

**ARTICLE 5 DEADLINE: 1 MARCH 2028**  
NOT ON TRACK TO MEET DEADLINE

## KEY DATA

**ANTI-PERSONNEL (AP)  
MINE CONTAMINATION: HEAVY  
(NO CREDIBLE ESTIMATE)**

AP MINE  
CLEARANCE IN 2022

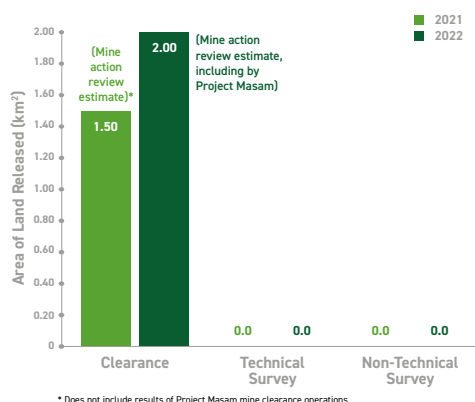
**2km<sup>2</sup>**

(MINE ACTION REVIEW  
ESTIMATE, INCLUDING BY  
PROJECT MASAM)

AP MINES  
DESTROYED IN 2022

**2,369**

## LAND RELEASE OUTPUT



**CURRENT LIKELIHOOD OF MEETING 2025 CLEARANCE TARGET (as per the Oslo Action Plan commitment): NONE**

## KEY DEVELOPMENTS

In 2022, Yemen's internationally recognised government (IRG) requested and was granted a five-year extension of its Article 5 deadline until end-March 2028. A baseline survey conducted by the Yemen Executive Mine Action Centre (YEMAC) in Aden, which represents the IRG (YEMAC-IRG) identified 239 hazardous areas totalling around 52km<sup>2</sup>. In the north, three international demining non-governmental organisations (NGOs) visited Sana'a in February 2023 and negotiated a memorandum of understanding (MoU) with the authorities in Sana'a that would provide a basis for them to operate in areas controlled by Houthi authorities but the MoUs remained unsigned as at August 2023. After nearly a decade of donor support, funding for a United Nations Development Programme (UNDP) programme of emergency support for mine action ended in June 2023 with the UN recommending that donors should instead fund implementing partners directly. Since April 2022, the UN Mission to support the Hudaydah Agreement (UNMHA) has taken on a stronger coordination role in Yemen, especially the Hudaydah governorate, in support of the UN country team's efforts, led by UNDP.

## RECOMMENDATIONS FOR ACTION

- All parties to conflict should act to halt continuing use of mines and improvised explosive devices.
- The IRG and YEMAC should streamline procedures for the importation of demining equipment and issuance of visas and movement permits.
- YEMAC-IRG and the Yemen Mine Action Coordination Centre (YMACC) in Aden should develop a mine action work plan setting clear targets for survey and clearance of mines and explosive remnants of war (ERW).
- YEMAC-IRG and YMACC should release aggregated data on contamination identified by the baseline survey by governorate and district.
- The Yemen Executive Mine Action Centre operating under the de facto authorities in Sana'a (YEMAC-DFA) should sign MoUs negotiated with international operators and with full support of all DFA authorities expedite the deployment of international NGOs (INGOs).

- YEMAC-DFA should cease its dual role of regulator and operator and create a coordination centre to take over responsibility for tasking, information management, and quality assurance (QA)/quality control (QC).
- YEMAC-DFA should conduct non-technical survey (NTS) consistent with international standards to establish a baseline estimate of contamination.
- The United Nations should act expeditiously to replace the emergency programme previously coordinated by UNDP with a framework for financial and technical support to survey, clearance, information management, and QA/QC consistent with international standards.

## ASSESSMENT OF NATIONAL PROGRAMME PERFORMANCE

Criterion	Score (2022)	Score (2021)	Performance Commentary
<b>UNDERSTANDING OF CONTAMINATION</b> (20% of overall score)	4	4	Yemen remains without a credible estimate of mine contamination. YEMAC-IRG continued to implement a baseline survey to assess mine and other explosive ordnance contamination but survey capacity was limited and progress was insufficient to determine the extent of contamination in any of Yemen's 22 governorates. YEMAC-DFA reported it conducted NTS identifying suspected hazardous areas (SHAs) amounted to nearly 1,200km <sup>2</sup> but the basis for the estimate and survey methods applied were unclear.
<b>NATIONAL OWNERSHIP AND PROGRAMME MANAGEMENT</b> (10% of overall score)	4	4	Mine action in Yemen, one of the world's poorest countries, is entirely dependent on international donor funding. Conflict between Sana'a-based De Facto Authorities (DFA) and the Aden-based IRG has effectively split YEMAC, undermining its national role and leaving YEMAC DFA in Sana'a subject to Coalition sanctions. YEMAC's two components do not coordinate their activities with each other. The coordination centre opened by YEMAC-IRG in 2020 (YMACC) worked closely with international operators in the south but the DFA took no action to implement a 2021 agreement to set up a similar body in the north.
<b>GENDER AND DIVERSITY</b> (10% of overall score)	5	5	Yemen's 2022 Article 5 deadline extension request identified inclusion of women as a priority and YEMAC-IRG has taken steps to employ women in field operations as well as office role in the south. The number of women employed in mine action remained small but international operators deployed some women in NTS and risk education roles and the extension request states "there is no objection to including more women." The extent and role of women in mine action in DFA-controlled areas is not known.
<b>INFORMATION MANAGEMENT AND REPORTING</b> (10% of overall score)	5	4	The UN reported information management in the South made good progress since YEMAC-IRG, with support from UNDP and the Geneva International Centre for Humanitarian Demining (GICHD) installed Information Management System for Mine Action (IMSMA) Core in the YMACC in 2021. Implementing partners said data supporting task orders was reliable. YEMAC-DFA works with a much older New Generation database and the quality of information it holds is unknown. YEMAC-IRG has regularly submitted Article 7 transparency reports and YEMAC-DFA produced a parallel report for the year ending 31 March 2023. UNMHA operated a dedicated database on landmine and ERW-related incidents and casualties in Al-Hodeida governorate, one of the most impacted governorates.
<b>PLANNING AND TASKING</b> (10% of overall score)	5	5	Yemen's mine action continues to provide an emergency response focused on life-saving interventions and civilian infrastructure rather than systematic or planned clearance. The 2022 Article 5 deadline extension request identified priority areas of activity, including particularly the baseline survey, but does not set out a detailed work plan. In the south, tasks are issued by YMACC but the criteria used for prioritising are unclear.
<b>LAND RELEASE SYSTEM</b> (20% of overall score)	4	4	YEMAC-IRG is revising and updating national mine action standards (NMAS) and standard operating procedures (SOPs). It reported revising 32 chapters of NMAS in 2021, including standards relating to land release, which it claimed were compliant with the International Mine Action Standards (IMAS) and the Oslo Action Plan. But the new standards had yet to receive government as of August 2023.
<b>LAND RELEASE OUTPUTS AND ARTICLE 5 COMPLIANCE</b> (20% of overall score)	6	6	YEMAC-IRG requested a five-year extension to Yemen's Article 5 deadline in March 2022 including for the purpose of conducting a baseline survey of contamination. Meanwhile, emergency response operations continued in the IRG- and DFA-controlled areas but uncertainty over data prevented a clear determination of progress. YEMAC-IRG reported clearing a little over 1km <sup>2</sup> and emergency clearance of 17km <sup>2</sup> without clarifying the distinction. YEMAC-DFA reported clearance of 47.5km <sup>2</sup> but the type of clearance was also unknown.
<b>Average Score</b>	<b>4.7</b>	<b>4.6</b>	<b>Overall Programme Performance: POOR</b>

