

### KEY DATA

#### CLUSTER MUNITION CONTAMINATION: UNKNOWN, BUT MASSIVE

SUBMUNITION CLEARANCE IN 2021

**48km<sup>2</sup>**

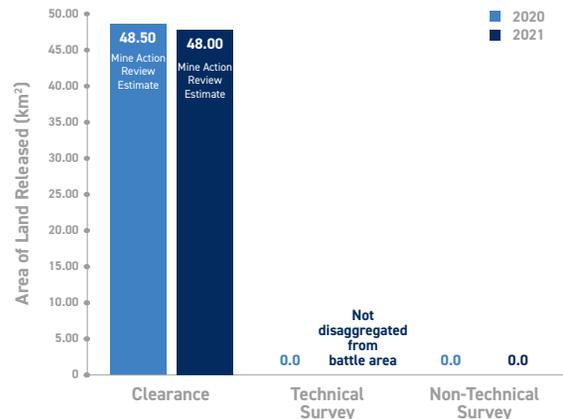
(MINE ACTION REVIEW ESTIMATE)

SUBMUNITIONS DESTROYED IN 2021

**13,456**

(INCLUDING 1,665 DURING SPOT TASKS)

### LAND RELEASE OUTPUT



### KEY DEVELOPMENTS

In 2021, approximately 48km<sup>2</sup> of cluster munition-contaminated area was cleared, similar to output the previous year. The Vietnam National Mine Action Centre (VNMAC) continued efforts to strengthen coordination of humanitarian mine action in Vietnam and elaborated a draft five-year National Mine Action Plan (2021-25). For the first time, VNMAC also produced an annual operations report of NGO and Korea-Viet Nam Mine Action Project (KV-MAP) survey and clearance operations in 2021. VNMAC developed regulations for a national Information Management System, setting up the framework for establishing information management structures beyond the provinces where Norwegian People's Aid (NPA) has conducted

capacity development activities previously. This is a significant step forward in VNMAC assuming the coordination role delegated to it in Guiding Circular 195, which came into force in early 2020.

However, as at the time of writing, neither the regulation on the Information Mine Action System nor the National Technical Regulations (QCVNs), both of which were said to have been brought into line with the International Mine Action Standards (IMAS), had been formally approved by the government.

### RECOMMENDATIONS FOR ACTION

- Vietnam should accede to the Convention on Cluster Munitions (CCM) as a matter of priority.
- In collaboration with implementing partners, VNMAC should set a strategy to enhance understanding of the extent of cluster munition remnant (CMR) contamination, with a view to establishing a nationwide baseline of CMR contamination. As part of these efforts, VNMAC should expand non-technical and technical survey.
- VNMAC should elaborate annual work plans for CMR, with clear targets for survey and clearance.
- The National Technical Regulations (QCVNs), revised in 2020 in line with IMAS, should be approved and published as soon as possible.
- The revision of National Mine Action Standards (TCVNs), in line with IMAS, should be completed as soon as possible.
- VNMAC should continue progress to develop a fully comprehensive national information management database, containing data from all clearance operations, including those of the military. VNMAC should also make the Information Management System for Mine Action (IMSMA) data available to all clearance operators and relevant stakeholders.

- VNMAC should publish comprehensive annual reports on the results of survey and clearance by all operators.
- VNMAC should continue to engage in regional sector discussions more actively, including within those of the Association of Southeast Asian Nations (ASEAN) Regional Mine Action Centre (ARMAC), aimed at accelerating the progress of CMR survey, particularly on survey efficiencies and effectiveness.

## CLUSTER MUNITION SURVEY AND CLEARANCE CAPACITY

### MANAGEMENT

- Vietnam National Mine Action Centre (VNMAC)
- Quang Tri Mine Action Centre (QTMAC)

### NATIONAL OPERATORS

- Ministry of Defence
- PeaceTrees Vietnam (PTVN)

### INTERNATIONAL OPERATORS

- Mines Advisory Group (MAG)
- Norwegian People's Aid

### OTHER ACTORS

- Association of South East Asian Nations (ASEAN) Regional Mine Action Centre (ARMAC)
- Geneva International Centre for Humanitarian Demining (GICHD)
- Golden West Humanitarian Foundation (Golden West)
- International Committee of the Red Cross (ICRC)
- United Nations Development Programme (UNDP)

## UNDERSTANDING OF CMR CONTAMINATION

Vietnam is massively contaminated by cluster munition remnants (CMR) but no accurate estimate exists, even to the nearest hundred square kilometres. An explosive remnants of war (ERW) impact survey, started in 2004 and completed in 2014, was only published in 2018. It said that 61,308km<sup>2</sup> or 19% of Vietnam's land surface area was affected by ERW, but did not specify the area affected by CMR. It found, though, that CMR affected 32 of Vietnam's 63 provinces and cities.<sup>1</sup>

According to VNMAC, the total area still contaminated with bombs, mines, and explosive ordnance in Vietnam in 2021 is more than 57,000km<sup>2</sup>, which accounts for more than 17% of Vietnam's land surface. Contamination is mainly concentrated in central provinces including Quang Tri, Quang Binh, Ha Tinh, Nghe An, and Quang Ngai.<sup>2</sup> VNMAC does not plan to conduct a separate survey for CMR, and instead is implementing its clearance plan for all types of ERW and mines.<sup>3</sup> Vietnam is, however, slowly starting to gain a clearer picture of CMR contamination thanks to the expansion of Cluster Munition Remnant Survey (CMRS) into new provinces.

In **Quang Tri province**, reputedly Vietnam's most contaminated province, Norwegian People's Aid (NPA)

is conducting a province-wide survey.<sup>4</sup> Estimates of CMR-contaminated area are increasing sharply as survey progresses. At the end of April 2022, NPA completed non-technical survey in 91% of Quang Tri's 801 villages (i.e. non-technical survey had taken place in 690 accessible villages and in 38 villages which were surveyed before the villages became restricted. Some 73 restricted villages have not been covered by non-technical survey). Technical survey by NPA had so far confirmed 512km<sup>2</sup> of confirmed hazardous area (CHA) as contaminated by CMR, nearly 11% of the total area of Quang Tri province. NPA estimates that it will complete technical survey of all remaining evidence points in the 690 accessible villages by end of April 2023, but the exact timeframe will depend on the amount of direct evidence identified during survey. The target date for completion of technical survey has been brought forward, thanks to NPA's trialling of a new and much more efficient version of technical survey that uses a revised team structure and employs a different approach to how survey personnel move through the four sub-boxes in each 50m x 50m box.<sup>5</sup> The remaining 111 villages in Quang Tri Province continue not to be accessible to international operators for survey.<sup>6</sup>

1 VNMAC, "Report on Explosive Remnants of War Contamination in Vietnam, Based on the Explosive Remnants of War Contamination Survey and Mapping – Phase 1", provided by VNMAC 19 April 2018, p. 38.

2 Email from Tim Horner on behalf of Mr Phuc, Director, VNMAC, 6 April 2021.

3 Ibid.

4 Email from Resad Junuzagic, Country Director, NPA, 6 May 2019.

5 Emails from Kimberley McCosker, NPA, 22 June and 13 July 2022.

6 Emails from Kimberley McCosker, NPA, 21 May, 22 June, and 13 July 2022.

7 Email from Jan Erik Støa, NPA, 24 June 2020.

In **Quang Binh province**, a joint consortium between Mines Advisory Group (MAG), NPA, PeaceTrees Vietnam (PTVN), and the Provincial People's Committee (PPC) of Quang Binh, approved in May 2020, adopted a CMRS approach.<sup>7</sup> In Quang Binh province, MAG has historically used a non-technical survey methodology – Evidence Point Polygon (EPP) mapping – to map initial CHAs. The EPP technique, pioneered by MAG, uses historical and ongoing operational data from Global Positioning System (GPS)-recorded explosive ordnance disposal (EOD) spot tasks involving submunitions to plot what are termed Initial CHAs (iCHAs). MAG has combined the EPP technique within their application of the CMRS methodology to accelerate survey and support early prioritisation for clearance to be deployed to where the impact will be the highest. This has helped to speed up MAG's technical survey (or even negate the need for it entirely in some instances) when plotting CHAs for clearance during non-technical survey. As at April 2022, MAG was no longer conducting technical survey in Quang Binh, as NPA has taken this over as part of the PM/WRA consortium.<sup>8</sup>

In **Thua Thien Hue province**, in collaboration with VNMAC and the provincial authorities, NPA has been implementing CMRS in four districts. More than 17km<sup>2</sup> of CHA had been identified in Thua Thien Hue province, of which 15.8km<sup>2</sup> is in the western district of A Luoi. Based on a desk exercise, NPA estimates that total cluster munition contamination in A Luoi is likely to be around 45km<sup>2</sup>.<sup>9</sup>

The United States (US) dropped 413,130 tons of submunitions over Vietnam between 1965 and 1973, reportedly striking 55 provinces and cities. Vietnam's Military Engineering Command has recorded finding 15 types of US-made submunitions. Most submunition types were air-dropped, but artillery-delivered submunitions were also used in central Quang Binh and provinces to the south.<sup>10</sup> Most of the CMR that international operators encounter in Quang Tri province are BLU-26, BLU-29, and BLU-61 submunitions, and occasionally Mk 20 Rockeyes,<sup>11</sup> as well as BLU-63 (in Quang Binh province).<sup>12</sup> In Quang Nam province, almost all the CMR cleared by Danish Demining Group (DDG) were M83 submunitions.<sup>13</sup>

## OTHER EXPLOSIVE REMNANTS OF WAR AND LANDMINES

Vietnam has huge contamination from unexploded ordnance (UXO) and an unquantified mine problem (see Mine Action Review's *Clearing the Mines* report on Vietnam for further information). The ERW impact survey identified the most heavily contaminated regions as the central coastal provinces, the Central Highlands, the Mekong River delta, and the Red River delta.<sup>14</sup> The experience of international operators in central Vietnam points to wide variations in contamination types from district to district. International operators report encountering mainly projectiles, mortars, grenades, and some aircraft bombs.<sup>15</sup>

## NATIONAL OWNERSHIP AND PROGRAMME MANAGEMENT

VNMAC was established in 2014 by Prime Ministerial decree to strengthen the direction of mine action and provide a focal point for mine action operations,<sup>16</sup> although management and operations continued to depend largely on the Armed Forces.

