This paper aims to highlight the importance of Humanitarian Demining (HD) for Brazil, within the global problem of landmines especially for the Brazilian strategic planning and its impact on foreign policy (PEB) and the National Defense (PND). This is a critical topic for studies of defense, since landmines affect the stabilization and development of countries. Even after decades of conflict, mines continue to victimize mostly civilians. This topic addresses various issues surrounding Brazilian participation and the importance of HD as political instrument of cooperation. Brazil has participated in demining programs developed in South America, Central America and Africa. Despite the evidence of the necessity for further discussion within the Council of the South American Defense (CDS) even with the severity of the problem in Colombia, the inclusion of the item on the agenda of the CPLP and cooperation on the ZOPACAS may also represent a new way to continue the discussion supported by Brazil involving the countries of Africa. In addition to the political field, several issues are addressed in the military field and its consequences for national defense. In this work I will discuss the troop's capability to conduct HD and its relationship with demining in combat environment. Moreover, the possible “dual” employment of HD materials and equipment may boost the development and use of technologies arising from technological research to further modernize the training of the Armed Forces, as well as encouraging the development of the Defense Industrial Base. Therefore, the HD is studied focusing on its political-strategic importance to Brazil and connect with the integration processes taking place on the American continent and its surroundings.

Keywords: Humanitarian Demining. Diplomacy. Foreign Policy.
I INTRODUCTION

According to the United Nations Organization (UN), every year landmines kill thousands of people – most of them children, women and old people – and severely mutilate countless victims. Spread over 59 countries, minefields are a constant reminder of past conflicts, but their effect does not cease once the conflict is over (UNITED NATIONS, 2013).

The presence of mines has made the economic use of affected areas impractical since 80% of the victims are civilians. As a consequence, significant portions of land, facilities and locations that were once mined to prevent their use are now inaccessible to the population and to the governments, restricting even further the economic and social development of affected countries (WALSH; WALSH, 2003).

In the early 1990’s, in the face of such humanitarian impacts, six non-governmental organizations (NGO) with headquarters in Western Europe and in the United States started an International Campaign to Ban Landmines (ICBL). Due to the success of this campaign, a specific international agreement was created in 1997 to address the theme: the Mine Ban Treaty (MBT), the “Ottawa Treaty”, according to which anti-personnel landmines (AP) were definitely banned. During this period, after the end of conflicts occurred in Central America, international demining programs were created thanks to the efforts of national governments, the Organization of American States (OAS) and the Inter-American Defense Board (IADB), and named Mission of Assistance for the Removal of Mines in Central America (MARMINCA)/(TIBÚRCIO; MORAES, 2011).

Thus, the international community has been concentrating its efforts with the purpose of supporting those countries that have to face the landmine problem in their territories on a daily basis, by helping them to clear the risks caused by landmines. There are currently 14 UN agencies, programs, departments and funds dealing with landmine-related issues. The UN Department of Peacekeeping Operations (DPKO), through the United Nations Mine Action Service (UNMAS), performs a key role in this work that comprehends landmine search and destruction, support to victims and awareness-raising of the populations in affected areas (UNITED NATIONS, 2013).

Within such context, Brazil is a signatory of the MBT and became a Member State on October 1st, 1999, and has ceased the production and exportation of anti-personnel mines since 1989. Brazil also participates in the United Nations Convention on Certain Conventional Weapons (CCW) and its Amended Protocol II on landmines. In 2011, Brazil participated in the Intersessional Standing Committee in Geneva and presented its twelfth report on Article 7 of the Mine Ban Treaty, on which occasion it declared its intention to keep landmines for training purposes until 2019 (INTERNATIONAL..., 2011).

Aware of all the above described issues, Brazil has taken an active part through its Armed Forces in demining programs developed by international bodies (BRANCALIONE, 2008). The Brazilian presence internationally, with a special highlight to actions within the sphere of the Mission of Assistance for the Removal of Mines in South America (MARMINAS) (Ecuador and Peru) and MARMINCA (Honduras, Nicaragua, Guatemala and Costa Rica). During the 1994-2003 period, 101 of the 170 officers in MARMINCA were Brazilian (nearly 60% of the total) and during this same period the mission was under the command of a Brazilian officer for four times (INTERNATIONAL..., 2004). Brazil had already supported demining processes in Angola between 1995 and 1997 (INTERNATIONAL..., 2004). Moreover, as from 2006 the Country has been participating in the Inter-American Monitors Group (IMG) of the OAS Assistance Mission to the National Demining Plan in Colombia (BRASIL, 2013).