## DEMINING CAPACITY

### MANAGEMENT CAPACITY

- Yemen Executive Mine Action Centre – Internationally Recognised Government, Aden (YEMAC-IRG)
- Yemen Mine Action Coordination Centre – Internationally Recognised Government, Aden (YMACC-IRG) (“YEMAC South”)
- Yemen Executive Mine Action Centre – De Facto Authorities, Sana’a (YEMAC-DFA) (“YEMAC North”)

### NATIONAL OPERATORS

- YEMAC
- Yemen Army Engineers

### INTERNATIONAL OPERATORS

- Danish Refugee Council Humanitarian Disarmament and Peacebuilding Sector (DRC)
- The HALO Trust (HALO)
- Norwegian People’s Aid (NPA)
- Project Masam/SafeLane Global/Dynasafe

### OTHER ACTORS

- United Nations Development Programme (UNDP)
- Geneva International Centre for Humanitarian Demining (GICHD)
- The Development Initiative (TDI)
- Prodigy Systems

## UNDERSTANDING OF AP MINE CONTAMINATION

Yemen has heavy contamination by conventional and improvised anti-personnel (AP) mines and a wide array of other explosive ordnance but the extent is not known after nearly eight years of conflict in which all parties have extensively used landmines. UNDP reported continued contamination from active and legacy improvised explosive devices (IEDs).<sup>1</sup> In addition, areas previously cleared have been re-contaminated while shifting conflict lines have hindered systematic survey or clearance.

YEMAC-IRG reported that a baseline survey launched in April 2021 in areas controlled by the Aden-based government had identified 52km<sup>2</sup> of contamination in six provinces by the end of 2022 (see Table 1), less than half the 78km<sup>2</sup> recorded by the Yemen Baseline Survey (YBLS) in six months of 2021.<sup>2</sup>

**Table 1: Results of Yemen-IRG baseline survey 2022<sup>3</sup>**

Province/region	CHAs	Area (m <sup>2</sup> )	SHAs	Area(m <sup>2</sup> )
Abyan	32	15,804,134	7	4,397,090
Aden	26	2,590,557	16	2,227,652
Al-Dhale	12	4,795,502	10	3,463,743
Al-Hodeida	25	2,864,382	0	0
Laheg	20	3,582,838	35	7,647,761
Taiz	45	4,051,703	11	543,122
<b>Totals</b>	<b>160</b>	<b>33,689,116</b>	<b>79</b>	<b>18,279,368</b>

YEMAC-DFA released a parallel Article 7 report for Houthi-controlled areas which reported that NTS had identified 527 suspected hazardous areas (SHAs) in seven governorates totalling 1,192km<sup>2</sup>. The report, which has not been listed on the Article 7 database, said NTS conducted in 10 districts of two governorates in the year ending 31 March 2023 had identified previously unrecorded SHAs covering a total of 142km<sup>2</sup>.<sup>4</sup> YEMAC-DFA reportedly employs a landmine impact survey methodology<sup>5</sup> which in other countries (and earlier in Yemen) has produced hugely inflated estimates of contamination.

Before the 2015 outbreak of conflict between the Saudi-backed Aden government and Ansar Allah (Houthi) forces controlling Sana’a, Yemen had AP mined area estimated to cover more than 200km<sup>2</sup>. A Landmine Impact Survey in 2000 had recorded mines in 18 of Yemen’s governorates. These came from multiple conflicts, including in 1962–73 and 1970–83, mines laid along the border between the North and South before they unified, a succession of conflicts after 1994, and by al-Qaeda in the Arabian Peninsula (AQAP). The last eight years of war, however, have massively increased the extent and complexity of contamination.

1 UNDP, Emergency Mine Action Project – Phase II, Annual Report 2022, 15 February 2023, p. 6.

2 Email from Ameen Saleh Alaqili, Director, YEMAC-IRG, 21 May 2023; Article 7 Report (covering 2022), Form D.

3 Email from Ameen Saleh Alaqili, YEMAC-IRG, 21 May 2023.

4 Email from Ahmed Yahya Alawi, Executive Officer/IMSMA Officer, YEMAC-DFA, 18 April 2023; Article 7 Report (for year covering 1 April 2022 to 31 March 2023), Form D.

5 Interview with Mukahhal Sulaiman, Information Management Adviser, GICHD, Geneva, 11 July 2023.

A United Nations panel reported in 2021 that the Houthis had made “widespread” use of mines in villages, schools, near water sources, on beaches, and on roads, posing a constant threat to civilians and provoking displacement.<sup>6</sup> Houthi officials have acknowledged using landmines<sup>7</sup> and have reportedly laid large numbers of IEDs, including mines of an improvised nature, along frequently shifting frontlines in the conflict. Analysis of some 2,400 improvised devices

since 2017 found 70% to be mines of an improvised nature.<sup>8</sup> Contamination is especially high along Yemen’s west coast where mines were placed with the aim of stalling the advance of pro-government Yemeni and Saudi coalition forces towards the strategic port of Hodeida and more recently around Marib, a focus of intense fighting in 2020 and 2021. The UN also reports that improvised sea mines pose a persistent threat to Red Sea shipping and coastal areas.<sup>9</sup>

## NATIONAL OWNERSHIP AND PROGRAMME MANAGEMENT

Management of mine action in Yemen is geographically divided along the lines of the conflict that erupted in March 2015 between the Houthi movement controlling the capital Sana’a as well as much of the north and west of the country (termed the De Facto Authorities or DFA by the United Nations), and the IRG, operationally based in Aden and the south.

