

## KEY DEVELOPMENTS

Vietnam is currently in an important period for increased attention towards mine action, as the national programme develops its legal framework, structure, policies, and standards. With the adoption of a new national mine action decree in 2019, followed up with a more detailed Guiding Circular in February 2020, the Vietnam National Mine Action Centre (VNMAC) has now been officially empowered to start coordinating humanitarian mine action in Vietnam. Progress has already started towards establishing a fully functioning national information management database, and national quality management (QM) capacity, and there were plans to update national mine action standards in 2020 to bring them more in line with the international mine action standards (IMAS).

## RECOMMENDATIONS FOR ACTION

- Vietnam should accede to the Convention on Cluster Munitions (CCM) as a matter of priority.
- Despite not yet being a State Party to the CCM, Vietnam has obligations under international human rights law to clear cluster munition remnants (CMR) in areas under its jurisdiction or control as soon as possible.
- In collaboration with implementing partners, VNMAC should elaborate a new national mine action strategy and annual workplans for CMR, with clear targets for survey and clearance.
- VNMAC should expand non-technical and technical survey and establish a nationwide baseline of CMR contamination.
- National Technical Regulations (QCVNs) and National Mine Action Standards (TCVNs) should be updated in line with IMAS.
- VNMAC should accelerate development of a fully functional national information management database and make 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 more actively engage in regional sector discussions aimed at accelerating the progress of CMR survey, particularly on survey efficiencies and effectiveness.

## UNDERSTANDING OF CMR CONTAMINATION

Vietnam is massively contaminated by 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>

In Quang Tri, reputedly Vietnam's most contaminated province, Norwegian People's Aid (NPA) is carrying out a province-wide survey.<sup>2</sup> Estimates of CMR-contaminated area are increasing sharply as survey progresses. As at May 2020, NPA had completed non-technical survey of all villages (76% of the total number of villages) made available for non-technical survey in Quang Tri province; and technical survey by NPA had confirmed 429km<sup>2</sup> (or 9% of the total area of Quang Tri province) as contaminated by CMR. It planned to complete technical survey of the remaining villages by April 2021.<sup>3</sup>

In Quang Binh province, Mines Advisory Group (MAG) has used a desk-top non-technical survey methodology – Evidence Point Polygon (EPP) mapping – to map initial confirmed hazardous areas (CHAs). The EPP technique, pioneered by MAG, uses historical and ongoing operational data from GPS-recorded explosive ordnance disposal (EOD) spot tasks involving submunitions to plot what are termed Initial CHAs (iCHAs). Based on extrapolations of available data, as at June 2019, MAG estimated that its historical data would lead to more than 42km<sup>2</sup> being defined as contaminated. However, because MAG's data does not cover the whole province, overall contamination levels for Quang Binh will be higher than those being defined through EPP mapping. From April 2019, MAG deployed one technical survey team in Quang Binh province to complement EPP mapping data and to define CHAs for clearance and survey the areas in between adjacent iCHAs, to merge them into one larger CHA.<sup>4</sup>

In Thua Thien Hue province, in collaboration with VNMAC and the provincial authorities, NPA has been implementing CMRS in four districts. Initial technical survey to-date has shown that at least 45km<sup>2</sup> is contaminated by CMR in the western district of A Luoi. EOD and non-technical survey operations by NPA in the province have located potential hazardous areas that need technical operations to further define the contamination.<sup>5</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>6</sup> Most of the CMR that international operators encounter in Quang Tri are BLU types 26, 29, and 61, and occasionally Mk 20 Rockeyes,<sup>7</sup> as well as BLU 63 in Quang Binh province.<sup>8</sup> In Quang Nam, almost all the CMR cleared by Danish Demining Group (DDG) were M83 submunitions.<sup>9</sup> The Military Engineering Command encountered substantial amounts of cluster munitions abandoned by the US military, notably at or around old US air bases, including eight underground bunkers found in 2009, one reportedly covering 4,000m<sup>2</sup> and containing some 25 tons of munitions.<sup>10</sup>

## OTHER EXPLOSIVE REMNANTS OF WAR AND LANDMINES

Vietnam has huge unexploded ordnance (UXO) contamination and an unquantified mine problem (see Mine Action Review's *Clearing the Mines 2020* 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>11</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>12</sup>

## NATIONAL OWNERSHIP AND PROGRAMME MANAGEMENT

The Vietnam National Mine Action Centre (VNMAC) was established in 2014 by Prime Ministerial decision (No. 738 of 2013) to strengthen the direction of mine action and provide a focal point for mine action operations,<sup>13</sup> although management and operations continued to depend largely on the Armed Forces.

