**Misión Permanente del Ecuador**
**ante la ONU y otros Organismos Internacionales**
**Ginebra - Suiza**

Note No. 4-3-31 /2017

Your Excellency,

I have the honour to transmit to you, to the other distinguished members of the Article 5 Committee and to the Implementation Support Unit (ISU), the Verbal Note No. MREMH-DRVS-CENDESMI-2017-0013, dated 29 March 2017, and its annexes, by which Ambassador Efrain Baus Palacios, Executive Director of the Ecuadorian National Demining Centre, requests formally an extension of the humanitarian demining period to complete mine clearance obligation and destruction of all anti-personnel mines in Ecuadorian territory starting 1 January 2018 until 31 December 2022.

I would like to reiterate Ecuador's commitment to the purposes and goals of the convention and that my country will make all efforts to be free of anti-personnel mines by the requested extension deadline.

I avail myself of this opportunity to thank you and other members of the Committee for the favourable consideration of our request and to renew the assurances of my highest consideration.

Geneva, 30 March 2017

Misión Permanente del Ecuador ante la ONU
Ginebra

Arturo Cabrera Hidalgo
Deputy Permanent Representative
Chargé d'Affaires a.i.

To Her Excellency
Encycla Tina Chishiba Sinjela
Chair of the Article 5 Committee of the Anti-Personnel Mine Ban Convention
Geneva.-

15 Chemin Louis-Dunant – 1202 Ginebra, Suiza Tel (41) 022 732 49 55 Email: onuginebra@mmrree.gob.ec

Note Nro. MREMH-DRVS-CENDESMI-2017-0013

The National Center for Demining in Ecuador, CENDESMI, presents its compliments to the Committee for the Implementation of Article 5 of the Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on Their Destruction (Ottawa Convention), on the occasion of transmitting the request for an extension of the humanitarian demining period to complete the process of destruction of anti-personnel mines for the period from October 2017 to 31 December 2022.

In this regard, I would like to inform you that the Government of Ecuador has liberated from the beginning of the operations from 2000 until December 2016 a total of 132 dangerous areas, clearing 498,508.38m2, destroying 11,431 antipersonnel mines, 74 anti-tank mines and 26 UXO (unexploded ordnances).

During the XV Meeting of States Parties to the Antipersonnel Mine Convention, held in Chile in December 2016, the Ecuadorian delegation informed that on the land border between Ecuador and Peru and on the km2 in Tiwintza a total of 5 dangerous areas, 100,496 M2 and 3,893 antipersonnel mines are pending to be cleared. During this Meeting, Ecuador also ratified its commitment to world peace, disarmament and international humanitarian law; as well as with the achievement of the objectives of the Convention on Antipersonnel Mines.

The bilateral relationship between the two countries on the humanitarian demining is based on a high level of mutual trust, integration and cooperation achieved, demonstrating one of the most effective tools for carrying out operations.

In March 2016, Ecuador remained committed to completing the work until 2017. The planning was proceeding according to schedule, but on April 16 there was an earthquake of 7.8 degrees on the scale of Richter, which affected the entire Ecuadorian territory, particularly the provinces of Esmeraldas and Manabí, which forced the Armed Forces of Ecuador with all its units and brigades, the Army Corps of Engineers and the Commando of demining, to respond to the call for national mobilization and to suspend the planning and execution of humanitarian demining operations.

In the light of the new circumstances, the Ecuadorian National Demining Center (CENDESMI) is obliged to request an extension of the period from December 2017 to 31 December 2022, based on documents drawn up by the relevant National Institutions which are Annexed hereto.

I. Executive Summary
II. Request by Ecuador for the renewal of the extension
III. Attachments

The Ecuadorian National Demining Center, CENDESMI, asks you, Madam Chairperson, to consider favorably the request for an extension of the humanitarian demining period for Ecuador for approval in the framework of the XVI Meeting of States Parties to the Antipersonnel Mine Convention to be celebrated in Vienna, Austria in December 2017.

Quito, D.M. 29 March 2017

Efrain Baus Palacios
Ambassador
Director of Neighborhood and Sovereignty Relations
Executive Director of the Ecuadorian National Demining Center
(CENDESMI)

To Her Excellency Ambassador
**Encycla Tina Chishiba Sinjela**
**Chair**
**Committee on the Implementation of Article 5 of the Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Antipersonnel Mines and on Their Destruction**
Geneva.-

Nota Nro. MREMH-DRVS- CENDESMI- 2017-0013

El Centro Nacional de Desminado del Ecuador, CENDESMI, saluda muy atentamente al Comité de Implementación del Artículo 5 de la Convención sobre la Prohibición del Empleo, Almacenamiento, Producción y Transferencia de Minas Antipersonal y sobre su Destrucción (Convención de Ottawa), con ocasión de hacer llegar el documento de solicitud de extensión del plazo de desminado humanitario para completar el proceso de destrucción de las minas antipersonal en el período comprendido entre octubre de 2017 hasta el 31 de diciembre de 2022.

Sobre el particular, hago de su conocimiento que el Gobierno del Ecuador ha liberado desde el inicio de operaciones desde el año 2000 hasta diciembre de 2016 un total de 132 áreas peligrosas, despejado 498.508,38 m², destruido 11.431 minas antipersonal, 74 minas antitanque y 26 UXO's. (munición sin explotar).

En la XV Reunión de Estados Parte de la Convención de Minas Antipersonal, efectuada en Chile en diciembre de 2016, la delegación ecuatoriana informó que se encuentran pendientes por desminar en la frontera terrestre común Ecuador – Perú y en el Km² de Tiwinza un total de 5 áreas peligrosas, 100.496m² y 3.893 minas antipersonal. Asimismo en la referida Reunión, el Ecuador ratificó su compromiso con la paz mundial, el desarme y el derecho internacional humanitario; así como, con el cumplimiento de los objetivos de la Convención de Minas Antipersonal.

La relación bilateral entre los dos países en temas de desminado humanitario se basa en el alto nivel de confianza mutua, integración y cooperación alcanzado, demostrando ser una de las más eficaces herramientas para la realización de operaciones.

A la Excelentísima Embajadora
**Encyla Tina Chishiba Sinjela**
**Presidenta**
**Comité de Implementación del artículo 5 de la Convención sobre la Prohibición del Empleo, Almacenamiento, Producción y Transferencia de Minas Antipersonal y sobre su Destrucción**
Ginebra.-

En marzo de 2016, el Ecuador mantenía su compromiso de terminar los trabajos hasta el año 2017. La planificación se estaba desarrollando conforme a lo planificado pero el 16 de abril se produjo un terremoto de 7.8 grados en la escala de Richter que afectó a todo el territorio ecuatoriano y en particular a las provincias de Esmeraldas y Manabí, lo cual obligó a las Fuerzas Armadas del Ecuador, con todas sus unidades y brigadas, incluyendo el Cuerpo de Ingenieros del Ejército y el Comando de Desminado a atender la declaratoria de movilización nacional y suspender la planificación y ejecución de las operaciones de desminado humanitario.

Ante las nuevas circunstancias, el Centro Nacional de Desminado del Ecuador, (CENDESMI) se ve obligado a solicitar la prórroga del plazo comprendido entre diciembre de 2017 hasta el 31 de diciembre de 2022, fundamentado en los documentos elaborados por las Instituciones Nacionales que lo conforman y que se anexan a la presente:

I. Resumen Ejecutivo.
II. Solicitud del Ecuador para la renovación de la prórroga.
III. Anexos

El Centro Nacional de Desminado del Ecuador, CENDESMI, exhorta a usted, señora Presidenta, a considerar favorablemente la solicitud de prórroga del plazo de desminado humanitario del Ecuador a fin de que sea aprobada en el marco de la XVI Reunión de Estados Parte de la Convención sobre Minas Antipersonal a celebrase en Viena, Austria en diciembre de 2017.

Quito, D.M., 29 de marzo de 2017

MINISTERIO DE RELACIONES EXTERIORES, COMERCIO E INTEGRACIÓN
CENTRO NACIONAL DE DESMINADO HUMANITARIO DEL ECUADOR
PRESIDENCIA

Efráin Baus Palacios
**Embajador**
**Director de Relaciones Vecinales y Soberanía**
**Director Ejecutivo del Centro Nacional de Desminado del Ecuador**
**(CENDESMI)**

# CENTRO NACIONAL DE DESMINADO DEL ECUADOR

CENDESMI

Request for renewal of extension of the deadline to complete the destruction of antipersonnel mines in mined areas in accordance with Article 5, paragraphs 3 and 6 of the Convention on the Prohibition of the Use, Stockpiling, Production, and Transfer of Antipersonnel Mines and on their Destruction

March 2017

**Request for renewal of extension of the deadline to complete the destruction of antipersonnel mines in mined areas in accordance with Article 5, paragraphs 3 and 6 of the Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Antipersonnel Mines and on their Destruction**

**Submitted to Her Excellency Ambassador Encyla Tina Chishiba Sinjela Chair of the Committee of Implementation of Article 5 of the Convention on Antipersonnel Mines**

**March 2017**

Contact Information
Ambassador Efrain Baus
Executive Director of the National Demining Center of Ecuador
CENDESMI
ebaus@cancilleria.gob.ec
(593 2) 299 3200 • Ext. 11882

**Content**

## I. EXECUTIVE SUMMARY

After the signing of the Peace Agreements of Brasilia, on October 28, 1998, which put an end to a bicentennial territorial dispute between Ecuador and Peru, the process of humanitarian demining in the border areas with Peru began.

Ecuador subscribed the Ottawa Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on their Destruction, on December 4, 1997, ratified it on April 29, 1999, and put it in force on October 1, 1999.

It is worth noticing that since 2000, Ecuador promotes and maintains the process of humanitarian demining, demonstrating the seriousness and responsibility with which the country has assumed its international commitments in this matter.

However, due to the limitations of financial and technical resources, as well as to the physical characteristics of the land and to the weather conditions existing in the clearing areas, Ecuador was unable to complete the process of total eradication of antipersonnel mines in its territory until September 30, 2009, the deadline set forth in the Convention.

For said reasons and in use of the faculty foreseen on Article 5 of the Ottawa Convention on the “Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on their Destruction”, Ecuador requested the States Parties to the Convention to grant the Republic of Ecuador an extension of eight (8) years, for the culmination of the work of eradication of antipersonnel mines, existent on the border areas with Peru, which had to be finalized by October, 2017.

After the request for an extension granted to Ecuador, during the process of humanitarian demining there were different factors that affected its fulfillment such as: an increase of 73 confirmed hazardous areas, due to complaints received by the border population of El Oro and Loja, exchange of information on confirmed hazardous areas delivered by Peru, results of the Impact Studies in the provinces of Morona Santiago and Zamora Chinchipe, and the fact that on 2010, 2011, and 2012, the Ecuador - Peru Permanent Mixed Commission for Border (COMPEFEP), requested the verification of 18 areas with the humanitarian demining technique, for the placing of the border points with Peru and establish the definitive boundary demarcation line.

From 2000 to 2016, Ecuador has been able to release 167 confirmed hazardous areas with a total of 498.508,38 square meters, with the destruction of 11.431 antipersonnel mines, 74 anti- tank mines and 26 UXO's.

After the request for an extension in the period between 2008 and 2016, the release of a total area of 379.642,99 square meters, the destruction of 6.810 antipersonnel mines, 9 antipersonnel mines, and 16 UXO's was accomplished.

Also, according to the records, 4.125 antipersonnel mines in an area of 132.976,00 square meters in the Province of Zamora Chinchipe and the square Kilometer of Tiwintza, are pending of destruction.

It is worth mentioning that on April 16, 2016 the whole Ecuadorian territory was devastated by an earthquake of 7.8 degrees in the Richter scale, affecting particularly the provinces of Esmeraldas and Manabí, this situation caused the declaration of national emergency and mobilization, which interrupted the development of the humanitarian demining operations in Ecuador during 2016. This tragedy left 673 people deceased, 6.274 wounded, 9 missing, 28.775 displaced, 1.887 houses affected, and until this moment the aftershocks continue, amounting to 3.318 by February, 2017.

During the 15th Meeting of the States Parties to the Anti-Personnel Mine Ban Convention, held on Santiago de Chile from November 28 to December 02, 2016, Ecuador made a declaration pointing out that, due to numerous factors and specially the unforeseen circumstances on 2016 (7.8 earthquake), it would have to present a request for an extension on the term for the fulfillment of Article 5, because of these reasons, the States Parties granted Ecuador an extension until December 31, 2017, term in which Ecuador should present the new request for extension.

The 7.8 earthquake, along with the complex characteristics of the jungle like terrain and the unfavorable weather conditions in the clearing areas, make it impossible for Ecuador to finalize the process of total eradication of antipersonnel mines on its territory until October, 2017, the foreseen term. Based on the faculty established on Article 5 of the Ottawa Convention on the "Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on their Destruction", Ecuador kindly requests the States Parties to the Convention to grant the Republic of Ecuador, a five (5) year extension, for the fulfillment of the work of eradication of antipersonnel mines, existent in the border areas with Peru.

Since the second semester of 2009, the Ecuadorian State assumed the responsibility of providing the necessary support to execute the humanitarian demining operations, therefore: the Command General for Demining and EOD

(CGDEOD), makes an assessment of the process and a readjustment and makes it formal by presenting a Project called “Release of lands polluted by landmines known until the moment in the terrestrial common border Ecuador-Peru” to the National Secretary of Planning and Development (SENPLADES), with a budget of 20.937.735,36 USD for the (investment) Project " RELEASE OF LANDS POLLUTED BY LANDMINES KNOWN UNTIL THE MOMENT IN THE TERRESTRIAL COMMON BORDER ECUADOR- PERU”.