Yemen established a National Mine Action Committee (NMAC) in June 1998 by prime ministerial decree to formulate policy, allocate resources, and develop a national mine action strategy.<sup>10</sup> The IRG reported it no longer recognised the NMAC and said in 2019 that it had been disbanded.<sup>11</sup> In 2023, YEMAC-DFA published a parallel Article 7 report in the name of the NMAC but it gave no details of its composition or role, if any.<sup>12</sup>

YEMAC was established in Sana’a in January 1999 as a national mine action agency and nominally maintains a national role but in practice has split into two operations, centred round Sana’a and Aden, respectively. YEMAC South informed Mine Action Review there was no coordination between the two because YEMAC North was under the control of Houthi militia.<sup>13</sup> YEMAC South is believed to employ around 750 staff and YEMAC North around 500, but the number of active personnel in either entity is uncertain.<sup>14</sup> UNDP earlier reported that, in total, YEMAC conducted clearance in 19 of Yemen’s 21 governorates.<sup>15</sup>

YEMAC South, headquartered in Aden, operated with some 500 staff reports operating through three branches serving Hadramaut, Marib, and Taiz. It identified Aden, Abyan, Dhale, Hodeida, Lahej, and Taiz as high-priority districts for mine action interventions.<sup>16</sup> Yemen’s APMBC Article 5 deadline extension request, submitted in March 2022, said that YEMAC

was planning to open an office in Marib to support operations in Al Bayda and Al Jawf governorates, as well as the western Shabwah governorate. Operations included explosive ordnance disposal (EOD) spot tasks, non-technical survey (NTS), and risk education.<sup>17</sup>

In April 2020, YEMAC South opened YMACC in Aden with a view to strengthening programme management in its area of operation. The centre, which is intended to facilitate cooperation with international organisations, has responsibility for accrediting organisations and issuing task orders. It has departments for planning, information management, and QA/QC.<sup>18</sup> The centre convened its first coordination meeting on 9 April 2020 and by early 2021 employed 44 people.<sup>19</sup> It had set up technical working groups focused on NTS and risk education.<sup>20</sup> Mine action stakeholders say the creation of YMACC has improved coordination with operators but decision-making boundaries between YEMAC and YMACC are opaque.

YEMAC North (YEMAC-DFA) functions as both the coordinator of mine action in northern governorates controlled by Houthi forces and as operator involved in all aspects of mine action including survey and clearance, risk education, victim assistance, information management, and quality management, a situation seen as creating a problematic conflict of interest to the detriment of quality and safety.<sup>21</sup> To address that issue, YEMAC North and the DFA’s Supreme Council for the Management and Coordination of Humanitarian Affairs (SCMCHA) have agreed in principle to set up a coordination centre similar to YMACC in the IRG-controlled areas but no action was taken in 2022 to implement the proposal.<sup>22</sup>

6 Letter from the Panel of Experts on Yemen to the President of the Security Council, UN doc. S/2021/79, 25 January 2021, pp. 3, 44.

7 J. Gambrell and M. Harb, “Landmines will be hidden killer decades after war”, *Associated Press*, 24 December 2018.

8 UNDP Yemen, “Emergency Mine Action Project – Yemen Phase Five Termination, Evaluation Brief EMA Project”, 2 August 2021.

9 UNDP, Emergency Mine Action Project – Phase II, Annual Report 2022, 15 February 2023, p. 6.

10 Article 7 Report, Form I, 31 March 2009.

11 APMBC Article 7 Report (covering 2018), Form A.

12 YEMAC-DFA, Article 7 Report (for year covering 1 April 2022 to 31 March 2023).

13 Email from Ameen Saleh Alaqili, YEMAC-IRG, 26 December 2021.

14 Interview with Stephen Bryant, UNDP, in Geneva, 23 November 2022.

15 UNDP *Annual Report on Mine Action in Yemen 2020*, February 2021, p. 9.

16 Email from Ameen Saleh Alaqili, YEMAC-IRG, 21 May 2023.

17 Yemen APMBC Article 5 deadline Extension Request, March 2022, pp. 26-27.

18 UNDP, “Emergency Mine Action Project, Annual Progress Report 2019”, 20 January 2020, p. 12; and email from Ameen Saleh Alaqili, YEMAC, 26 December 2021.

19 Emails from Ameen Saleh Alaqili, YEMAC-IRG, 5 May 2021; and Stephen Robinson, UNDP, 27 May 2020.

20 UNDP *Annual Report on Mine Action in Yemen 2020*, p. 14.

21 UNDP, “Emergency Mine Action Project – Phase II, Annual Report for 2022”, 15 February 2023, p. 21.

22 Ibid.

The DFA revoked the visa of UNDP's Senior Technical Adviser in 2021 limiting the programme's ability to support mine action in the north. Other UNDP staff were able to visit Sana'a in early 2022<sup>23</sup> but sporadic DFA denial of visas to UN and other international mine action operators has hampered development of capacity and operations to address explosive ordnance hazards.<sup>24</sup> UNDP purchased 300 detectors and 200 sets of personal protective equipment (PPE) in 2022 to support YEMAC North operations around Hodeida. The detectors were held in storage in Djibouti awaiting receipt of the necessary clearance for their importation from the IRG,<sup>25</sup> until August 2023 when they were handed over to YEMAC North by SCMCHA.<sup>26</sup> Three demining INGOs—Danish Refugee Council (DRC), The HALO Trust (HALO), and Norwegian People's Aid (NPA)—visited Sana'a in February 2023 and negotiated an MoU with YEMAC North that would provide a basis for operating in the DFA-controlled areas. Once signed, operators would register with the DFA's SCMCHA.<sup>27</sup> International stakeholders hoped for signature before the end of the year but as of August 2023 the MoU had yet to be signed.

UNDP has provided technical and administrative support to YEMAC for two decades but in 2022 faced reduced funding and was planning to end its current project in Yemen by the end of 2023.<sup>28</sup> The UN informed YEMAC-IRG in June 2023 that funding would cease at the end of the month.<sup>29</sup> The UN had supported mine action in Yemen from 1999 to 2003 through a programme implemented by the UN Office for Project Services (UNOPS). From 2003, the programme came under full national management. At the end of 2014, UNDP launched an Emergency Mine Action Project to support development of national capacity for mine action planning and programme management deploying an international adviser and from 2017 provided payment for approximately 1,000 national

personnel to conduct survey, clearance, and EOD.<sup>30</sup> The first phase of the Emergency Project ended in September 2021 and a second phase started in October 2021. The project's budget for 2022 was US\$11.7 million.<sup>31</sup>

In 2021, UNDP's project was conducted by six international and nine national staff working from a number of different offices. These included four project area coordinators based in Aden, Hodeida, Mokha, and Mukalla; two administrative staff in Sana'a; and three in Aden.<sup>32</sup> As a result of funding shortfalls, UNDP's Chief Technical Adviser on Counter-IED left Yemen in June 2022 and was not replaced. An adviser provided as an in-kind contribution by the Swedish Civil Contingencies Agency (MSB) joined in June 2022, supporting YEMAC and YMACC on countering improvised explosive devices disposal (C-IEDD).<sup>33</sup> UNDP's Chief Technical Adviser for mine action left the programme at the end of 2022.