In a positive development, Vietnam's mine action programme is now undergoing significant restructuring, following the Decree on the Management and Implementation of Mine Action Activities, issued in February 2019 (Decree No. 18) and subsequent approval of a Guiding Circular which came into effect in February 2020 (Guiding Circular No. 195).<sup>14</sup>

Under Decree No. 18, while the Ministry of National Defence (MoD) will continue to elaborate and preside over the national mine action programme, as the lead authority, in coordination with other relevant ministries and sectors,<sup>15</sup> VNMAC will, under the direction of the Prime Minister and management of the MoD, "monitor, coordinate and implement mine action tasks".<sup>16</sup> Guiding Circular No. 195, which details a number of articles and methods regarding implementation of the Decree, also officially appoints VNMAC as the national coordinator of mine action activities in Vietnam.<sup>17</sup> Therefore, this is an important period for VNMAC, as the national programme develops its legal framework, structure, policies, and standards.

While there is still a need for greater transparency from VNMAC, international mine action organisations reported that their coordination and collaboration with VNMAC improved throughout 2019, most notably with VNMAC's engagement with the Landmine Working Group (LWG). The LWG, which is co-chaired by NPA and the International Centre (IC), is a platform for humanitarian mine action stakeholders in Vietnam to meet quarterly to share and discuss updates that impact the sector, although in 2019 the LWC only met twice and in 2020 as at June, no LWC had yet taken place. In 2019, VNMAC participated and engaged in this forum, specifically calling on LWG members to help it develop Decree No. 18 and Guiding Circular No. 195.<sup>18</sup> During 2020, the LWG was due to be involved in the planned update to the national regulations

and standards. International operators hope that VNMAC will use the LWG forum for collective discussions on continued improvements in coordination and collaboration of mine action in Vietnam.<sup>19</sup>

In addition, VNMAC's coordination and collaboration with the already well-established Quang Tri Mine Action Centre (QTMAC) is also starting to develop, and the respective provincial and national database units are both working to synchronise historical data. VNMAC now produces an annual mine action calendar covering the work and activities of all international mine action organisations, and in 2019 VNMAC initiated a biannual operations report covering the activities and results of all international NGOs in Vietnam.<sup>20</sup>

MAG, NPA, PeaceTrees Vietnam (PTVT), the United Nations Development Programme (UNDP), and Golden West all provide capacity development support in Vietnam.

MAG and NPA facilitated and hosted familiarisation visits by VNMAC to their offices and task sites, to study operations, information management, and quality management (QM).<sup>21</sup> In Quang Tri province, MAG and NPA continued to support QTMAC and in particular, provided inputs to establish Vietnam's first provincial mine action centre, to enhance its managing and coordinating role, finalise clearance prioritisation forms and processes, and they also facilitated visits to field operations for piloting the process. Various capacity development initiatives were conducted or provided for QTMAC staff, including sharing state-of-the-art technologies in the sector like the use of ArcGIS Online and drones for data collection and operations management.<sup>22</sup>

During 2019, MAG also worked with the provincial authorities and the military in Quang Binh province to coordinate operations, and supported the development of a provincial Mine Action Strategy. A joint proposal between MAG, NPA, and PTVN was signed and approved in May 2020, and includes survey, clearance, EOD, risk education and a capacity development component regarding establishing a provincial coordination committee and mine action database in Quang Binh province. Operations commenced in June.<sup>23</sup>

