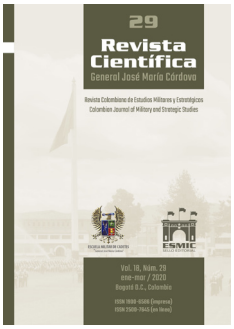

Revista Científica General José María Córdova
(Colombian Journal of Military and Strategic Studies)
Bogotá D.C., Colombia

ISSN 1900-6586 (print), 2500-7645 (online)
Journal homepage: https://www.revistacientificaesmic.com

Humanitarian demining in Colombia: from the perspective of deminers

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How to cite: Macías Montoya, J., & Corcione Nieto, M. (2020). Humanitarian demining in Colombia: from the perspective of deminers. *Revista Científica General José María Córdova, 18*(29), 161-179. http://dx.doi.org/10.21830/19006586.530

Published online: January 1, 2020

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Revista Científica General José María Córdova
(Colombian Journal of Military and Strategic Studies)
Bogotá D.C., Colombia

Volume 18, Number 29, January-March 2020, pp. 161-179
http://dx.doi.org/10.21830/19006586.530

Humanitarian demining in Colombia: from the perspective of deminers

Experiencias de procesos de desminado humanitario en Colombia desde la perspectiva de los desminadores

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Abstract. This research aims to feature the experience, and best practices involved in the humanitarian demining (DH) carried out in Colombia by the members of the National Army by scrutinizing the interviews of five deminers belonging to this institution. According to the interviewees, DH is effective when it privileges work with local authorities and the communities that inhabit and transit the affected territories. DH is carried out in Colombia, linked to disaster risk management, following international conventions and national regulations. Besides presenting the importance of deminers' technical knowledge, as well as the social value of their actions, this article exposes the difficulties they must overcome to fulfill these missions successfully.

Keywords: antipersonnel mine; deminer; humanitarian law; humanitarian demining; land mine; National Army of Colombia

Resumen. Esta investigación tiene como objetivo destacar la experiencia y las buenas prácticas en desminado humanitario (DH) realizadas en Colombia por parte de los efectivos del Ejército Nacional, a partir del análisis de entrevistas realizadas a cinco desminadores pertenecientes a la institución. Los entrevistados evidencian que el DH es efectivo cuando privilegia el trabajo con las autoridades locales y las comunidades que habitan y transitan los territorios afectados. El DH está vinculado con la gestión de riesgo de desastres, como actividad realizada en Colombia de acuerdo con los convenios internacionales y las normativas nacionales. Además de evidenciar la importancia de los conocimientos de los desminadores en la parte técnica y en el valor social que tienen sus acciones, se identificaron dificultades a superar para el éxito cabal de estas misiones.

Palabras clave: derecho humanitario; desminado humanitario; desminador; Ejército Nacional de Colombia; mina antipersonal; mina terrestre

Section: Armed Forces and Society • Scientific and technological research article

Received: September 16, 2019 • Approved: December 3, 2019

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Introduction

As the scene of an internal armed conflict lasting more than five decades, Colombia is one of the countries most affected by antipersonnel mines (APM), unexploded ordnance (UXO), and improvised explosive devices (IED) (Oficina del Alto Comisionado para la Paz [OACP], 2019). According to the Humanitarian Practice Network, the close relationship between Colombia's armed conflict and drug trafficking has favored the use of mines to control territory and allow the cultivation, processing, and distribution of narcotics (Arango Domínguez, 2010).

In post-conflict periods, both APM and IED represent an actual threat to the population living and moving in areas that were directly affected by the national armed conflict, as the confines of the battlefield have become even more blurred over time. Responding to the situation created by APM and the IED has been difficult due to the nature of the Colombian conflict, which is dynamic and changing in intensity and location (Bejarano Hernández, 2010). In this scenario, the state is responsible for eradicating the fear and damage produced by APM, UXO, and IED in order to achieve stable and lasting peace.

The number of military victims of APM is the highest in the country (Quintero Rojas, 2018). The damage caused by APM and IED has added the problems caused by other aspects such as displacement, recruitment and isolation of populations, critical and unsustainable human rights (HR) situations, and international humanitarian law (IHL) violations (Garay Acevedo & Pérez Guecha, 2018). Along with massacres, murders, kidnappings, and unlawful confinements, mines create an atmosphere of fear that intimidates thousands of Colombians daily and forces them to abandon their lands and history (Arango Domínguez, 2010).