Apart from sending personnel, the Brazilian government has also financially supported MARMINCA, having by May 2002 already spent US$4 million and donated around US$300 thousand to the OAS for the delivery of mine clearance actions in Central America (BRASIL, 2002, p. 2; INTERNATIONAL..., 2004). More recently, in 2011, after the evidence of the presence of supposed Brazilian-made mines found in Libya (INTERNATIONAL..., 2011), Brazil donated US$100 thousand to that country in 2012 via UNMAS (INTERNATIONAL..., 2013).

Within this context, the present paper aims at highlighting the importance Humanitarian Demining (HD) bears for Brazil and introduce the world problem represented by landmines, with a special focus on the Brazilian strategic environment and its reflexes on foreign policy (PEB) and national defense (PND).

This is an extremely relevant theme for defense studies, as landmines have an effect on stabilization and development, and also bring to light several issues involving the Brazilian participation, providing a broad overview of HD significance as political instrument of cooperation.

To meet this aim, the research methodology employed, according to Vergara (2008), was descriptive, explanatory, bibliographical and documental, and limited to addressing HD in foreign policy and defense matters.

2 THE GLOBAL LANDMINE PROBLEM

Landmines, both AP and anti-vehicle (AV), were developed for military employment, but do have a deep impact on ordinary people and their communities. Long after the end of a conflict the presence of landmines

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2 According to the MBT, AP landmines are placed in the soil or nearby and are conceived to explode by the proximity of or contact with a person in order to disable, injure or kill one or more individuals.

3 According to the MBT, AV Mines are conceived to explode in the presence of, proximity of or contact with a vehicle.
and unexploded ordnance (UXO)\textsuperscript{4} continue killing and mutilating and often make it impossible for refugees and displaced populations to return to their homes, thus extending the suffering of everyone in the affected areas (THE GENEVA..., 2014).

The impact of landmines for individuals and communities, many of which live in poverty and insecurity, is not just physical but also psychological, social and economic (THE GENEVA..., 2014).

The landmine problem in the immediate Brazilian geo-political surroundings, which, according to the White Book of National Defense (LBDN) (BRASIL, 2012b), is composed by South America, the south Atlantic ocean and the western coast of Africa, cannot be overlooked. 59 States in the world have been declared affected by landmines and 8 States as having suspected mined areas or areas with mine residues (INTERNATIONAL..., 2013). Among these one can mention, in the Americas, Chile, Colombia (with major contamination), Cuba, Ecuador, Peru, Venezuela and Argentina (Islas Malvinas/Falkland Islands). In Africa, one could mention Angola and Morocco, both containing extremely high contamination, Chad, the Democratic Republic of Congo, Eritrea, Ethiopia, Mali, Mauritania, Mozambique, Niger, Senegal, Somalia, Sudan and South Sudan, Egypt, Libya, Western Sahara and Zimbabwe (Fig 01).

According to ICBL (2012), Argentina, for example, has been affected by landmines due to the Falklands War when it claimed its sovereignty over the Islas Malvinas / Falkland Islands. During the armed conflict against the United Kingdom, in 1982, the islands were mined, mainly by Argentina. A study has identified 117 mined areas covering 13.15 $\text{km}^2$, which represents approximately 0.1% of the Malvinas / Falkland Islands territory. Argentina has a Humanitarian Demining Council within the Joint Staff of the Armed Forces and a Humanitarian Demining Training Center (Centro de Entrenamiento de Desminado Humanitario).

Chile has been affected by AP and AC landmines and, in a limited manner, by Explosive Remnants of War (ERW)\textsuperscript{5}, which might include remnants of cluster ammunitions. The mines were all placed along the borders of Chile and Argentina, Bolivia and Peru during the Pinochet government in the 1970’s. The mined areas are in general of difficult access and located mainly in unpopulated regions. The main challenges faced by Chile to access mined areas are bad weather conditions, difficult terrain, and the long distances that have to be covered by personnel and equipment.

In Peru Mines and ERW are the outcome of both the internal armed conflict and the border war with Ecuador in the 1990’s. The first threat is located in

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\textsuperscript{4}UXO (unexploded ordnance) refers to any ammunition that has for some reason failed to explode as intended or did not explode its sub-munitions.

\textsuperscript{5}ERW (Explosive Remnants of War), according to protocol V of the CCW, are defined as the UXO/failed explosive devices and abandoned explosive devices. Mines are not included in this definition.
the scarcely populated Condor Mountain Range, in the Amazon Basin, where AC landmines were placed along the border, in 1995, during an armed conflict with Ecuador. The second problem presented by landmines in Peru was located in the middle of the country where, in the 1980’s, they were used to protect the infrastructure against attacks from non-state armed groups. Besides these two distinct landmine problems, a third one appeared in 2012 because landmines placed by Chile along the border with Peru in the 1970’s were displaced by the heavy rains in February 2012 and resulted in the closing of the road near the border.