**Origin of the challenge**

By 2008, there were seventy four (74) hazardous areas pending to release, which are a consequence of the undeclared armed conflict of 1995 with Peru, in which both countries planted antipersonnel mines along their common land border. This area corresponds to 498.632,89 $m^2$ with 5.923 antipersonnel mines and 30 anti- tanks mines foreseen; this situation added to the complex characteristics of the jungle terrain and unfavorable weather conditions in the clearance areas, made it impossible for Ecuador to finalize the process of total eradication of antipersonnel mines in its territory, until September 30, 2009, the deadline set forth in the Convention.

After the request for extension, there was an increase of ninety one (91) mined areas, due to complaints received and the results of the Impact Studies in the provinces of Morona Santiago and Zamora Chinchipe, correspondent to 244.599,50 $m^2$ and 6.765 antipersonnel mines foreseen.

During 2010, 2011, and 2012, the Ecuador - Peru Permanent Mixed Commission for Border (COMPEFEP), requested the humanitarian demining of 18 border points with Peru to establish the boundary demarcation line.

On 2013, Peru delivered a hazardous area in the Province of Zamora Chinchipe, correspondent to 68.000,00 $m^2$ and 400 antipersonnel mines, a situation that increases planning.

On April 16, 2016, the whole Ecuadorian territory was devastated by an earthquake of 7.8 degrees in the Richter scale, affecting particularly the provinces of Esmeraldas and Manabí, this situation caused the declaration of national emergency and mobilization, which interrupted the development of the humanitarian demining operations in Ecuador during 2016. This tragedy left 673 people deceased, 6.274 wounded, 9 missing, 28.775 displaced, 1.887 houses affected, and until this moment the aftershocks continue, amounting to 3.318 by February, 2017.

**Progresses to date**

To sum up, Ecuador has achieved to release since the beginning of the operations on 2000 until December, 2016; 167 hazardous areas through the clearing of 498.508,38 $m^2$; the destruction of 11.431 antipersonnel mines; 74 anti- tank mines, and 26 UXO's.

Following the request for extension in 2008, the progress of demining operations constitutes 379.642, 99$m^2$ released and 6.810 antipersonnel mines destroyed; these results include the areas increased after the request.

Humanitarian demining was performed in 18 demarcation points with Peru to establish the boundary line; with a released area of 34.683,00 $m^2$ and the destruction of 610 antipersonnel mines.

Among the confidence building measures between Ecuador and Peru, humanitarian demining has demonstrated to be one of the most efficient, being the exchange of information of mined zones an important tool for the planning of its operations. Therefore during 2010 and 2011, after the Binational Cabinets in Loja (Ecuador) and Chiclayo (Peru), through presidential mandate the two countries decided to disclose the total amount of existent hazardous areas, thus deciding to deliver the hazardous areas outside their territories.

By 2017 is expected to release an area of approximately 32,480.00 m2 and destroy 232 antipersonnel mines corresponding to the province of Zamora Chinchipe without taking into account the area to be cleared in the Km2 of Tiwintza because it is done depending on the Binational planning between Ecuador and Peru; the area planned for this year is not included in the request for extension that is intended to be achieved.

**Areas pending to demine at the common land border between Ecuador and Peru and Km2 of Tiwintza (since 2018)**

| | |
|---|---|
| - Total number of hazardous areas: | 5 areas |
| - Total amount of mined area: | 100,496.00 $m^2$ |
| - Total number of mines planted: | 3,893 AP mines |

The total amount of hazardous areas, mined area and mines planted includes the area and mines of Km2 of Tiwintza.

**Current challenges**

The hazardous areas to be demined since 2018, are found in the Amazon jungle of the Province of Zamora Chinchipe and Km2 of Tiwintza; in these areas, there is an extensive and dense vegetation with cliffs and ravines of difficult access, where it is possible to reach heights of up to 2400 meters above sea level being the only route of entry, aerial. Climate conditions are also another factor limiting compliance with planned operations; the weather is varied, with temperatures oscillating between 12 ° C and 35 ° C, with permanent humidity and precipitation in almost the entire year. Due to the experience gained, only 45% of planned operations can be met because of this factor.

In the conditions explained in the previous paragraph, demining staff must travel long distances from the base camp, in a safe area, to the work zones where the mined areas are located, using pikes and with an average of two hours a day.

Due to the factors mentioned above, access to contaminated areas is done exclusively by air, which increases cost and significantly hampers operations.

According to the planning for the humanitarian demining operations of 2015, in the Province of Zamora Chinchipe the Non-Technical Studies of the hazardous areas were carried out, with the help of the information of the military units of the border zone, identifying 26 new objectives to demine with an area of 7,521.00 $m^2$, the same ones that have the respective records but not the coordinates and reference points, so that in 2016 these areas were increased.

In compliance with the agreements between Ecuador and Peru, regarding the exchange of information from areas outside the territory; Ecuador carried out the delivery during 2012 and 2013 of 128 hazardous areas, of which, according to the Minutes of Meeting No. XIII of National Action Authorities against Antipersonnel Mines of Ecuador and Peru subscribed on October 13 and 14, 2015, it was agreed that after the prioritization for the physical delivery of hazardous areas presented by Peru, Ecuador will deliver the 26 reference points located around the Km2 of Tiwintza; an aspect that has not yet been fulfilled.

On the other hand, within the planning of the operations of humanitarian demining it has been contemplated to carry out the Quality Control of all the cleared areas to complete the process of humanitarian demining prior to the delivery of land, aspect that has not yet been executed.

Finally, it is a real challenge to perform humanitarian demining operations because of the geographic characteristics, weather conditions and accessibility to the hazardous areas described above.

**Planning**

Ecuador deems necessary to submit its request for renewal to the international community, pursuant to Article 5 of the Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on their Destruction, in order to conclude humanitarian demining on the common terrestrial border with Peru, with a deadline of December 31, 2022, according to the implementation of the National Humanitarian Demining Plan 2018-2022. **(Annex 1)**

**Land Delivery Process**

It is necessary to consider the process of Land Delivery of the entire area released since 2000 by the National Demining Authorities of Ecuador to the local authorities in the mine-affected areas, for their inclusion in the development and productivity of the country, for which a verification and maintenance of the freed areas must be carried out, which implies the increase of human, financial and logistical resources.

**Concrete measures to destroy the totality of mines planted**

**Studies that will be carried out to determine current location, size and other characteristic of the mined areas.**

In order to determine the current location of the hazardous areas and their magnitude in the border area, the Non-Technical Studies and the corresponding Technical Studies will be carried out, with the support of qualified and trained personnel for this type of operations, using the records of the mined areas that the country has; in addition, using equipment with modern technology to carry out the reconnaissance of the mined areas, prior to the beginning of operations.

**Amount of area to be released during the extension period (monthly or annually)**

The amount of land estimated to be mine-free in the extension request is 100,496.00 $m^2$, in the period between January 1, 2018 and December 31, 2022, according to the Humanitarian Demining Program 2018-2022. **(Annex 2)**

Concerning the execution of the humanitarian demining operations of the Km2 of Tiwintza, these will be carried out according to the planning and coordination between Ecuador and Peru.

**Methods that will be used to release this land**

For the release of areas contaminated with antipersonnel mines, the following techniques will be used: Manual demining called "One man per path", Mechanical Demining using the MV-4 Robot, and the use of mine detector dogs, based on the procedures established in the Manual of Binational Humanitarian Demining Procedures Ecuador - Peru and the Manual of Humanitarian Demining Procedures of Ecuador.

**Disaggregated budget per year**

**(Annex 3)**

**Potential risk factors that may affect the fulfillment of the plan during the established period**

- Natural disasters such as the earthquake of April 16, 2016, thus Ecuador is located in a high-risk seismic zone.
- Weather conditions in the jungle environment.
- Existence of a greater number of Hazardous Areas during the demining process.

**Institutions/ structures and changes to the existent ones to implement the plan effectively**

For the implementation and improvement of the commitments assumed during the extension period, the Ecuadorian State will take the following actions:

- Acquisition of new material and equipment for humanitarian demining operations.
- Training and increase of new demining staff.

**II. Request of Ecuador**

**1. Challenge foreseen on 2008 (1st Extension)**

By 2009, there were seventy four (74) hazardous areas pending in Ecuador as a result of the undeclared armed conflict of1995 with Peru, in which both countries planted antipersonnel mines along their common terrestrial border, as it is shown in Table N ° 1:

| Province | Confirmed Hazardous Areas | Total area | Number of mines | |
|---|---|---|---|---|
| | | ($m^2$) | AP | AT |
| Loja | 8 | 31.156,04 | 605 | 30 |
| El Oro | 1 | 12.000,00 | | |
| Morona Santiago | 54 | 302.257,85 | 2.771 | |
| Zamora Chinchipe | 1 | 143.219,00 | 2.518 | |
| Pastaza | 10 | 10.000,00 | 29 | |
| **Total** | **74** | **498.632,89** | **5.923** | **30** |

**Table No. 1**: Mined areas in the border zone with Peru

After the request for extension, there was an increase of 73 confirmed hazardous areas, based on complaints received from the border population of El Oro and Loja, exchange of information on confirmed hazardous areas delivered by Peru, and the results of Impact Studies in the provinces of Morona Santiago and Zamora Chinchipe. Situation that is shown on the next table:

**Table No. 2:** Increase of the confirmed hazardous areas after the request for extension of 2008

| Province | Amount of increased confirmed hazardous areas | Increased area on $m^2$ | Increased AP mines | Remarks |
|---|---|---|---|---|
| Loja | 2 | 1.485,00 | 2 | Based on complaints from the population |
| El Oro | 7 | 44.895,50 | 15 | Based on complaints from the population |
| Morona Santiago | 58 | 54.300,00 | 4.799 | Result of the impact study 49; received from Peru 9 |
| Zamora Chinchipe | 6 | 143.919,00 | 1.949 | Result of the impact study 1; received from Peru 5 |
| **TOTAL** | **73** | **244.599,50** | **6.765** | |

Also, on 2010, 2011 and 2012, the Ecuador - Peru Permanent Mixed Commission for Border (COMPEFEP), requests the humanitarian demining of hazardous areas located in 18 border points with Peru to establish the demarcation boundary line, as it is shown in the next table:

| Province | Amount of verification areas (border points) | Increased area on $m^2$ | Increased AP mines | Remarks |
|---|---|---|---|---|
| Morona Santiago | 8 | 11.724,00 | 610 | This operation was not foreseen in the request for extension of 2008; this required the use of staff, material, and equipment, which reduced the progress in the confirmed hazardous areas pending. |
| Zamora Chinchipe | 6 | 19.020,00 | | |
| Pastaza | 4 | 3.939,00 | | |
| **TOTAL** | **18** | **34.683,00** | **610** | |

**Table No. 3**: Detail of the verification areas after the request for extension of 2008

After the request for extension of 2008, there was an increase of 91 areas; 73 confirmed hazardous and 18 verification with a total of 279.282,50 $m^2$ and 7.375 antipersonnel mines, which are detailed on table No. 2 and 3.

The process of eradication of antipersonnel mines planted in the common terrestrial border between Ecuador and Peru, was basically based on the attitude that both countries demonstrated by sharing information on their hazardous areas, which allowed to improve the planning of humanitarian demining operations. Precisely because of that, the exchange of information on the existence of hazardous areas has proven to be an effective tool to improve confidence building between the two countries.

As a result of this exchange of information, the following is a detailed historical summary of the confirmed hazardous areas in Ecuadorian territory from 2010 to 2016:

| N/O | DETAIL OF INFORMATION | AMOUNT OF AREAS | YEAR | AMOUNT OF HAZARDOUS AREA $m^2$ | ID OF MINED AREAS |
|---|---|---|---|---|---|
| 1 | RECEIVED FROM PERU | 13 | 2010 | 91.994,00 | PV_SANCHEZ RACHO_05, PV_PERINGOS_01, PV_BARRERA_01, PV_GUTIERREZ_25, POINT MARK_ACHUIME-NUMBATKAIME_05, PV_LLAVE_04, BORDER POINT_20_NOVEMBER_05, PV_ESCUDERO_03, PV_TAMBO_03, PV_CAHUIDE_04, PV_HUAYNA_CAPAC_06, PV_PORTERO_08 y PV2_07 |
| 2 | SHARED HAZARDOUS AREA | 1 | 2010 | 3.647,00 | CAHUIDE-PE |
| 3 | DELIVERED TO PERU | 12 | 2010 | 11.800,00 | CG-31, (CG-54, CG-56), CG-23, CG-24, CG-28-2, CG-28-3, CG-82, CG-89, CG-29-3, CG-90, CG-91, CG-92 |
| 4 | RECEIVED FROM PERU | 1 | 2013 | 68.000,00 | PV-LA MEDIA |
| 5 | DELIVERED TO PERU | 128 | 2012-2013 | 402.254,00 | 48 TECHNICAL CHARTS NOV. 2012; 26 TECHNICAL CHARTS SEP. 2013 Y 54 TECHNICAL CHARTS DEC. 2013. |
| 6 | DELIVERED TO PERU | 10 | 2015 | 43.500,00 | COMMON AREAS ON KM2 OF TIWINTZA WORK DONE BY THE BINATIONAL DEMINING UNIT |
| 7 | RECEIVED FROM PERU | 1 | 2015 | 3.267,00 | PV-PORTERO_08 |

**Table No. 4:** Historical detail of the Exchange of Information on confirmed hazardous areas with Peru

From 2008 to 2016 fifteen (15) meetings of National Authorities on Humanitarian Demining have been held, with CENDESMI acting on behalf of Ecuador and CONTRAMINAS on behalf of Peru, public level organizations that have allowed and facilitated the exchange of information.

In compliance with the agreements between Ecuador and Peru, regarding the exchange of information on areas outside their territory; Ecuador delivered information during 2012 and 2013 concerning 128 hazardous areas, which according to the Minutes of Meeting No. XIII of National Action Authorities against Antipersonnel Mines of Ecuador and Peru subscribed on October 13 and 14, 2015, it was agreed that after the prioritization for the physical delivery of hazardous areas presented by Peru, Ecuador will deliver the 26 reference points located around the Km2 of Tiwintza; an aspect that has not yet been fulfilled.