Humanitarian demining (HD) becomes vital as a result of this situation. However, its implementation is not easy, as information from communities is scarce and dispersed. For the military personnel that participates in demining efforts, whose goal is to reduce social vulnerability to the maximum, the understanding of the risk scenario and its management are factors that enhance the level of personal safety (Descontamina Colombia, 2019).

The roles played by people in the areas to be intervened must be considered in the field of HD; namely, the deminer, the community, the military command, the cooperator, and the municipal authority(ies). These roles offer a perspective to understand the reality, which is part of the socialization of those who engage in HD activities.

For the focus of this article, it should be borne in mind that it is the deminer who faces the challenge of detecting and clearing mines in the field. Deminers are men and women in charge of applying the specifications provided by the internation-

al organizations and the state sector to carry out this task in the field; this is where humanitarian demining is really carried out and, consequently, the decontamination of the land is obtained (Bejarano Hernández, 2010).

The knowledge that deminers have of the characteristics of the area and the procedures influence the results of the activities, from the protection of life to adverse events. Here, it is essential to probe into the understanding and knowledge that teams of deminers (belonging to the Colombian National Army) obtain in order to develop strategies and best practices for humanitarian demining. In addition to technical knowledge, the team must have an adequate social representation of the meaning of its actions in each risk scenario, as humanitarian demining translates into the social practice of the personnel in charge; this also requires training in this regard. Concerning the latter, it should be noted that although studies on HD have focused on the experiences of various countries and the role played by international cooperation, including the work of the United Nations in assisting human rights processes in countries such as Afghanistan, Cambodia, Kuwait, Mozambique, Nicaragua, El Salvador, Colombia, Bolivia, and Chile (Aranda & Salinas, 2015; Casanova, Cabrera, & Pachón, 2017), they have not examined the social approaches to the role of the deminer in depth.

In the case of Colombia, recent studies have been focused on measuring the impacts of human rights in decontaminated territories in the framework of different post-conflict periods, alluding to issues such as socioeconomic reintegration, development projects, and improvement of the quality of life of communities (Cabrera & Pachón, 2017; Campuzano Carmona, 2017). Other topics of analysis have been related to the effects on human rights and IHL violations (Arias & Ospina, 2018; Cardona, Jiménez, & Vanegas, 2014; Orozco, 2018).

However, analyses of the national context in terms of risk management and the construction of social sense by deminers are scarce. Thus, this study seeks to fill this gap by first establishing the conceptual difference between military demining (MD) and humanitarian demining (HD); these processes address different perspectives and objectives and involve the participation of different actors. Secondly, an overview is presented of the precedents concerning international and national human rights to contribute to the understanding of the context and issues involved in producing social sense, considering the unique experiences of national deminers. Lastly, these experiences are used to identify best practices in interventions carried out in different regions of the country, related to disaster risk management.

The seeds of war: APM, UXO, and IED

To address the issue of demining, establishing the difference between MD and HD is indispensable, as well as clarifying the definition of APM and UXO. Concerning the latter, it is worth noting that that APM are explosive devices that can injure, maim, or kill one or more people. These devices are activated by the presence, proximity, or contact of the victim. On the other hand, UXO are undetonated explosive devices that were intentionally or carelessly discarded after being thrown, projected, or dropped, such as grenades, ammunition (bullets, vanillas), or bombs, among others, that can cause mutilation or death (Descontamina Colombia, 2019).

Because APMs are difficult to obtain, guerrilla and paramilitary groups often turn to "homemade" mines (or IED), which are highly unstable and more difficult to locate than conventional mines[1]. These explosive devices are usually placed opportunistically for specific targets; that is, their placement depends on the armed groups' assessments of the transit of enemy troops. Therefore, the devices left behind after an attack, affecting civilians, are isolated remnants that not only represent a constant danger but can also make future attempts to remove or deactivate the remaining mines difficult (Arango Domínguez, 2010).

Concerning the difference between MD and HD, according to the Office of the High Commissioner for Peace (OACP) and its program Descontamina Colombia, MD refers to the set of procedures implemented by military actors specialized in anti-explosives tasks to facilitate advanced military operations in specific areas and territories for the identification and destruction of APM and UXO (Descontamina Colombia, 2019). In turn, HD is humanitarian assistance to communities affected by APM, UXO, and IED. This assistance aims to identify, deactivate, and destroy these devices, following the national standards for humanitarian demining, the International Mine Action Standards, and the humanitarian principles of humanity, neutrality, and impartiality, all enshrined in the United Nations' General Assembly Resolution 46/182 (1991), to carry out the clearance of lands for the safe use of displaced persons, victims of armed conflict, and the general community (Campuzano Carmona, 2017).