UNDP reported that, after extensive consultations among partners and within the UN, it had decided to phase out the project activities by the end of 2023.<sup>34</sup> The UN informed YEMAC in June 2023 that payment for national staff would end at the end of June 2023. The UN was considering a proposal to support payment of salaries to 15 critical posts in both YEMAC-IRG and YEMAC-DFA but it recommended that donors channel future funding directly to international NGOs.<sup>35</sup>

Other institutions involved in decision-making or administrative procedures significantly affecting mine action include the Ministry of Planning and International Cooperation (MOPIC), the National Security Agency, and the Ministry of Defence, while mine action stakeholders also point to interventions by the Saudi Ministry of Defence Evacuation & Humanitarian Operations Centre (EHOC).

## ENVIRONMENTAL POLICIES AND ACTION

Yemen does not have a national mine action standard (NMAS) on environmental management and the emergency character of the response to mines and other explosive ordnance does not take account of environmental issues in planning and tasking. International operators reportedly adhere to relevant international standards. DRC said it sought to ensure that waste produced during demolitions is picked up and disposed of properly.<sup>36</sup>

23 Email from Stephen Bryant, UNDP, 7 February 2022.

24 UNDP, "Emergency Mine Action Project, Yemen Phase Five Terminal Evaluation Report", September 2021, p. 11.

25 UNDP, "Emergency Mine Action Project - Phase II, Annual Report for 2022", 15 February 2023, p. 12.

26 Email from UNMAS Headquarters, 29 September 2023.

27 Emails from Christina Hendryx, Programme Manager, Humanitarian, Disarmament and Peace Building (HDP), DRC, 15 May 2023; Faiz Mohammad Paktian, Country Director, NPA, 7 May 2023 and Matthew Smith, HALO, 11 July 2023.

28 UNDP, Emergency Mine Action Project - Phase II, Annual Report for 2022, 15 February 2023, p. 24.

29 Interviews with Patrick Fruchet, UN Adviser, in Geneva, 21 June 2023; and Aleksandar Mihajlov, Planning and Monitoring Specialist, UNDP, in Geneva, 22 June 2023.

30 UNDP, "Emergency Mine Action Project, Annual Progress Report 2019", 20 January 2020, p. 9; and interview with Stephen Robinson, UNDP, in Geneva, 20 July 2020; interview with Patrick Fruchet, Senior Mine Action Adviser to UN Resident Coordinator's Office for Yemen, in Geneva, 21 June 2023.

31 UNDP, "Emergency Mine Action Project - Phase II, Annual Report for 2022", 15 February 2023, p. 7.

32 UNDP Annual Report on Mine Action in Yemen 2020, p. 8.

33 UNDP, "Emergency Mine Action Project - Phase II, Annual Report for 2022", 15 February 2023, p. 11.

34 Ibid., p. 24.

35 Interviews with Patrick Fruchet, UN Adviser, in Geneva, 21 June 2023; and with Aleksandar Mihajlov, UNDP, in Geneva, 22 June 2023.

36 Emails from Christina Hendryx, DRC, 15 May 2023; and Matthew Smith, Head of Region, HALO, 11 July 2023.

## GENDER AND DIVERSITY

YEMAC-IRG said the inclusion of women in mine action was a priority in 2021 and, in Yemen's Article 5 deadline extension request submitted by the IRG in March 2022, it repeated that this was the position of both YEMAC and YMACC.<sup>37</sup> It started training female staff for EOD, NTS, and risk education in 2020.<sup>38</sup> The 2022 extension request noted that YEMAC had employed 15 women in NTS as well as another 15 women in risk education in order to ensure the different needs of women and girls as well as men and boys are taken into account. It said other women worked in information management and victim assistance. It stated "there is no objection to including more women".<sup>39</sup> However, YMACC was reportedly resistant to employing women in multitask teams.<sup>40</sup>

YEMAC-DFA affirmed to UNDP that women made up half of their NTS staff<sup>41</sup> but no details were available of overall staffing or the gender composition.

UNDP noted that integrating women into the mine action programme remained "challenging", but it reported that among 17 women who underwent training in 2021, three took an EOD Level 2 course, three others attended an improvised explosive device disposal (IEDD) good practice course and

engage in IED disposal operations with the Directorate of Family Protection, and 10 women were trained in NTS.<sup>42</sup>

Social and cultural conventions present a significant impediment to efforts to promote inclusion in the sector. Women's traditional role as responsible for family care is seen as discouraging women from applying for jobs. Operators report cases where husbands have forbidden women applicants from attending interviews. Risk education is conducted separately for women, often by female staff, to encourage participation of women, who are considered valuable informants on account of their knowledge of local conditions acquired carrying out family chores such as collecting wood and herding livestock.<sup>43</sup>

Employment of women among international operators remained at a low level. Women made up seven of DRC's 36 employees in 2022, including two of 11 staff in managerial or supervisory jobs and three of the 27 staff in field operations, with one female in each of three NTS teams.<sup>44</sup> HALO's 124 staff included 19 women, including 6 of the 37 in supervisory positions and 8 of 81 field operations staff who work in NTS and risk education teams.<sup>45</sup>

## INFORMATION MANAGEMENT AND REPORTING

Data management in the YEMAC-IRG area of operations has improved since 2020 with the installation of the Information Management System for Mine Action (IMSMA) Core database and the introduction of approved reporting templates.<sup>46</sup> A main server was installed in YMACC at the end of 2021 with support from UNDP and the Geneva International Centre for Humanitarian Demining (GICHD) to serve as a centralised data centre. UNDP reported information management developed well in 2022<sup>47</sup> when the information management team populated the database with data on clearance, victims, and accidents as well as receiving results of the baseline survey.<sup>48</sup> Furthermore, UNMHA operated a dedicated database on landmine and ERW-related incidents and casualties in Al-Hodeida governorate, one of the most impacted governorates.<sup>49</sup>

YEMAC said that information management system operations continue to be reviewed and strengthened.<sup>50</sup> It reported that all electronic reporting forms were designed with participation of operators in technical working groups and that a series of workshops and training sessions were organised for operators with support from UNDP and the GICHD.<sup>51</sup> Implementing partners previously submitted operating results to YMACC by email but in 2022 moved over to reporting via IMSMA. Project Masam, reported its operating results to YMACC but the data was held separately from other operators' results. Discussions were underway in 2023 on steps to integrate Project Masam's data with the rest of the mine action programme results.<sup>52</sup>

37 Email from Ameen Saleh Al-Aqili, YEMAC, 26 December 2021; and Article 5 deadline Extension Request, March 2022, p. 21.