Improvise landmines can also mean a threat to Peru. In April 2012, two police officers were wounded after stepping on an Improvised Exploding Device (IED)⁶. The policemen had been searching for hostages of the Sendero Luminoso, an anti-government non-state armed combat group. In 2009, when giving a speech in the UN General Assembly, the Peruvian representative declared that the country was fighting against the Sendero Luminoso in rural areas and that the armed group was using explosives and booby traps to protect coca crops. Besides, homemade booby traps were interfering in the government coca-eradication program.

The national authority acting against landmines in Peru is the CONTRAMINAS Executive Board. The OAS had been helping the country with the demining operation since 2001. In 2003, MARMINAS was created to support demining in Ecuador and Peru by providing technical advisors and observers.

The same type of work is conducted in Ecuador, since five southern provinces are still contaminated with AP landmines and, in a smaller dimension, AC and UXO, as a result of the conflict with Peru in 1995. The most contaminated border area is the Condor Mountain Range, site of the struggle.

In Colombia, the Revolutionary Armed Forces of Colombia (FARC) continue to use AP landmines and IEDs at a regular basis. The Colombian guerillas usually place the landmines nearby their camping sites, in the paths leading to strategically significant areas (such as their bases or the main traffic routes), and to protect explosive, weapon, medicine and clothes storage depots. In 2012, the FARC were accused of placing landmines near wrecked infrastructures in order to delay their reconstruction. They also place AP landmines in the areas around coca crops to prevent eradication efforts.

Such complex situation has a substantial humanitarian impact caused by AP landmines, IEDs and UXOs found in former battle zones, bombardment sites, drug-traffic routes, and areas where the government has been attempting to destroy coca crops. ERW contamination of the terrain is also a result of abandoned ammunition stored in illegal sites or sites where the guerrillas fought against the Colombian Armed Forces. The OAS, following an agreement with the government, acts as humanitarian-demining monitoring agent in Colombia.

In Venezuela landmine contamination is the result of action by their Armed Forces in six naval bases in the proximity of the Arauca River, Amazon region, along the border with Colombia, in 1995-1997.

After this brief overview of the situation in neighboring countries, it is easy to conclude that the landmine problem is present in the Brazilian strategic surroundings, not to mention the severity of the problem in Africa. To give a clear dimension of the global landmine problem, a total of 4,286 new landmine and UXO victims were registered in 2011, i.e., about 11-12 deaths per day. Although the number of victims in 2012 was smaller, a total 3,628 victims were recorded and a large number of accidents are not reported in many States and regions. Therefore, the number of casualties is probably much higher. Countries that have regularly recorded the largest number of casualties over the last 14 years are Afghanistan, Cambodia and Colombia (INTERNATIONAL..., 2013).

Also according to International Campaign to Ban Landmines (2013), even though the production of AP landmines has been reduced and there have been no registered transfers, the sudden appearance of landmines in Sudan and Yemen indicates that somehow the AP landmine market and trade still exists. Only four countries continue to actively produce AP landmines: India, Myanmar, Pakistan and South Korea.

In 2013, MBT counted with 161 Member States and 1 signatory (INTERNATIONAL..., 2013). Its main disadvantage is the absence of countries capable of influencing international security dynamics, such as the United States, Russia, China and India.

Moreover, twelve States are identified as potential AP landmine producers: China, Cuba, India, Iran, Myanmar, North Korea, South Korea, Pakistan, Russia, Singapore, USA and Vietnam (INTERNATIONAL..., 2013).

Therefore, the risks and challenges remain. Recent armed conflicts expose populations and lands to the threat of landmines, ERWs and IEDs. Apart from the costs in terms of human lives and the significant humanitarian impacts, such risks jeopardize the perspectives of a better social and economical recovery of the nations involved.

3 HUMANITARIAN DEMINING

3.1 Importance for Stabilization and Development

The importance of demining⁷ for stabilization and development is evident considering the serious global problem caused by landmines. Its importance is such that

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⁶ IED (Improvised Explosive Device) are devices placed or produced in an improvised manner through the combination of explosives and hazardous chemicals. An IED can be active either by the victim or by command. It is worth highlighting that the MBT prohibits victim-activated IEDs. However, command-activated IEDs are not comprehended by the treaty.