NPA is implementing three capacity-development projects with VNMAC. The first project provides an NPA Senior Technical Advisor who works with VNMAC senior management on issues related to their strategic, organisational, and individual development as well as on donor liaison and resource mobilisation. The second involves the provision of an NPA Information Management Technical Advisor to VNMAC, to assist VNMAC in its establishment of a national information management system, including mentoring of VNMAC's Information Management Unit, which runs the national database. Lastly, NPA provides a Capacity Development Advisor who supports QTMAC management in coordination between all mine action actors in accordance with the QTMAC policy, as well as supporting operational planning/prioritisation and policy and procedural development.<sup>24</sup> The NPA-VNMAC technical survey project is an evolving process to formulate a technical survey standing operating procedure (SOP) for Vietnam.

In addition, as part of the UK Department for International Development (DFID)'s global mine action programme (GMAP) II project in 2019, led by MAG, NPA has the responsibility to train four members of the VNMAC's Consultancy, Survey and Quality Management Centre to become the first national QM team. The training was completed at the end of March 2020 and the VNMAC personnel will be certified as QA officers, with additional training and mentoring provided during 2020.<sup>25</sup> MAG believes that coordination and collaboration with VNMAC has been strengthened as a result of this project.<sup>26</sup>

PTVT undertakes joint efforts to support and help enhance the management and coordination of QTMAC and VNMAC. In partnership with Golden West, PTVT hosts field mentoring visits of VNMAC and visits and trips of QTMAC and VNMAC to enable them to study operations, information management, and QM.<sup>27</sup>

VNMAC, the Korea International Cooperation Agency (KOICA), and UNDP are collaborating on a US\$30 million project for ERW survey and clearance (KV-MAP), and to support information management resources, risk education, and victim assistance in two central provinces (Binh Dinh and Quang Binh) for three years (2018–20). A Joint Project Management Unit (JPMU), with representatives from each of the three organisations, is responsible for project management, supported by a UNDP chief technical adviser who joined in March 2018, and meets weekly.<sup>28</sup> A Joint Project Coordination Committee (JPCC), comprising representatives from the MoD, VNMAC, UNDP, and KOICA, provides overall strategic guidance and oversight and meets twice a year.<sup>29</sup>

Golden West is providing IMAS-compliant EOD training to Provincial Military Commands in Ha Tinh, Quang Binh, and Quang Tri provinces to provide a sustained clearance response, as well as advising VNMAC on technologies and training and supporting US military-to-military EOD training.

Vietnam was serving as chair of ASEAN and of the ASEAN Regional Mine Action Center (ARMAC) in 2020.<sup>30</sup> Vietnam is also a non-permanent member of the United Nations Security Council (UNSC) for 2020–2021.

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>31</sup> The memorandum of understanding (MoU) approval process was reported to be inconsistent between provinces.<sup>32</sup> However, it is hoped with the adoption of Decree No. 18 and of Guiding Circular No. 195, processes that enable effective mine action at a central level will improve.<sup>33</sup>

## GENDER AND DIVERSITY

As at June 2020, Vietnam had not provided information on whether it has a gender policy and implementation plan for mine action or on the proportion of female employees at VNMAC.

DDG has a gender policy and implementation plan and promotes equal access to employment opportunities. DDG used community meetings, focus group discussions, and household interviews to ensure that consultation with local people during survey activities is inclusive. Survey teams were for the most part made up of both men and women.<sup>34</sup> Of the three operators, DDG had the highest proportion of women employed,<sup>35</sup> but ceased operations in Vietnam in January 2020 due to lack of funding.<sup>36</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.<sup>37</sup> As at June 2020, MAG was employing 727 staff in Vietnam. Women account for 25% of MAG's total operational capacity in Vietnam and 22% of managerial/supervisory level positions.<sup>38</sup> MAG's community liaison teams are gender balanced and trained to involve all groups, including women and children.<sup>39</sup>