Vietnam's mine action programme continues to undergo significant restructuring, following the Decree on the Management and Implementation of Mine Action Activities (Decree No. 18), which entered into effect on 20 March 2019 and subsequent approval of a Guiding Circular (Guiding Circular No. 195) which came into effect in February 2020.<sup>17</sup> Under Decree 18, the Ministry of National Defence (MoD) continues to be the lead authority for the national mine action programme, in coordination with other relevant ministries and sectors,<sup>18</sup> while VNMAC will, under the direction of the Prime Minister and management of the MoD, "monitor, coordinate and implement mine action tasks".<sup>19</sup>

The adoption of Decree and Guiding Circular has given VNMAC a clear mandate, roles, and responsibilities, as the national coordinating entity for mine action operations and have established the legal basis for revision and updating of the national regulations and standards (the National Technical Regulations (QCVNs) and the National Mine Action Standards (TCVNs)), which began in 2020, but which had yet to be adopted as at time of writing.<sup>20</sup> VNMAC now has authority over mine action data, which it is beginning to exercise by requiring provinces to collect and report data to the VNMAC Information Management Unit (IMU) on a quarterly basis.<sup>21</sup> The adoption of the legal framework also paves the way for provincial authorities to be recognised as having a key role in the reporting system between operators and VNMAC.<sup>22</sup>

8 Emails from Helene Kuperman, MAG, 31 March 2021; and Valentina Stivanello, MAG, 29 April 2022.

9 Email from Kimberley McCosker, NPA, 21 May 2022.

10 "Vietnam mine/ERW (including cluster munitions) contamination, impacts and clearance requirements", Presentation by Sr. Col. Phan Duc Tuan, People's Army of Vietnam, in Geneva, 30 June 2011; Handicap International, *Fatal Footprint, the Global Human Impact of Cluster Munitions*, Brussels, November 2006, p. 15.

11 Interview with Magnus Johansson, NPA, Hanoi, 17 April 2018, and Michael Raine, MAG, Quang Tri, 18 April 2018.

12 Email from Helene Kuperman, MAG, 23 June 2020.

13 Email from Clinton Smith, Country Director, DDG, 23 March 2017.

14 VNMAC, "Report on Explosive Remnants of War Contamination in Vietnam", Hanoi, 2018, pp. 33–36.

15 Interviews with Resad Junuzagic, NPA, Jan Eric Stoa, NPA, and Magnus Johansson, NPA, Hanoi, 17 April 2018, and with Simon Rea, MAG, and Michael Raine, MAG, Quang Tri, 19 April 2018; and emails from Clinton Smith, DDG, 23 March 2017 and 19 April 2018.

16 Prime Ministerial Decree (No. 738 of 2013) on the management and implementation of mine action activities, Hanoi, April 2018.

17 Emails from Jan Erik Støa, NPA, 6 April 2020; and Tim Horner on behalf of Mr Phuc, VNMAC, 6 April 2021.

18 Decree on Implementation and Management of Mine Action, No.18/2019/ND-CP, 1 February 2019.

19 Draft Decree on the management and implementation of mine action activities, Hanoi, April 2018.

20 Emails from Kimberley McCosker, NPA, 8 April 2021; and Helene Kuperman, MAG, 31 March 2021.

21 Email from Kimberley McCosker, NPA, 13 May 2021.

22 Ibid.

VNMAC is entirely nationally funded, and implementation of the National Mine Action Programme (Programme 504) is funded by both state and international funding.<sup>23</sup> According to VNMAC, the government has provided support for mine action, including i) establishment of coordinating agencies and associations to support all levels of mine action activities; ii) completion of a legal system, mechanism and policies, which create a legal basis for post-war demining activities (the MoD cooperates with other ministries to develop Circulars guiding QCVNs, TCVNs, and standing operating procedure (SOP) on quality management (QM), survey, and clearance and related issues); iii) facilitation of activities to develop the management and administration capacity, and the survey and clearance capacity, of demining organisations; iv) formation of a national QM system for survey and clearance in accordance international standards; and v) formation of an information management system.<sup>24</sup>

VNMAC's involvement in coordination meetings, such as the Landmine Working Group (LWG, renamed in 2022 to the Mine Action Working Group (MAWG)), has increased in recent years. The LWG, which is currently co-chaired by MAG and the United Nations Development Programme (UNDP), is a platform for all mine action stakeholders in Vietnam to meet regularly to share and discuss updates that impact the sector. Due to restrictions caused by the COVID-19 pandemic, only one LWG meeting took place during 2021, although several other technical meetings requested by VNMAC did also take place. The focus of the LWG in 2021 was on the following up on the revision of the QCVNs and TCVNs, and on the Information Management System regulation.<sup>25</sup>

Despite constraints posed by COVID-19, VNMAC has shown an increased understanding of their role, including a greater willingness to discuss ideas and challenges with international operators.<sup>26</sup> However, VNMAC still operates within the limits of the MoD which is very regulated, so there is still room for improved transparency and efficiency.<sup>27</sup> There is a well-established process for granting work permits and visas to international mine action staff and for procurement of demining equipment, although the importation of equipment can be lengthy, depending on the nature of the items.<sup>28</sup>

VNMAC now produces a twice-yearly mine action calendar and operations report covering the activities and results of all NGOs and the UNDP in Vietnam.<sup>29</sup> In 2021, a biannual report was produced for the first half of the year, followed by an annual report covering the whole of 2021. This is the first time an annual operations report has been published by VNMAC. While the report included data from NGOs and military data under the Korea-Viet Nam Mine Action Project

(KV-MAP), it did not include other military clearance data or commercial clearance.<sup>30</sup>

MAG, NPA, PTVN, the Geneva International Centre for Humanitarian Demining (GICHD), Golden West Humanitarian Foundation (Golden West), and UNDP all provide capacity development support in Vietnam. Restrictions on travel and meetings due to the COVID-19 pandemic, made it more difficult and sometimes impossible for NGOs to facilitate and host familiarisation visits by VNMAC to their offices and operations in 2021.<sup>31</sup>

In October 2021, MAG entered a three-year Memorandum of Understanding (MOU) with VNMAC to provide technical support and capacity building on EOD, clearance, QM, and expanding digital explosive ordnance risk education (EORE) to new provinces. MAG is working with VNMAC to develop a work plan for QM training. Activities under this MOU were due to be implemented in 2022.<sup>32</sup>

NPA is implementing a capacity-development project with VNMAC, with funding from US Department of State's Bureau of Political-Military Affairs PM-WRA (PM/WRA). The project, which was previously four separate projects but combined into a single award from the start of 2022, under the management of the Senior Technical Advisor (STA), has four main objectives. The first objective is to increase VNMAC's capacity to fulfil its role and mandate as national mine action centre. The second is the full implementation of the national information management system, through provision of support to the VNMAC information management unit (IMU) as well as to provincial IM activities in Quang Tri and Quang Binh province. The third objective is for planning, prioritisation, and coordination of mine action in Quang Tri province, implemented through support to the Quang Tri Mine Action Centre (QTMAC)'s Management and Operations Units. The fourth objective is planning, prioritisation, and coordination of mine action in Quang Binh province, implemented through Quang Binh Database and Coordination Unit (DBCUC) functions.<sup>33</sup>

PTVN undertakes joint efforts to support and help enhance the management and coordination of QTMAC and VNMAC. In partnership with Golden West, PTVN provides opportunities for VNMAC's trainees to be mentored and gain field practice during their International Mine Action Standards (IMAS) EOD training. PTVN expected to continue and expand these activities in 2022.<sup>34</sup>

In 2021, the GICHD worked with VNMAC, UNDP, and NPA on several areas, including proposed support to VNMAC in drafting a Mine Action Law, review of national standards,

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23 Email from Tim Horner, Senior Technical Advisor, VNMAC, on behalf of Mr Phuc, VNMAC, 6 April 2021.

24 Email from Tim Horner on behalf of Mr Phuc, VNMAC, 6 April 2021.

25 Emails from Kimberley McCosker, NPA, 21 April 2022; Valentina Stivanello, MAG, 29 April 2022; and Phạm Hoàng Hà, PTVN, 9 May 2022.

26 Emails from Kimberley McCosker, NPA, 21 April 2022.

27 Ibid.

28 Email from Jan Erik Støa, NPA, 6 April 2020.

29 Emails from Jan Erik Støa, NPA, 6 April 2020; and Helene Kuperman, MAG, 23 June 2020.

30 Emails from Kimberley McCosker, NPA, 21 April 2022; Valentina Stivanello, MAG, 29 April 2022; and Phạm Hoàng Hà, PTVN, 9 May 2022.