A detail of the confirmed hazardous areas delivered from Ecuador to Peru during 2010 and 2014 can be found bellow, these areas are not registered in the request for extension made by Ecuador.

| **Ord.** | **ID Confirmed hazardous area** | **Confirmed hazardous area in ($m^2$)** | **Amount of AP mines** | **Type** | **REMARKS** |
|---|---|---|---|---|---|
| 1 | PV_SANCHEZ RACHO_05 | 7.879,00 | 556 | P4A-1 | On February 29, 2012, in the framework of the Presidential Meeting Ecuador-Peru, Ecuador received information on 13 mined areas that were in Ecuadorian |
| 2 | PV_PERINGOS_01 | 7.009,00 | 1.280 | M-35 | |
| 3 | PV_BARRERA_01 | 9.457,00 | 2.000 | P4A-1 | |
| 4 | PV_GUTIERREZ_25 | 10.182,00 | 2.000 | P4A-1 | |
| 5 | BORDER POINT_ACHUIME-NUMBATKAIME_05 | 2.732,00 | 300 | PMD 6 | |
| 6 | PV_LLAVE_04 | 7.333,00 | 338 | PMD 6 | |
| 7 | BORDER POINT_20_NOVEMBER_05 | 11.140,00 | 1.000 | P4A-1 | |
| 8 | PV_ESCUDERO_03 | 12.004,00 | 1.980 | P4A-1 - M35 | |

| | | | | | |
|---|---|---|---|---|---|
| 9 | PV_TAMBO_03 | 5.930,00 | 500 | - | territory |
| 10 | PV_CAHUIDE_04 | 5.579,00 | 600 | P4A-1 | |
| 11 | PV_HUAYNA_CAPAC_06 | 3.267,00 | 115 | P4A-1 | |
| 12 | PV_PORTERO_08 | 3.267,00 | 330 | P4A-1 | |
| 13 | PV2_07 | 6.215,00 | 240 | M35 | |
| 14 | PV_LA MEDIA | 68.000,00 | 400 | P4A-1 | Through note RE (DGM-DSD)N. 6-12/3 ; dated January 14, 2014, Peru delivered one confirmed hazardous area |
| **TOTAL** | | **159.994,00** | **11.639** | | |

**Table No. 5:** Detail of hazardous areas received from Peru, after the request for extension of 2008.

Once the physical location of border points was completed and the international political boundary of the zone that was the cause of the armed conflict between Ecuador and Peru in 2012 was defined; Ecuador evaluated its hazardous areas and between November 2012 and December 2013, it delivered 128 technical files of hazardous areas that were in Peruvian territory, according to the following detail:

| **Ord.** | **Description** | **Hazardous area ($m^2$)** | **Amount of AP mines** | **Remarks** |
|---|---|---|---|---|
| **1** | Delivery of 09 Technical Files on hazardous areas | 9.750,00 | 734 | July 2010 |
| 2 | Delivery of 48 Technical Files on hazardous areas | 77.059,00 | 3.044 | November 23, 2012 |
| **3** | Delivery of 26 Technical Files on hazardous areas | 122.880,00 | 1.202 | November 23, 2013 |
| 4 | Delivery of | 202.315,00 | 1.836 | November 23, 2013 |

| | | | | |
|---|---|---|---|---|
| | 54Technical Files on hazardous areas | | | |
| 5 | 10 Technical Files on hazardous areas | 43.500,00 | 881 | On March, 2015, Ecuador shared information on hazardous areas of the Km2 of Tiwintza to be released with the Binational Demining Unit Ecuador- Peru |
| | **Total** | **455.504,00** | **7.697** | |

**Table No. 6:** Detail of hazardous areas delivered to Peru, after the request for extension of 2008.

Carrying out the procedures established in the International Mine Action Standards (IMAS), Ecuador has the following areas yet to release:

| **Province** | **Number of areas where the presence of antipersonnel mines has been confirmed** | **Number of areas where the presence of antipersonnel mines is suspected** | **Total number of areas where the presence of antipersonnel mines has been suspected or confirmed** | **Total area where the presence of antipersonnel mines has been confirmed (square meters)** | **Total area where the presence of antipersonnel mines has been suspected (square meters)** | **Tota whe pres anti min bee sus con** |
|---|---|---|---|---|---|---|
| Zamora Chinchipe | 33 | 26 | 59 | 57.485,00 | 7.521,00 | 65.0 |
| Km2 de Tiwintza | 5 | | 5 | 35.490,00 | | 35.4 |
| **Total** | | | **64** | **92.975,00** | **7.521,00** | **100** |

**Table No. 7:** Detail of confirmed or suspected hazardous areas to be released.

**Note:** In 2016 there was an increase of 26 hazardous areas with objectives that do not have reference points with coordinates, which will increase the time and risk for their localization. The objective area corresponds to 7.521,00 $m^2$.

## 2. Progresses achieved

Ecuador has carried out the humanitarian demining process to comply with Article 5 of the Ottawa Treaty, achieving from 2008 to 2016, the destruction of 6,810 antipersonnel mines and the release of 379,642.99 $m^2$ in the national territory.

In the Ecuador - Peru common terrestrial border, in the period between 2008 and 2016, the process of humanitarian demining took place in the provinces of El Oro, Loja, Morona Santiago, Pastaza, Zamora Chinchipe and the Km2 of Tiwintza, which were a part of the challenge pending by 2008, according to the following detail:

| Province | Cancelled area (square meters) | Reduced area (square meters) | Cleared area (square meters) | Total released area (square meters) | Number of antipersonnel mines destroyed | Number of anti-tank mines destroyed | Number of explosive remnants of war destroyed | Number of released areas |
|---|---|---|---|---|---|---|---|---|
| Loja | 20.772,54 | | 13.323,50 | 34.096,04 | | 2 | | 9 |
| El Oro | 42.000,00 | | 14.895,50 | 56.895,50 | 8 | 7 | | 8 |
| Morona Santiago | 51.921,50 | | 146.975,95 | 198.897,45 | 5.814 | | 16 | 81 |
| Zamora Chinchipe | 15.267,00 | | 43.417,00 | 58.684,00 | 976 | | | 7 |
| Pastaza | | | 31.070,00 | 31.070,00 | 12 | | | 10 |
| **Total** | **129.961,04** | **0** | **249.681,95** | **379.642,99** | **6.810** | **9** | **16** | **115** |

**Table No. 8:** Detail of progresses achieved per province, after the request for extension of 2008

| Year | Number of released areas | Cleared areas $m^2$ | Cancelled areas $m^2$ | Released area $m^2$ | Amount of AP Mines destroyed | Amount of AT Mines destroyed | Amount of ERW's |
|---|---|---|---|---|---|---|---|
| 2008 | 5 | 6.215,25 | | **6.215,25** | 176 | 4 | |
| 2009 | 10 | 8.191,38 | | **8.191,38** | 85 | 3 | |
| 2010 | 32 | 33.438,72 | 9.500,00 | **42.938,72** | 5 | 2 | |
| 2011 | 27 | 60.110,30 | 6.166,54 | **66.276,84** | 29 | | |
| 2012 | 23 | 21.910,80 | 47.106,00 | **69.016,80** | 813 | | 5 |
| 2013 | 3 | 12.331,00 | | **12.331,00** | 183 | | |
| 2014 | 7 | 39.660,50 | 47.744,50 | **87.405,00** | 4.181 | | 9 |
| 2015 | 7 | 66.414,00 | 16.177,00 | **82.591,00** | 773 | | 2 |
| 2016 | 1 | 1.410,00 | 3.267,00 | **4.677,00** | 565 | | 2 |
| **General Total** | **115** | **249.681,95** | **129.961,04** | **379.642,99** | **6.810** | **9** | **18** |

**Table No. 9:** Detail of progresses achieved per year, after the request for extension of 2008

## 3. Methods and standards used to release land confirmed or suspicious of containing antipersonnel mines.

The humanitarian demining process in Ecuador is carried out in accordance with the Binational Manual of Humanitarian Demining Procedures of Ecuador - Peru and the Manual of Humanitarian Demining Procedures of Ecuador, based on the International Standards of Action against Antipersonnel Mines (International Mine Action Standards- IMAS), which were adequate to the Ecuadorian reality.

Mined and suspicious areas are subject to a number of studies, including non-technical, technical, clearing, and quality control activities.

**a) Studies**

According to the Binational Manual of Humanitarian Demining Procedures of Ecuador - Peru and to the Manual of Humanitarian Demining Procedures of Ecuador, a detailed study of the mined or hazardous areas is carried out initially, through the obtaining of the greatest amount of information provided by the authorities of the area, affected population and / or victims who have suffered a mine accident, information that is materialized through the Non-Technical Studies, Technical Study ,and Clearing.

**NON TECHNICAL STUDY**

Study activity involving the collection and analysis of new or existing information on areas suspected of containing mines. Its purpose is to confirm the existence of evidence of hazards, to identify the type and dimension of the hazard within the hazardous area and to define, as far as possible, the perimeter of the current hazardous areas without physical intervention. The results of a non-technical study may replace any previous data relating to the study of an area.

- **"Suspicious Hazardous Area" (SHA)** refers to an area suspected of containing mines and explosive remnants of war. A (SHA) can be identified by a non-technical study, another form of national study or by claiming the presence of explosive hazards.

**- "Confirmed Hazardous Area" (CHA),** refers to an area identified by a technical study, in which the need for further intervention through a technical or clearance studies has been confirmed.

- "**Defined hazardous Area" (DHA),** refers to an area, generally inside a CHA, which requires a complete clearance.

**a. Objective**

Non-technical studies are intended to conduct investigations of existing or previously recorded hazardous areas. A non-technical study should be the starting point for the registration of confirmed hazardous areas (CHA). It is the previous process to carry out the technical study.

**b. Purpose**

**(1)** Non-technical studies are part of the broad process of land liberation, can be an isolated activity, or can be integrated into the study process and complement technical studies.

**(2)** Non-technical studies are carried out in order to gather essential information about a new SUSPICIOUS HAZARDOUS AREA or an existing CONFIRMED HAZARDOUS AREA, which has been identified through an emergency survey, an environmental impact study, military archives, etc. The actions of non-technical studies may include the following:

(a) Identification of the areas where greater research is required.
(b) Clarification on the local perception of the hazardous situation of the land, or parts of it.
(c) Establishment of the priority tasks that require more support.
(d) Placing of notices to identify the need for clearance or removal of mines and explosive remnants of war (ERW's), including unexploded submunitions.
(e) Elimination of suspicions associated with part of the area.
(f) If there is a SHA, the non technical study may conclude that the suspicion can be annulled.

**(3)** The activities of a non-technical study can range from the analysis of existing information and a few field visits, to a more elaborate system of visits and meetings with a wide range of stakeholders.

**(4)** In the non-technical study two tasks are distinguished: one of gathering of old information and other of new information, including field visits.

**(5)** The cabinet work stage takes place in the information analysis center of the Binational Demining Unit, which is in charge of gathering all the information related to humanitarian demining coming from the State entities, national and international NGO's, international organizations, among others, as well as the analysis of this information with the Information Management System of Action against Mines (IMSMA).

**(6)** The Humanitarian Demining Organizations (HDO) must be able to go to a place suspicious of containing mines, to make a reconnaissance of the possible mined areas and gather information from the population.

**c. Purpose of a Non Technical Study**

**(1)** A non technical study includes the gathering of information and analysis of old and new information of a SDA. A Non Technical Study usually does not include the physical entrance to a hazardous area or the use of clearance devices in a CHA. There would be an exception when equipments of action against mines are used to obtain a safe access to a zone that otherwise would be inaccessible.

**(2)** A non technical study may be used for the following purposes:

(a) Evaluate if the areas are polluted by mines and explosive remnants of war (ERW's) and define the boundaries of a hazardous area previously reported.
(b) Cancel incorrect reports of mines and explosive remnants of war (ERW's).
(c) Identify social and economic factors and threats that may influence the selection of priorities in the future.
(d) Gather information on accidents, type and pattern of risks, depth of the plantation, soil properties, vegetation, access routes, local infrastructure, safety situation, and other factors that may influence the selection of priorities and monitoring methods with the support of the action against mines.

**d. Results of a Non Technical Study**

**(1)** At the end of a non technical study in the suspicious area, said area must be reclassified in one or more confirmed hazardous area (CHA). Therefore, the non technical studies have two results:
(a) Identifying Confirmed Hazardous Areas (CHA)
(b) Providing more precision on the estimation of the hazardous area and the elimination of suspicions on the totality or part of an original CHA.

**(2)** A CDA must only be created after the execution of a non technical study and the finding of proofs of hazard that require future actions. A CHA can be subdivided if the quantity and quality of the information is variable within itself.

**(3)** A non technical study may not be able to clearly define the boundaries of the area and if such is the case, the approximated boundaries must be evaluated.

**e.** Requirements for the register of a CHA through a non technical study

Well defined criteria are important because they:

(1) Resolve questions regarding responsibilities of an incident with mines and explosive remnants of war (ERW's).
(2)Promote a uniform implementation of the process;
(3) Simplify the management of the process and make it easier to adjust due to an empirical increase of experiences.
(4) There are different reasons not to include an area as CHA, some of those reasons are:
(a) There are no evidences of armed conflicts in the zone;
(b) There is no obvious tactical reason for the use of mines in the area;
(c) The land has been used by people/ farm animals during a determined period, with no evidence of mines
(d) There have not been mine accidents and explosive remnants of war (ERW's) in the area (including accidents with animals);

(e) Local communities (owners/ users) have indicated that the lands do not contain any hazard.

