Answers to the Additional Observations and Comments of the CCM Article 4 Analysis Group on the Updated Extension Request (Appendix 2) submitted by Chile on 30 March 2020 in accordance with Article 4.5 of the Convention

Santiago, May 8, 2020.

I. Analysis Group Observations

Having closely studied the additional information, the Analysis Group regrets to note the absence of some critical aspects in the work plan and important details on the available resources to comply with the Article 4 obligations within the requested extension period. As set out in Article 4.6 of the Convention, the request needs to contain a detailed explanation of the reasons for the proposed extension, including the financial and technical means available to and required by the State Party for the clearance and destruction of all cluster munition remnants during the proposed extension.

Comments of Chile

1. As explained in all previous instances, Chile is unfortunately not in a position to meet the June 2021 clean-up deadline with respect to the CCM. Therefore, it has requested a 5-year extension.
2. Chile sovereignly decided to privilege compliance with the Ottawa Convention, where it was the national center of gravity for the last 18 years, based on the high danger that antipersonnel mines represented for civilians, as they were planted on border lands of various uses. Additionally, our country did not have the national economic capacity to address two simultaneous commitments (demining and cleaning of cluster munition remains), as is the case of the Ottawa Convention and the CCM.
3. In our country, cluster munitions ARE NOT REMAINS OF A NATIONAL OR INTERNATIONAL WAR. The areas contaminated by suspicion correspond exclusively to 4 Military Firing Ranges (Army 1 and Air Force 3), which are of forbidden access for civilians and restricted for the military. Therefore, once these lands have been cleaned, they will not be incorporated for agricultural use or human settlements of any nature.
4. Chile already fully complied with the destruction of all Cluster Munitions stocks in 2013. Furthermore, to date, there are no civilian or military victims of Cluster Munitions.
5. The Armed Forces permanently carry out activities in these firing ranges and after each exercise, it is arranged that EOD crews review and eliminate UXOs. The last time Cluster Munitions were used was between 2007 and 2008, since that date, the EOD crews have eliminated all the UXOs found, and have not reported seeing any Cluster Munitions remains.
6. Regarding national legal and administrative regulations, financial resources are requested from the Supreme Government (Ministry of Finance) in September of the current year and the budget allocation for the following year is granted in January of the following year. In this context, the resources for the WRC will be presented during the first semester of 2020 to the Government.

7. A 5-year extension was requested, for two main reasons:
    a. Financial planning to address CCM compliance stipulates a 5-year term as well.
    b. Operationally, the Chilean Armed Forces are scheduled to carry out the cleanup within 5 years.
8. Additionally, the COVID-19 Epidemic that is affecting Chile at the moment, is adding great complexity to our country, both financially and in the same way to the responsibilities that the Armed Forces must assume in support of the civilian population.

II. ***Standards framework.***

Analysis Group Observations

There appears to be some inconsistency over the relevant provisions in international standards.

Para II. 6. Notes that provisions in IMAS chapters 07.11, 08.10, 08.20 and 09.30 will be considered. It is unclear why the para omits IMAS 09.10 Clearance Requirements and/or IMAS 09.11 Battle Area Clearance which contain important provisions relating to this exercise – including the definition of 'clearance': "in the context of mine action, the term refers to tasks or actions to ensure the removal and/or the destruction of all Explosive Ordnance from a specified area to a specified depth or other agreed parameters as stipulated by the NMAA/Tasking Authority."

Comments of Chile.

1. It is noted that the observations indicated by the Analysis Group correspond to Paragraph I.6. of the response to comments of March 29, 2020.
2. During the 18 years of clearance of antipersonnel mines, carried out by the demining units of the Chilean Army and Navy, International Mine Action Standards (IMAS) were applied, a situation that was reported to the United Nations in the reports on transparency measures. it used the IMSMA system for information management and the MARS system for georeferencing of cleared areas.
3. As indicated in Article 4, paragraph 3, of the Convention on Cluster Munitions, the States Parties shall take into account for the development of activities the cleaning and destruction of cluster munition remnants, international standards, including international standards. on Mine Action (IMAS, International Mine Action Standards).