⁷ Demining is a set of activities that result in the removal of landmines and the hazardous ERWs; such activities include data collection, mapping, removal, demar- cation and delivery of the cleared area.
there are currently around 14 UN agencies, programs, departments and funds whose role is to conduct different demining programs in 30 countries and 3 territories. The majority of the demining and awareness-raising work is performed by Non-Governmental Organizations (NGO), besides the military and commercial entities (ONU 2012), and involved around US$ 681 million in resources for mine actions in 2012 (INTERNATIONAL..., 2013).

The mine actions regard activities that aim at reducing the economic, social and environmental repercussions of landmines and ERWs. It does not refer only to demining operations, but to all the necessary measures to reduce the risks caused by landmines and ERWs so that the populations are able to live in safety and can progress economically, socially and in good health conditions, besides meeting the basic needs of victims. In general, it comprehends education against landmine risks, HD, assistance to victims, destruction of stored material and support on the fight against the use of AP landmines (THE GENEVA..., 2014).

Thus, mine action requires management planning at global, national and local level and involves international, national and commercial interests, with NGOs and the military operating under various conditions (INTERNATIONAL..., 2003).

The UN highlights the call for collective work against landmines throughout the entire spectrum of peace and security, human rights, humanitarian work, and development demands (UNITED NATIONS, 2013) (Fig 02).

Mine action continues to be a key element in the work done by the United Nations as it is relevant in the fields of peace and security, human rights, humanitarian work, and development. The multi-dimensional nature of mine action is highlighted in the Strategy of the United Nations on Mine Action 2013-2018 (UNITED NATIONS, 2012).

However, there are still significant challenges. The international community continues to struggle to remove millions of landmines that threaten vast areas in many countries and cause serious economic problems to regions and communities. They also weaken peace agreements and reconciliation efforts of the political attempts to establish a lasting peace (INTERNATIONAL..., 2003).

Also according to International Mine Action Standards (2003), there is need of bigger financial commitment, the creation of more international demining organizations, and help to establish the demining capacity in affected countries.

All these International Community actions for an integral mine action have the purpose of bringing a feeling of safety back to people. HD is an important component in reducing the impact caused by landmines: it contributes to ensure that people can live in safety and free from the threat of landmines, it is of major importance for the stabilization and development of the affected countries.

**Figure 2. Stages of a stylized mine action program.**

The stages of a stylised mine action programme

- Entry of international organisations and assets
- Development of basic capacities
- Support for refugees and humanitarian operations
- Rapid build-up of operations
- Creation of national programme
- Development of local level capacities
- Local adaptation of techniques and technologies
- Many tasks supporting reconstruction projects
- Progressive transfer of responsibility to national authorities and reduction of international staff levels
- Start and build-up of local funding
- Integration with development planning mechanisms
- Full indigeneisation of management
- Winding down of international funding
- Mine action fully demand-led by affected communities

3.2 Importance for Brazilian Foreign Policy and the Brazilian Role

3.2.1 Foreign Policy to Support World Peace

States are currently interested in international issues that were either disregarded or inexistent in the past. The importance of commercial exchanges, attracting foreign investments, the protection of human rights and of the environment, international technical cooperation (public health, work, communications, intellectual property, migrations, agriculture, disarmament) and the cultural dissemination policy join traditional international concerns like security, peacekeeping and searching for and exercising influence (SEINTENFUS, 2003).

In the conception of Joseph Nye, the most efficient foreign policy strategies today demand a combination of hard power and soft power, known as smart power strategy (NYE JUNIOR, 2009). This term has been defined by the Center for Strategic and International Studies (CSIS) as “an approach that underscores the necessity of a strong military, but also invests heavily in alliances, partnership and institutions at all levels to expand the influence and legitimacy of actions” (CENTER..., 2007).

This national bargaining power, according to Alsina Jr. (2009a), would be intensified if the nation could count on the capacity to actively participate in the peacekeeping efforts in its various modalities. The participation in such missions helps increase the soft power of the Country.

This way, Brazil conducts its Foreign Policy taking into consideration Article 4 of its Federal Constitution (CF/88) that advocates de principles of defense in peace, the pacific solution of conflicts, and the cooperation among peoples for the progress of mankind. Moreover, it makes every effort towards economic and political integration with its neighbors by promoting cooperation in various fields of power and seeking the economic, political, social and cultural integration of the peoples of Latin America (BRASIL, 1988).

Therefore, Brazil endeavors to achieve economic and political integration with its neighbors and with the Central-American and Caribbean countries. The PEB is a by-product of its position as regional Latin-American power, a leader among developing countries with regards to economic cooperation and collective security efforts, and an emerging center of global influence (MAYER, 2012).

