provide relief to the deminers, YEMAC exchanges demining units and teams periodically from one place to another to avoid too much stress during work.

**Moving dunes, shifting sand and lack of technology.** Over 50 percent of the total remaining mine-affected land in Yemen is in deserts. Clearance of such land is extremely difficult as sands shift. Consequently, mines are getting deeper in the sand, up to two metres (6.56 feet) in some cases. Even when the location is known, it is difficult and dangerous to uncover the mine because the more one excavates, the more sand gets into the pit. YEMAC has suspended clearance operations in two minefields so far due to deep mines and lack of technology. To overcome this problem, several trials were conducted including the use of air pressure, but none was successful. YEMAC finally decided to permanently mark those areas until a reliable technology is available.

**Nuisance mining.** Generally, mines have not been laid in accordance with military doctrines. Various groups have laid mines according to their own security needs without taking into account the civilian consequences. Huge areas are mine-suspected, but there might be only a few mines blocking access to one large area. Getting those mines out is a predicament for survey and clearance teams and is not only time-consuming, but also dangerous.

**Soil contamination.** The presence of a high level of minerals, a large number of metal fragments and a lot of debris in mined areas is making survey and clearance operations difficult or sometimes impossible. Metal detectors are ineffective in several areas, as they will give signals continually due to the high level of minerals in the soil. The presence of litter and metal fragments considerably hampers clearance operations, making it extremely slow and time consuming. Each

piece of metal has to be treated as a mine. Over 100 metal fragments are detected and investigated for each mine found. In at least two minefields, clearance operations were suspended due to this problem.

**Funding.** Since its inception, the programme has enjoyed financial support provided by the government of Yemen and by the 11 donor communities.<sup>2</sup> There has been no shortfall of funds in past years; however, NMAC has revised its strategic plan and extended the period of July 2004–July 2009 in order for Yemen to meet the objective of Ottawa Convention set for March 2009. To achieve this goal, YEMAC needs to restructure its clearance units into independent platoons and establish more Technical Survey teams to speed up clearance operations and release more land in a shorter amount of time. For this to happen, YEMAC requires a one-time grant to purchase equipment or an in-kind contribution that includes vehicles, mine detectors and personal protective equipment. YEMAC planned to restructure four of its clearance units during the second half of 2004 and the rest in 2005, but restructuring has not happened as yet as the centre could not secure any funding during that time.

## Conclusion

YEMAC's unwavering commitment to its country has been a key element in its success as a mine action programme. The programme has shown that socio-economic impact information is imperative for developing accurate national strategy and mine action workplans. In addition, mine action response to the affected communities has to be well-coordinated so that one pillar effectively supports the other and landmine problems are addressed in an integrated manner. YEMAC has proven that in order to be successful, a mine action programme should not only assist mine-affected communities in terms of clearing the affected lands, but also assist landmine survivors by providing medical assistance, support equipment and efforts to reintegrate them into their societies.

## Endnotes

1. Editor's Note: Many countries and mine action organizations have begun using the term "mine safe" as opposed to "mine free" because of the impossibility to guarantee that every single landmine has been cleared from a mined area. "Mine safe" usually refers to the removal of mines that can or will have an immediate impact on a community.
2. These donors are Canada, Germany, Italy, Japan, the Netherlands, Norway, Saudi Arabia, Sweden, Switzerland, the United Kingdom and the United States.

*\*All photos courtesy of the author.*

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