31 Ibid.

32 Email from Valentina Stivanello, MAG, 29 April 2022.

33 Email from Kimberley McCosker, NPA, 21 April 2022.

34 Emails from Phạm Hoàng Hà, Country Director, PTVN, 9 May and 17 June 2022.

and working on the concept of long-term risk management, in particular on the issue of tools and protocols in risk management. Due to the COVID-19 pandemic, all GICHD activities took place via online communications in 2021.<sup>35</sup> The GICHD was, however, able to visit in April 2022, to follow up on the long-term risk management tool.<sup>36</sup>

Golden West is fully funding and providing EOD training that reflects the IMAS to the Provincial Military Command in Quang Tri province, building technical skills and developing the capacity for long term response to residual ERW across the province. In cooperation with the United States Department of Defense (DOD) and Indo-Pacific Command (INDO-PACOM), Golden West is supporting or providing US military-to-military mine action training for VNMAC by the US Army, Pacific (USARPAC). Golden West is working with Provincial Officials and the Provincial Military Command of Quang Tri to develop a high-quality EOD training and test range in Cam Lo District. Funded by multiple donors, including the DOD Humanitarian Demining Research and Development Organization, Golden West is assisting the Provincial Military Command to construct training, detection testing, and demilitarization facilities in central Quang Tri Province that are safe and environmentally responsible.<sup>37</sup>

In 2021, the International Committee of the Red Cross (ICRC) conducted a survey on the Knowledge, Attitude and Practices of local communities living on land contaminated by ERW. The research took place in three communes in Northern Vietnam and had a particular focus on community resilience.<sup>38</sup>

Vietnam has shown increasing engagement with the international mine action sector over recent years. It was a non-permanent member of the UN Security Council for 2020–21, during which it played an active role in emphasising the importance of mine action being an integral part of the UN peace and security agenda.<sup>39</sup> In April 2021, Vietnam convened and chaired the Security Council open debate on “Mine Action and Sustaining Peace”.<sup>40</sup>

Capacity development partners are also supporting VNMAC to establish regional mine action structures:

In **Quang Binh province** operations under a joint consortium between MAG, NPA, and PTVN commenced in June 2020. The project includes survey, clearance, EOD, risk education and a capacity development component regarding the establishment of a provincial coordination committee and mine action database in Quang Binh province, conducted with the Quang Binh province DBCU.<sup>41</sup> As part of this project, NPA recruited and trained eight provincial DBCU staff in 2020.<sup>42</sup> Data on technical survey from NPA were inputted

into the provincial IMSMA for review, prioritisation, and tasking for clearance. The DBCU is now fully operational and is responsible for all provincial mine action data and reporting to VNMAC, in line with the Information Management System. The DBCU conducts regular coordination meetings for operators in Quang Binh and is responsible for tasking operators.<sup>43</sup> A prioritisation system was completed by the end of 2021, and then formally approved and implemented in Quang Binh from 1 April 2022.<sup>44</sup>

VNMAC, the Korea International Cooperation Agency (KOICA), and UNDP collaborated on a US\$30 million project (of which US\$20 million was from KOICA and the remainder from the Government of Vietnam, mainly through in-kind contributions) for ERW survey and clearance (KV-MAP), and to support information management resources, risk education, and victim assistance (VA) in two central provinces (**Binh Dinh** and **Quang Binh**). The project aimed to strengthen national capacities (VNMAC, Ministry of Labour, Invalid and Social Affairs (MOLISA) and authorities in the Quang Binh and Dinh Binh provinces. Capacity development components at the VNMAC were complimentary to long standing capacity developments by NPA.<sup>45</sup>

The three year KV-MAP was originally planned to finish in December 2020, but was extended up to the end of 2021. While the project also addressed EORE and VA, the land release component was by far the largest, with 78% of funds from KOICA used for survey and clearance and clearance rates exceeded the project target by 30%. Almost 64km<sup>2</sup> of explosive ordnance (EO)-contaminated area was released through technical survey and 104km<sup>2</sup> through clearance, during the four year duration of the project. During project implementation 21 survey teams and 64 clearance teams were deployed in 69 communities.<sup>46</sup> A final evaluation of KV-MAP, which was the largest mine action project in Vietnam to date, concluded that it had led to major advances in mine action, including land released at an average cost of US\$0.14 per square metre. The successful tripartite collaboration was highlighted in the report of the UNSG on mine action in August 2021.<sup>47</sup>

A new tripartite project, to succeed KV-MAP has been negotiated between VNMAC, KOICA, and UNDP for 2022–26, known as the Korea – Vietnam Peace Village Project (KVPVP). KVPVP will implement survey, clearance, EORE, VA and capacity development, focusing on three target provinces (**Binh Dinh**, **Quang Ngai**, and **Thua Thien Hue**). It aims to release a total of 150km<sup>2</sup> of EO-contaminated land over the five year period (60km<sup>2</sup> in Binh Dinh; 60 km<sup>2</sup> in Quang Ngai; and 30km<sup>2</sup> in Thua Thien Hue).<sup>48</sup>

35 Email from the GICHD, 24 April 2022.

36 Email from Kimberley McCosker, NPA, 13 July 2022.

37 Email from Mark Lasley, Golden West Humanitarian Foundation, 16 June 2021.

38 Email from Kiona Bolt, ICRC, 26 April 2022.

39 Email from Phạm Hoàng Hà, PTVN, 9 May 2022.

40 Ibid.

41 Emails from Helene Kuperman, MAG, 10 April, 23 June 2020, and 31 March 2021; Jan Erik Støa, NPA, 24 June 2020; and Phạm Hoàng Hà, PeaceTrees Vietnam (PTVN), 11 May 2021.

42 Email from Kimberley McCosker, NPA, 8 April 2021.

43 Email from Valentina Stivanello, MAG, 29 April 2022.

44 Email from Kimberley McCosker, NPA, 22 June 2022.

45 Email from Havard Bach, Consultant, UNDP, 27 May 2022.

46 Ibid.

47 Email from Havard Bach, Consultant, UNDP, 27 May 2022.

48 Ibid.

In **Quang Tri province**, the QTMAC plays a lead role in piloting and improving coordination of mine action operations. MAG and NPA continued to support QTMAC through various capacity development initiatives for QTMAC staff. In 2021, the key capacity development focus was on the development of a QM SOP, criteria for prioritisation, and finalisation of the prioritisation process (which may need further review). A five-year action plan (2021–25) to implement mine action programme in Quang Tri Province was released in 2021. The manual on integration of mine action into social-economic development plans for Quang Tri province has also been issued for application in the province.<sup>49</sup> During 2020 and 2021, NPA supported QTMAC in the ongoing development of a QM SOP, which was submitted to the Provincial Mine Action Steering Committee for review and approval in November 2021, and was expected to be approved in Q3 2022.<sup>50</sup>

The NPA-VNMAC technical survey project in **Thua Thien Hue province** is an evolving process to formulate a SOP on technical survey for VNMAC. The first phase of the NPA-VNMAC operational support successfully concluded in 2020 and saw the successful revision and strengthening of VNMAC's SOP for technical survey (and non-technical survey), as well as the training, management, supervision and monitoring of four VNMAC technical survey teams. The next phase of the project was approved in December 2021, with training of VNMAC in Battle Area Clearance (BAC) to be based on NPA's SOPs, which will enable VNMAC to directly compare procedures to their own SOPs, learn from NPA best practice, and improve overall clearance efficiency.<sup>51</sup>

## ENVIRONMENTAL POLICIES AND ACTION

Currently VNMAC does not have a TCVN or policy on environmental management. However, according to NGOs, VNMAC plans to develop a TCVN on environmental management in 2022 and to discuss it within the LWG.<sup>52</sup> As a precursor to this, the STA had prepared two expert lectures to deliver to VNMAC, one on IMAS 07.13 and a second on climate change and mine action, planned to be delivered in 2022.<sup>53</sup>

MAG reported having an environmental SOP in place, which is followed throughout the survey and clearance process, in the absence of national guidelines.<sup>54</sup>

NPA has a comprehensive environmental management system in place, including a policy, local implementation plan, and SOP. NPA also reported having an emissions monitoring dashboard that it expected to be finalised and implemented soon.<sup>55</sup> Tasking of NPA operations is the responsibility of provincial authorities, so site selection is largely out of NPA's responsibility. However, NPA is developing an operational environment assessment globally, which seeks to identify environmental impacts of its operations at task level. NPA Vietnam is currently trialling this, but it is a work in progress

and will not be fully implemented by NPA's teams until it undergoes further revision and testing. As a preliminary step, NPA provided environmental training to all operational personnel in May 2022, including considerations they can make at task level to protect the environment. NPA's SOP is in line with IMAS, which provides basic recommendations on environmental protection.