1 The legitimacy of the use of APM was debated until 1980 in the Convention on Certain Conventional Weapons. Despite widespread efforts to ban them, they continued to be permitted under International Humanitarian Law (IHL) until 1997. In this year, the prohibition of the use, stockpiling, production, and transfer of antipersonnel mines and their destruction was signed under the Ottawa Treaty. According to this treaty, the prohibition was based on two things; first, that the damage they cause exceeds the measures of proportionality in conflicts, second, that they do not allow the distinction between civilians and combatants, especially in armed conflicts in irregular territories and in long-lasting conflicts, such as the one in Colombian (Reyes, 2018).

Humanitarian demining is carried out in three phases. It starts with a non-technical study in which information is collected and analyzed from all available sources that may offer data on APM and UXO contamination. Then, technical studies are performed, involving in-depth investigations in a potentially dangerous area using invasive intervention; this allows the confirmation or rejection of the suspected presence of APM and UXO. If their presence is confirmed, the dangerous area to be subsequently intervened is delimited. Finally, the clearance phase is carried out. This phase involves tasks or actions to remove or destroy all APM and UXO hazards in a confirmed hazardous area at a specific depth agreed upon between the Humanitarian Demining Organization and the various national agencies and authorities (Descontamina Colombia, 2019).

In Colombia, HD activities are carried out mainly by two types of institutions, the Military Forces and the Civilian Organizations of Humanitarian Demining (OCDH) accredited by the Colombian State to act in the national territory (Table 1). Both of these types of institutions use different human rights techniques, which can be manual or mechanical. Manual HD is carried out by a deminer, using metal detection equipment and an excavation probe. This technique involves locating and exposing AMP or UXO for subsequent destruction or dismantling by expert personnel, following national and international standards. Mechanical HD is carried out by using manned or unmanned barrelling equipment that destroys APM. Canines can also be used to complement or support the work of delimiting the area contaminated by APM or UXO (Centro Internacional de la Cruz Roja [CICR], 2011).

Table 1. Organizations in charge of DH in Colombia

Military Forces
Brigade of Engineers of Humanitarian Demining No. 1 - National Army of Colombia (BRDEH)[a]
Explosives and Demining Association of the Marine Corps (AEDIM)[b]
Civilian humanitarian demining organizations
The HALO Trust (United Kingdom)
Humanity & Inclusion Colombia
Norwegian People's Aid (NPA)
Colombian Campaign to Ban Landmines (CCCM)
Colombian Association of Technicians and Experts in Explosives and Research on Fire and Nuclear, Biological, Chemical, and Radioactive Weapons (ATEXX)

Table continues...

Civilian humanitarian demining organizations
Perigeo (Italy)
Danish Demining Group (DDG)
Polus Center (United States of America)

a Brigade created in response to the country's need to comply with the agreements assumed in the Ottawa Convention, in the face of the growing threat of AMP and UXO, on August 6, 2016 (Humanitarian Demining Brigade [BRDEH], 2019).

b On December 30, 2014 the AEDIM was created and activated; its purpose is to guide MD and HD operations, in terms of mobility and counter-mobility of both the military and the civilian population (Descontamina Colombia, 2019).

Source: Created by the author based on information of Descontamina Colombia (2019).

National and international regulations on humanitarian demining (HD)

On October 10, 1980, the Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons Which May Be Deemed to Be Excessively Injurious or to Have Indiscriminate Effects (CCW) was signed in Geneva and annexed to the Geneva Conventions of August 12, 1949. According to the United Nations Office for Disarmament Affairs (UNODA), the objective of this Convention was "to ban or restrict the use of specific types of weapons that have indiscriminate effects on civilians or cause unnecessary suffering for combatants." (UNODA, 2019)

The CCW's official document contains the general provisions of the agreement drawn by the member countries, which, in the interest of maintaining future flexibility regarding the inclusion of different types of weapons and weapons systems, annex a series of protocols containing the prohibitions or restrictions on the use of specific weapons or weapons systems (UNODA, 2019). Protocol I restricts non-detectable fragmentation weapons, Protocol II restricts landmines and booby traps, Protocol III restricts incendiary weapons, Protocol IV restricts blinding laser weapons, and Protocol V establishes obligations and best practices for the clearance of explosive remnants of war.