It is worth highlighting that Brazil abides by the Charter of the United Nations, signed in 1945, in which war was proscribed and a collective security mechanism was established by the creation of the UN Security Council (UNSC) with the attribution of deciding on the existence of threats to international peace and security and on the means to face these threats.

Anyway, it is important for Brazil to consider that the existence of instability zones in its strategic surroundings might lead to the overflow of conflict into other South-American countries since the security of a country is affected by the degree of stability of the region where it is inserted. Under such conditions and the aegis of the United Nations (UN), Brazil participates in peacekeeping operations, bearing in mind its national interests, as a way of contributing to international peace and security (BRASIL, 2012c).

Since 1948, Brazil has participated in over 30 peacekeeping operations, having sent more than 32 thousand troops. It has taken part in operations in Africa (among which are the ones in the Congo, Angola, Mozambique, Liberia, Uganda, Sudan), in Latin America and the Caribbean (El Salvador, Nicaragua, Guatemala, Haiti), in Asia (Cambodia, East-Timor), and in Europe (Cyprus, Croatia). Even though Brazil, on several occasions, sent military and police personnel, only in six operations did it send troops, i.e., military units: Suez (UNEF I), Angola (UNAVEM III), Mozambique (ONUSOZ), East-Timor (UNTAET/UNMISET), Haiti (MINUSTAH) and Lebanon (UNIFIL – Maritime Task Force). Brazil is currently participating in eight peacekeeping operations with approximately 1,700 deployed military and police.

Thus, foreign policy and peace are interconnected and the bigger the Brazilian participation, the more mature the PEB will become. The adoption of a stronger combination of hard power and soft power resources intensifies the presence of Brazil in the concert of nations and, in a way, favors a deeper insertion of the Country in international decision-making processes.

3.2.2 Brazilian Support and Responsibility in HD

Besides all the diplomatic initiatives for the peaceful solution of conflicts and the reduction of tension in the American continent or elsewhere, the most evident expression of the growing importance of Brazil in the peace and security scenario is its participation in peacekeeping operations. Such operations are one of the key instruments available to the international community in dealing with conflict threats, as well as preventing countries facing post-conflict situations to experience the resuming of armed violence.

As the name suggests, peacekeeping missions are instruments through which the UN helps preserve peace that is under threat or when it has been restored after the end of a conflict.

HD is inserted in peacekeeping missions via the UNMAS and plays a key role in the search and destruction of landmines and in the awareness-raising of the populations in affected areas (UNITED NATIONS, 2013).

Bearing this in mind, Brazil bases its efforts to deliver help and cooperation work regarding HD in Resolution 53/26 of the UN General Assembly of December 1998, in which Member States, regional, inter-governmental and non-governmental organizations, and foundations are encouraged to continue extending...
assistance and cooperation in mine actions in the affected countries (UNITED NATIONS, 1998).

Apart from the support provided by this Resolution, the Brazilian government coined the expression “responsibility to protect”, used during the opening speech of the UN General Assembly of September 2011, whose essence is translated into a doctrine applicable to the use of military force under the aegis of the UN.

Brazil holds the opinion that peacekeeping operations should be based on four elements: security, institutional strengthening, national reconciliation and development. The balance among these elements is one of the Brazilian priorities, both in the conceptual debate resulting from the preparation of UN guidelines on this theme and in the performance of Brazilian forces in these missions.

During a peacekeeping mission operational tasks that should be highlighted are search, patrol, observation, supervision, monitoring and situation reporting; participation in demobilization, disarmament and reintegration (DDR) of litigant parties; cooperation in the care of the critical needs of the population; helping with humanitarian assistance; participating in demining operations; and supporting diplomatic action through presence; among others (BRASIL, 2007).

Apart from that, peace consolidation refers to the initiatives that address the effects of the conflict with the purpose of strengthening the national reconciliation process by means of projects intended to recompose institutional structures, recover the physical infrastructure and help the resuming of economic activity; HD can be present in all those fields of action. Moreover, Brazilian cooperation in peacekeeping missions helps strengthen the close connection between the PND and the PEB which is historically oriented towards peace, integration and development.

Therefore, within the strategic conception of Brazilian diplomacy in international cooperation issues regarding security and defense, HD efforts must not be forgotten because they are aligned with the PND and with the operational tasks within a peacekeeping mission, and also greatly contribute to military cooperation.

Within such context, the Brazilian participation in HD works that help the totality of the mine action is supported by the international community and by its significance for global security. It is also linked to a bigger responsibility on the part of Brazil, in union with its position in the concert of nations and its aspiration to a bigger role in regional and global leadership.