PTVN has an environmental policy which it applies to its all its operations, including during planning, clearance, and post-clearance community development programme and projects. Furthermore, PTVN supports best practices and methodology to minimise potential harm to the environment from demining operations, including: supporting the project testing, training, and operating the bomb cutting machine; implementing processes for reducing environmental impact across the organisation by applying various solutions for prevention of pollution, waste reduction, and recycling to minimise one-time-use of supplies in field operations (for example, by using rechargeable batteries in operations).<sup>56</sup>

## GENDER AND DIVERSITY

According to VNMAC, the goal of gender equality has been recognised in the Constitution of Vietnam since 1946, and is clearly stipulated in subsequent amendments and supplements to the Constitution. Most recently, the 2013 Constitution stipulated that "male and female citizens are equal in all aspects". The policy is to ensure the rights and opportunities for gender equality and that gender discrimination is prohibited.<sup>57</sup>

49 Email from Valentina Stivanello, MAG, 29 April 2022.

50 Emails from Kimberley McCosker, NPA, 21 April and 13 July 2022.

51 Ibid.

52 Emails from Kimberley McCosker, NPA, 21 April 2022; Valentina Stivanello, MAG, 29 April 2022; Phạm Hoàng Hà, PTVN, 9 May 2022.

53 Email from Kimberley McCosker, NPA, 21 April 2022.

54 Email from Valentina Stivanello, MAG, 29 April 2022.

55 Email from Kimberley McCosker, NPA, 21 April 2022.

56 Email from Phạm Hoàng Hà, PTVN, 9 May 2022.

57 Email from Tim Horner on behalf of Mr Phuc, VNMAC, 6 April 2021. (Clauses 1 and 3, Article 26 of the 2013 Constitution).

In 2006, the Law on Gender Equality was enacted to achieve the goal of eliminating gender discrimination. Other legislation related to gender policy includes Decision No. 2351/QĐ-TTg dated 24 December 2010 of the Prime Minister approving the National Strategy on gender equality for the period 2011–2020 with seven goals and 22 specific targets in areas of governance, economics, labour/employment, education and training, health care, culture, information, family, and state management capacity building on gender equality; and Decision No. 515/QĐ-TTg dated 31 March 2016 of the Prime Minister approving the project to implement measures to ensure gender equality for female civil servants in the 2016–2020 period.<sup>58</sup> It was not known if there is a replacement to the strategy for 2021 onwards.

At VNNMAC, 22% of employees are female, with women in more than 20% of management, supervisory, and executive positions.<sup>59</sup> VNNMAC said that women's participation in survey and clearance activities is limited due to the nature of the work and due to the fact that the majority of participants are from the military forces. For other activities, projects have encouraged the participation of civil society agencies and organisations to help ensure a higher proportion of women. Local partners such as the Provincial Military Commission, the Department of Education and Training, and the Red Cross are required to take gender into account in their training events and activities, to ensure an increase in female participation.<sup>60</sup>

The final evaluation of the KVMAP, which finished at the end of 2021, concluded that gender and diversity had been adequately addressed. The wider project has sought female participation at all levels and sectors throughout planning and implementation. The overall gender balance for staff that were part of KV-MAP in 2021, was 42% women (20 out of 48 staff). Of this, 25% women of VNNMAC personnel were women (7 out of 28 staff); 65% of UNDP's staff (9 out of 12 staff); 67% of KOICA staff (2 out of 3 staff) and 40% of MOLISA staff (2 out of 5 staff).<sup>61</sup>

MAG has a gender policy, which is also incorporated into other policies and procedures. It encourages diversity and inclusion within its recruitment, training, and promotion procedures, ensuring equal opportunities for all staff. As at April 2022, MAG employed 725 employees in Vietnam, of whom 28% were women. Women represent 26% of MAG's total operational capacity in Vietnam (175 women out of 672 employees) and 21% of managerial/supervisory level positions (25 women out of 120 employees).<sup>62</sup>

NPA follows Vietnamese law governing equal opportunity and non-discrimination in employment. NPA continues to prioritise gender mainstreaming and work towards gender equality in the recruitment process and in the workplace. Women are actively encouraged to apply for roles and to pursue development opportunities once employed.<sup>63</sup> NPA employs a total of 367 staff in Vietnam, of whom 30% are

female, including 27% of operational staff and 18% of total management-level positions, rising to 50% of NPA's senior management team. While recruiting staff for the increased operational capacity, NPA Vietnam continued a high rate of recruitment of women, with women 30 of 58 (52%) new hires. NPA also continued to promote its all-female BAC team, the first of its kind in Vietnam, to highlight the important role of women in mine action to national and provincial partners. NPA Vietnam has designed a comprehensive framework to assess performance on gender and diversity mainstreaming and identify areas for focus, which it will implement in 2022.<sup>64</sup>

Gender and diversity mainstreaming remains a priority when working with national authorities, and NPA Vietnam continues to take every opportunity available to influence VNNMAC, QTMAC, the Thua Thien Hue DBU, and the Quang Binh DBCU towards positive gender and diversity mainstreaming. In 2021, NPA Vietnam helped highlight the topic of gender mainstreaming in mine action on a global stage, when Ms Nguyen Thi Dieu Linh, Provincial Programme Manager in Quang Tri, was invited to become the first Vietnamese citizen to address the UN Security Council during an open debate on "Mine action and sustaining peace: Stronger partnerships for better delivery", which was convened by the Government of Vietnam under their Council Presidency. As well as sharing her recommendations for more effective and efficient implementation of mine action activities based on her 12 years' experience in NPA field operations, Linh spoke about the importance of promoting and increasing the involvement of women in all aspects of mine action. Particular reference was made to the diverse positions that Vietnamese women hold in mine action, the progressive increase in the number of women participating in mine action in Vietnam, and to the first all-female BAC team established by NPA in 2018.<sup>65</sup>

PTVN has gender policies in place and encourages diversity and inclusion within its recruitment, training, and procedures for promotion, ensuring equal opportunities for all staff. PTVN gives priority for female candidates in recruitment. It has 189 staff in Vietnam, 36 (19%) of whom are women, including 11 women out of 32 (34%) in managerial/supervisory-level positions and 25 women out of 157 (16%) in operational positions. Six of PTVN's staff are from ethnic minority groups. In its field clearance, EORE, and victim assistance operations PTVN prioritises women and children as beneficiaries.<sup>66</sup>

Gender and diversity were also a focus of capacity development activities with QTMAC, to share lessons learned and best practices with the provincial authority in Quang Tri. A Gender and Diversity Policy was adopted by QTMAC in 2021 and gender and diversity training delivered.<sup>67</sup>

MAG's, NPA's, and PTVN's operations data are disaggregated by sex and age.<sup>68</sup>

58 Email from Tim Horner on behalf of Mr Phuc, VNNMAC, 6 April 2021.

59 Ibid.

60 Ibid.

61 Email from Havard Bach, Consultant, UNDP, 27 May 2022.

62 Email from Valentina Stivanello, MAG, 29 April 2022.

63 Email from Resad Junuzagic, NPA, 6 May 2019.

64 Emails from Kimberley McCosker, NPA, 21 April and 13 July 2022.

65 Emails from Kimberley McCosker, NPA, 21 April and 13 July 2022.

66 Email from Phạm Hoàng Hà, PTVN, 9 May 2022.

67 Email from Kimberley McCosker, NPA, 22 June 2021.

68 Emails from Simon Rea, MAG, 24 April 2019; Resad Junuzagic, NPA, 6 May 2019; and Phạm Hoàng Hà, PTVN, 11 May 2021.

## INFORMATION MANAGEMENT AND REPORTING

Decree 18 and Guiding Circular 195 make VNMAC responsible for information management, including the reporting, collection and provision of data on mines and ERW. VNMAC uses the IMSMA, however the full IMSMA database is not yet accessible to mine action operators. As previously mentioned, VNMAC still operates a request-based process and data distribution requires MoD approval. Operators received a bi-annual report from VNMAC, containing summary data for Q1 and Q2 2021 and a completed annual report, which included NGO and UNDP data, but not military data.<sup>69</sup> Linkages between VNMAC and the provinces are yet to be fully defined and different models are emerging (for example, QTMAC in Quang Tri province, DBCU in Quang Binh province, DBU in Thua Thien Hue province, and Project Management Unit (PMU)/IMU in Binh Dinh province as part of KV-MAP).<sup>70</sup> VNMAC is in the process of determining how information management will be collected nationally and shared,<sup>71</sup> and is steadily strengthening its data management and coordination role, thanks to the Decree and Guiding Circular providing a clear mandate and legal authority.