38 Email from Ameen Saleh Al-Aqili, YEMAC, 5 May 2021; and *UNDP Annual Report 2020*, p. 15.

39 Article 5 deadline Extension Request, March 2022, p. 21.

40 Email from Marie-Josée Hamel, DRC, 30 March 2022.

41 UNDP, Emergency Mine Action Project - Phase II, Annual Report for 2022, 15 February 2023, p. 15.

42 UNDP, *Annual Report on Mine Action in Yemen 2021*, p. 15.

43 Email from Esteban Bernal, Programme Manager, Humanitarian, Disarmament and Peace Building, DRC, 23 March 2021.

44 Emails from Marie-Josée Hamel, DRC, 30 March 2022; and Christina Hendryx, DRC, 15 May 2023.

45 Email from Matthew Smith, HALO, 11 July 2023.

46 UNDP, Emergency Mine Action Project - Phase II, Annual Report for 2022, 15 February 2023, p. 9.

47 Ibid.

48 Interview with Mukahhal Sulaiman, GICHD, Geneva, 11 July 2023.

49 Email from UNMAS Headquarters, 29 September 2023.

50 Email from Ameen Saleh Alaqili, YEMAC, 21 May 2023.

51 Ibid.; and interview with Stephen Robinson, UNDP, in Geneva, 23 March 2021; and *UNDP Annual Report 2021*, p. 10.

52 Interview with Mukahhal Sulaiman, GICHD, Geneva, 11 July 2023.

International operators noted the volume of data submitted to the database has increased sharply as survey and clearance operations expanded and the database will need continuing support to maintain the quality of data. UNDP support included an information management specialists contracted through MSB and GICHD.<sup>53</sup> Operators only have direct access to data relating to their own operations but are able to request maps and other data to support operations. Implementing partners say data received on tasks has proved reliable.<sup>54</sup>

YEMAC North works with an older IMSMA New Generation system.<sup>55</sup> Its information management capacity in 2022 was not known.

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## PLANNING AND TASKING

Mine action in Yemen is conducted on an emergency basis in a context of continuing armed conflict, responding to immediate threats from all forms of explosive ordnance.<sup>56</sup> UNDP has observed that YEMAC needed to organise field operations to also address longer term impacts of contamination from ERW.<sup>57</sup> A work plan in Yemen IRG's 2022 APMB Article 5 deadline extension request identified general areas of activity such as emergency response, survey, and risk education, but gave no details. It said it would update its plans every year or two.<sup>58</sup>

The IRG Article 5 deadline extension request submitted in March 2022 identified the YBLS as key to understanding the extent, location, and type of all explosive ordnance hazards, and thus a priority, along with building the capacity and resources of the mine action sector for survey and clearance. The request emphasised flexibility, stating that its plans were a "living document" that would be subject to continuous review to adapt to changing circumstances.<sup>59</sup> Operators report YMACC has regular meetings that are well attended by YEMAC and implementing partners and frankly discuss operational issues.<sup>60</sup>

International operators received the first task orders from YMACC in July 2020, marking a significant step forward for planning and coordination.<sup>61</sup> UNDP has said YEMAC needed to finalise a review of its internal structure and clarify the division of responsibilities between YEMAC and YMACC in order to increase efficiency.<sup>62</sup>

International operators said the process of issuing task orders had improved and in 2022 reported that it was functioning smoothly.<sup>63</sup> YMACC issues task orders in consultation with operators assigning tasks, mostly in districts where their NTS teams have previously worked. DRC said it then prioritises high-risk areas within the district.

However, operators also report that receipt of task orders does not ensure access to designated sites and local military or political groups require separate approvals or permissions. Access to the West Coast requires a specific movement permission which has to be renewed frequently. Renewals are subject to frequent delays and operators are sometimes denied access at checkpoints even when they possess the required authorisation.<sup>64</sup>

Cumbersome and opaque bureaucracy particularly with regard to equipment imports and the issuance of visas have continued to pose an impediment to the progress of mine action. The government transferred responsibility for visas from MOPIC to the Ministry of Interior in October 2021 resulting in longer delays that continued into 2022, hampering plans for training and mentoring national staff. Movements between the South and the North also require permits which can take months to issue and applications often are denied or receive no response.<sup>65</sup>

YEMAC has previously informed Mine Action Review that: "Yemen does not have any obstacles or delays in matters of importing equipment." It said delays experienced by some operators were due to their own administrative procedures, errors in their applications, or a lack of understanding of the required legal procedures.<sup>66</sup> The UN and international operators, however, document delays of a year or more in being able to bring in essential items such as detectors, PPE, and thermite which they say constitute the main challenge to expanding Yemen's capacity to address its explosive ordnance contamination. HALO took delivery of Minelab detectors in July 2022 after a wait of nearly two years.<sup>67</sup> Procedures for obtaining import authorisations are not consistent. Requests to import demining equipment also require multiple signatures from high-level officials and the absence of one official can result in long delays.<sup>68</sup>

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53 UNDP, Emergency Mine Action Project – Phase II, Annual Report for 2022, 15 February 2023, p. 10.

54 Emails from Christina Hendryx, DRC, 15 May 2023; and from Matthew Smith, HALO, 11 July 2023.

55 Email from the GICHD, 30 April 2020.

56 Article 5 deadline Extension Request, March 2022, p. 26.

57 UNDP, Emergency Mine Action Project - Phase II, Annual Report for 2022, 15 February 2023, p. 23.

58 Article 5 deadline Extension Request, March 2022, p. 27.

59 Ibid., p. 29.

60 Email from Christina Hendryx, DRC, 15 May 2023.

61 Emails from DRC, 25 March 2021; and Matthew Smith, Programme Manager, HALO, 17 May 2021.

62 UNDP, *Annual Report on Mine Action in Yemen 2021*, p. 20; Emergency Mine Action Project - Phase II, Annual Report for 2022, 15 February 2023, p. 9.