    In this sense, Chile has considered, among others, the following IMAS:

    a. IMAS 07.10 Guidelines and requirements for the management of land release and residual contamination operations.
    b. IMAS 07.11 Land release.
    c. IMAS 08.10 Non-Technical Survey (NTS).
    d. IMAS 08.20 Technical Survey (TS).
    e. IMAS 09.10_Ed2-Am6 Clearance requirements.
    f. IMAS 09.11 Battle Area Clearance (BAC).
    g. IMAS 09.20 The inspection of cleared land: guidelines for the use of sampling procedures (Second Edition, Amendment 6, June 2013).
    h. IMAS 09.30 Explosive Ordnance Disposal Ed 2 Amend 5 October 14.

Analysis Group Observations

Para III. 9. states that the Training Centre for Demining and Destruction of Explosives (CEDDEX) will carry out the certification of cleared areas. The certification mentioned would need to be based on defined clearance parameters, such as the minimum specified depth to which all CMR have been removed. This in turn should inform the selection of appropriate equipment (metal detectors, mechanical assets etc).

Comments of Chile.

As the Analysis Group points out, in its comments in paragraph III.9, the Training Center for Demining and Destruction of Explosives (CEDDEX), will be the body that will certify the cleaning work, to be carried out by the Army's, Navy and Chilean Air Force EOD Units; but the parameters such as depth, definition of spaces, equipment to carry out the tracking will be provided and arranged by the National Authority (SECNAD), in this sense, compliance with United Nations standards for these purposes is guaranteed.

Question 1:

Could CEDDEX please confirm that clearance will be conducted in line with the provisions in IMAS 09.10/09.11? it would also be useful to understand the minimum specified clearance depth that will be applied to CMR clearance in Chile?

Answer of Chile.

CEDDEX for 18 years carried out almost all the Certification processes, in the cleared mined areas during the implementation of Article 5 of the Ottawa Convention, antecedents recorded in the reports sent to the United Nations. The identification of the sectors and georeferencing of the minefields obtained through the IMSMA and MARS systems.

Consequently, the processes established in IMAS 09.10, 09.11 and 09.20, the quality control and certification of cleared areas within the framework of the Convention on Cluster Munitions, will be carried out once the clearance of the area to be certified has been carried out. Considering among other aspects the depth established by the national authority, in order to ensure that the terrain is safe for users.

The depth established by the National Authority for this process is 30 centimeters.

III. Land Release Calculations

Analysis Group Observations

As described in the original extension request Para I. 3. of this Appendix notes that 32,272,476 m2 was cancelled through Non-Technical Survey, this is in line with the provisions outlined in IMAS 07.11 and 08.10.

Comments of Chile.

It is noted that the observations indicated by the Analysis Group in Paragraph I.3, correspond to Paragraph I.2.

In fact, 32,272,476 m2 were reduced through Non-Technical Surveys (NTS), which are in accordance with IMAS 07.10, 07.11 and 08.10, with the reduction of 64,611,124 m2 remaining, by means of Technical Surveys (TS), in accordance with IMAS 07.10, 07.11 and 08.20.

The TS have not been carried out in the four areas contaminated by cluster bombs, which makes it impossible to provide figures in this regard.

Question 2:

Do the authorities expect further area to be reduced through Technical Survey in line with the provisions outlined in IMAS 07.11 and 08.20? If so, are figures available for each of the contaminated areas?

Answer of Chile.

There is still no financing to carry out the technical studies, which would allow reducing the contaminated areas.

From the information provided it is also difficult to understand some of the clearance planning figures, for example: The table in para I .4. outlines remaining suspected contamination at each of the four clearance sites, the table in III. 5. outlines the forecast number of operational months for each site, from these we can discern the forecast monthly clearance rate in sqm and Ha:

contaminated area	responsible unit	suspected area m2	months	rate in m2/month	rate in Ha/Month	rate in m2/day (assuming 21 work days/month)	rate in Ha/day (assuming 21 work days/month)
Pampa Chaca Este	Arica	30,560,000	51	599,216	59.9	28,534	2.9
Delta	Calama	28,291,563	49	577,379	57.7	27,494	2.7
Barrancas	UDH Fach	2,669,542	7	381,363	38.1	18,160	1.8
Pta. Zenteno	Pomta	3,090,019	8	386,252	38.6	18,393	1.8

Analysis Group Observations

Para II. 4. Notes that each clearing unit have at least 7 'tracking teams' (in addition to EOD capacity and other support functions). Para III. 2. Notes that previous experience indicates a daily 'advance' of one hectare a day per 'tracking pair'. Assuming that each tracking team consists of a tracking pair one would therefore calculate an average rate of 7 Ha per day. As the forecast rates are less than half of that it is clear they have not been calculated based on the numbers/experience cited in para III. 2.