Although, initially, the CCW included only the first three protocols, Protocol IV, on blinding laser weapons, was negotiated and adopted in October 1995, during the First Conference of States Parties. Regulations on landmines, booby traps, and other devices were also defined by an amendment to Protocol II, which responded to the alarming increase in the number of victims of these weapons. This amendment provided for the extension of the scope of application of this protocol and the restrictions on the use of landmines in the context of international and internal conflicts (as provided for in Protocol V). It established safety standards for remotely launched mines

and prohibited the use of fragmentation and antipersonnel mines of the non-detectable type (Comité Internacional de la Cruz Roja [CICR], 1997).

However, difficulties in agreeing on a total ban on landmines and the prevalence of landmine deaths (mainly among civilians) led to the emergence of the Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on Their Destruction, or Ottawa Convention, signed in Ottawa on December 3, 1997[2] (CICR, 1997).

Although today, 164 countries have agreed to join the Convention and abide by its rules and regulations, the success of the Convention continues to be compromised, as the majority of states that use and produce these types of devices have consistently refused to become parties to the CCW (CICR, 2011). According to Destroy Mineland (n.d.), the countries most affected by the use of APM are

> Cambodia (where there are 10 million mines, and one in every 236 citizens is maimed), Angola (9 million mines and one in every 470 inhabitants is maimed), Bosnia-Herzegovina, Afghanistan, El Salvador, Nicaragua, Colombia, Peru, Sudan, Mozambique, Somalia, Iraq and, Western Sahara. In addition, it is estimated that there are currently 110 million APM in 64 countries.

Colombia joined the CCW on December 3, 1997. It ratified its permanence on September 6, 2000; this decision became effective in the country on March 1, 2001. The national normative and legal framework was created from the ascription to this agreement. Its purpose was the fulfillment of the guidelines stated in the Treaty of Ottawa and the creation and implementation of Law 759 of 2002 (Colombia, Congreso de la República, 2002), which establishes the rules to implement the mandates of the Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on Their Destruction, as well as the provisions to eradicate the use of anti-personnel mines in Colombia.

In March 2015, in the framework of the negotiation to end the armed conflict between the FARC and the national government, the agreement on the clearing and decontamination of the territory from the presence of APM, IED, and UXO or explosive remnants of war (ERW) in general was made public through Joint Communiqué No. 52 (De Hoyos Alba, 2018). The attention towards the extraction of these artifacts has

2 From September 1st to the 19th, 1997, the Diplomatic Conference on an International Total Ban on Antipersonnel Landmines was held in Oslo, Norway. After three weeks of negotiations, the Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Antipersonnel Mines and on their Destruction was adopted on September 17, 1997 (Castro, 2013). The Convention obtained the states' commitment to assist the hundreds of thousands of mine victims, most of which reside in countries with very few health and rehabilitation facilities. Similarly, the Convention sets clear objectives for mine clearance and gives each country a 10-year deadline to clear its territory. States parties must also destroy their stockpiled antipersonnel mines. The Convention's Third Review Conference —held in Maputo, Mozambique, in 2014— demonstrated the proactive and results-oriented approach of the states that signed this treaty (CICR, 2018).

increased because of the ongoing peace negotiations with the leading insurgent group in Colombia (which has carried out the implantation of these artifacts in the zones of Caquetá, Antioquia, and Arauca) concluded with the signature of the agreement (Gómez Garzón, 2016).

Control and demining are necessary. Some unsupported sources suggest that there could be between 50,000 and 100,000 planted devices in the country (Bejarano Hernández, 2010). However, the Colombian Campaign to Ban Landmines (CCCM, 2019) has been keeping track of the victims of these artifacts since 1990. Similarly, Descontamina Colombia (2019) records that there have been APM and UXO-related accidents in 515 municipalities of the national territory. The six municipalities with the highest number of victims from 1990 to April 30th, 2019 are Vistahermosa (Meta) with 368 victims, Tame (Arauca) with 347 victims, Tumaco (Nariño) with 297, San Vicente del Caguán (Caquetá) with 263, Tarazá (Antioquia) with 255, and Montañita (Caquetá) with 250 victims. The five departments with the highest number of civilian victims are Antioquia (1154), Nariño (608), Meta (420), Cauca (270), and Norte de Santander (262).