63 Emails from Marie-Josée Hamel, DRC, 30 March 2022; and Nicholas Torbet, HALO, 19 April 2022.

64 Email from Christina Hendryx, DRC, 15 May 2023.

65 Email from Marie-Josée Hamel, DRC, 30 March 2022.

66 Email from Ameen Saleh Alaqili, YEMAC, 26 December 2021.

67 Emails from Nicholas Torbet, HALO, 19 April and 15 September 2022.

68 UNDP, "Emergency Mine Action Project – Phase II, Annual Report for 2022", 15 February 2023, p. 6; emails from Nicholas Torbet, HALO, 19 April 2022 and from Christina Hendryx, DRC, 15 May 2023.

## LAND RELEASE SYSTEM

### STANDARDS AND LAND RELEASE EFFICIENCY

Yemen is in the process of revising and updating its national mine action standards. The existing NMAS were based on the International Mine Action Standards (IMAS) when they were drawn up in 2007. In 2019, YEMAC acknowledged that the standards were obsolete and said standard operating procedures (SOPs) based on the standards were not consistently applied by its clearance personnel.<sup>69</sup>

YEMAC-IRG reported it has revised 31 chapters of NMAS, which were undergoing a final review and were expected to be approved and adopted before the end of 2023.<sup>70</sup> They include standards relating to land release and are said to be compliant with IMAS and the 2019 Oslo Action Plan.<sup>71</sup> It told

the Twentieth Meeting of States Parties in November 2022 that it had started updating SOPs in March 2022, a process expected to last six to twelve months.<sup>72</sup>

DRC said its local SOPs, which are based on its global SOPs but adapted for Yemen, were updated and approved in 2021. SOPs for non-technical survey were revised by the NTS manager and approved by the organisation's head office, while new clearance SOPs were introduced in January 2023.<sup>73</sup> HALO said it had developed new SOPs for NTS and had drafted SOPs for clearance that would be finalised after it had taken delivery of the new detectors.<sup>74</sup>

### OPERATORS AND OPERATIONAL TOOLS

YEMAC is nominally the biggest operator, previously employing some 400 personnel in YEMAC North and 550 personnel in YEMAC South, but both organisations lacked financing and it was unclear how many survey or clearance teams they deployed. Estimates of operational capacity in both the South and the North are further complicated by the reported presence of ghost deminers and by patchy reporting on the part of YEMAC team leaders.<sup>75</sup>

YEMAC-IRG reported it deployed 30 manual clearance teams employing 256 personnel in 2022 and three battle area clearance (BAC)/EOD teams with an additional 29 personnel and 6 mine detection dog (MDD) teams. It also had 15 to 18 NTS teams with 72 staff, 7 technical survey (TS) teams with 45 personnel, 5 risk education teams and 3 quality management teams. YEMAC-IRG also seconded deminers to all the other implementing partners.<sup>76</sup> UNDP informed YEMAC-IRG in June 2023 that it would no longer fund mine action, leaving the future of YEMAC-IRG's operational capabilities in serious question.

YEMAC-DFA said it had four clearance platoons, three MDD groups working with thirty-six dogs, two NTS teams, five TS teams, and a mechanical clearance team as well as three risk education teams, a field monitoring team, and three quality management teams.<sup>77</sup> NMAC-DFA did not specify the numbers of personnel involved and it was unclear how much of its capacity was active in 2022 or how operations were funded.

DRC employed a total of 36 people in 2022, including three BAC/EOD teams with nine people which were accredited in 2021 but unable to operate because of delays importing equipment but started conducting spot EOD tasks in September 2022. It also deployed five NTS teams conducting survey in Hodeida, Lahj, and Taiz. In 2023 DRC added a manual mine clearance team seconded from YEMAC-IRG.<sup>78</sup>

HALO's total staff of 66 included two manual clearance teams, three multi-task teams, and three mechanical teams, along with four four-person NTS teams and a risk education/community liaison team. HALO added 24 operations personnel to its EOD and survey capacity in April 2022 and opened an office in Taiz from which it conducted NTS, EOD, and risk education. It started manual clearance operations in Aden in October 2022 and in Taiz in June 2023.<sup>79</sup>

NPA employed a team of 12 in 2022, with equal numbers of international and national staff, mainly focused on supporting YEMAC-IRG plans to develop an MDD programme. YEMAC-IRG had purchased 12 dogs while NPA provided training for eight handlers and two team leaders as well as training on internal testing, accreditation reporting, and MDD quality management. From August 2022, NPA also managed four five-strong risk education teams seconded from YEMAC-IRG who conducted training in Al-Dhale, Hodeida, Marib, and Taiz governorates. NPA planned to widen operations in 2023 to include survey and clearance.<sup>80</sup>

69 UNDP, "Emergency Mine Action Project, Annual Progress Report 2019", 20 January 2020, p. 17; and 2019 Article 5 deadline Extension Request, p. 16.

70 Email from Ameen Saleh Alaqili, YEMAC, 21 May 2023.

71 Email from Ameen Saleh Alaqili, YEMAC, 26 December 2021.

72 YEMAC-IRG, PowerPoint presentation, Twentieth Meeting of States Parties, Geneva, 21–25 November 2022.

73 Emails from Marie-Josée Hamel, DRC, 30 March 2022; and Christina Hendryx, DRC, 15 May 2023.

74 Email from Nicholas Torbet, HALO, 19 April 2022.

75 Interview with mine action stakeholders in Geneva, 23 June 2022.

76 Email from Ameen Saleh Alaqili, YEMAC, 21 May 2023.

77 Email from Ahmed Yahya Alawi, YEMAC-DFA; and Article 7 Report (covering 1 April 2022–31 March 2023), Form L.

78 Email from Christina Hendryx, DRC, 15 May 2023.

79 Emails from Nicholas Torbet, HALO, 19 April and 15 September 2022; and Matthew Smith, HALO, 11 July 2023.

80 Email from Faiz Mohammad Paktian, Programme Manager, NPA, 8 May 2023.



Project Masam, funded by Saudi Arabia's King Salman Humanitarian Aid and Relief Centre, reported in 2022 that it operated with 32 multi-task clearance teams and 320 national deminers. Project Masam did not provide updated data in 2023 but had reported deploying the same operating capacity since 2018. In addition, it had 264 staff in management, logistics, and operations. These included a total of 35 international staff, including 4 in management and logistics, 13 technical advisors/mentors, 4 medics, 8 security and communications staff, and 6 explosive detection dog (EDD) handlers.<sup>81</sup> Project Masam said that it "trains, equips and supervises over 450 Yemeni nationals", including deminers, administration, logistics, and security support staff, supported by technical mentors. It operated with headquarters in Aden and Marid and deployed teams in Aden, Al-Jawf, Aldala'a, Hodeida, Marib, Shabwa, and Taiz.<sup>82</sup> Saudi Arabia was reported in July 2021 to have extended its \$33.6 million contract with Project Masam and its implementing partner, SafeLane Global, by another year.<sup>83</sup>