**f. Evaluations and decision making based on evidences**

**(1) Identifying sources of Information**
(a) Military and police members or former members
(b) Local authorities or community representatives
(c) Documentation
(d) Gathering of information observing the suspicious area

**(2) Gathering of evidences**
(These may be physical objects or pieces of information)
(a) Visible mines or craters
(b) Visible fragmentations or parts of ERW's
(c) Accidents or incidents
(d) Detonations during the burning or use of land
(e) Verbal statements that back up the presence or absence of mines and explosive remnants of war (ERW's).
(f) Use of the land.
(g) Infrastructure used or not used during a specific period of time
(h) Records of mined fields, reports of previous studies or old data bases.
(i) Archives of military activity or combats in the zone
(j) Information indicating if the mines were planted or not
(k) Reports of clearance of mines and explosive remnants of war (ERW's)

**(3) Assign a degree of confidence in the source and the value of the evidences**
(a) Examples of high or low confidence in a source of high or low value of the evidences
(b) A source is considered reliable when a soldier confirms the plantation of mines in a specific area.
(c) When the map of a mined field is handmade or poorly drawn, geographical location is uncertain, which generates low confidence in the source and low value to the evidence.

**(4) Compare with established criteria**

**Examples of criteria for land release:**
(a) There was no military activity known in the area.
(b) There is no reliable information on mine planting.
(c) Every mine reported cleared and destroyed by the armed, police forces or civil population.
(d) There are no visible fragmentation parts.

(e) The lands have been used for herding or farming during a specific period of time.
(f) Infrastructure that has been used for a specific period of time (for example, roadways).

**Examples of criteria for non land release:**
(a) Reliable information on mine planting in the area.
(b) Visible mine planting
(c) Animal remains with amputated limbs
(d) Lands are not being used because of accidents in the area

**(5) Conclusions.-** There may be three conclusions
(a) There is enough confidence to release the lands of a previously registered CHA.
(b) It may be appropriate to carry out a technical study
(c) Clearance is necessary

**g. All reasonable efforts:** Refers to the level of invested effort that is required to achieve a minimum acceptable to identify and document hazardous areas and obtain the desired level of confidence.

**h. A non technical study team must consider:**
**(a) Safety:** Reconnaissance teams should not take unnecessary risks by walking or driving on land or roads where there is a mine risk. Local guides should only be trusted once their credibility has been assessed and it is certain that they have sufficient knowledge of the hazards in the area. Non-technical study teams should not normally enter suspicious areas.
**(b) Training**: Non-technical studies should be performed by personnel who are properly trained, accredited, and experienced to carry out the activity.
**(c) Amount of staff:** The size of a study team may vary depending on the local situation and the complexity of the study.

**i. Communications:** Communications must be tested before the beginning of the study labors.

**j. Links with local authorities and / or other interested parties**: Study teams should be coordinated with the relevant local authorities to ensure that it is safe to conduct the study in an area and to avoid disruption in the work of the authorities of police or armed forces.

**k. Medical support and evacuation**: Normally it is not necessary to count with a qualified physician to perform a non technical study; however, it is the decision of the national authority to establish minimum regulations on the matter.

**l. Participation of the community:** Local participation must be fully integrated into the main stages of the land release process. Community involvement should include men, women and children living near the CHA. The return of land is materialized through a delivery document, signed by local community authorities, future land users, representatives of the organization that conducted the study and clearance, and the national authorities.
After the release of lands, a continuous monitoring process should be established in order to measure the impact on the local populations of the released lands and to clarify issues related to liability and state of the land in case of any subsequent mine or ERW accidents.

**Specific Procedures**

a. Identify the actors intervening direct or indirectly in humanitarian demining.
b. Locating populations that may be placed near the suspicious areas.
c. Identify the political leaders of the supposedly affected community.
d. Identify national, international organizations, and NGO's that carry out development projects in the areas to be studied.
e. Identify hospitals and health providing facilities in the affected region.
f. Identify the Armed Force Units, National Police, Civil Defense, and Fire Brigade in the affected area.
g. Identify former soldiers that can provide information on the presence of mines and possible mined fields.
h. Visit and gather information regarding SHA or CHA in the area to be studied.
i. Once the information is gathered, a visit to the SHA must be carried out. If possible, it would be important to make a brief presentation on the danger of mines, asking about the existence of suspicious hazardous areas.
j. The number of inhabitants, location and life style of the communities at risk and affected by the presence of mine hazards and UXO's.
k. The scope of mine and UXO threats, at a local level, allows evaluating the amount and type of resources necessaries to eliminate or reduce risk, through demarcation of the SHA, education on risk, and/ or removal.
l. The approximate location and extension of each SHA or CHA, to locate it safely and quickly in a later stage.
m. The characteristics of the local land such as its profile, type, pollution degree, drainage, vegetation (type and density), and access, allows us describing in general terms the technical factors that will have influence on the resources required for removal.
n. In each hazardous area information regarding type and density of mined fields and UXO's must be gathered, as well as the depth they shall find. (Technical Study).

o. The information gathered from the community must be confirmed by the biggest possible amount of people, so they can be granted with the correspondent confidence level.
p. Visit to the SHA. Once the information on the presence of mined areas has been confirmed, if possible, this must be identified in the field.

(1) It is fundamental that the informants attend to the recognition and identification of the mined area.
(2) The information concerning this activity will be obtained on the IMSMA format, non technical study.
(3) Entering to the SHA is not allowed under any circumstances.
(4) If you mark a geographical reference point between the places where the interviews and the location of the mined area were carried out, put the coordinates of the reference Point in the format, taken with GPS. If you do not locate the reference point, write **NO** in the form.
(5) The location coordinates of the starting, reference and observation points must be taken with GPS and entered in the corresponding format, according to the valid formats presented in the following table:

**Table 1**: Valid formats in the entering of coordinates

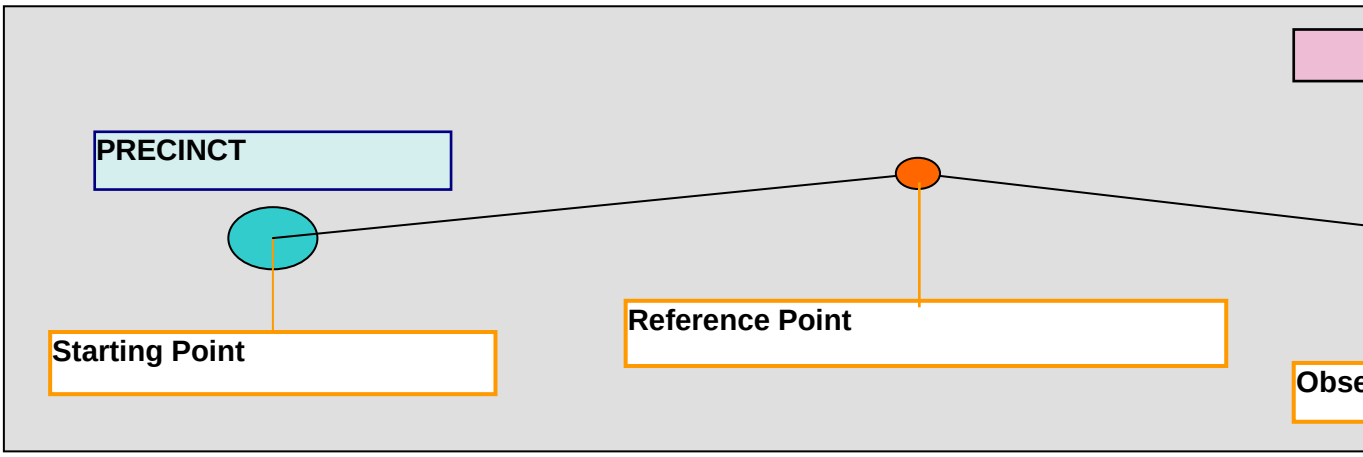
| *Tipo de coordenadas* | *FORMATOS VÁLIDOS* | | |
|---|---|---|---|
| *Lat./Long* | *0°07'57. 9" S 78°30'40. 00" W* | *0d07m57.9s S 78d30m40.00s W* | *0.132750 78.511111* |
| *UTM* | *595879 9959432* | *595,879.00 9,959,432.00* | |

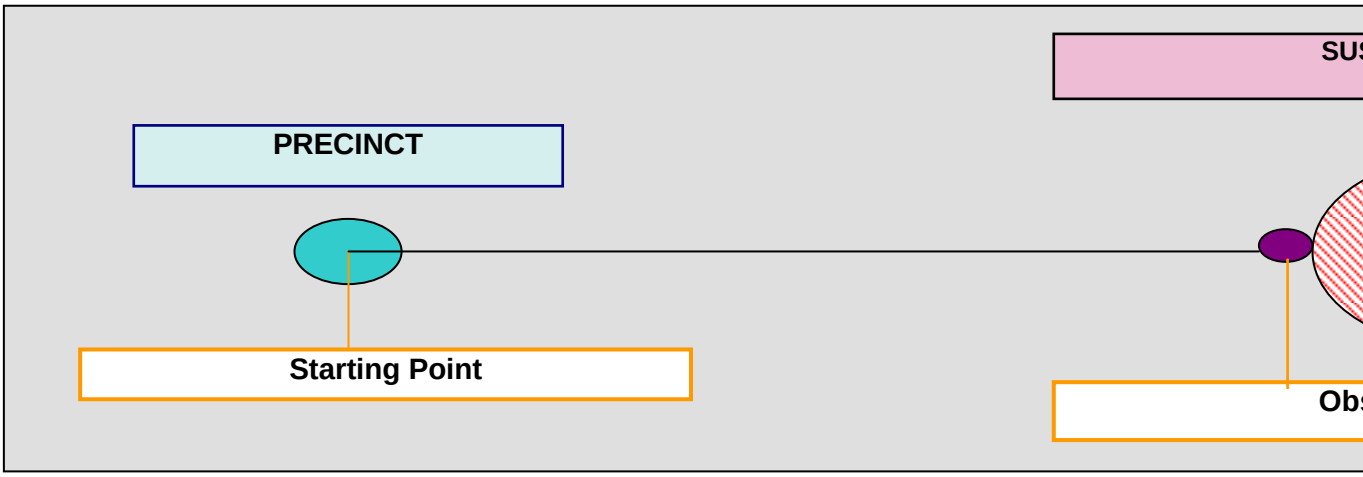
q. **Reference points**: are fixed points located at a certain distance outside the mined area. The placement of the starting, reference, and observation points can be seen in diagram 1 and 2.

(1) Take the time you took walking from the starting point to the observation point and record it.
(2) Take the coordinates of the OBSERVATION POINT with GPS and record them.
(3) Make a brief description of the MINED AREA and OBSERVATION POINT and record it in the form.
(4)From the observation point, along with the informant, determine the approximate size of the mined area in square meters.
(5) Complement the rest of the information in the form through the visual registration of the area and with the comments and indications of the informant/s.
(6) Make the chart of the mined area, in the grid sheet of the format. Include, as minimum, what is indicated in the checking list of the form.
(7) Complete the information in the “IMSMA” form, of the non technical study, correspondent to general comments/ information data of the enumerator. For

the conclusion of the study it is very important to mention if the area is or is not a CHA or SHA.

Non Technical Study




**TECHNICAL STUDY**

**Purpose**

a. It is a detailed technical and topographic investigation of suspected or confirmed hazardous areas. Such areas should have been previously identified during the non-technical study. The main objective of a technical investigation is to gather sufficient information to enable removal requirements to be defined in a more accurate manner, including the area (s) to be cleared, depth of clearance, local soil conditions, and the characteristics of the vegetation.

b. Sometimes it may be appropriate to conduct a technical investigation when there is no immediate need to clear the entire land. The process by which the initial area designated as polluted (during the non-technical study) is reduced to a smaller area, is known as 'area reduction'.

c. The objective of reducing the hazardous area identified in the non-technical study is to distinguish whether the technical study to be performed corresponds to a SHA or a CHA.

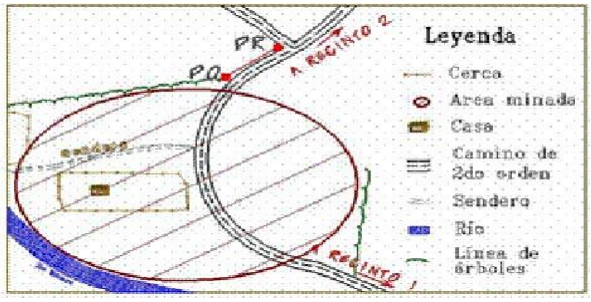
d. The reduction of the area may involve a certain limited clearance.

e. The land to be released should present the same level of confidence as the one achieved through removal.

f. Once the non-technical studies have been satisfactorily completed, the Binational Demining Unit will assess the appropriateness of carrying out technical studies, designating the personnel responsible for the task.

g. The Binational Demining Unit will carry out the reconnaissance on the land, interviewing the person (s) who identified the mined area during the non-technical study, seeking to confirm the existence of mines and obtaining additional information to discard or confirm the danger within the suspicious area.

h. The supervisor will plan and arrange to place the reference points in accordance with the provisions of this manual, transferring this information to the copy of the map of the area.




**Map** of the Mined Area. Source: Non Technical Study

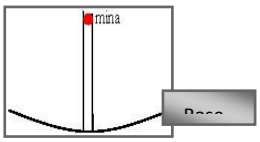
i. If the mined area, after the previous reduction is made, is less than 500 m2, it must be completely swept by applying the procedure for performing a clearance. If the area to be reduced is greater than 500 m2, the area should continue to be reduced by making random paths. The purpose of this study is to reduce the mined area and to delimit the minefield, the technical study of a SHA can only be terminated when the suspicion of mines has been totally eliminated, which may force the total sweeping of the suspicious area without finding a minefield or dispersed mines at the end.

**Development of the demining work in the Technical Study**

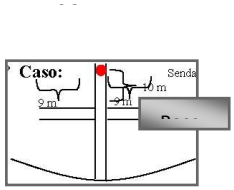
a. Apply the safety provisions established on the work site and demarcation of dangers.