According to the Geneva International Center for Humanitarian Demining (GICHD), the period between 2002 to 2010 was when most Colombians were affected by APM, during the implementation of the Democratic Security and Defense Policy and the disarmament of paramilitary groups that had a critical link between land conflicts (GICHD, 2013). Furthermore, the armed groups that have used APM the most in the history of the conflict have been guerrilla groups, especially the Revolutionary Forces of Colombia (FARC), according to research carried out by the National Center of Historical Memory (CNMH), and, in a high proportion, the National Liberation Army (ELN) (Reyes, 2018).

As of April 30, 2019, according to the OACP, a total of 11,751 APM and UXO victims have been registered, 2006 being the year with the highest number of cases in the history of the country, with 1228 victims (Descontamina Colombia, 2016). By 2015, according to data by the Civil Service (2015), from the total number of victims, approximately 62% belonged to the public forces and 38% to the civilian population. Eighty percent of the victims were injured or mutilated, and 20% died. Also, 1140 of the victims were minors, 32% of whom belonged to the indigenous population.

In its 2017 report, the CNMH presented an alarming fact. Colombia is the second most mined country in the world, though not all of the national territory is contaminated; there have been APM victims in 91 of the 1122 municipalities in the country. Thus, 54% of Colombian municipalities have not been affected. The problem has been significantly concentrated in certain regions. During the last observation period (April 2006-March 2016), 50% of the victims and survivors were

concentrated in 25 municipalities. Therefore, human rights policies should center on these 25 municipalities, so that territories where security conditions exist and without the presence of illegal armed actors prevail (Centro Nacional de Memoria Histórica y Fundación Prolongar, 2017).

Humanitarian Demining (HD) risk management

In general, risk education programs aim to reduce the likelihood of injury or death to members of communities affected by the planting, placement, or abandonment of APM, UXO, and IED; that is, to reduce the threat[3] that these artifacts present. The implementation of such programs mainly seeks to ensure people's safety and promote social, economic, and health development to meet the needs of victims (Descontamina Colombia, 2019).

The danger in manual mine clearance is the presence or suspected presence of APM and UXO. The mission is not at all simple; the devices are spread out over the entire national territory in a disorderly manner, which makes finding and identifying them in riparian areas, roads, pastures, and other areas without any type of demarcation dangerous. Moreover, locating dangerous areas is a process for humanitarian demining agencies (Alarcón Acevedo, 2017).

Thus, the concept of *risk* refers to the combination of the probability of occurrence of a given hazard and its possible consequences in terms of damage. According to the manual mine clearance study by the Geneva International Center for Humanitarian Demining (GICHD)[4], risk management is part of a series of processes that also seek efficiency in the use of limited resources in order to reduce the risk of an individual or a community facing a particular hazard (GICHD, 2005). This focus on resource efficiency allows for multiple approaches to address a given threat. For example, given that APM manual clearance resources are limited, the clearance of mines is first carried out in areas where the benefits are the highest and in a manner that reduces risk quickly and effectively. Similarly, facing the possibility of completely eliminating a risk, the cost of doing so is weighed against different ways of using existing resources (GICHD, 2005).

The application of risk management processes should lead to the implementation of practical measures, which can be passive (marking and delimiting a contami-

3 According to Herzer, Rodríguez, Celis, Bartolomé and Caputo (2002), *threat* is the probability of the occurrence of a detonating or triggering event, which can be natural or man-made.

4 Since 2001, the Colombian State has had the support and technical assistance of the Geneva International Center for Humanitarian Demining (GICDH). The GICDH donated the Information Management System for Mine Action (IMSMA), which allows alphanumeric and geographic data to be processed simultaneously. Every year, the GICDH contributes to improving the system according to the requirements and needs of the countries that have adopted it as their official HD system (OACP, 2019).

nated suspected of UXO or APM) or active (dismantling, clearing, and destroying the source of threat or danger). However, regardless of the nature of such measures, there will always be a residual risk to be considered (GICHD, 2005).

As a result, management can be developed at two different levels, strategically and operationally. The strategic level involves the design and implementation of national human rights action plans that take into account the characteristics and needs of communities and territories at risk. Meanwhile, the operational level involves the assessing of possible risks to plan specific actions concerning, for example, the type of protection, the most relevant HD, or even the time of year when it would be more appropriate to advance such actions to obtain the best results (GICHD, 2016).

To conclude, it is worth mentioning that a valuable risk management tool is the series of steps used to carry out demining actions (GICHD, 2016). These steps depend on defining the system, identifying the hazards and the elementary failure modes and compound failures, as well as evaluating the probability of occurrence and estimating the consequences. Moreover, deminers must reinforce these sequences of steps not only to protect their safety but also to be aware of the effects of their work in the social environment in which they operate.