3.2.3 The Role of Brazil

Brazil adopts “peacekeeping” measures followed by “peace consolidation” measures as a way to prevent the resuming of the conflicts, recover the economy and ensure democratic governability of the host country. The return to normal of the political life, the insertion of demobilized personnel back into civil society, the resettlement of refugees and internally displaced populations, the resuming of production, and national reconciliation are goals that can only be achieved through the generation of job posts, the recovery of the physical infrastructure, the training of police and military forces, the recovery of plowable land, and the reorganization of the State structure (FONTOURA, 2005).

In conformity with this peace-consolidation concern, Brazil has helped host countries through bilateral and multilateral channels. Among many collaboration areas, the Ministry of Foreign Affairs (MRE) has helped in the formation of military and police forces and in demining works (FONTOURA, 2005).

The Country has recently sent officers from the Armed Forces (FA) to Mozambique and to Western Sahara to ensure the quality of demining works. Besides, it has sent instructors to the West African Center for Humanitarian Mine Action (Center for Development of Post-Conflict Demining and Clearance Actions), in Benin, to train Quality Assurance Inspectors for the benefit of Portuguese-speaking countries in Africa (CENTRE..., 2014).

Regarding human resources training for the FA, the main initiative was the transformation in 2010 of the former Peace Operation Training Center (CIOpPaz), a unit of the Brazilian Army implemented in 2005, into a joint unit with the creation of the Brazilian Peace Operations Joint Training Center (CCOPAB), where personnel from the three FA, plus the Military Police and the Fire Brigade work together. This integration has increasingly favored the synergy of efforts of these professionals in multidimensional peacekeeping missions, among which is HD.

These FA actions are, in general, qualification and inspection of HD works, helping to bring a greater credibility to mine actions and more transparency and support to international financing, as well as favoring the training and specialization of Brazilian personnel.

From the stand point of foreign policy, according to Tibúrcio & Moraes (2011), there are signs of a dissociation between the foreign policy and the international military cooperation policy of the Brazilian State, and a lack of coordination between the actions of the Ministry of Foreign Affairs (MRE) and of the Ministry of Defense (MD) in regards to the country’s potential, actions and international projection as to the issue of the ban of landmines. Itamaraty (MRE) apparently gave little importance to the Brazilian participation in the fight against the AP landmine problem, whereas the FAs took part in the solution to the problem in several countries.

The MRE is currently using the Brazilian Cooperation Agency (ABC)³ to broaden the technical cooperation to developing countries with the purpose

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³ The ABC finances technical cooperation projects. Such projects occur as a consequence of demands received from foreign Governments or International Agencies, via Brazilian Embassies or Delegations abroad, the Embassies and Offices of International Agencies in Brasilia, or visits of official foreign missions to Brazil.
of sowing the seeds of capability towards autonomous development and, at the same time, helping Brazil to project itself and achieve the national foreign-affairs goals (PUENTE, 2010).

Apart from these initiatives, the inclusion of HD issues in the agenda of the Community of Portuguese-Speaking Countries (CPLP) and in widening the cooperation related to the South Atlantic Peace and Cooperation Zone (ZOPACAS) might represent a form of extending to African countries the demining actions supported by Brazil.

Despite all the approached aspects, there is no specific body to address HD in the Council of South-American Defense (CDS) environment of the Union of South-American Nations (UNASUR). According to Tibúrcio & Moraes (2011), the issue has not been object of discussion yet in the Council of South-American Defense environment, despite the severity of the problem in Colombia.

Therefore, in spite of the existence of signs of a possible lack of understanding between the MRE and the MD regarding the widening of the Brazilian HD capacity, and the fact that the country has been acting below its potential, Brazil is acting anyway. Considering the gravity of the landmine problem in the strategic surroundings of the country and Brazilian responsibility in this issue, HD may be a significant cooperation instrument for a larger Brazilian pro-activity.

### 3.3 Importance for Brazilian Defense

#### 3.3.1 Development of Military Capability

The strategic attitude adopted by Brazil is defined by the National Defense Policy (PND), the National Defense Strategy (END) and the White Book of National Defense (LBDN), which are legal frameworks that guide the organization and modernization of the Brazilian military instrument, as well as its preparation and use in conformity with the political-strategic stature of the Country. These documents indicate that the country should conduct an active diplomatic policy oriented for peace and development, for the maintenance of friendship and cooperation relationships with the neighboring countries and the international community, based on trust and mutual respect (BRASIL, 2012a, 2012b, 2012c).

Brazil needs armed forces with the dimension of its international ambitions. The Country has to be capable of exercising its leadership and of protecting itself against threats that prowl the South-American sub-continent. This involves a more effective participation in peacekeeping missions, and to use these as an important instrument of international projection; it is mandatory for the military power to support Brazilian international interests which are managed by the foreign policy (ALSINA, 2009a).