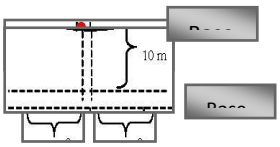
b. Making of the random paths.

(1) Start the sweeping of a path in the direction established by the Supervisor.
(2) Each member of the demining staff is responsible for their path, having to complete the sweeping until its completion.
(3) It must be bear in mind that the different paths should not lose the minimum safety distance between them (25m).
(4) The opening of a path must be continued until the location of a mine, to change the direction of the path or to suspend it.
(5) The execution of those actions will culminate in two possibilities:
(a) If no mine is found and a minimum of 20% of the area suspicious of containing mines has been swept, then the demining labors are concluded and the area is considered as “currently non suspicious of containing antipersonnel mines”.
(b) If a mine is found, it will be removed and the position where the mined was removed will be marked with a yellow stake. To reduce the area to be swept, the procedure bellow must followed:



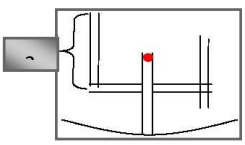

1. Go back 10 m. and establish a base path, perpendicular to the demined path, of 9 m. for each side. When going back we can have one of the two cases:



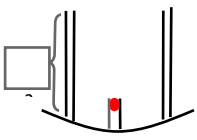




2. From the ends of the base path (1st Case) or from the baseline (2nd Case), new paths are opened parallel to the path where the mine was found, in order to try to identify the ends of the minefield.

**1º Case:**

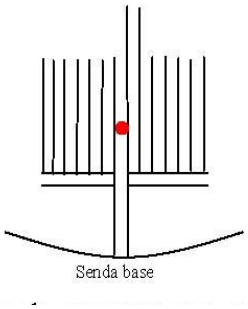


**2º Case:**

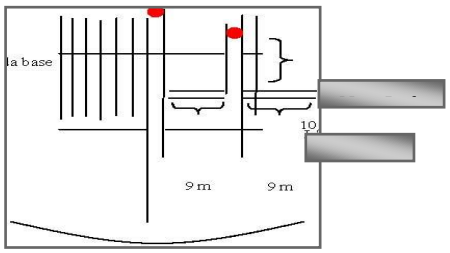


3. That path should be 20 m. long at least. If nothing is found, another path must be opened on the inner side and so on.

4. If nothing is found until reaching the path of the mine, that last path must be continued as originally established.

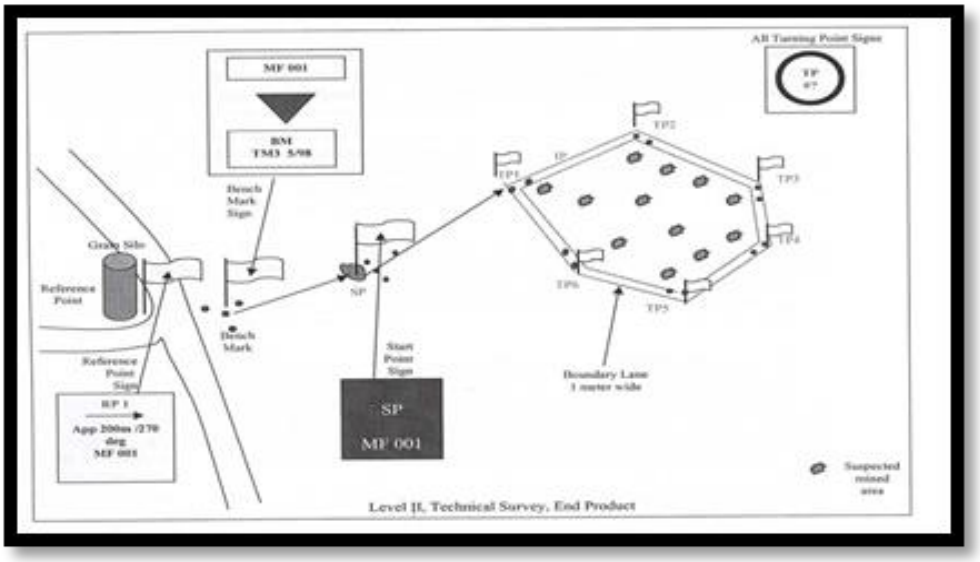



5. In case of finding a new mine, repeat from numeral 2 onwards.

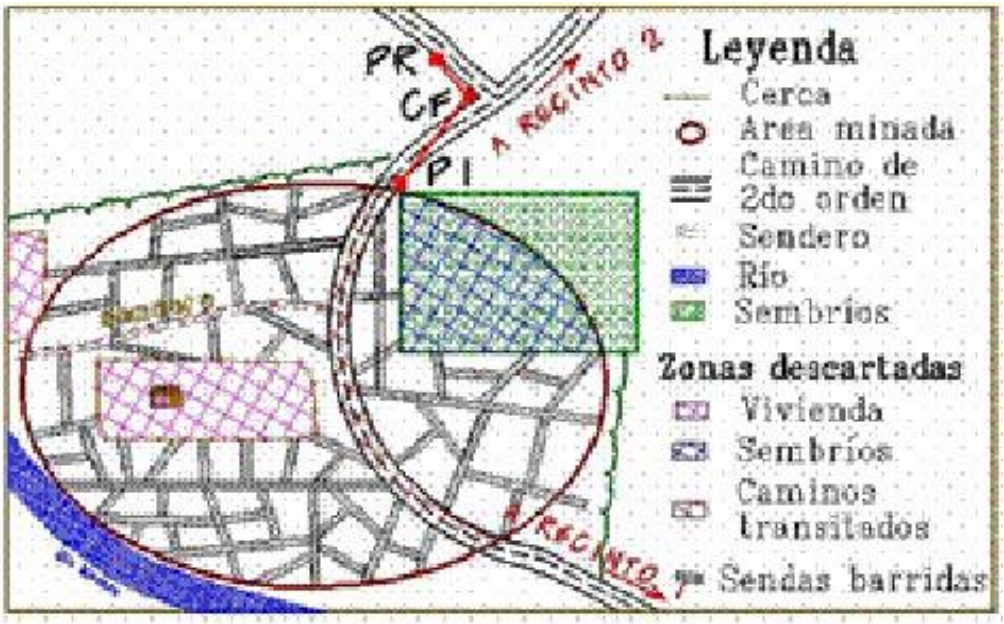



**Observations**: The new base path may not be under the baseline.

6. The supervisor must decide the method of destruction of the mines that are found during the development of the technical study.
7. The purpose of the technical study is to delimit the minefield, for this reason the study will end when the field is delimited or when an area equal to or greater than 20% of the area established has been swept as established in the non-technical study and no density of mines has been found that indicates the presence of a minefield.



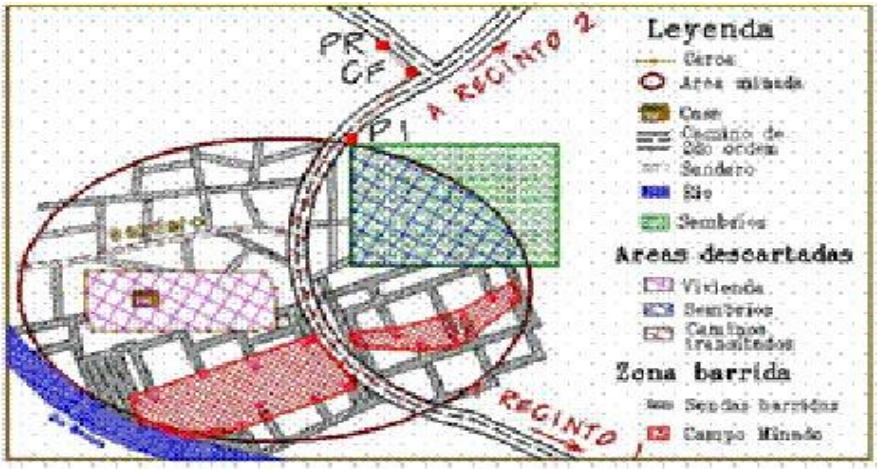

8. Once the perimeter of the minefield has been determined, it must be demarcated.
9. The technical study concludes by elaborating the corresponding "IMSMA" format.
10. If an accident occurs during the development of the technical study, it should be reported to the agencies in which the IMSMA "Report of accident with mines and / or UXOs" and "Report of accident victim" are framed.
11. Once the technical study has been completed, a report will be submitted according to the conclusion of the study, enclosing the general sketch of the area and the detail of the worked area.



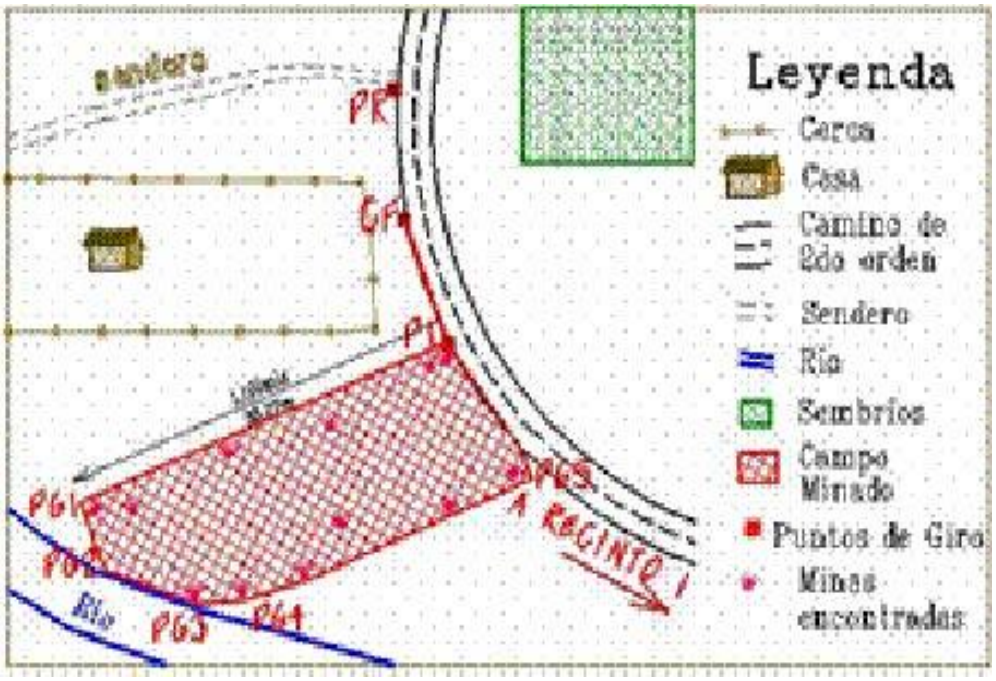

**Detailed sketch** showing the tracks swept during the study.

12. In the sketch the azimuth and the distance of each one of the swept paths must be placed.

13. On the other hand, if at the conclusion of the technical study there is one or several CDA, the CDA report (s) will be attached, and the general sketch of the study with the detail for each area worked.




**General Sketch**

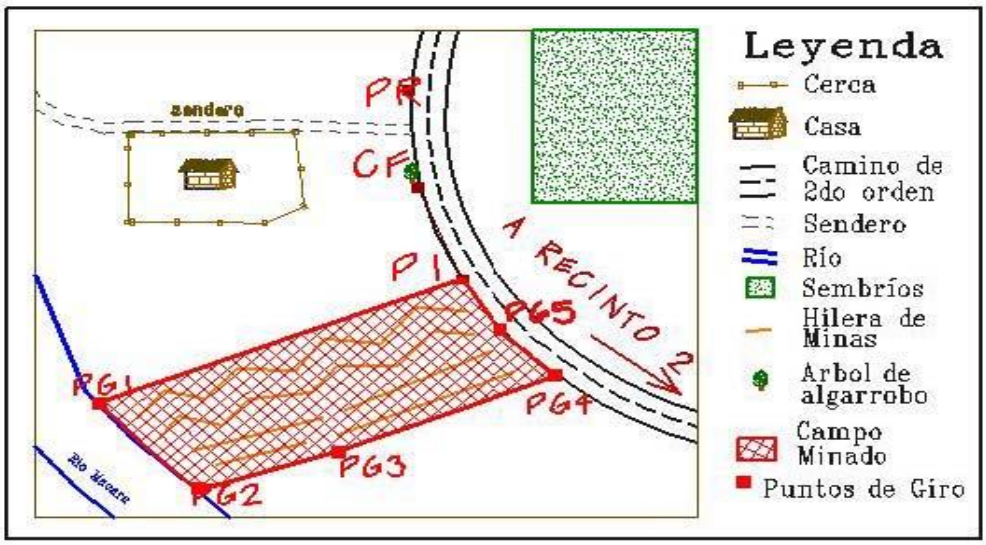



**Detail of sketch**

**Technical Study of a Hazardous Area.**

Based on the sketch of the minefield, the reference point and the fixed elevation are established and from that point, the sweep of the limits of the minefield is

made. Once the limits of the hazardous area are established, according to the sketch, the technical study is concluded, making the corresponding field report and its annexes.




In the event of an accident occurring during the development of the study, the forms of Accident Report and Accident Victim must be completed.

**Special Cases of Technical Studies**.

The following describes the technique that the Bi-national Unit can apply in the technical studies in the Jungle area; where the characteristics indicate little and inaccurate information of the mined area or hazardous area. The purpose of this technique is to delimit the minefield as fast as possible with the certainty of including within the demarcated perimeter all the mines planted.

**B) De-mining techniques used**

For humanitarian demining operations, duly trained and experienced personnel are employed in this type of operations.

Humanitarian demining operations in Ecuador are carried out using the manual demining technique "One man per path", the technique of mechanical demining and the use of mine detecting dogs.

**4. Methods of Control and Quality Insurance**

In compliance with the Bi-national Manual of Humanitarian Demining Procedures of Ecuador - Peru and the Manual of Humanitarian Demining Procedures of Ecuador, the sampling method is used to carry out the Quality Control of the operations, as well as the national supervision of them.