Comments of Chile.

In relation to the comments of the Analysis Group, which emerge from the tables in paragraph I.4 (Suspicious Areas to be cleared) and paragraph III.5 (Operational Provisions for the cleaning of cluster munition remnants), such as the observations that follows from paragraph II.4 (Minimum Organization of an EOD Unit) and paragraph III.2 (Experience of daily progress by binomial), the decision was made to present a new "Projection Projection Planning For Cleaning Operations Remains of Cluster Munitions ".

1. Background of the areas contaminated by clearing:

a. The possible contamination of the firing ranges where cluster munitions were used, and other types of ammunition, implies that the calculations made with parameters of areas tracked in other areas of the country, which had a lower level of contamination, allow us to point out that using the Same standards established in the IMAS and the institutional regulations of the Chilean Armed Forces, the level of progress could be much lower than what was initially considered in paragraph III.2 (Experience of daily progress by binomial).

b. In order to make a comparison of these factors, screening tests were carried out in an institutional area, specifically in a site dedicated to the destruction of UXOs, with high contamination of metal remains and scrap metal, which showed an advance average per 100 m2 tracker, in a 4.5 hour day.

c. Considering the values obtained in the experiences of the Non-Technical Survey carried out in 2019, the practical work carried out in previous years and the field tests in a UXO destruction area, it has been possible to define that the average progress of a couple of trackers, considering optimal conditions to carry out this technical work, in a high contamination area, could reach a maximum tracking of 5,000 m2 per day.

2. Arica and Parinacota Region.

a. The Non-Technical Survey carried out in December 2019, allowed to reduce 3,150,000 m2 of the original surface of 33,710,000 m2, leaving the surface to be treated at 30,560,000 m2. However, this same Non-Technical Survey indicates the need to track the total surface of Pampa Chaca Este area, mainly due to the high presence of projectile detonations of different types, which represents a high contamination of UXOs, in addition to the high presence of scrap metal from the remains of all kind of munitions and targets.

b. According to the aforementioned, in the case of Pampa Chaca Este the following is obtained:

1) Area: 30,560,000 m2, corresponding to 6,112 lots of 5,000 m2 each.

2) EOD unit for cleaning cluster munition remnants:

The EOD Unit for the tracking, detection and destruction of cluster munition remains to be used in the Pampa Chaca firing range will be one Tracking Section made up of 2 teams of 14 Trackers (7 pairs) each.

3) Estimated time for the execution of the technical works: The "Work Week" of 5 days is considered.

Surface Contaminated Area (Lots of 5,000 m2)	6.112
Work Days by Tracking Section (14 Detection pairs)	437
Weeks organizing work areas and security corridors	4
Weeks Detection by Tracking Section	88
Weeks Clearance and Removal by Tracking Section	58
Weeks Destruction by Tracking Section (EOD Squad)	44
Weeks Organization, Detection, Clearance, Removal and Destruction Process by Tracking Section	194
Weeks Internal Quality Assurance Process	20
Weeks Certification Process (External Quality Control) considering LU 1 Normal	14
Number of Weeks to complete the Complete Process	228
Number of Months to complete the Complete Process	**57**

3. Tarapacá Region.

   a. Delta firing range

      1) The final report of the Non-Technical Survey of the Delta firing range dated February 6, 2020, established a Suspicious Hazardous Area (SHA) of 28,291,563 m2, which allowed to reduce 8,325,306 m2 of the original surface of 36,616,869 m2. The Non-Technical Survey established that in previous years, technical work was carried out to clean up the UXOs, without the procedures established in the IMAS; therefore, according to the information gathered by the Unit that carried out the Non-Technical Survey, it proposes to divide the area to be cleared into one canceled lot, two lots defined as Suspicious Hazardous Area (SHA) and one lot as Confirmed Hazardous Area (CHA). However, these antecedents must be confirmed with the Technical Survey, which will define more precisely the level of contamination that exists.
      2) Considering the average levels of progress in cleaning activities in areas with remnants of war ammunition, in the case of the Delta the following is obtained:

         a) Area: 28,291,563 m2, corresponding to 5,658 lots of 5,000 m2 each.