VNMAC reported making efforts to improve the collection of data and information management capacity nationwide, but sought continued international assistance.<sup>72</sup> The national database process is being implemented as part of the information management project, overseen by the PM/WRA Information Management Advisor to VNMAC. The national database structure exists and the inputting of available data is ongoing. The VNMAC database unit is now fully functional and operational, and the focus is on standardisation of the reporting forms to ensure data is reported consistently and is subject to quality control (QC).<sup>73</sup>

VNMAC reported that data collection forms are specified in the Appendices of Circular 195 and the National Standard TCVN 10299-10 (2014), and that since 2020, it had started to develop a set of standardised IMSMA data collection/reporting forms.<sup>74</sup> However, as at April 2022, all reporting was based on individual operators' forms.<sup>75</sup>

NPA is working with the VNMAC IMU at national level to collect and collate information from across Vietnam and give transparent access to available data. Throughout 2019–20, VNMAC's IMU worked to input historical data stored on other databases, including available data from the provinces. However, it is unclear what data the provinces are holding that have not yet been delivered to VNMAC.<sup>76</sup> In Q1 2021, significant effort was made to continue to collect and migrate

all historic data into the national IMSMA database. As at April 2022, VNMAC were reported to have entered all paper records shared by the Provincial Military Commands – approximately 70% of all historic data. Furthermore, VNMAC (with the support of the IM advisory team) have entered Landmine Impact Survey (LIS) data for 42 provinces (66% of all provinces) and have digitised maps of 42 provinces (74%) for use in ArcGIS.<sup>77</sup> VNMAC IM SOPs have also recently been reviewed, with comprehensive feedback provided by operators, but had yet to be formally approved at writing.<sup>78</sup>

In 2021, NPA capacity development personnel supported VNMAC to develop regulations for a national Information Management System. Following a consultative review process using the LWG, these regulations were finalised by VNMAC and were awaiting approval from the MoD. Once approved, they will see the establishment of a system for reporting provincial mine action data to a national IMSMA database held by VNMAC, using standardised IMSMA forms. NPA also supported VNMAC to provide training to provincial and regional military commands on the use of the national Information Management System, including standardised forms, and provided 70 laptops to ensure every province and region is adequately equipped to report mine action data. These trainings were ongoing as of writing. The establishment of a national mine action database, held by VNMAC, is a prerequisite for many other activities, including QM and prioritisation.<sup>79</sup>

In **Quang Binh** province, MAG initiated a partnership with NPA and PTVN in October 2019, which includes support to the Quang Binh provincial Department of Foreign Affairs to establish a central database in the province, based on the Quang Tri database unit model.<sup>80</sup> NPA is responsible for the capacity development to the Quang Binh DBCU, which is also supported by VNMAC.<sup>81</sup> In 2020, eight staff were recruited, trained, and accredited to IMSMA Level 1 and also trained in GIS and ArcGIS online. In addition, the DBCU has been fully equipped with required equipment and software, and a provincial IMSMA database, with field reporting templates based on VNMAC's forms, has been established, and field operators and DBCU staff have been trained.<sup>82</sup> All of MAG's historical data has now been inputted into the database.<sup>83</sup>

As at April 2022, all data had been systematised except for the data from the military clearance and KV-MAP project.<sup>84</sup> The reporting system and tasking from the Quang Binh DBCU became effective in 2021 and is said to have been conducted

69 Emails from Kimberley McCosker, NPA, 21 May 2022; and Valentina Stivanello, MAG, 29 April 2022.

70 Email from Helene Kuperman, MAG, 31 March 2021.

71 Emails from Jan Erik Støa, NPA, 6 April 2020; and Helene Kuperman, MAG, 10 April 2020.

72 Email from Tim Horner on behalf of Mr Phuc, VNMAC, 6 April 2021.

73 Email from Kimberley McCosker, NPA, 8 April 2021.

74 Email from Tim Horner on behalf of Mr Phuc, VNMAC, 6 April 2021.

75 Email from Valentina Stivanello, MAG, 29 April 2022.

76 Emails from Kimberley McCosker, NPA, 8 April 2021; and Helene Kuperman, MAG, 31 March 2021.

77 Email from Kimberley McCosker, NPA, 21 April 2022.

78 Email from Valentina Stivanello, MAG, 29 April 2022.

79 Email from Kimberley McCosker, NPA, 21 April 2022.

80 Email from Helene Kuperman, MAG, 10 April 2020.

81 Email from Kimberley McCosker, NPA, 8 April 2021.

82 Ibid.

83 Email from Valentina Stivanello, MAG, 29 April 2022.

84 Email from Kimberley McCosker, NPA, 21 April 2022.

efficiently by the DBCU, with the DBCU reporting to the VNMAC.<sup>85</sup> The operators in Quang Binh (VNMAC, MAG, NPA, and PTVN) are responsible for reporting their own data. VNMAC was responsible for managing survey and clearance data and results under KV-MAP and also for reporting relevant data to the provincial DBCU in Quang Binh.<sup>86</sup> As part of the KV-MAP, IM training was conducted for all relevant staff and a new server, IT equipment, and software procured for the database centre.<sup>87</sup> Database Centres for Mine Action in **Quang Binh** and **Binh Dinh** provinces managed the data from the KV-MAP project which was then fed into the VNMAC database.<sup>88</sup>

In **Quang Tri province**, the QTMAC database unit has been running well and is able to autonomously collect, collate, analyse, and task operators based on information shared by all mine action stakeholders in the province (domestic and international, civilian and military).<sup>89</sup> The database provides a basis for effective planning and tasking. Data hosted at QTMAC's DBU are believed to be accurate and up to date, and

have been the catalyst for greater coordination across all stakeholders within the province.<sup>90</sup>

In October 2021, a project was established for NPA to support the creation of the **Thua Thien Hue** Department of Foreign Affairs database unit, and the DBU was operational from November. Norway supports the salaries of the five DBU officers, equipment, and running costs. Training in IMSMA was provided by NPA and VNMAC in March 2022 and all five DBU personnel were accredited. NPA, the only international operator in Thua Thien Hue, is reporting operational data to the DBU, and they are subsequently reporting to VNMAC in line with the national Information Management System regulations. NPA is providing additional support for collecting and migrating historic data from previous and ongoing military operations and from international organisations that were previously operational in the province.<sup>91</sup>

According to international NGOs (INGOs), Binh Dinh is the next key province that VNMAC wants to focus on.<sup>92</sup>

## PLANNING AND TASKING

Decision 504, approved by the Prime Minister in April 2010, set out a National Mine Action Plan for 2010–25. The plan, which covers mines, CMR, and other ERW, aimed to “mobilize domestic and international resources in making efforts to minimize and finally create impact-free environment for social economic development.” It called for clearance of 8,000km<sup>2</sup> of ERW between 2016 and 2025.<sup>93</sup> Vietnam does not yet have a strategy specifically targeting CMR and plans to address all ERW comprehensively. VNMAC would benefit from elaborating a national mine action strategy and annual work plans for CMR, with clear targets for survey and clearance.

During the national conference to review the achievement of Program 504 in February 2022 in Hanoi, VNMAC shared the 10-year report on the progress and achievements of Vietnam on mine action (i.e. survey, EOD, clearance, risk education and victim assistance).<sup>94</sup> VNMAC also shared the five-year National Mine Action Plan (2021–25), which has been developed to implement the final period of the current National Mine Action plan. The plan, which was elaborated by the government without input from NGOs or other members of the LWG, also seeks to develop and implement the technical survey of “zoning areas” confirmed as contaminated by mines and ERW, as the basis for strategic planning.<sup>95</sup> As at

June 2022, the five-year plan had yet to be formally released and was still undergoing Prime Ministerial review regarding two final issues concerning the budget and capacity for implementation of the plan.<sup>96</sup> There was an annual work plan in place for 2022.<sup>97</sup>

VNMAC has said that its mission for the period 2021–25 includes objectives to complete the organisational structure and legal framework and policies; ensure effective mine action management; foster international cooperation to mobilise necessary resources; complete the information management system for mine action nationwide; and implement survey and clearance activities over 5,000km<sup>2</sup>, with priority in heavily contaminated areas.<sup>98</sup>

As at April 2022, there was no national prioritisation system for CMR clearance, and currently there is insufficient data in the national IMSMA database to prioritise on a task-by-task basis. Prioritisation at the task or lower administrative levels is currently the responsibility of provinces.<sup>99</sup>

In **Quang Binh province**, the system for reporting and tasking by the provincial DBCU became effective in 2021 and is said to have been conducted efficiently by the DBCU, with the DBCU reporting to the VNMAC.<sup>100</sup>

85 Ibid.

86 Email from Havard Bach, Consultant, UNDP, 27 May 2022.

87 Ibid.

88 Emails from Helene Kuperman, MAG, 23 June 2020; and Nils Christensen, UNDP, 2 October 2020.

89 Email from Helene Kuperman, MAG, 10 April 2020.

90 Emails from Resad Junuzagic, NPA, 6 May 2019; and Jan Erik Støa, NPA, 24 June 2020.

91 Email from Kimberley McCosker, NPA, 21 April 2022.

92 Ibid.

93 Prime Minister, “Decision on Approval of the National Mine Action Plan Period 2010–2025”, Hanoi, 21 April 2010.

94 Emails from Valentina Stivanello, MAG, 29 April 2022; and Phạm Hoàng Hà, PTVN, 9 May 2022.

95 Emails from Tim Horner on behalf of Mr Phuc, VNMAC, 6 April 2021; Valentina Stivanello, MAG, 29 April and 20 June 2022; and Kimberley McCosker, NPA, 22 June 2022.