Prior to the start of operations, BE 68 "COTOPAXI" and CGDEOD and in compliance with the order issued by the upper rank, to certify all personnel

involved in Humanitarian Demining operations through retraining, supervising compliance with the procedures which are detailed in the manuals, and the equipment of anti-fragmentary personal protection and the tools of occupational health and safety, among others, that guarantee that the unit of demining can fulfill the work or task entrusted.

**A) National Supervision**

Ecuador has National Supervisors who have been duly experienced and trained nationally and internationally for humanitarian demining operations.

**B) Field Reports (Daily Operations Report)**

The progresses of the working days work is monitored, which are in turn verified in the field, and registered by the Regional Commandant of Demining, in order to keep a complete record of the activities carried out daily and subsequently communicated to the superior entities.

**C) Quality Control Operations**

They are carried out at the end of the work and are subject to the rules and procedures of the manuals, allowing the quality of the work carried out in the Clearance to be corroborated and certified as an area free of antipersonnel mines.

5. **Mine Risk Education Campaigns**

These preventive campaigns began in March 2005 and aimed at training the leaders (syndics and teachers) of the Shuar communities closest to the sectors affected by the presence of mines.

After conducting the area studies and analyzing the behavior of the indigenous populations of the Province of Morona Santiago, it was evidenced the need to apply a method of communication different from that used in the Provinces of El Oro and Loja, for which it was decided to conduct bilingual Preventive Education Campaigns in the Tiwintza County, which included the preparation of all material and products in the Spanish and Shuar languages.

It was determined that fifteen Shuar communities were affected by the presence of antipersonnel mines in the Tiwintza County. The communities are: Kushapucus, Chichis, San Miguel, Las Peñas, La Frontera, Jempekat, Shakaim, Puerto Morona, San Luis, Kaputna, Cusumasa, Yumisim, Tsapa, Tsuis and Mayalico.

After the campaigns, the syndics and teachers became trainers in turn, this means, multipliers of the message in each of their communities, for which they were given information in pamphlets and souvenirs in the Spanish and Shuar languages with the message "Explosive Mines Kill ".

After completing the campaigns, the monitoring and checking of the knowledge imparted to the population of these communities on the hazard of anti-personnel mines was carried out; Knowledge that was imparted by the community leaders. All this, in order to measure the reach and penetration that the campaigns advanced by the syndics and teachers carried out in the previous phase, which allowed to determine the specific subjects that where needed to be reinforced.

Thanks to the coordination between CENDESMI and the AICMA-EC Program, the first preventive education campaign in the County of Tiwintza was successfully completed, which managed to educate a total of approximately 2,500 people, including children and adults.

In May 2007, a second Preventive Education Campaign was launched in the County of Tiwintza, which used the same mechanism of the first campaign, taking 16 shuar communities as auditorium.

It is important to point out that campaigns have been carried out in the Jungle Border Bi-national Camps, Landmark 147, of the Ecuador-Peru border on two occasions, in July 2006 and November 2007. The AICMA-EC Program participated with a stand and made several Audio-visual presentations to educate about risk of anti-personnel mines, with the purpose of seeking them to assume a safe behavior against the hazard to which they are exposed. These efforts benefited 300 people in 2006 and 500 people in 2007. This auditorium was made up of sectional political and military authorities of Ecuador and Peru, as well as residents of communities near the border.

In November 2014 an awareness campaign was carried out in the Cucuazá Community in Peru, in coordination with the Peruvian Army personnel, this campaign was conducted in the Spanish and Shuar languages, benefiting ninety (90) syndics and representatives of the communities of Tiwintza County.

An awareness campaign was held in November 2015 in the Province of Morona Santiago, Tiwintza County, Santiago Community; this campaign was conducted in the Spanish and Shuar languages, which benefited 500 people.

In September 2016, an awareness campaign was carried out in the communities near the Ichigkat Muja National Park, a town in Santa María de Nieva (Peru), which registers suspicious hazardous areas, giving a significant advance in bi-national relations between Ecuador and Peru. The exhibitors came from both countries and this campaign was implemented as part of the agreements according to the Act of the XV Meeting of Action of National Authorities against Antipersonnel Mines of Ecuador and Peru, held on 21 and 22 November 2016. This campaign was exposed to the staff of Park Keepers of the ecological reserve of Ichigkat Muja-Cordillera del Cóndor, on 28 and 29 September 2016.

## 6. Organizations linked to demining

As a manifestation of its political will to permanently eradicate antipersonnel mines from its territory, Ecuador signed the Ottawa Convention on the

"Prohibition of the Use, Stockpiling, Production and Transfer of Antipersonnel Mines and on Their Destruction", on 4 December 1997, ratified it on April 29, 1999, and put it into effect on October 1, 1999. One must acknowledge the active role of the Ecuadorian delegation in the negotiation of this international instrument, underlined by the guidelines of the foreign Ecuadorian policy that privileges social development, protection of human rights and humanitarian assistance.

In order to strengthen its institutional capacity, the Government of Ecuador, through Executive Decree No. 1297, of September 22, 1999, created the National Humanitarian Demining Center of Ecuador (CENDESMI), the National Authority in this area, which is Chaired by the Ministry of Foreign Affairs and Human Mobility and is composed of the Ministry of National Defense, the Ministry of Public Health and the Army Corps of Engineers (ACE) through the Engineers Battalion No. 68 "COTOPAXI" and CGDEOD .

CENDESMI, the National Humanitarian Demining Authority, is responsible for observing and monitoring the compliance with the humanitarian demining process, including quality control and certification of humanitarian demining operations.

B.E 68 "COTOPAXI" AND CGDEOD, as the executing units, have the responsibility to carry out the humanitarian demining process. It has 140 de-miners trained in coordination with the Military Engineering School, through the courses of humanitarian demining, the de-miners are centralized in the city of Quito and they move to the Regional Commands located in the different border provinces. It has personnel with extensive experience in mine clearance operations, destruction of explosive devices at risk, including doctors and paramedics, as well as specialized equipment in compliance with national and international standards.

| Planning structure | Date of creation | Staff Quantity | Legal norm | Responsible Ministry | Mandate of the organization |
|---|---|---|---|---|---|
| **CENDESMI** National Demining Center of Ecuador | September 22, 1999 | 3 | Executive Decree No. 1297-1999 | Ministry of Foreign Affairs and Human Mobility | Supervise compliance of the Ottawa Convention |
| **A.C.E** Army Corps of Engineers | October 04, 1968 | 4 | Executive Decree No. 134 | Ministry of Defense of Ecuador | Coordinates the general planning of humanitarian demining |
| **B.E 68** Battalion of Engineers N 68 "COTOPAXI" AND CGDEOD | November 2002 | 10 | Directive No. 002 / EP | Ministry of Defense of Ecuador | Executor of Humanitarian Demining. |

**Table 10**: Humanitarian demining organizations in Ecuador.

Bi-national demining planning of Ecuador - Peru.

The military demining authorities of Ecuador and Peru have held two meetings (2015 and 2016) for the planning and execution of humanitarian demining operations at Km2 of Tiwintza through the use of the Ecuador - Peru Bi-national Unit.

Generation of doctrine

As of August 2011, demining personnel from Ecuador and Peru are conducting the training and teaching based on a common procedure, which is why the Manual of Humanitarian Demining Procedures of Ecuador - Peru was generated based on the International Standards of Action Against Antipersonnel Mines (IMAS).

The Bi-national Manual of Humanitarian Demining Procedures has been prepared jointly by the National Center for Humanitarian Demining (CENDESMI), the Peruvian Center for Action against Antipersonnel Mines (CONTRAMINAS), the Engineers Battalion No. 68 "COTOPAXI" And CGDEOD of Ecuador, the General Directorate of Humanitarian Demining of the Peruvian Army (DIGEDEHUME), the Anti-mines Security Division of the National Police of Peru (DIVSECOM), the manual came into effect on June 1, 2015.

Gender equality

The Engineer Battalion No. 68 "COTOPAXI" and CGDEOD from 2014 included three women in the demining personnel, teaching, training and including them in humanitarian demining operations in the country.

## 7. Financial Resources available to support progress to this date

In order to complete the destruction of antipersonnel mines, the Ecuadorian state has promoted this goal, allocating the budget for the operational support of humanitarian demining operations, which is why:

In 2012, the Ministry of National Defense (MIDENA) presented the project "Liberation of lands contaminated by land mines known up to now on the common land border of Ecuador and Peru" to the National Secretariat for Planning and Development (SENPLADES). Which was approved in 2013 and the resources were delivered from March 2014.

The main objective of this project, at the date of its creation, was to decontaminate land contaminated by landmines, in an area of 466,872.50 m² located in the provinces of Pastaza, Morona Santiago and Zamora Chinchipe, for later inclusion to the production and development of the region.

| COMPONENTS | DESCRIPTION | FIRST YEAR | SECOND YEAR | THIRD YEAR | FOURTH YEAR | FIFTH YEAR | TOTAL |
|---|---|---|---|---|---|---|---|
| COMPONENT 1 | OPERATING SUSTAINABILITY BUDGET | $ 944.734,47 | $ 973.076,50 | $ 1.002.268,80 | $ 1.032.336,86 | $ 1.063.306,97 | $ 5.015.723,61 |
| | ADMINISTRATIVE BUDGET | $ 142.756,25 | $ 147.038,94 | $ 151.450,11 | $ 155.993,61 | $ 160.673,42 | $ 757.912,32 |
| | PERSONAL INSURANCE | $ 134.745,60 | $ 138.787,97 | $ 142.951,61 | $ 147.240,16 | $ 151.657,36 | $ 715.382,69 |
| | AIR SUPPORT BUDGET | $ 2.278.815,60 | $ 2.347.180,07 | $ 2.417.595,47 | $ 2.490.123,33 | $ 2.564.827,03 | $ 12.098.541,51 |
| **COMPONENT 2** | **DESCRIPTION** | **FIRST YEAR** | **SECOND YEAR** | **THIRD YEAR** | **FOURTH YEAR** | **FIFTH YEAR** | **TOTAL** |
| | TRAINING OF PERSONNEL | $ 41.278,80 | $ 26.518,22 | $ 26.518,22 | **$ 0,00** | **$ 0,00** | **$ 94.315,24** |
| **COMPONENT 3** | **DESCRIPTION** | **FIRST YEAR** | **SECOND YEAR** | **THIRD YEAR** | **FOURTH YEAR** | **FIFTH YEAR** | **TOTAL** |
| | EQUIPMENT BUDGET | **$ 1.869.860,00** | **$ 0,00** | **$ 386.000,00** | **$ 0,00** | **$ 0,00** | **$ 2.255.860,00** |
| | | **$ 5.412.190,72** | **$ 3.632.601,70** | **$ 4.126.784,20** | **$ 3.825.693,96** | **$ 3.940.464,78** | **$ 20.937.735,36** |

**Table 11**: Budget with components according to the SENPLADES Project.

| SITUATION | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|
| Resources Delivered | $ 5.411.836,98 | $ 3.237.984,26 | $ 80.241,88 | **$ 3.792.090,68*** |

* Planned, pending resource allocation.
**Table 12**: Annual budget delivered.

**In addition to the resources provided by the State, several efforts have been made to train the staff, including the following:**

Since 2008 in Ecuador, the following training courses have been held:

- Eleven (11) basic courses on humanitarian demining (344 de-miners).
- Three (03) demining instructors courses (29 de-miners).
- Six (06) national demining supervisors courses 47 de-miners).
- Six (06) Level III EOD courses (112 de-miners).
- Five (05) guide courses for explosive detection dogs (54 de-miners).

With a total of 586 de-miners trained in Ecuador after the request for extension. Ecuadorian military personnel were trained abroad, as follows:

- Five (05) basic courses on humanitarian demining in Peru (51 de-miners).
- One (01) basic course of humanitarian demining in Brazil (01 de-miner).

- One (01) course of mechanical demining in Croatia (04 de-miners).
- Three (03) demining supervisors courses in Peru (10 de-miners).
- Two (02) quality management courses in Peru (08 de-miners).
- One (01) IMSMA User level course in Peru (04 de-miners).
- One (01) IMSMA course Administrator level in Argentina (03 de-miners).
- One (01) Level II EOD course in Spain. (08 de-miners).
- Two (02) Level III EOD courses in Spain (02 de-miners).
- Two (02) Level IV EOD courses in Spain (02 de-miners).
- One (01) Level III EOD course in Serbia (03 de-miners).
- One (01) Level VI EOD course in Israel (02 de-miners).

**8. Circumstances by which Ecuador was not in a position to finalize the implementation of Article 5 during the extension period.**

The significant number of hazardous areas in an area of difficult access, such as the Ecuadorian Amazon, makes it complex to fulfill the process of humanitarian demining in the period considered by Ecuador in 2008, taking into account that all the information previously described was known latter to the request for extension of the term made by Ecuador; In addition, it must be considered that on April 16, 2016, there was an earthquake of 7.8 degrees on the Richter scale that affected Ecuadorian territory, and in particular the Provinces of Esmeraldas and Manabí, for which emergency and national mobilization was declared, a situation that interrupted the development of humanitarian demining operations in Ecuador during the year 2016. This tragedy left 673 deaths, 6,274 injured, 9 missing, and 28,775 displaced, 1,887 affected households, and to date the continuing aftershocks have reached 3,318 as of February 2017, leaving Ecuador deeply affected economically and socially.

Likewise, the hazardous areas received from Peru that were not included in the request for extension, which modified the planning of humanitarian demining operations, considering that it is an area of 159,994.00 m2 with the amount of 11,639 antipersonnel mines to be destroyed, hindering the fulfillment of Ecuador's commitment to the Convention.