**Table 2: Yemen-IRG operational clearance capacities deployed in 2022<sup>84</sup>**

Operator	Manual teams	Total deminers	MDDs	Machines	Comments
YEMAC-IRG	30+3	256+29	12 dogs		30 manual mine clearance + 3 BAC/EOD teams; 15-18 TS teams with 72 personnel, and 7 NTS teams with 45 personnel.
DRC	3	12			BAC/EOD teams. Supported by 5 NTS/EORE teams with 15 personnel.
HALO	5	27		3 teams/16 personnel	2 manual clearance teams/12 deminers and 3 multi-task teams/15 personnel.
Project Masam	32	320	6 handlers/6 EDDs		
<b>Totals</b>	<b>70+3</b>	<b>615+29</b>	<b>12 MDDs, 6 EDDs</b>	<b>3 Teams/16 Personnel</b>	

## DEMINER SAFETY

YEMAC-IRG reported 10 casualties, including five deaths, in the course of demining operations in 2022. It said the deminers involved were from YEMAC and Project Masam and were caused by AP mines and IEDs in Hodeida and Shabwah but did not provide further details.<sup>85</sup> The casualties in 2022 add to an already heavy toll in deminer deaths and injuries, particularly in Project Masam, which suffered 37 casualties between May 2018 and April 2020.<sup>86</sup> In 2021, Project Masam reported two more fatalities, one in a demining incident, the other attributed to a security incident resulting from operating in a war zone. Three other personnel were injured in demining incidents. Project Masam said all incidents were investigated internally and by YEMAC.<sup>87</sup>

Insecurity poses a constraint on field deployments by all operators. A fragile ceasefire that started in April 2022 has eased the level of IRG-DFA hostilities but insecurity persists at a local level controlled by numerous political, military and tribal actors and criminal interests, limiting the space where operators are able to deploy.<sup>88</sup>

## LAND RELEASE OUTPUTS AND ARTICLE 5 COMPLIANCE

### LAND RELEASE OUTPUTS IN 2022

Mine action in Yemen continued to focus on emergency clearance of explosive ordnance threats of all types rather than systematic area clearance or release of mined land, reflecting the challenges posed by years of war, constantly shifting frontlines, re-mining of cleared land, and scattered use of improvised devices by military as well as criminal groups. Clearance of significant quantities of explosive ordnance is reported in both DFA- and IRG-controlled areas but a lack of transparency, coupled with the absence of consistent standards and basic data, prevents a clear determination of progress.

81 Email from Ousama Algosaibi, Project Masam, 29 May 2022.

82 Project Masam website, "Where we work", at: <https://bit.ly/3LOUoQy>, accessed 27 April 2022.

83 "Saudi Arabia extends mine clearing contract in Yemen", *Arab News*, 21 July 2021.

84 Emails from Ameen Saleh Alaqili, YEMAC, 21 May 2023; Christina Hendryx, DRC, 15 May 2023; Matthew Smith, HALO, 11 July 2023; and from Ousama Algosaibi, Project Masam, 29 May 2022.

85 Email from Ameen Saleh Alaqili, YEMAC-IRG, 21 May 2023.

86 Project Masam reported 37 casualties between May 2018 and April 2020: 21 killed and 16 injured.

87 Email from Ousama Algosaibi, Project Masam, 29 May 2022.

88 Emails from Christina Hendryx, DRC, 15 May 2023; and Matthew Smith, HALO, 11 July 2023.

YEMAC-IRG reported release of 1.83km<sup>2</sup> through area reduction and clearance recorded in the IMSMA database in 2022 resulting in the destruction of 23 AP mines but it also said “emergency response” resulted in clearance of nearly 17.84km<sup>2</sup> and 2,189 AP mines among 137,502 items of explosive ordnance destroyed in 2022.<sup>89</sup> YEMAC-DFA said it “completed survey and clearance” of 27 SHAs in three governorates covering 47.5km<sup>2</sup> in the 12 months to 31 March 2023. In the same period, it said it destroyed 239 AP mines, 2,355 AV mines and 14,985 items of UXO.<sup>90</sup>

Mine Action Review has conservatively estimated mine clearance of 2km<sup>2</sup> for the whole of Yemen during 2022, with the destruction of 1,678 AP mines.

## SURVEY IN 2022

The focus of survey in Yemen is on determining the extent and type of contamination through the YBLS, which started in June 2021, rather than releasing land through cancellation or reduction. In 2022, YEMAC-IRG recorded 624 non-technical surveys conducted in 20 districts of 6 governorates, identifying CHAs and SHAs totalling 52km<sup>2</sup>, but did not identify results by operator. International NGOs reported identifying 8.7km<sup>2</sup> of hazardous area by NTS in 2022 (see Table 3).<sup>91</sup>

**Table 3: NTS results by INGOs in 2022**

Operator	Survey area	Area confirmed (m <sup>2</sup> )
DRC	Hodeida, Lahj, Taiz	5,402,049
HALO	Abyan, Lahj, Taiz	3,291,628
<b>Total</b>		<b>8,693,677</b>

YEMAC-IRG also recorded reduction by technical survey of 757,845m<sup>2</sup> in five governorates, mainly Lahj and Taiz, but did not identify which operator carried out the reduction.<sup>92</sup>

## CLEARANCE IN 2022

Mine Action Review has conservatively estimated mine clearance of 2km<sup>2</sup> for the whole of Yemen during 2022, with the destruction of 1,678 AP mines. Project Masam, with 32 manual clearance teams, and YEMAC-IRG, deploying up to 30 demining teams, appear to have been the only operators conducting clearance in the south in 2022 but YEMAC did not provide comprehensive data. YEMAC-IRG reported clearance of 1.1km<sup>2</sup> in 2022 entered in the database (see Table 4) but did not specify which organisation conducted it.<sup>93</sup>

**Table 4: AP mine clearance in Yemen-IRG in 2022<sup>94</sup>**

Administrative subdivision	Mined areas	Area cleared (m <sup>2</sup> )	AP mines destroyed	Other explosive items destroyed
Abyan	5	878,426	1	159
Aden	7	67,042	0	25
Al-Dhale	8	15,731	11	2
Lahj	5	18,750	4	24
Shabwah	2	24,102	0	220
Taiz	10	70,748	7	71
<b>Totals</b>	<b>37</b>	<b>1,074,799</b>	<b>23</b>	<b>501</b>

In addition, YEMAC-IRG reported “emergency” clearance of 17,837,317m<sup>2</sup>. It said Project Masam cleared 12,998,396m<sup>2</sup>, destroying 1,652 AP mines, 32,506 AV mines, 1,404 improvised explosive devices, and 41,194 items of UXO.<sup>95</sup>

YEMAC-DFA said it “completed survey and clearance” of 27 SHAs in three governorates covering 47.5km<sup>2</sup> in the 12 months to 31 March 2023. In the same period, it said it destroyed 239 AP mines, 2,355 AV mines and 14,985 items of UXO.<sup>96</sup>

89 Email from Ameen Saleh Alaqili, YEMAC-IRG, 21 May 2023; Article 7 Report (covering 2022), Form D.

90 Email from Ahmed Yahiya Alawi, YEMAC-DFA, 18 April 2023; DFA Article 7 Report (covering 1 April 2022 to 31 March 2023), Form J. The three governorates were Al-Baida, Hodeida, and Sana'a.