96 Interview with Mr Phuc, VNMAC, Geneva, 23 June 2022.

97 Email from Kimberley McCosker, NPA, 21 April 2022.

98 Email from Doan Thi Hong Hai, Capacity Development Project Officer, NPA, on behalf of Mr Phuc, VNMAC, 3 June 2022.

99 Email from Kimberley McCosker, NPA, 21 April 2022.

100 Ibid.

In **Quang Tri province**, there is a prioritisation process in place and an effective system for task allocation.<sup>101</sup> The prioritisation processes and accompanying forms were piloted in 2018 and were rolled out in May 2019, with QTMAC now managing the province-wide clearance task prioritisation process.<sup>102</sup> In March 2020, the QTMAC issued a letter to inform operators on the application of the prioritisation guidelines.<sup>103</sup> The criteria are established based on consultation and agreement between QTMAC and operators. The QTMAC tasks all mine action operators in the

province and annual work plans are approved by provincial authorities, in cooperation and dialogue with operators.<sup>104</sup> Information from experience gained in developing and implementing the prioritisation plan in Quang Tri province has been shared with VNMAC.<sup>105</sup>

In **Thua Thien Hue province**, tasking for NGO operators is decided by provincial authorities in accordance to the provincial socio-economic development plan.<sup>106</sup>

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## LAND RELEASE SYSTEM

### STANDARDS AND LAND RELEASE EFFICIENCY

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Vietnam has both National Technical Regulations (QCVNs), which are legally binding and similar in content to SOPs, and National Mine Action Standards (TCVNs), which despite being standards are considered optional by VNMAC.<sup>107</sup>

VNMAC made significant progress in 2020 to review and update the QCVNs to help bring them into line with IMAS.<sup>108</sup> The former QCVNs and existing TCVNs were drafted more with the MoD in mind, used terminology inconsistently, and chapters contradicted themselves.<sup>109</sup> INGOs welcomed the inclusiveness of the revision process,<sup>110</sup> which involved the establishment of four working groups, co-chaired by VNMAC, and extensive consultation with operators and international organisations, including the GICHD.<sup>111</sup> However, despite the revision process for the QCVNs having been completed by early 2021, the QCVNs were still awaiting final approval from the Prime Minister's office. VNMAC hoped the QCVNs would receive approval and then be released in July 2022.<sup>112</sup> Revision of the TCVNs was also underway as at time of writing, in anticipation of the expected official approval and release of the QCVNs, which are required to be adopted first. The revised TCVNs had been shared with the LWG for input from all stakeholders.<sup>113</sup>

As part of the revision process, VNMAC also updated its SOP on QM Systems (QMS), as part of KV-MAP. In addition, a single, field-orientated QM SOP has been prepared by the QTMAC, with support from NGOs, for use in Quang Tri province.<sup>114</sup> Corresponding legal documents (Circulars) related to the QM SOPs, and to the revised non-technical survey, technical survey, and clearance SOP, were approved in October 2021, but had still to be translated as at April 2022.<sup>115</sup>

### OPERATORS AND OPERATIONAL TOOLS

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Most clearance in Vietnam is conducted by the Army Engineering Corps and military-owned commercial companies. Outside the central provinces, the current strength and deployment of military-related demining is unknown.

Vietnamese officials have previously reported that it had 250 mine clearance and BAC teams nationally. Vietnam reportedly has more than 70 military-owned companies undertaking clearance related to infrastructure and commercial and development projects.<sup>116</sup> Survey and clearance by the Engineering Commands in 2020 increased compared to the previous year. VNMAC expected a further increase in survey and clearance capacity for socio-economic projects in 2021.<sup>117</sup> Under the KV-MAP project, 36 clearance teams were deployed in 2021 to conduct ERW clearance (including CMR) in Quang Binh province.<sup>118</sup>

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101 Emails from Resad Junuzagic, NPA, 6 May 2019; Helene Kuperman, MAG, 31 March 2021; and Phạm Hoàng Hà, PTVN, 11 May 2021.

102 Email from Simon Rea, MAG, 16 June 2019.

103 Email from Kimberley McCosker, NPA, 13 May 2021.

104 Emails from Jan Erik Støa, NPA, 6 April 2020; Simon Rea, MAG, 24 April 2019; and Helene Kuperman, MAG, 31 March 2021.

105 Email from Kimberley McCosker, NPA, 8 April 2021.

106 Email from Jan Erik Støa, NPA, 6 April 2020.

107 Email from Resad Junuzagic, NPA, 6 May 2019.

108 Email from Kimberley McCosker, NPA, 8 April 2021; and Helene Kuperman, MAG, 31 March 2021.

109 Emails from Resad Junuzagic, NPA, 6 May 2019; Jan Erik Støa, NPA, 6 April 2020; and Helene Kuperman, MAG, 10 April 2020.

110 Email from Kimberley McCosker, NPA, 8 April 2021.

111 Emails from Kimberley McCosker, NPA, 8 April 2021 and 21 April 2022; Valentina Stivanello, MAG, 29 April 2022; GICHD, 24 April 2022; and Tim Horner on behalf of Mr Phuc, VNMAC, 6 April 2021.

112 Interview with Mr Phuc, VNMAC, in Geneva, 23 June 2022.

113 Emails from Valentina Stivanello, MAG, 29 April 2022; and GICHD, 24 April 2022.

114 Email from Kimberley McCosker, NPA, 8 April 2021.

115 Email from Kimberley McCosker, NPA, 21 April 2022.

116 Interview with Sr. Col. Nguyen Thanh Ban, Engineering Command, Hanoi, 18 June 2013; email from Executive Office of the National Steering Committee, 6 August 2012; and interviews with mine action stakeholders, Hanoi, 16–20 April 2018; and email from Lee Moroney, Golden West Humanitarian Foundation, 22 June 2019.

117 Email from Tim Horner on behalf of Mr Phuc, VNMAC, 6 April 2021.

118 Email from Havard Bach, Consultant, UNDP, 27 May 2022.

Since 2006, Golden West has been providing technical support and training to Vietnamese humanitarian mine action organisations. Beginning in 2016, Golden West began a programme training Provincial Military Commands in Ha Tinh, Quang Binh and Quang Tri provinces to conduct EOD operations to an IMAS standard. The programs in Ha Tinh and Quang Binh resulted in training and certification of 77 IMAS Level 1 and Level 2 technicians. Since 2017, Golden West training has focused on Quang Tri province and training for both the Provincial Military Command and PTVN. In Quang Tri, Golden West has trained dozens of EOD technicians to comply with IMAS EOD Levels 1, 2, and 3 and are training a specialised Provincial Military Command team to operate a mobile cutting system for safe demilitarisation and disposal of large bombs and projectiles. Golden West also leverages its partnerships in Quang Tri to provide valuable field mentoring and training to VNMAR EOD personnel being formally trained by USARPAC's humanitarian mine action program.<sup>119</sup>

International operators active in 2021 included: MAG, working in Quang Binh and Quang Tri provinces; NPA, working in Quang Binh, Quang Tri, and Thua Thien Hue provinces; and PTVN, who have been working in Quang Tri province since 1995 and now also in Quang Binh.<sup>120</sup> DDG ceased its survey and clearance operations in Vietnam (Quang Nam province) in January 2020, due to lack of funding.<sup>121</sup>

In 2021, MAG deployed 40 clearance teams, totalling 360 deminers (excluding team leaders, deputy team leaders, and medics) and seven mechanical assets, which was the same capacity as the previous year. MAG also deployed seven non-technical survey teams in 2021, totalling fourteen community liaison officers, as well as one technical survey team of nine deminers (excluding team leader, deputy team leader, and medic). In 2022, MAG expected to move one of its technical survey teams to Quang Binh province.<sup>122</sup> Clearance teams are supported by manual vegetation-cutting teams to prepare the ground. MAG has found those teams greatly increase the efficiency of the clearance teams, as personnel can focus on clearance without diversion to the clearing away of vegetation. MAG has a total of 14 clearance support teams, totalling 70 employees. In addition MAG deploys two multi-task teams (MTTs) conducting emergency EOD spot tasks (one in each province, with each MTT comprising a team leader, a deputy team leader, and three deminers).<sup>123</sup> In 2019, MAG received permission from the Vietnam People's Army Department of Operations for the deployment of drones

to support its operations in designated areas in Trieu Phong and Hai Lang districts, Quang Tri province. The permission is renewed every three months with the Department of Operations.<sup>124</sup> As at June 2022, drones were fully operational within MAG's programme.<sup>125</sup>

In 2021, NPA continued operations in Quang Binh, Quang Tri, and Thua Thien Hue provinces, and conducted capacity development activities with VNMAR in Hanoi and provincial mine action units in Quang Tri, Quang Binh, and Thua Thien Hue provinces. NPA also received formal permission to conduct activities in Kon Tum province in 2021, but due to restrictions on travel and meetings because of COVID-19, it was only able to conduct initial meetings with provincial partners and VNMAR in April 2022.<sup>126</sup> As at the end of 2021, NPA had 16 non-technical survey teams (totalling 34 personnel); 13 technical survey teams (totalling 54 personnel); 15 clearance teams (totalling 134 personnel), and one mechanical asset. This represented an increase in capacity compared to the previous year, with technical survey capacity being deployed in Quang Binh from January 2021 and an increase in CMRS capacity from July in Quang Binh and Quang Tri provinces thanks to increased funding from PM/WRA. In April 2022, NPA completed non-technical survey in all accessible villages in Quang Tri province, and all non-technical survey personnel in Quang Tri were retrained as technical survey personnel.<sup>127</sup> The operational data feedback loop and sharing of knowledge between MAG and NPA as part of their partnership in Quang Tri continues and will also be replicated in Quang Binh province.<sup>128</sup>

PTVN operates in Quang Tri province and from June 2020, extended its programme into Quang Binh province. After a lengthy approval process, PTVN's field operations began in Quang Binh province in early 2021.<sup>129</sup> PTVN undertakes EOD, clearance, and integrated risk education, but does not conduct CMRS.<sup>130</sup> In 2021, PTVN deployed 6 BAC teams and 2 EOD teams in Quang Tri and 4 multi-task teams in Quang Binh, with a total of 106 technicians. Clearance capacity in 2021 was an increase on 2020, due to the commencement of clearance operations in Quang Binh since 2021, and the addition of personnel from a special clearance project celebrating the 25th Anniversary of PTVN and of Vietnam-US relations.<sup>131</sup> PTVN's capacity also includes 2 pairs of surveyors, who mostly focus on site assessments and re-visiting CHAs for the purpose of planning and evaluation.<sup>132</sup>

119 Email from Mark Lasley, Golden West Humanitarian Foundation, 16 June 2021.

120 Emails from Kimberley McCosker, NPA, 21 April 2022; Valentina Stivanello, MAG, 29 April 2022; and Phạm Hoàng Hà, PTVN, 9 May 2022.