         b) EOD unit for cleaning cluster munition remnants:

            The EOD Unit for the tracking, detection and destruction of cluster munition remains to be used in the Delta Firing Range, will be one Tracking Section made up of 2 Crews of 14 Trackers (7 pairs) each.

         c) Estimated time for the execution of technical works:

            The 5-day Work Week is considered. In addition, this Unit must provide for the installation of a camp in the general area of Delta Firing Range.

Surface Contaminated Area (Lots of 5,000 m2)	5.658
Work Days by Tracking Section (14 Detection pairs)	404
Weeks organizing work areas and security corridors	4
Weeks Detection by Tracking Section	81
Weeks Clearance and Removal by Tracking Section	54
Weeks Destruction by Tracking Section (EOD Squad)	40
Weeks Organization, Detection, Clearance, Removal and Destruction Process by Tracking Section	179
Weeks Internal Quality Assurance Process	18
Weeks Certification Process (External Quality Control) considering LU 1 Normal	12
Number of Weeks to complete the Complete Process	209
Number of Months to complete the Complete Process	**52**

   b. Barrancas firing range

      1) The final report of the Non-Technical Survey of the Barrancas firing range, established 3 Suspicious Danger Area of 2,669,542 m2.

      2) Considering the average levels of progress in cleaning activities in areas with remnants of war ammunition, in the case of the Barrancas firing range the following is obtained:

         d) Area: 2,669,542 m2, corresponding to 534 lots of 5,000 m2 each.

         e) EOD unit for cleaning cluster munition remnants:

The EOD Unit for the tracking, detection and destruction of cluster munition remains to be used in the Barrancas Firing Range, will be one Tracking Section made up of 2 Crews of 14 Trackers (7 pairs) each.

f) Estimated time for the execution of technical works:

The 5-day Work Week is considered. In addition, this Unit must provide for the installation of a camp in the general area of Delta Firing Range.

Surface Contaminated Area (Lots of 5,000 m2)	534
Work Days by Tracking Section (14 Detection pairs)	76
Weeks organizing work areas and security corridors	3
Weeks Detection by Tracking Section	15
Weeks Clearance and Removal by Tracking Section	10
Weeks Destruction by Tracking Section (EOD Squad)	8
Weeks Organization, Detection, Clearance, Removal and Destruction Process by Tracking Section	36
Weeks Internal Quality Assurance Process	5
Weeks Certification Process (External Quality Control) considering LU 1 Normal	4
Number of Weeks to complete the Complete Process	45
Number of Months to complete the Complete Process	**11**

4. Magallanes Region.

a. The Non-Technical Survey carried out in the Punta Zenteno Firing Range was able to determine the existence of a high level of contamination of UXOs explosives of various types, and there is also no history of technical work carried out in previous years. The Non-Technical Survey determined a total surface to be treated of 3,090,019.11 m2, canceling 3,428,580.89 m2 of the initial total of 6,518,600 m2.

b. According to the aforementioned, in the case of Punta Zenteno Firing Range the following is obtained:

1) Area: 3,590,019.11 m2, corresponding to 618 lots of 5,000 m2 each.

2) EOD unit for cleaning cluster munition remnants:

The EOD Unit for the tracking, detection and destruction of cluster munition remains to be used in the Punta Zenteno Firing Range will be 01 (One) Tracking Section made up of 2 Teams of 14 Trackers (7 pairs) each.

3) Estimated time for the execution of the technical works: The "Work Week" of 5 days is considered.

Given the climatic conditions that this region presents, with winters of intense rains of water and snow, the technical works must necessarily be carried out in the summer season, considering from October to April.