91 Emails from Christina Hendryx, DRC, 15 May 2023; and Matthew Smith, HALO, 11 July 2023.

92 Email from Ameen Saleh Alaqili, Director, YEMAC-IRG, 21 May 2023.

93 Ibid.

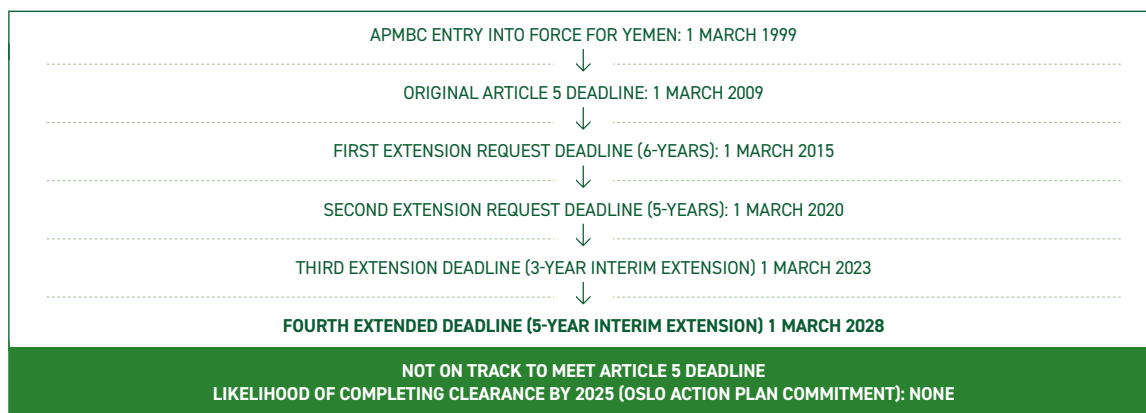
94 Ibid.

95 Ibid.

96 Email from Ahmed Yahiya Alawi, YEMAC-DFA, 18 April 2023; DFA Article 7 Report (covering 1 April 2022 to 31 March 2023), Form J. The three governorates were Al-Baida, Hodeida, and Sana'a.

Operations by international NGOs DRC and HALO have been constrained by delays importing equipment but are expanding operations beyond survey to clearance. DRC received its first manual mine clearance task in 2023 focused on school clearance and expected to work mainly in areas where it has safe access and the reports of its NTS operations. HALO expected to increase its NTS in Aden, Lahj, and Taiz in 2023 but also to deploy mechanical clearance assets in a number of locations.<sup>97</sup>

## ARTICLE 5 DEADLINE AND COMPLIANCE



Under Article 5 of the APMBC (and in accordance with the fourth extension, for five years, granted by States Parties in 2022), Yemen is required to destroy all AP mines in mined areas under its jurisdiction or control as soon as possible, but not later than 1 March 2023.

Prospects for significant progress in survey or clearance during the extension period are unclear. In 2020, Yemen's IRG requested a three-year Article 5 deadline extension so as to provide time for developing a baseline of mine contamination that would serve as a basis for long-term planning. The 2022 extension request stated as a "startling" fact that it is asking for five years to do what it had set out to do in the previous extension period, namely, to establish a baseline estimate of mine contamination and is, in effect, another interim request.<sup>98</sup> Three years on, a baseline survey is making progress but a comprehensive estimate of contamination remains elusive. A reliable estimate of the extent of contamination in the DFA-controlled north is also lacking. YEMAC-DFA reports conducting extensive survey but does not appear to be applying standards consistent with IMAS on NTS potentially burdening Yemen's mine action programme with hugely inflated estimates of contamination.

Mine action, meanwhile, remains highly vulnerable to security, political and financial risks. Hostilities between the Saudi-backed coalition and Houthi authorities have eased amid continuing talks on a permanent ceasefire but intermittent fighting has continued in Taiz, Marib, Al-Dhale, Hodeida, Shabwa, and Saada, extremist activity is reportedly on the rise in Abyan and Shabwah governorates<sup>99</sup> and numerous other tribal and armed groups exercise authority or control access at a local level.<sup>100</sup> Authorities in Sana'a have engaged more on mine action cooperation with international organisations and operators but as at August 2023 had not followed through to allow operations by international demining NGOs or create a mine action coordination centre.

Abrupt termination of financial support through UNDP with effect from the end of June 2023 reflected dwindling donor confidence in supporting the programme but put a brake on the activities of several hundred YEMAC deminers, a major part of available survey and clearance capacity. The UN has proposed continued funding of around 15 key positions in each of the YEMACs and donor funding provided bilaterally to demining operators but has yet to provide clarity on a future framework or mechanism for support to mine action in IRG or DFA areas.<sup>101</sup>

<sup>97</sup> Emails from Christina Hendryx, DRC, 15 May 2023; and Matthew Smith, HALO, 11 July 2023.

<sup>98</sup> 2022 Article 5 deadline Extension Request, p. 3.

<sup>99</sup> Statement of UN Special Envoy Hans Grunberg to the UN Security Council, New York, 16 August 2023.

<sup>100</sup> Emails from Christina Hendryx, DRC, 15 May 2023; and Matthew Smith, HALO, 11 July 2023.

<sup>101</sup> Interview with Patrick Fruchet, UN Adviser, Geneva, 21 June 2023.

**Table 5: Five-year summary of AP mine clearance (Mine Action Review estimates)**

Year	Area cleared (km <sup>2</sup> )
2022	2.0
2021	1.5
2020	1.0
2019	1.0
2018	0.1
<b>Total</b>	<b>5.6</b>

### PLANNING FOR MANAGEMENT OF RESIDUAL CONTAMINATION

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Yemen's mine action programme does not have plans in place to address any previously unknown mined areas discovered following completion (i.e. residual contamination).