121 Email from Søren Adser Sørensen, Programme Specialist, DDG, 5 May 2020.

122 Email from Valentina Stivanello, MAG, 29 April 2022.

123 Email from Valentina Stivanello, MAG, 20 June 2022.

124 Emails from Helene Kuperman, MAG, 10 April 2020; and 31 March 2021.

125 Email from Valentina Stivanello, MAG, 20 June 2022.

126 Email from Kimberley McCosker, NPA, 21 April 2022.

127 Ibid.

128 Emails from Helene Kuperman, MAG, 10 April 2020; and Kimberley McCosker, NPA, 8 April 2021.

129 Email from Phạm Hoàng Hà, PTVN, 11 May 2021.

130 Ibid.

131 Email from Phạm Hoàng Hà, PTVN, 9 May 2022.

132 Email from Phạm Hoàng Hà, PTVN, 17 June 2022.

# LAND RELEASE OUTPUTS AND PROGRESS TOWARDS COMPLETION

## LAND RELEASE OUTPUTS IN 2021

In 2021, a total of approximately 48km<sup>2</sup> of cluster munition-contaminated area was cleared in Vietnam: 46.2km<sup>2</sup> cleared by NGOs and an estimated 1.8km<sup>2</sup> of CMR contamination cleared as part of the KV-MAP project. The project cleared 13.5km<sup>2</sup> of land in total, but not all of it was cluster munition-contaminated area, therefore Mine Action Review has made a conservative estimate of the extent of CMR clearance.<sup>133</sup>

A total of at least 13,456 submunitions were reported to have been destroyed in 2021: 3,351 during technical survey, 8,440 during clearance, and 1,665 during EOD spot tasks.<sup>134</sup>

## SURVEY IN 2021

Based on data from NGOs, nearly 82km<sup>2</sup> was confirmed as contaminated with CMR in 2021 in Quang Binh and Quang Tri provinces (see Table 1), during which 3,351 submunitions were destroyed.<sup>135</sup> This was a slight reduction on the 85km<sup>2</sup> of area confirmed in 2020.

**Table 1: Technical survey of cluster munition-contaminated area in 2021 (based on operator data)<sup>136</sup>**

Operator	Province	Area surveyed (m <sup>2</sup> )	Area confirmed (m <sup>2</sup> )	Submunitions destroyed	Other UXO destroyed
MAG	Quang Binh	14,792,500	10,754,867	435	0
NPA	Quang Binh	12,892,500	26,750,744	*799	*77
NPA	Quang Tri	30,275,000	44,314,559	2,117	1,865
<b>Totals</b>		<b>57,960,000</b>	<b>81,820,170</b>	<b>3,351</b>	<b>1,942</b>

\* Items discovered by NPA technical survey teams in Quang Binh were destroyed by PTVN as part of the consortium agreement between MAG, PTVN, and NPA in Quang Binh. The items were reported by NPA to the DBCU and subsequently tasked by the DBCU to PTVN for destruction.

MAG confirmed more than 10.75km<sup>2</sup> as containing CMR in 2021, a decrease on the almost 19.27km<sup>2</sup> surveyed the previous year. NPA confirmed nearly 71.1km<sup>2</sup> as containing CMR in 2021, an increase on the 65.6km<sup>2</sup> confirmed as CHA the previous year. In Quang Tri, ranked as one of Vietnam's most heavily contaminated provinces, NPA completed non-technical survey of the 91% of villages in April 2022 and estimates that technical survey of all remaining evidence points in the 690 accessible (i.e. unrestricted) villages will be completed in April 2023, depending on the amount of direct evidence identified during survey.<sup>137</sup>

According to VNMAC, non-technical survey in 2021 was conducted by MAG and NPA in 169 villages, identifying 1,011 points of evidence, and completing 1,762 EOD spot tasks,<sup>138</sup> and a total of 129km<sup>2</sup> of land was technically surveyed in 2021 and confirmed to be contaminated with mostly UXO. However, the amount of area confirmed to be contaminated with CMR was not disaggregated.<sup>139</sup> This is a slight increase on the 120.63km<sup>2</sup> of land was surveyed in 2020.<sup>140</sup> In addition, VNMAC also reported reducing nearly 47.21km<sup>2</sup> through technical survey in 2021,<sup>141</sup> but this likely includes reduction through technical survey of all EO-contaminated area, and not only CMR, as part of the KV-MAP.

## CLEARANCE IN 2021

A total of more than 48km<sup>2</sup> of cluster munition-contaminated area was cleared in 2021, with the destruction of 10,065 submunitions (8,400 during clearance and a further 1,665 submunitions during spot tasks), based on NGO data and an estimate of the CMR-clearance conducted as part of KV-MAP in 2021. As already mentioned above, a further 3,351 submunitions were destroyed during technical survey.<sup>142</sup> CMR clearance in 2021 was broadly the same as the equivalent clearance in 2020.

133 Emails from Kimberley McCosker, NPA, 21 April 2022; Valentina Stivanello, MAG, 29 April 2022; Phạm Hoàng Hà, PTVN, 9 May 2022; and Havard Bach, Consultant, UNDP, 27 May 2022.

134 Emails from Kimberley McCosker, NPA, 21 April 2022; Valentina Stivanello, MAG, 29 April 2022; Phạm Hoàng Hà, PTVN, 9 May 2022; and Havard Bach, Consultant, UNDP, 27 May 2022.

135 Emails from Kimberley McCosker, NPA, 21 April 2022; and Valentina Stivanello, MAG, 29 April 2022.

136 Ibid.

137 Emails from Kimberley McCosker, NPA, 21 April and 22 June 2022.

138 Email from Doan Thi Hong Hai, NPA, on behalf of Mr Phuc, VNMAC, 3 June 2022.

139 Ibid.

140 Email from Tim Horner on behalf of Mr Phuc, VNMAC, 6 April 2021.

141 Email from Doan Thi Hong Hai, NPA, on behalf of Mr Phuc, VNMAC, 3 June 2022.

142 Emails from Kimberley McCosker, NPA, 21 April 2022; Valentina Stivanello, MAG, 29 April 2022; Phạm Hoàng Hà, PTVN, 9 May 2022; and Havard Bach, Consultant, UNDP, 27 May 2022.

NGOs reported to Mine Action Review clearing a total of more than 46.2km<sup>2</sup> of cluster munition-contaminated area in 2021, with destruction of 8,128 submunitions (see Table 2) and a further 1,665 submunitions during EOD spot tasks. While NGO clearance output in 2021 was an increase on the 38.5km<sup>2</sup> of CMR-contaminated area cleared in 2020, the total number of submunitions destroyed by NGOs in 2021 was a slight decrease on the 8,402 destroyed during NGO CMR clearance operations in 2020. The number of submunitions destroyed during spot tasks in 2021 (1,665) was a significant increase on the 499 destroyed in 2020.

VNMAC reported clearing 59.17km<sup>2</sup> of land contaminated by all explosive ordnance (not only CMR-contaminated area) in 2021, with the destruction of 7,997 submunitions, 22,867 other items of ERW, 11 anti-personnel mines, and 67 bombs.<sup>143</sup> Of this, UNDP reported that 13.5km<sup>2</sup> was cleared, and 312 submunitions and 1,323 other UXO destroyed, through clearance by the provincial military teams coordinated by VNMAC as part of the KV-MAP ERW project. The reported total for destruction is significantly less than the 3,443 submunitions destroyed as part of KV-MAP in 2020. The remainder is said to relate to NGO clearance and military clearance conducted outside of the KV-MAP

project.<sup>144</sup> However, these military operations relate mainly to emergency EOD spot tasks, rather than to area clearance, and it is also thought that not all military clearance is reported to VNMAC. It is not known what proportion of the total area cleared as part of the KV-MAP was cluster munition-contaminated area, as the amount of area cleared of CMR was not disaggregated from area cleared of other ERW and mines. Mine Action Review has therefore estimated CMR clearance under the KV-MAP ERW project in 2021 conservatively at 1.8km<sup>2</sup>.<sup>145</sup> A further 1,665 submunitions were found and destroyed during EOD spot tasks in 2021: 142 by MAG, 249 by NPA, and 1,274 by PTVN.<sup>146</sup>

For the first time, VNMAC also produced an annual INGO operational report for 2021. However, the data was not consistent with data provided by VNMAC and the INGOs to Mine Action Review. According to the annual report, non-technical survey was completed in 169 villages in 2021, with 57.87km<sup>2</sup> technically surveyed; 81,82km<sup>2</sup> of CHAs established; nearly 37.25km<sup>2</sup> of agricultural and development land cleared (in addition to over 34.84km<sup>2</sup> of "other" land); and a total of 68 bombs, 14,962 submunitions, and 25,930 other UXO (and mines) were destroyed.<sup>147</sup>