**9. Mined areas and pending work**

Reports of the location and existence of antipersonnel mines on the Ecuadorian-Peruvian border have been obtained from military records and the exchange of information between the Demining Units of both countries as a measure of trust and transparency. Likewise, the number of anti-personnel mines, anti-tank mines and UXOs registered in Ecuador has been the result of the studies carried out so far in each of the provinces. Therefore, the pending challenge that Ecuador must face in fulfilling its commitment to the Convention is as follows:

| Province | Number of areas where presence of antipersonnel mines has been confirmed | Number of areas where antipersonnel mines are suspected | Total number of areas where antipersonnel mines are suspected or confirmed | Total area where the presence of antipersonnel mines has been confirmed (square meters) | Total area where presence of antipersonnel mines is suspected (square meters) | Total area where anti-personnel mines are suspected or confirmed | Observa |
|---|---|---|---|---|---|---|---|
| Zamora Chinchipe | 33 | 26 | 59 | 57.485,00 | 7.521,00 | 65.006,00 | Area pending clearanc |
| $Km^2$ of Tiwintza | 5 | | 5 | 35.490,00 | | 35.490,00 | Area to liberated with the national Demining Unit Ecu - Peru |
| **Total** | **38** | **26** | **64** | **92.975,00** | **7.521,00** | **100.496,00** | |

**Table 13**: Detail of mined areas to be released.

## 10. Reasonable amount of time requested

We have been able to appreciate that the initial deadline agreed for the destruction of the antipersonnel mines planted in the national territory cannot be fulfilled until **December 31, 2022**.

One of the most important reasons for this renewal extension request is the earthquake that occurred on April 16, 2016, affecting the entire national territory, in particular the Provinces of Manabí and Esmeraldas, which interrupted the development and execution of humanitarian demining operations on the common border with Peru, leaving with 4 mine - planted areas pending on the Ecuador - Peru common land border and Tiwintza Km2; In addition to the incorporation of 26 objectives hazardous areas that do not have coordinates of their reference points; The internal quality control of the liberated areas, plus the physical delivery of 26 areas to Peru according to the request for prioritization and finally the delivery of land released to the local authorities of all provinces affected by the National Authority of Humanitarian Demining of Ecuador.

Due to the catastrophe that occurred on April 16, 2016 (earthquake of 7.8 on the Richter scale affecting Ecuador), as well as the physical characteristics of the land and the existing climate conditions in the areas to be cleared, Ecuador is unable to complete the process of total eradication of anti-personnel mines in its territory until December 2017, the deadline set by the Convention.

For these reasons, and in exercise of the authority provided for in Article 5 of the Ottawa Convention on the "Prohibition of the Use, Stockpiling, Production and Transfer of Antipersonnel Mines and on Their Destruction," Ecuador requests States Parties to the Convention to be granted to the Republic of

Ecuador, an extension of five (5) years, for the completion of the eradication work of antipersonnel mines, existing in the areas bordering Peru.

**11. Detailed work plan for the extension period.**

For the liberation of these areas contaminated with antipersonnel mines, the Ecuadorian State, through BE 68 "COTOPAXI" and CGDEOD, will use the method of the Manual Demolition Technique of "One man per path", based on the procedures that are required in the Bi-national Manual of Humanitarian Demining Procedures of Ecuador-Peru, in addition the Technique of Mechanical Demining will be used in case it can be used due to the geography of the land and the use of the Demining Technique with Dogs.

Ecuador prioritizes its areas according to the nearby population affected by them, whereby humanitarian demining operations are carried out in the hazardous areas close to the places most affected by the mines leaving the hazardous areas that are far away of the population for the end.

Our goal is to release contaminated lands in the national territory and restore them to the communities in the mine-affected areas, so as to include them in the country's development potential.

**Study activities to be carried out to determine the current location, size and other characteristics of mined areas.**

In order to determine the current location of the hazardous areas and their magnitude in the border area, the Non-Technical Studies, and corresponding Technical Studies will be carried out, with the support of qualified and trained personnel for this type of work, using the records of the mined areas which are contained in Information Management of the country.

**Amount of area to be released during the extension period (monthly or annually).**

| Record Number | Province | District | Number of Hazardous Areas Confirmed | Area where presence of antipersonnel mines have been confirmed (square meters) | Area where the presence of antipersonnel mines is suspected (square meters) | Estimated ANNUAL Completion Date |
|---|---|---|---|---|---|---|
| 1 | Zamora Chinchipe | Gualaquiza | 2 | 31.215,00 | | 2018 |
| 2 | | | 9 | 9.590,00 | | 2019 |
| | | Miazi | 12 | 14.734,00 | | 2020 |
| 3 | | Chinapintza | 10 | 1.946,00 | | 2021 |
| 4 | | Cóndor Mirador; Machinaza Alto;Miazi and Paquisha | 26 | | 7.521,00 | 2022 |

| | | | | |
|---|---|---|---|---|
| **TOTAL** | **59** | **57.485,00** | **7.521,00** | |
| | | **65.006,00** | | |

| Record Number | Province | District | Number of Hazardous Areas Confirmed | Area where presence of antipersonnel mines have been confirmed (square meters) | Area where the presence of antipersonnel mines is suspected (square meters) | Estimated Completion Date |
|---|---|---|---|---|---|---|
| 1 | Morona Santiago | San Juan Bosco | km 2 Tiwintza | **35.490,00** | | Prior to coordination with Peru, the operations will be carried out by the Bi-national Demining Unit Ecuador-Peru. |
| **TOTAL** | | | | **35.490,00** | | |

**Table 14**: Mine areas pending to be released with their annual achievements.

The amount of land estimated to be mine-free in the extension application is **100,496 m2**, in the period from January 1, 2018 to December 31, 2022, according to the Humanitarian Demining Program 2018-2022 (**Annex 2**), the incorporation and clearance of 26 uncoordinated hazardous areas for their location, as well as the quality control of cleared areas, and the physical delivery to Peru of the 26 hazardous areas according to the request for prioritization and delivery of land from the liberated areas to local authorities.

There are 26 suspected hazardous areas without coordinates; these areas have been considered since their location is not accurately established so it will take considerable time for their location.

The physical delivery of the 26 hazardous areas to Peru, according to the understandings between the two countries regarding the exchange of information of hazardous areas; If necessary and according to the prioritization and if the country requires, said areas will be delivered in the field, so this leads to the employment of personnel and resources, as considered in the term of request for extension.

**Activities:**

1. Evaluate reports of hazardous areas.
2. Formulate Non-Technical Studies (NTS).
3. Geographically refer to hazardous areas in the Antipersonnel Mine Action Information Management System (IMSMA).
4. Defer the exact location of hazardous areas.
5. Determine concentrations of hazardous areas in the sectors.
6. Determine the magnitude and density of the objectives.
7. Cancel areas through Non-Technical Studies.

8. Reduce areas through Technical Studies (TS).
9. Clear hazardous areas.
10. Perform the Quality Management process.
11. Deliver of the lands released by the National Demining Authority (CENDESMI) to local authorities, native communities, among others.

**Progress per year**

| YEAR | N° ÁREAS | ZAMORA CHINCHIPE | TOTAL AREAS | TOTAL AREA $M^2$ |
|---|---|---|---|---|
| 2018 | Areas | 2 | **2** | **31.215,00** |
| 2019 | Areas | 9 | **9** | **9.590,00** |
| 2020 | Areas | 12 | **12** | **14.734,00** |
| 2021 | Areas | 10 | **10** | **1.946,00** |
| 2022 | Areas | 26 | **26** | **7.521,00** |
| **2017-2022** | **Areas** | **59** | **59** | **65.006,00** |

**Table 15**: Progress detail of confirmed hazardous areas pending release and their years.

**Note**: The pending area to be released in Km2 of Tiwintza will be done prior coordination with Peru, as the humanitarian demining operations will be carried out by the Bi-national Demining Unit Ecuador -Peru

For the execution of what is established in the planning of 2017, continuous working days will be carried out, this that can be affected by the meteorological conditions prevailing in the area of operations; It is estimated that in the Province of Zamora Chinchipe approximately an area of 32,480.00 m2 will be liberated, in addition to the planning of the Bi-national Ecuador - Peru Unit for Km2 of Tiwintza 2017.

a. Amount of confirmed hazardous areas pending demining by 31 December 2022.

Since January 1, 2018, the destruction of 3,893 antipersonnel mines in 4 hazardous areas with an area of 100,496.00 m2 in the Province of Zamora Chinchipe is pending.

The Km2 of Tiwintza is included in the total amount of hazardous areas and mines planted.

Hazardous areas from 2018 to 2022

The period of 2018 to 2022, it is expected to conclude with humanitarian demining operations corresponding to a total of four (4) hazardous areas on the Terrestrial Common Border Ecuador - Peru and Km2 of Tiwintza.

| TERRESTRIAL COMMON BORDER ECUADOR - PERU | | | | | |
|---|---|---|---|---|---|
| **ORD.** | **PROVINCE** | **OBJECTIVE** | **PREDICTED AREA m²** | **PENDING MINES** | **REMARKS** |
| 1 | ZAMORA CHINCHIPE | PV-LA_MEDIA | 25.000,00 | 400 | IN PROGRESS |
| 2 | | PV-02_07 | 6.215,00 | 240 | PENDING |
| 3 | | PV-PERINGOS_01 | 7.009,00 | 1.280 | PENDING |
| 4 | | VARIOUS-ZAMORA CHINCHIPE | 19.261,00 | 512 | IN PROGRESS |
| | | | 7.521,00 | 734 | 26 OBJECTIVES WITHOUT COORDINATES PENDING |
| **TIWINTZA KM²** | | | | | |
| 1 | TIWINTZA | VARIOUS_MS_3 KM² | 35.490,00 | 608 | IN PROGRESS WITH THE BINATIONAL UNIT |
| **TOTAL** | | | **100.496,00** | **3.893** | |

Table No. 16: Total area to be demined and mines to be destroyed after 2018.

Delivery of Land from 2018 to 2022.

Between the 2018 and 2022 period, the process of Land Delivery the entire area released since the year 2000 by the National Demining Authorities of Ecuador to the local authorities of the mine affected areas will be implemented for the inclusion of these areas to the development and productivity of the country, for which a verification and maintenance of the liberated areas must be carried out, this implies the increase of human, financial and logistic resources.

As stated in the Manual of Humanitarian Demining Procedures of Ecuador, the National Humanitarian Demining Authority will carry out the respective coordination with the local authorities for the delivery of the liberated lands.

Following this is the procedure to be followed by the National Authority for Land Delivery:

The Land that has been released or cleared of mines and explosive remnants of war (ERW) must be delivered as soon as possible to the National Action Authority against Mines Action so that it can be used productively by the local population.

The formal delivery of the released or cleared area from the demining agency to the National Action Authority against Mines Action is very important for legal liability purposes. The process that must be followed to perform this delivery is detailed in this chapter.

Requirements for land delivery

The area to be delivered must have met all clearance requirements, land release criteria and quality management systems as well as all demining procedures that have been established by CENDESMI and are detailed in this manual.

Procedure

Before delivery

Once the demining and / or internal quality control tasks have been completed in a given area, an External Monitoring team in the company of a representative of BE-68 "COTOPAXI" and CGDEOD, will carry out a final inspection of the land that has been released or cleared, for which:

1. You must have a copy of the corresponding end-of-phase documentation.
2. You must confirm in the field the information that is included in the end-of-phase reports delivered by BE-68 "COTOPAXI" and CGDOED.
3. You must confirm that the marking of the released or cleared area is in accordance with the Mine Hazard Demarcation / ERW section of this manual.
4. In case of having left areas without clearing for any justified reason, you will confirm that the permanent hazard marking is in accordance with the Marking of Mine Hazard / ERW section of this manual.
5. You must verify that the points defined in the field are in accordance with the information of the path clearing or perimeter of the cleared area, which is included in the corresponding field report.
6. You must verify any information contained in the end-of-phase reports that is considered relevant.
7. The External Monitoring team will issue a final report on this inspection and the final status of the area to be delivered to CENDESMI and will send a copy to BE-68 "COTOPAXI" and CGDEOD.

During delivery

1.The Information Management Office against Mine Action will deliver to CENDESMI all documentation that deals with the tasks of identifying the suspect area, the land release and the quality management system that have been executed in the area in question. All this information has previously been delivered by BE-68 "COTOPAXI" and CGDEOD to this office. See the documentation section of this chapter.
2. The CENDESMI and BE-68 "COTOPAXI" and CGDEOD shall record the delivery of the cleared area by signing a Declaration of Land Delivery. See the documentation section of this chapter.
3. If it were the case the BE-68 "COTOPAXI" and CGDEOD will deliver a report with Lessons Learned on the following topics: planning and execution of humanitarian demining operations, demining and support teams, procedures, training or any other topic considered of interest.

Physical delivery of hazardous areas to Peru.

After prioritizing for the physical delivery of hazardous areas presented by Peru, which is stated in the Record of the Meeting No. XIII of National Authorities against Antipersonnel Mines Action of Ecuador and Peru, signed on October 13 and 14 of 2015, Ecuador has pending the delivery of the 26 reference points located around Km2 of Tiwintza.

Quality control of the released areas.

Internal quality control of the cleared areas should be carried out during the humanitarian demining process in Ecuador According to the manuals and standards established in the (IMAS).