Surface Contaminated Area (Lots of 5,000 m2)	618
Work Days by Tracking Section (14 Detection pairs)	88
Weeks organizing work areas and security corridors	4
Weeks Detection by Tracking Section	18
Weeks Clearance and Removal by Tracking Section	12
Weeks Destruction by Tracking Section (EOD Squad)	9
Weeks Organization, Detection, Clearance, Removal and Destruction Process by Tracking Section	42

Weeks Internal Quality Assurance Process	6
Weeks Certification Process (External Quality Control) considering LU 1 Normal	5
Number of Weeks to complete the Complete Process	53
Number of Months to complete the Complete Process	**13**

Question 3:

Could the relevant authority please provide additional information on how the forecast rates were calculated?

Answer of Chile.

Additional information on how forecast rates were calculated can be obtained in the answer of question 2 and in the Annex "Country Summary".

Question 4:

It would also be useful to confirm/understand the number of active searchers deployed in each of the units, and how many units will be deployed at each contaminated area?

Answer of Chile.

Additional information on the number of active searchers deployed in each of the units, and how many units will be deployed at each contaminated area can be obtained in the answer of question 2 and in the Annex "Country Summary".

IV. Financial resources to implement work plan

Analysis Group Observations

The budget projections in the table on p. 10 are not clear to follow as there are a lot of inconsistencies. For instance, in 2021 Chile projects assistance of USD 225,574, but the following year USD 45,574, etc. Addionally, the Chilean Pesos and the US Dollar equivalent do not match. An explanation would help better understand the available funding and the financing gap.

Comments of Chile.

1. Budget projections consider resources in national currency and other resources in foreign currency, in this case in United States dollars (US $).
2. If you want to know the total in a single currency, you will have to convert one and add them from there. The projected expenses in US $ correspond to resources that will be spent in that currency.
3. To simplify the above, a table summarizing the national cost in US dollar currency has been constructed below.

US$	2021	2022	2023	2024	2025	2026
SECNAD	509.480,37	915.515,50	1.132.143,41	358.473,88	358.473,88	358.473,88
EOD ARICA (Army)	188.060,80	211.316,61	211.316,61	211.316,61	211.316,61	123.739,70
EOD IQUIQUE (Army)		211.316,61	211.316,61	211.316,61	211.316,61	111.762,96
EOD FACH		116.414,12				
EOD (Navy)		116.414,12				
CEDDEX	81.189,78	64.931,25	64.931,25	23.512,12	64.931,25	23.512,12
EMCO	593.741,82	871.963,10	693.642,41	693.642,41	693.642,41	693.642,41
Total	**1.372.472,77**	**2.507.871,33**	**2.313.350,29**	**1.498.261,62**	**1.539.680,76**	**1.311.131,06**
					GRAN TOTAL	**10.542.767,83**

Note: Conversion rate 1 US$ = 860 Chilean Pesos

Question 5:

How was the budget projection calculated and how much of it is guaranteed during the request period?

Answer of Chile.

The projection of the budget was planned based on the following aspects:

1. The 4 areas contaminated with cluster munitions throughout the national territory and the necessary units for their cleaning were defined.
2. The Humanitarian Demining Units were analyzed, as well as their level of training and their needs for both equipment and means to accomplish the task. In question 2 and Annex "Country Summary" you can see the number of personnel by geographic area.
3. Different studies were carried out that allowed defining the amount of time to clear the four contaminated areas.
4. Based on the availability of financial resources, it was defined that for the 1st. year of work could only be activated in the following aspects:
    a. It was defined that it would only be operated in the Pampa Chaca Este Firing Range, since it has the largest area, trained personnel, its equipment and means are operational.
    b. It was defined to train personnel in EOD1 and EOD2 courses, the rest of the EOD units that will not work in the contaminated areas with cluster munitions in the 1st. year.
    c. Maintenance and equipment repairs were defined for the units that will not work on the 1st. year.

Analysis Group Observations

The table in para.III.15 suggests that the cleaning operations will be carried out in 2021 in all four contaminated areas simultaneously, but according to the budget contained in para. IV.2a, three out of the four EOD units responsible for the clearance operation (their allocation is deducted from the table in para.III.5) will not receive any budget for that year.

Comments of Chile.

During 2021, it is planned to start activities to prepare for the clearance of Cluster Munitions.