Before continuing, some key methodological points are mentioned to understand the scope of the research, as well as the value of the humanitarian deminer's interviews, given that how they perceive their actions is central to understanding and applying risk management.

Methodological considerations

Because this study sets out to examine significant experiences in human rights, within the framework of the Colombian internal armed conflict, of deminers' risk management experiences, it was necessary first to identify the context, which provides the meaning to these experiences, to ultimately systematize and adequately interpret the results of this analysis. According to Jara (1999), systematization is also a critical interpretation of one or several experiences that, based on classification and reconstruction, reveals or explains the logic of the process experienced, the factors involved, as well as their relationship, and why it has been done this way.

To this end, a qualitative-interpretative approach was employed, involving semi-structured interviews with five technicians of the Brigade of Engineers of Humanitarian Demining Nº 1 (BRDEH) of the National Army of Colombia. These interviews were performed with the informed consent of the participants. The only copy of the information retrieved from the interviews is stored in audio files on the researchers' devices.

The content analysis to address the categorization and systematization of the information produced in the interviews was carried out following Espín's (2002) proposal. It was distributed into the following nine categories of analysis, based on significant experiences and best practices on the part of the deminers: 1) MD vs. HD, 2) effective aspects of HD, 3) community work, 4) work with local authorities, 5) non-technical studies, 6) logistics and transport, 7) national and international standards and guidelines, 8) personnel training and certification, and 9) technical updating.

Mines mark the earth[5] and also mark the deminer

The results of the interviews with the deminers present a robust system of meaning concerning risk management in demining activities. This system of meaning builds on the differences between MD and HD to manage the objectives of demining efforts, without separating both methods from the risk management involving a common threat, namely, APM, UXO, and IED.

As established previously, while MD's sole objective is clearing the way to guarantee the safety of troop mobilization by decontaminating the lands on which they are to be mobilized, without guaranteeing the complete removal of APM and UXO in the surrounding land, HD seeks the restore the rights of the communities and guarantee the total clearing of APM and UXO in the lands contaminated with these artifacts. This part of the effort is clear to the deminers interviewed and follows the national standards. As one of them stated, "Military demining is everything that the *Gases* groups, *Marte* groups do in terms of opening up spaces in order to continue with humanitarian demining operations" (Deminer 1). Indeed, even if there are differences between the two types of demining, there is a joint effort to make HD possible.

In terms of the effectual aspects of HD actions, the deminers recognize the social impact of their work, which can determine whether the lands abandoned because of the risk of AMP and UXO can be restored to productive lands and recovered by the communities returning to their places of origin. These actions can allow the communities to resume productive development projects, and restore and consolidate the confidence that the affected communities have in the National Army:

> The return of the population that resumes its productive activities [brings] a satisfaction to the community and gratitude for the work we do. Seeing the villages move forward, and for example, in school areas, seeing all the children studying again is a great experience. (Deminer 3)

5 Phrase taken from the article "*Minas antipersonal: huella imborrable de la guerra*" (Reyes, 2018).

Humanitarian demining is based on community work. The communities, which have detailed knowledge of their territory, can provide specific information on possible sites contaminated by APM and UXO or on sites where this type of accident involving people or animals has occurred. Every HD process must begin with the socialization of the activity with the affected community; there can be no HD without community approval, and the relevant and planned actions cannot be carried out. "When a place is reached, and they do not want humanitarian demining, it is necessary to mobilize wherever people want the demining of their areas; the idea is that all the populations understand the benefits that humanitarian demining will bring them." (Deminer 5)

The interviewees stated that, in general terms, the work with the community has been effective. However, in some cases, some inhabitants have been reluctant to accept the support of the HD processes because of their distrust of state institutions, especially the National Army. On other occasions, the rejection is produced by the fear of being targeted by the illegal armed groups responsible for planting the areas with APM and UXO. Another problem mentioned by the interviewees involves false reports of contaminated land, which generate underreporting and implies an additional effort, as these reports must be verified.

Working with local authorities in HD processes is also essential. Local governments have much more detailed and accurate information on sites and land contaminated by APM and UXO; this allows them to collate their information with the information collected during community work and optimize the corresponding actions.