In the process of demining in Ecuador the Quality Control of the released areas is according to the following detail as it appears in the manual:

a. Quality Management (QM), in humanitarian demining, two distinct components are comprises, external and internal quality Insurance (QA) and quality control (QC), which will be carried out in different degrees, separately or simultaneously, depending on the requirements of the Bi-national Demining Unit or the Agency in which it is framed.
b. Internal Quality Insurance QA (Internal), in humanitarian demining , means confirming that management practices and operational demining procedures are adequate and that will allow meeting the established requirements in a safe, effective and efficient manner. The internal quality Insurance will be carried out by the same Bi-national Demining Unit.
c. External Quality Insurance QA (External) shall be performed by the Quality Management Officer representative of the Agency in which it is framed or the country where they are working, which has the function of permanently verifying that the work performed by the Bi-national Demining Unit, is running according to International Standards (IMAS).
d. Quality Control (QC) is part of quality management oriented towards the fulfillment of quality requirements (ISO 9000: 2000); Quality control refers to the inspection of the finished product. In the case of humanitarian demining "the product" is safe cleared ground.
e. Work Activities.
f. Receipt of completion ending reports of cleared demined areas, as well as Insurance controls of the Internal Quality Controls performed, to be evaluated in the cabinet, in order to comply with QA and QC quality control and Insurance work, by the quality management officer in the field.
g. The site supervisor (SS) must present the following documents to the quality management officer (QM):

(1) The medical evacuation plan
(2) Any relevant document that includes contracts, accreditations, liquidation contracts
(3) Reports of visits to (QA) quality Insurance
(4) Results of a posteriori inspections, investigation reports of accidents or incidents
(5) Any other information that assists management officers (QM) quality Insurance QA to develop a plan and program for the field visit.

h. Logistical management and administrative or service offices visits will be carried out, including explosive storage areas, medical facilities and equipment maintenance areas.

i. Visits to sub-unit locations including workplaces and support for workplaces
j. Observation of demining activities, including internal QA procedures, mine destruction and UXOs. This is particularly important if mines and UXO's are being destroyed at a safe distance from the workplace.
k. Observation of the level of community participation within the community liaison function and its applicability to mine removal activities in process.
l. In your case, the observation of the field tests and evaluation of the equipments.
m. The important completion of the QA.

Goal

The release of 04 hazardous areas in the Province of Zamora Chinchipe, 10 objectives of Km2 of Tiwintza prior coordination with Peru through the use of the Ecuador - Peru Bi-national Unit and the physical delivery to Peru of the hazardous areas outside the Ecuadorian territory according to the prioritization presented.

The Ecuadorian State has made an important management in the allocation of the financial resources to carry out operations of humanitarian demining in order to carry out the eradication of the anti-personal mines and to fulfill its commitment to “the Ottawa Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Antipersonnel Mines and on their Destruction”.

The Ecuadorian State has assigned for humanitarian demining operations a budget of $ 20,937,735.36 for the (Investment) Project of" LIBERATION OF LANDS POLLUATED BY LANDMINES KNOWLEDGE UNTIL THE MOMENT ON THE COMMON BORDER BETWEEN ECUADOR AND PERU), which covers the needs of personnel, special demining equipment and equipment necessary to support humanitarian demining operations in Ecuador so far has been spent Total of $ 8,730,063.08.

| YEARS | TOTAL S / |
|---|---|
| 2017 | 3.792.090,68 |
| 2018 | 3.871.211,58 |
| 2019 | 1.328.680,85 |
| 2020 | 917.221,05 |
| 2021 | 1.381.247,07 |
| 2022 | 917.221,05 |
| **TOTAL** | **12.207.672,28** |

Table N ° 17: Budget 2018 - 2022.

Efforts deployed to ensure the effective exclusion of civilians from mined areas.

In the case of the 5 hazardous areas in the common border area Ecuador - Peru and Km2 of Tiwintza, due to the geographical difficulty, signs and

warnings of hazard are to be instaled, in order to avoid accidents with the civilian population.

On the other hand, the State since CENDESMI, has been promoting the implementation of activities related to education on the risks of anti-personnel mines (ERM).

## 12. Risks to the development of the National Plan

Variable meteorological conditions

In the Province of Zamora Chinchipe and Km2 of Tiwintza, sectors where humanitarian demining operations take place, the climate is humid tropical with an average maximum temperature in the day that reaches about 35 ° C and rainfall throughout the year, whose precipitation is greater than 3000 mm per year, the increased rainfall directly affects the effectiveness of demining operations by 55%.

Rural land

Ecuador has a diverse geography, the jungle sector presents a dense and extensive vegetation, with gorges and ravines of difficult access, with great irregularities in the land. Hazardous areas are generally found in areas far from the camps, so demining staff due to geography, must walk an average of two hours a day.

Lack of transport and communications infrastructure

Lack of access roads such as highways or access roads to the mined areas of the common border with Peru and Km2 of Tiwintza, require the use of air transportation, which increases humanitarian demining operations costs and constitutes only means of transportation, medical evacuation and supplies for the humanitarian demining process.

Presence of natural disasters such as the one occurred on April 16, 2016.

Determination of the existence of a greater number of Hazardous Areas.

## 13. Humanitarian, economic, social and environmental implications

A tangible impact today is the loss of communication between families belonging to the same ethnic group, who traditionally mobilized for different reasons across the border line and who today cannot do so without this implying a risk to their integrity due to the antipersonnel mines planted. This situation limits not only communication between individuals and families, but also represents an obstacle to the exchange of traditional goods and services between groups on both sides of the border line, which in turn has impacts on the economic dynamics of these populations.

On the other hand, the socio-economic dynamics that the people of the area have had in the last years has made their space of hunting and gathering to diminish, which forces them to go deeper and deeper into the forest, which increases the possibility of accidents by the involuntary activation of antipersonnel mines.

There are a number of social impacts of the mined sectors for the population. The first has to do with the displacement of the mines, since the climatic conditions of the area and the physical characteristics of these devices, allow them with the rains, to move towards areas of a possible greater transit of inhabitants, with a potential Hazard to their physical integrity and life.

**14. Institutional capacity, human resources and material available**

The National Humanitarian Demining Center of Ecuador (CENDESMI) has personnel specialized in humanitarian demining, trained to supervise in an external way, the process of humanitarian demining that is taking place in the national territory.

The “COTOPAXI” Engineers Battalion Nº 68 and General Command of Demining and EOD (CGDEOD), is in charge of the removal of antipersonnel mines in the common border with Peru, in coordination with CENDESMI, the “COTOPAXI” Engineers Battalion Nº 68 and CGDEOD; Have a Demining Company with a total of 140 military demining personnel. This unit is trained in the task of humanitarian demining and has specialized equipment for this work.

In the year 2014, Ecuador increased the operational capacity including the mechanical demining technique, through the acquisition of the DOK-ING MV-4 Robot, for demining and the implementation of two mechanical demining squadrons, in order to comply with Ecuador's obligations under Art. 5 of the Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Antipersonnel Mines and on Their Destruction.

For the implementation and improvement of the commitments assumed during the Extension Period, the Ecuadorian State will take on the following actions:

Continue with the meetings of National Authorities of Humanitarian Demining of Ecuador and Peru.
Acquisition of new technological equipment for humanitarian demining operations.
Training of new personnel of demining staff.

Institutional capacity, human resources and available material.

CENDESMI, through its Army Corps of Engineers and its executing unit (BE 68 "COTOPAXI" and CGDEOD), have been carrying out humanitarian demining operations in coordination with CONTRAMINAS - Peru, maintaining the 140 demining staff highly trained and specialized in humanitarian demining at an national and international level.

| Ord. | Province | District | ID of the Confirmed Hazardous Area | Longitude | Latitude | Area where presence of antipersonnel mines have been confirmed (square meters) | Area where antipersonnel mines are suspected (square meters) | Estimated Completion Date |
|---|---|---|---|---|---|---|---|---|
| 1 | Zamora Chinchipe | Gualaquiza | PV_La media | 789439,95 | 9593127,02 | 25.000,00 | | 2018 |
| 2 | | | Obst_D-16 | 789030,42 | 9592586,67 | 6.215,00 | | |
| 3 | | | Obst_D-34 | 789940,45 | 9606426,54 | 7.009,00 | | 2019 |
| 4 | | | Obst_D-36 | 790040,45 | 9606426,54 | 110,00 | | |
| 5 | | | Obst_C-19 | 789440,44 | 9601226,59 | 154,00 | | |
| 6 | | | Obst_C-20 | 789332,44 | 9600726,59 | 45,00 | | |
| 7 | | | Obst_C-21 | 789440,44 | 9600926,59 | 300,00 | | |
| 8 | | | Obst_C-22 | 789490,44 | 9601236,59 | 200,00 | | |
| 9 | | | Obst_D-12 | 788947,42 | 9592426,67 | 120,00 | | |
| 10 | | | Obst_D-13 | 788390,44 | 9595546,69 | 52,00 | | |
| 11 | | | Obst_D-14 | 788510,43 | 9592026,67 | 1.600,00 | | |
| 12 | | Miazi | PV-2_07 | 787695 | 9582072 | 750,00 | | 2020 |
| 13 | | | Obst_D-32 | 788090,41 | 9585816,73 | 9.000,00 | | |
| 14 | | | Obst_D-33 | 787850,42 | 9585586,73 | 75,00 | | |
| 15 | | | CG-242 | 779836 | 9566932 | 45,00 | | |
| 16 | | | CG-243 | 779883 | 9566958 | 600,00 | | |
| 17 | | | CG-245 | 770216 | 9558160 | 1.140,00 | | |
| 18 | | | CG-224 | 769832 | 9553324 | 275,00 | | |
| 19 | | | CG-225 | 769832 | 9553324 | 1.280,00 | | |
| 20 | | | CG-226 | 769784 | 9553102 | 1.159,00 | | |
| 21 | | | CG-227 | 769745 | 9553214 | 250,00 | | |
| 22 | | | CG-235 | 760103 | 9518180 | 100,00 | | |
| 23 | | | CG-237 | 759999 | 9505366 | 60,00 | | |
| 24 | | Chinapintza | PV-Peringos_01 | 787461 | 9582555 | 80,00 | | 2021 |
| 25 | | | CG-215 | 770065 | 9552299 | 420,00 | | |
| 26 | | | CG-216 | 770065 | 9552299 | 250,00 | | |
| 27 | | | CG-217 | 770065 | 9552299 | 525,00 | | |
| 28 | | | CG-218 | 770065 | 9552299 | 240,00 | | |
| 29 | | | CG-219 | 770065 | 9552299 | 100,00 | | |
| 30 | | | CG-220 | 770065 | 9552299 | 80,00 | | |
| 31 | | | CG-221 | 770065 | 9552299 | 50,00 | | |
| 32 | | | CG-222 | 770065 | 9552299 | 75,00 | | |
| 33 | | | CG-223 | 770065 | 9552299 | 126,00 | | |
| 34 | | Cóndor Mirador | Obst_C-26 | | | | 180,00 | 2022 |
| 35 | | | Obst_C-1 | | | | 69,00 | |
| 36 | | | Obst_C-2 | | | | 45,00 | |
| 37 | | | Obst_C-3 | | | | 28,00 | |
| 38 | | | Obst_C-4 | | | | 60,00 | |
| 39 | | | Obst_C-5 | | | | 90,00 | |
| 40 | | | Obst_C-6 | | | | 165,00 | |
| 41 | | | Obst_C-7 | | | | 400,00 | |
| 42 | | | Obst_C-8 | | | | 12,00 | |
| 43 | | | Obst_C-9 | | | | 90,00 | |
| 44 | | | Obst_C-12 | | | | 600,00 | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 45 | | | Obst_C-13 | | | | 600,00 | |
| 46 | | | Obst_D-19 | | | | 500,00 | |
| 47 | | | Obst_D-20 | | | | 3.200,00 | |
| 48 | | | Obst_D-22 | | | | 525,00 | |
| 49 | | | Obst_D-23 | | | | 90,00 | |
| 50 | | | Obst_D-24 | | | | 75,00 | |
| 51 | | | Obst_D-25 | | | | 260,00 | |
| 52 | | | Obst_D-40 | | | | 100,00 | |
| 53 | | | Obst_D-41 | | | | 30,00 | |
| 54 | | | Obst_D-42 | | | | 10,00 | |
| 55 | | | Obst_D-43 | | | | 150,00 | |
| 56 | | Machinaza Alto | Obst_C-23 | | | | 80,00 | |
| 57 | | Miazi | Obst_C-25 | | | | 135,00 | |
| 58 | | Paquisha | Obst_C-27 | | | | 18,00 | |
| 59 | | | Obst_C-28 | | | | 9,00 | |
| **TOTAL** | | | | | | **57.485,00** | **7.521,00** | |

Through the acquisition of new material and equipment for detection of metals and UXO's to improve operational capacity and to have greater effectiveness in carrying out the manual demining technique through detection.
Through the acquisition of dogs and the respective training to continue using the technique of canine demining and in this way to carry out the Internal Quality Control (IQC) of the areas that were demined through the technique of manual demining.
Through the acquisition of new accessories for the use of the Robot MV-4 to continue with the technique of mechanical demining.

Material resources

It is planned to carry out the maintenance of all existing logistical equipment for the execution of humanitarian demining operations.

Technological resources

Unmanned aerial vehicles (UAV) will be used to obtain real-time multi-spectral imaging, digital modeling and terrain elevation, the study of areas difficult to access either by the geography of the site or by contamination of mines or explosive devices at risk, location and visual assessment of potential injured in minefields, location with precise coordinates for the building of heliports, administrative areas, points of water, camps location, paths, obtaining of data that will be processed and validated through the use of a geographic information system (GIS) and sent to the competent authorities in a timely manner.

Infrastructure

The replacement of new infrastructure and the maintenance of existing infrastructure is necessary, through the acquisition of new mobile camps with

their respective logistics equipment, in order to continue operations of humanitarian demining on the pending objectives.

The challenge that Ecuador has on liberating confirmed and suspected Hazardous areas and to comply with its commitment to the Convention is of 100,496.00 m2, according to the following detail:

| Ord. | Province | District | ID of the Confirmed Hazardous Area | Longitude | Latitude | Area where presence of antipersonnel mines have been confirmed (square meters) | Area where antipersonnel mines are suspected (square meters) | Estimated Completion Date |
|---|---|---|---|---|---|---|---|---|
| 1 | Morona Santiago | San Juan Bosco | $Km^2$ Tiwintza | | | **35.490,00** | 0 | Prior to coordination with Peru, the operations will be carried out by the Bi-national Demining Unit Ecuador - Peru. |
| **TOTAL** | | | | | | **35.490,00** | 0 | |

Table N ° 18: Detailed programming and challenges 2018 - 2022.