EOD units were not considered resources, since the preparation activities are considered in the budget of the Directorate. For better clarity and understanding, the corresponding table was modified.

AREA	2021	2022	2023	2024	2025	2026
Pampa de Chaca Este						
Delta						
Barrancas						
Punta Zenteno						

Question 6:

Can Chile provide clarity on the budget allocation for each of the contaminated areas/EOD units assigned?

Answer of Chile.

1. In accordance with Chilean legal and administrative regulations, financial resources will be requested from the Supreme Government (Ministry of Finance) in September 2020 and the budget allocation for the following year would be granted in January 2021.
2. In this context, the resources for the CCM will be presented during the first semester of 2020 to the Supreme Government.
3. This same procedure will be applied in each of the years that this cleaning operation lasts.

Analysis Group Observations

Appendix 2 para V.2 mentions that a list for "Cooperation and Assistance" is being prepared to be provided by 30 April 2020. There is not much information provided and broken down year by year indicating the additional resources required. More information on this aspect should be p provided.

Comments of Chile.

Given the commitments to face certain Chilean social challenges, as well as the crisis caused by COVID19, international assistance is requested. The above is to replace equipment, keep what is used in demining the Anti Personnel Mines.

Activity	*Description*	*Period*	*Need*
Search and removal	Protection gear	2021-2022	US$ 122,352.94
Search and removal	Detectors	2022-2023	US$ 400,202,39
Search and removal	Detectors software	2022-2023	US$ 296,399.52
Machinery maintenance	Used in humanitarian demining	2021	US$ 180,000.00
Supporting Vehicles	1 Truck, 1 Bus & 1 Ambulance	2022-2023	US$ 430,588.24
		SUB TOTAL	**US$1,429,543.09**

Risk education	Annual educative campaigns in 4 areas, making informative material.	2021-2026	US$ 200,000.00
		GRAND TOTAL	**US$1,629,543.09**

Question 7:

What contingency plan is in place to meet the financing shortfall if government funds are not sufficient?

Answer of Chile.

As detailed throughout this questionnaire, the Chilean intention is that this cleaning operation will be carried out with national resources. The above, ideally increased with certain resources provided through international assistance, as detailed in Point XIV (previous table).

On the other hand, the greatest danger at present is the COVID-19 Pandemic. This situation not only affects Chile, but the entire world.

The effects of COVID-19 are still unsuspected and could, eventually, force Chile to derive resources from the different National Financial Programs to supply urgent needs of a sanitary and / or social nature for the Chilean population.

In fact, should this extreme situation arise, in due course it would be analyzed whether it would be necessary to request international assistance, either partially or totally.

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ANNEX: " COUNTRY SUMMARY"

NAME OF CONTAMINATED AREA	PAMPA CHACA ESTE	DELTA	BARRANCAS	PUNTA ZENTENO
Surface of Contaminated Area (Square Meters)	30.560.000	28.291.563	2.669.542	3.090.019
Surface Contaminated Area (Lots of 5,000 m2)	6.112	5.658	534	618
Work Days per Tracking Section 2 Crews (14 Pairs)	437	404		
Work Days per Tracking Section 1 Crews (7 Pairs)			76	88
Number of Weeks Organization of work areas and security corridors	4	4	3	4
Detection Weeks (5-day Work Week) by Tracking Section	88	81	15	18
Clearance and Removal Weeks (5-day Work Week) by Tracking Section	58	54	10	12
Destruction Weeks (5-day Work Week) by Tracking Section	44	40	8	9
Weeks Organization, Detection, Clearance, Removal and Destruction Process by Tracking Section	194	179	36	42
Weeks Internal Quality Assurance Process	20	18	5	6
Weeks Certification Process (External Quality Control) LU 1 Normal	14	12	4	5
Weeks to complete the Complete Process	228	209	45	53
Months to complete the Complete Process	57	52	11	13
Years to complete the Complete Process	4,75	4,33	0,91	1,08

* Note: The working days were calculated considering for "Pampa Chaca Este" and "Delta" a Tracking Section with 2 Teams and in the case of "Barrancas" and "Punta Zenteno" a Tracking Section with 1 Team.

SSD / RR.II. / DCI / EMCO-SECNAD