Some authors say that the development of the military capability of the Country could provide a broader field of action for foreign policy (ALSINA JÚNIOR, 2009a, 2009b). This view is ratified by Santos (2009) when this author highlights that the FAs could play a prominent role by exchanging experiences, training and joint drills with other countries; by approaching the other South-American States through visits of delegations; by building mutual-trust mechanisms; and even by promoting the sale of equipment and defense material.

Thus, Brazil should be capable of actively participating in HD efforts and mine actions, both of which are operational tasks of peacekeeping missions (BRASIL, 2007).

So, the Brazilian capacity to conduct HD works, especially in its strategic surroundings, contributing to National Defense and aligned with the National Defense Goals, favors regional stability and international peacekeeping and security, intensifies the projection of the country in the concert of nations and its greater credibility, and, consequently, its deeper insertion in international decision-making processes (BRASIL, 2012a, 2012b, 2012c).

In its guidelines the END (BRASIL, 2012a) emphasizes that the training of the FAs for their growing responsibility in international operations in support of the PEB favors the strengthening of the collective security system and make it beneficial to world peace and national defense.

The “Manual de Doutrina Militar Terrestre” (Manual on Ground Military Doctrine) (BRASIL, 2014) lists the new capabilities considered as priority for Ground Forces in the Knowledge Era: terrestrial dissuasion compatible with the country’s status, international projection to support foreign policy, effectiveness of military doctrine, defense products connected to operational capability, among others.

So, greater HD action favors the development of the Brazilian military capability. This will in turn foster personnel and material improvement and reflect on the Doctrine, Organization, Training, Material, Education, Personnel and Infrastructure required for research and innovation on products and technology for national defense.

#### 3.3.2 Relationship Between Humanitarian Demining and Combat Demining

Within the context of a safe and secure environment or of localized security, HD is the best known part and also the most expensive among the various aspects of the effective mine action. HD works

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9 Capability is the readiness required from a force or military organization to fulfill a given mission or task. It can be achieved through a set of seven determining factors that are interrelated and indissociable: Doctrine, Organization (and/or processes), Training, Material, Education, Personnel, and Infrastructure – whose initials in Portuguese form the acronym DOAMEPI. Units need such capabilities in their entirety in order to achieve their utmost level of operational readiness (EB, 2013, p. 3-3).
must be extremely precise and careful as they demand maximum security to mitigate the enormous risk faced during its delivery. HD follows mainly the International Mine Action Standards (IMAS)\(^{10}\) (THE GENEVA..., 2014).

On the other hand, within the context of the war against landmines,\(^{11}\) demining is a combat operation to detect and destroy landmines and enable military operations and whose main objective is to open a path and remove the obstacle for the troops. In this insecure environment, demining works have to be conducted with a maximum speed, differently from HD. In Brazil, FA personnel specialized in demining operations are those of the Marine Corps and the Army Engineering.

Then, what is the relationship between HD and combat demining? To understand that we must understand the current scenario where war and non-war perceptions get confused and problems related to non-conventional combat such as terrorism and civil wars grow in importance. Nowadays conflicts are comprehensive and use different methods and tactics.

Thus, the broad spectrum of demining aims at providing troops with mobility by acting from the removal of AP and AC landmines till clearance of the area from ERW and IED through remote detonation. So, FA troops specialized in demining should be flexible and capable of acting and neutralizing the different methods and tactics depending on the enemy or threat.

The main relationship between HD and combat demining are the methods employed to meet the operational combat requirements which may also mean using the same equipment and material. According to the tactical landmine and booby-trap Army manual, the clearance method in mined areas during humanitarian actions and/or peace operations can be used by combat forces as long as the fields to be cleared are not under combat and the job can be done without running unnecessary risks (BRASIL, 2000).

According to the GICHD (THE GENEVA..., 2014), demining during mine actions can be conducted in three ways: the manual method, the animal detection system and mechanical systems. The manual method makes large use of metal detectors which, despite their limitations, continue to be the most used detection means. In the detection system with animals, the dog is the most commonly used animal due to its attested capacity to work and be trained by man. Rats can also be used to detect specific odors associated to explosives or other mine and ammunition components. Finally, the mechanical system is quite varied. These are machines equipped with cylinders, scarifiers or other instruments to speed up the removal of mines and booby traps. Some can be adapted armored vehicles, others are remotely operated and there are also converted and armored agriculture or construction vehicles used for demining.