> Town halls have reports of places where there are accidents involving antipersonnel mines. When non-technical survey teams are deployed, they always find unconditional support from the presidents of the community action councils of the areas where there are accidents with antipersonnel mines. (Deminer 2)

In non-technical studies, the role of communities becomes particularly relevant, insofar as they alert to the possibility of risk in allegedly contaminated areas. In this sense, the collection, processing, and analysis of information on these areas is a key step to proceed with specialized interventions.

> As the term suggests, non-technical studies do not require technical equipment. This phase is a survey phase in which a trained deminer conducts research in sectors where there is a potential of antipersonnel mine contamination. The job is to collect and document this information. Non-technical survey teams only use some GPS, which may not be the latest technology, but they are of great support to them. (Deminer 2)

The interviewees expressed that this was the main shortcoming and problem of the HD processes. Given the geographical characteristics of the country and the inad-

equacy of road infrastructure, non-technical studies cannot be carried out in extensive rural areas. Meanwhile, the steady growth of the national HD program has also driven an increase in human talent involved in this work; however, the current logistical requirements are insufficient to mobilize staff. This results in another negative aspect referred to by the interviewees.

> In the face of such obstacles, and given the desire to meet the proposed goals and the humanitarian service provided by demining, they have been forced to put up their own resources, either for the mobilization of personnel or the payment of rent for land required for the installation of camps. (Deminer 1)

Faced with the above issue, the communities have played a key role in mitigating these obstacles, as on many occasions, they have supported HD personnel with pack animals to move about and even access areas that no vehicle could enter.

> There are some limitations here because not all non-technical survey teams have transportation available to the affected areas [...]. From my own experience, I know that sometimes we have moved by our own means to be able to continue the research, always looking at professionalism, no matter what we have to do with our own money to meet the objectives and goals that we have been entrusted; and that leads us to think that they are negative aspects because it is not how it should be in the organization in which we are working. (Deminer 5)

Interviewees are very emphatic on the obligation to comply with the guidelines stipulated by the different regulatory frameworks, both national and international, without which HD actions simply could not be advanced. The significance of the deminer's experience lies in these guidelines.

> In order to carry out a humanitarian demining operation, it is necessary to carry out the various studies, as well as the action plan to accomplish the demining. Without the previous, demining cannot take place, so we can say [that] there is a stringent organization for this type of operation. (Deminer 4)

In general terms, the training, instruction, and certification of personnel are multifaceted and strict, considering the high risk faced daily by HD personnel.

> The soldier has to be in training for seven weeks, where 80% are practical exercises. We do it this way so that the way we teach them is not annoying. On detectors alone, it is 20 hours of theory and 50 hours of practice. Then, they spend their time in the field, practicing and asking the inspector. The doctrine is much better in this course; they leave better trained. It should be clear that, with this course, in the evaluation of the OAS, they finish with better results. The leader's course lasts nine weeks. The officers and non-commissioned officers do it. They must be familiar with the proce-

> dures of the brigade and national standards. The team leader is a more experienced deminer that meets academic requirements. And, for the national supervisor, it lasts 11 weeks because he must be familiar with all the above processes. We are accredited by Descontamina Colombia, which is the competent national authority. (Deminer 5)

Lastly, technical updating has had significant advances that have improved the security and protection of human talent in HD activities and increase the efficiency and precision of the tasks. For example, "the use of canines, which do in one day what a deminer does in a month" (Deminer 4) has substantially reduced the delivery times of lands cleared of APM and UXO and has optimized the precision in the identification and dismantling of these artifacts. Likewise, the use of GPS, metal detectors, and other machines has also increased the efficiency of the tasks. All the interviewees expressed their expectations regarding the potential of using drones in HD tasks.

Humanitarian demining: a proper system of representation and best practices

Deminers are part of a representational universe that has a language specific to their area of work. They differentiate, for example, between *us*, *the ones from HD*, and *they* of the MD groups; this establishes an identification for them within the field and their primary objectives. In terms of their responsibilities, they express that theirs are different from the ones of professionals involved in MD, which distance them significantly from the representation of combat and conflict scenarios and places them at a higher risk. In the scenario of risk management, they emphasize that the application of international standards, which are a reference in their universe, is fundamental for the success of their work.

For deminers, specifications, and rules of operation are paramount; there is a constant reference to them and their application. It is understood that national and international operational frameworks and protocols influence the behavior of deminers; having adequate operational and effective rules is a vital feature of their work.