**Table 2: CMR clearance in 2021 (based on NGO and UNDP data)<sup>148</sup>**

Operator	Operator	Area cleared (m <sup>2</sup> )	Submunitions destroyed	Other UXO destroyed
Quang Binh	MAG	8,286,284	2,702	698
Quang Binh	Provincial Military Command coordinated by VNMAC as part of KV-MAP	Est. 1,800,000	312	1,323
Quang Binh	PTVN	908,035	286	52
Quang Tri	MAG	24,026,295	3,138	8,964
Quang Tri	NPA	638,970	288	213
Quang Tri	PTVN	5,661,206	144	6,181
Thua Thien Hue	NPA	6,689,183	1,570	2,082
N/K	Provincial Military Command (excluding KV-MAP)	N/K	N/K	N/K
<b>Totals</b>		<b>48,009,973</b>	<b>8,440</b>	<b>19,513</b>

N/K = not known

MAG's clearance of more than 32.3km<sup>2</sup> in 2021, was an increase on the more than 30.9km<sup>2</sup> cleared the previous year.<sup>149</sup>

NPA's clearance of more than 7.3km<sup>2</sup> in 2021 was a significant increase on 4.1km<sup>2</sup> cleared the previous year. The increase was due to a reduced impact from COVID-19 restrictions in 2021, compared to 2020, and in 2021 NPA strengthened its operational planning based on lessons learned during 2020, which enabled it to respond better to provincial restrictions and lockdowns

143 Email from Doan Thi Hong Hai, NPA, on behalf of Mr Phuc, VNMAC, 3 June 2022.

144 Interview with Mr Phuc, VNMAC, in Geneva, 23 June 2022.

145 Estimate by Mine Action Review based on the number of submunitions reported destroyed by VNMAC and comparison with cleared area per submunition found by INGOs in 2021.

146 Emails from Kimberley McCosker, NPA, 21 April 2022; Valentina Stivanello, MAG, 29 April 2022; and Phạm Hoàng Hà, PTVN, 9 May 2022.

147 VNMAC, Annual 2021 INGO Operations Report, March 2022.

148 Emails from Kimberley McCosker, NPA, 21 April 2022; Valentina Stivanello, MAG, 29 April 2022; Phạm Hoàng Hà, PTVN, 9 May 2022; and Havard Bach, Consultant, UNDP, 27 May 2022.

149 Email from Valentina Stivanello, MAG, 29 April 2022.

in 2021. Furthermore, there were fewer adverse weather events in 2021, unlike in 2020 when several weeks' stand-down had been caused by extraordinary seasonal weather.<sup>150</sup>

PTVN's clearance output in 2021 was significant increase on the nearly 3.5km<sup>2</sup> cleared the previous year. The increase was due to PTVN starting clearance and EOD spot tasks in Quang Binh from January 2021, with an associated increase in the number of deminers. In addition to submunitions and other ERW, PTVN also found four anti-personnel mines during cluster munition clearance operations in Quang Tri in 2021.<sup>151</sup>

The KV-MAP exceeded its operational targets in 2021, despite COVID-19 restrictions.<sup>152</sup>

## PROGRESS TOWARDS COMPLETION

Vietnam has not set a target date for the completion of CMR clearance. In its national mine action plan for 2010 to 2025 it called for the clearance of 8,000km<sup>2</sup> of ERW from 2016 to 2025<sup>153</sup> but did not specify how much of this should be CMR. The lack of a baseline of CMR contamination and a lack of information at a national level about ongoing survey and clearance across the country makes it difficult to understand both Vietnam's annual progress in reducing CMR contamination and how this contributes to the completion of CMR clearance. However, it is a positive development that VNMAC is beginning to support the expansion of CMRS – from in Quang Tri and Thua Thien Hue provinces, into new provinces, such as the US-funded consortium project in Quang Binh.<sup>154</sup>

The adoption of Decree 18 and Guiding Circular 195 is enabling VNMAC to put in place systems and practices to coordinate and strengthen mine action in Vietnam, bringing national standards relating to survey and clearance operations in line with IMAS, and establishing a national information management database.

VNMAC reported that the COVID-19 pandemic has had a major impact on all aspects of operations, including survey and clearance efforts. Challenges posed by the pandemic include the organisation and deployment of the field personnel according to the regulations of the Government and each locality in implementing the activity/project; the organisation of COVID-19 prevention measures and the work of ensuring personnel, equipment, and logistics for performing tasks; and challenges posed in implementation of mine action projects in partnership with international partners, as only online meeting have been possible.<sup>155</sup>

MAG reported that the COVID-19 pandemic continued to disrupt its operations in 2021. MAG has estimated that it lost around 1,267 team days across its mine action teams due to COVID-19 lockdowns and infections, and adverse weather conditions, equal to 5km<sup>2</sup> of land release.<sup>156</sup>

NPA reported that COVID-19 had a similar impact on operations in 2021 as in 2020, with a total of 22 working days on stand down in Quang Binh province; 25 in Quang Tri province; and 23 working in Thua Thien Hue province. It was necessary for operations to be more flexible (such as re-tasking to different areas) and better coordinated, as many personnel had to take leave after contracting COVID-19 or after coming into close contact with a confirmed case. Despite the challenges, NPA's operational flexibility ensured that all targets were met in 2021.<sup>157</sup>

PTVN also continued to feel the impact of the COVID-19 pandemic in 2021, with staff suffering from COVID-19 or on quarantine causing a shortage of human resources. PTVN has had to change its operations plan on several occasions during the pandemic.<sup>158</sup>

The significant reduction in United Kingdom Foreign and Commonwealth Office (FCDO) funding from the end of March 2021 has impacted the mine action sector in Vietnam. NPA Vietnam was, however, able to mitigate the impact of this by ensuring good dialogue and subsequent increase in funding from PM/WRA to cover its entire FCDO capacity (both operational and capacity development). MAG also had a significant portion of their FCDO funding picked up by PM/WRA.<sup>159</sup>

150 Email from Kimberley McCosker, NPA, 21 April 2022.

151 Email from Phạm Hoàng Hà, PTVN, 9 May 2022.

152 Email from Havard Bach, Consultant, UNDP, 27 May 2022.

153 Prime Minister, "Decision on Approval of the National Mine Action Plan Period 2010–2025", Hanoi, 21 April 2010.

154 Email from Kimberley McCosker, NPA, 8 April 2021.

155 Emails from Tim Horner on behalf of Mr Phuc, VNMAC, 6 April 2021; and Doan Thi Hong Hai, NPA, on behalf of Mr Phuc, VNMAC, 3 June 2022.

156 Emails from Valentina Stivanello, MAG, 29 April and 20 June 2022.

157 Email from Kimberley McCosker, NPA, 21 April 2022.

158 Email from Phạm Hoàng Hà, PTVN, 9 May 2022.

159 Emails from Kimberley McCosker, NPA, 21 April and 13 July 2022.

## PLANNING FOR MANAGEMENT OF RESIDUAL CONTAMINATION

Golden West continues to partner with the GICHD in a Management of Residual Explosive Remnants of War project to study the ERW ageing; develop standards for the collection, cutting, and dissection of ERW; and to draw up and pilot a long-term risk management model.<sup>160</sup>

The GICHD has been supporting VNMAC, NPA, and UNDP in the review of the current legislative and normative framework, with a focus on residual risk management. In 2021, the support expanded to conduct training course on residual risk management, site safety, and long-term risk management (LTRM) framework (tools and protocols).<sup>161</sup> Implementation of the trial of the LTRM framework to help identify the elements of a residual state and manage residual risk according to best practice, will start once COVID-19 related restrictions enable GICHD staff to travel to Vietnam. As a preparatory step, the GICHD and the VNMAC, with the support of UNDP and NPA, have worked on an assessment of the current residual risk management capacity and the required or desired capacities that VNMAC needs to manage residual contamination. A final report has been compiled jointly by GICHD and VNMAC, and as at April 2022 was waiting government approval.<sup>162</sup>

Golden West believes that the Provincial Military Commands provide a long-term capacity to respond to residual ERW regardless of external funding or support. Golden West is building a Vietnamese capacity to continue EOD operations in a safe and effective manner as long as the threat to the public exists.<sup>163</sup> Golden West has worked with VNMAC to improve their technical EOD skills and to support formal training by the United States DOD by providing continuity and field mentoring to inculcate trained skills into everyday operations. With US funding, Golden West has provided equipment and training to BOMICEN (Technology Centre for Bomb and Mine Disposal Engineering Command), an advisory agency under the Vietnamese Ministry of Defence and Engineering Command.<sup>164</sup>

Golden West is also training PTVN EOD teams, funded by PTVN, to help develop their training capability, ensuring long-term success. From this process, one IMAS EOD level 2 training course was conducted by a PTNV trainer for PTVN technicians (deminers) in 2021, under supervision from Golden West and followed by mentoring.<sup>165</sup> PTVN instructors regularly work with Golden West and VNMAC, enhancing training skills and building a lasting capability.<sup>166</sup>

<sup>160</sup> Emails from Mark Lasley, Golden West Humanitarian Foundation, 16 June 2021; and Rob White, Adviser, Strategic Management and Residual Contamination, GICHD, 25 April 2018.

<sup>161</sup> Email from GICHD, 16 June 2021.

<sup>162</sup> Email from GICHD, 24 April 2022.

<sup>163</sup> Email from Mark Lasley, Golden West Humanitarian Foundation, 16 June 2021.

<sup>164</sup> Ibid.

<sup>165</sup> Email from Phạm Hoàng Hà, PTVN, 9 May 2022.

<sup>166</sup> Email from Mark Lasley, Golden West Humanitarian Foundation, 16 June 2021.