New technologies are being researched that use ground penetration radars and the detection of explosive vapor through chemical sensors and insects (experiments with flies and insects). Besides, there are improvements in protective equipment, the use of magnets and the introduction of unmanned aircrafts (THE GENEVA..., 2014).

Moreover, protective and search technologies, besides detection equipment, can be employed by civilians in geological activities of detection and safety, among others. Researches in this sector are important for the development of technologies and products needed to strengthen the Defense Industrial Base (BID) in Brazil, like the use of automation to increase reliability in demining operations (DEBENEST, 2005) and demining robots (FREITAS; OLIVEIRA, 2012).

Therefore, there is a symbiosis between HD and combat demining in several aspects, especially methods and products and equipment, which might characterize their employment as “dual”. Incentives in this area may favor de development of capabilities for defense and national and international security, with positive reflexes in national-domain technologies and in the BID.

4 CONCLUSION

The present research has brought to light several issues involving the Brazilian participation in HD. The conclusions have no intention of going through all the possible perceptions and challenges involving this theme, but of offering a broad and overall idea of the significance of HD as political instrument of cooperation.

There is an evident global landmine problem and it is present in many countries in the strategic surroundings of Brazil, jeopardizing human security and development.

Therefore, Brazil is acting in HD through the participation in some demining programs, confirming the Brazilian tradition and commitment towards world security, as established in Art 4th of CF/88. A larger participation in HD is important to strengthen Brazilian smart power. This way, the increase in multilateral relationships and in cooperation practices helps minimize serious humanitarian implications and demonstrates Brazilian capacity to help and support international security efforts, enhancing the legitimacy of the Country as regards to world peace principles.

Moreover, larger participation in HD will favor the development of military capability and impact several PND-related areas. Besides favoring security issues involving regional stability and collective security, it gives rise to better training of troops through intellectual and technological improvement and exchanges with military

\(^{10}\) The current HD doctrines prepared by the Geneva International Center for Humanitarian Demining (GICHD) for the United Nations Mine Action Service (UNMAS) are published as International Mine Action Standards (IMAS).

\(^{11}\) According to the Battle Manual 5-1 of the Brazilian Army, the planting and crossing of minefields are the elements of mine war. It comprehends not only the use of landmines against the enemy, but also of countermeasures adopted to cope with the use of mines by the enemy. It covers all forms and processes of mine utilization (EB, 1999).
from other national forces. This helps improve the Doctrine, the Organization, the Training, the Material, the Education, the Personnel and the Infrastructure in the Defense environment, and provides the integration of singular structures in joint actions, fostering the synergy of efforts and the improvement of operational efficiency.

The challenge of enhanced participation in HD consists of assessing Brazilian maturity in face of this issue and the desirable degree of commitment for Brazil. In order to assume an attitude compatible with the status the Country wishes to have in the international scenario, as well as the wish to become a UN member with a significant political and economical weight regionally, Brazil should take on growing responsibilities regarding the assurance of peace (responsibility to protect), especially in the American continent.

Although there are no signs that the mine issue has not been the object of discussion in the CDS environment, even with the severity of the problem in Colombia, the inclusion of the theme in the CPLP agenda and the broadening of the cooperation related to ZOPACAS might represent a way of extending to African countries demining actions supported by Brazil.

Another challenge to widen the development of HD capacity in Brazil is the need for public-private origin investments. The END is structured in the incentive to develop national-domain technologies and the National Defense Industry to meet the demand of equipment for the FA. That is the reason why investments must be increased, especially in Research and Development programs (R&D) in various technological areas to find new methods and improve efficiency in demining equipment and materials, besides allowing a greater involvement between civilian and military research centers addressing this theme.

The “dual” employment of defense products used for HD encourages technological development and research for various objectives. The BID could follow this trend also and favor the FA and national development, besides projecting a policy of immense international visibility.

Thus, HD is a political instrument of cooperation that is compatible with the PEB and the PND, besides helping maintain regional stability and favoring the advances towards the integration of South America and its strategic surroundings. This international cooperation might involve not be just the political and cultural aspect, but could be shaped to encourage commercial and investment exchanges.

Therefore, HD is of major strategic-political significance for Brazil and may be a key element to support integration processes developed in the American continent and its surroundings by promoting dialog, trust and military cooperation for mutual defense.

So, the present paper does not have the objective of going through all the possible aspects involving this subject, but rather of stimulating debate due to the various factors the theme covers.

Finally, one suggests new studies and research on the subject and the search of a national policy based on an interagency strategy with creative and efficient partnerships with government agencies, private organizations and non-government organizations to favor effective mine action in areas of strategic interest for Brazil.

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