Therefore, the teleological content of their work has two markers. On the one hand, it values, in a positive way, the benefits of demining for the communities and the economic agents. On the other, it conceives that the legitimacy of the State apparatus is defined by the confidence in the Army, first, and in the governmental entities later. This relationship of ultimate meaning is the essence of their work. Their work has meaning for and by the communities that accumulate vulnerabilities from the development of the armed conflict in which they have been forced to live in, amid APM, UXO, and IED threats.

Therefore, working with the community is essential for deminers. It is the first step. It is a condition for HD and significant experience that guides humanitarian work in the field. In turn, the community has the knowledge to reference the area concerning its dangerousness; this is indispensable for the development of the deminers' actions. Local authorities, such as the community action councils, also play an important role in the latter; their involvement in the HD process is key. As a result, the systematization of the information obtained from the community and the municipal authorities is an effective practice for HD, as "complying merely to comply" with the different protocols is insufficient for the success of the work; it requires analyzing the information obtained and recording it in the risk analysis mechanisms.

Given that the greatest obstacle to the deminers' work is transport logistics and, in general, the resources to remain on the field, it is recognized that the cooperation of communities is essential to carry out their efforts. Devotion and a vocation to serve are morally required identity contents in humanitarian settings. This relationship between a vulnerable community and an unsafe physical environment creates a bond of cooperation with the action of the deminer.

Lastly, being certified is of great value to deminers; possessing a certification allows them to belong to the reference group, not having it places them at risk. Keeping updated on the job is also significant for a deminer; it is an identifying marker. Being certified, indeed, implies that experience and knowledge exist to reduce the risk in HD actions.

Final considerations

The reality of the territories in which actions of Human Rights and IHL violations have taken place, as part of the internal armed conflict, represents an urgent humanitarian necessity throughout the national territory. In this context, HD is an activity that seeks to alleviate the scourge suffered by communities affected by APM, UXO, and IED. In the post-conflict scenario, HD plays a key role in reducing the threat and overcoming existing vulnerabilities.

The experiences of the deminers analyzed in this text enabled the assessment of the risk management for professionals involved in these activities to improve the aspects that present challenges. The exchange of experiences supported a process of group reflection that revealed common characteristics in the undertaking of demining in Colombia. Understanding the construction of meaning by the deminers, people of exceptional social and human value, architects of peace that possess valuable knowledge on human rights in Colombia and able to contribute to the development and innovation of this work, opened a scenario for the analysis of the universe of the effects of AMP, UXO, and IED.

Based on the categories of analysis established in this research and the results obtained, it can be stated that the production of meaning by deminers is largely influenced by international guidelines on disaster risk management and permanent contact with the community. However, despite the technological development of HD, the interviews showed that there are relevant deficiencies in the processes that affect risk mitigation. On many occasions, there is little collaboration on the part of communities (due to fear of groups outside the law or distrust of the state), as well as false reports of mined land, or the great difficulty to access some areas (due to road infrastructure or the geography of the region). These problems must be overcome in order to make HD work even more effective.

It should be noted that the strict compliance with the national and international guidelines and regulatory frameworks stipulated for HD, as well as rigorous preparation and training of personnel carrying out this task, links the activity and experience of deminers to humanitarian actions at various social and technical levels.

In general, the work of deminers with the communities has been positive. Collaborative scenarios have been created in which local authorities play a key role in providing information on contaminated land. However, there is also a kind of aversion to the HD process, expressed in the form of fear for the reasons mentioned. Thus, although progress has been made in the application of national and international protocols and the technical preparation and risk management of personnel in the national territory, there is still a lack of logistical support and a greater presence of the state to mitigate in a more significant way the threat that the protracted armed conflict has left in the affected communities.

Acknowledgments

The authors wish to thank the Escuela de Ingenieros Militares for its support in the production of this article.

Disclaimer

The authors state that there is no potential conflict of interest related to this article. The latter derives from the research project "Experiencias positivas de procesos de desminado humanitario en Colombia durante el periodo 2010-2018" of the Group of Military Engineers (Colciencias code COL0106738) of the Master's program in Risk Management and Development of the Escuela de Ingenieros Militares, and the Military Science Research Group (Colciencias code COL0082556) of the Escuela Militar de Cadetes "General José María Córdova."

It is also stated that before conducting the interviews with the demining professionals, they were informed verbally and in writing about the objective of the interview and the anonymity of the data processing. Their approval was obtained to use their answers for the construction of the article and its publication. The completed informed consent forms are kept in the personal files of the main researcher of this project.

Funding

The authors do not declare a source of funding for this article.

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