NPA follows Vietnamese law in regards to providing equal opportunity and non-discrimination in employment. NPA continues to work towards gender equality in the recruitment process and in the work place. Women are actively encouraged to apply for roles and to pursue development opportunities once employed.<sup>40</sup> NPA employs a total of 278 staff in Vietnam, of whom 29% are female, including 22% of operational staff and 26% of management-level positions.<sup>41</sup> NPA's non-technical survey teams are gender balanced to engage with affected populations regardless of gender or age. NPA has found this inclusive process effective for later technical survey within the Cluster Munition Remnant Survey (CMRS) process.<sup>42</sup>

PTVN had gender policies in place and encourages diversity and inclusion within its recruitment, training, and procedures for promotion, ensuring equal opportunities for all staff. It has 127 staff in Vietnam, 23 of whom are women, including 39% of management-level positions and 15% of operational staff. PTVN also has six ethnic minority staff in its operational teams.<sup>43</sup>

MAG's, NPA's and DDG's operations data are disaggregated by sex and age.<sup>44</sup>

## INFORMATION MANAGEMENT AND REPORTING

Data quality and accessibility continues to be a major challenge in Vietnam. VNMAC is responsible for national information management and uses the IMSMA. However, information is not currently shared with mine action operators.<sup>45</sup> The ERW impact survey report released in 2018 noted that “regulations on reporting demining activities have not been strictly followed”. Authorities had, however, received clearance data for Ha Tinh and Quang Tri provinces, where international donors have supported operations.<sup>46</sup> VNMAC also receives data from the 2018–20 joint KV-MAP project, between VNMAC, KOICA, and UNDP in Binh Dinh and Quang Binh provinces.<sup>47</sup>

However, deficiencies in national-level information management are now starting to be addressed by VNMAC, made possible by Decree No. 18 and Guiding Circular No. 195, which makes clear that VNMAC is responsible for the management and development of the national mine action database. The Director General of VNMAC is responsible for regulating the scope, content, and nature of mine action data that is allowed to be shared and accessed by the information users. As at April 2020, VNMAC was in the process of determining how information management will be collected nationally and shared.<sup>48</sup>

A number of data collection forms are used in Vietnam by different mine action actors. However, following the adoption of Guiding Circular No. 195, it is expected that national regulations and standards will be updated to allow for the approval of one set of standardised data collection forms across Vietnam.<sup>49</sup>

NPA is working with VNMAC at the national level to establish information management units (IMUs) to collect and collate information from across Vietnam and give transparent access to available data. Throughout 2019, VNMAC’s IMU worked to input historical data stored on other databases and available data from the provinces; a process which was expected to be completed in 2020.<sup>50</sup>

At the provincial level, during 2019, QTMAC, MAG, NPA, and PTVN hosted a number of visits by VNMAC to share experience in project management, including information management and operational databases. 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). Access to the Quang Tri IMSMA database is free and accessible to all mine action stakeholders (online website) while ensuring data protection.<sup>51</sup> The database provides a basis for planning and tasking, as well as victim data.

Data hosted at QTMAC’s DBU are believed to be accurate, up to date, and reliable, have been the catalyst for greater coordination across all stakeholders within the province.<sup>52</sup>

Development of information management is an aim of the KV-MAP project, the goal of which is to improve available information for the UXO/mine action sector to support informed policy making and task prioritisation.<sup>53</sup> In 2018, Database Centers for Mine Action were established in Quang Binh and Binh Dinh provinces with training provided to provincial staff. As at June 2019, these centres manage the data from the KV-MAP project which is then fed into the VNMAC database. But the aim is for the KV-MAP DBU to report to the provincial DBU to be established at the DOFA.<sup>54</sup> In October 2019, MAG initiated a partnership with NPA and PTVN, 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>55</sup>

NPA planned to support the creation of the Thua Thien Hue Department of Foreign Affairs database (DOFA) unit from June 2020.<sup>56</sup>

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## PLANNING AND TASKING

VNMAC would benefit elaborating a national mine action strategy and annual workplans for CMR, with clear targets for survey and clearance. Vietnam does not yet have a strategy specifically targeting CMR. Decision 504, approved by the Prime Minister in April 2010, set out a National Mine Action Plan for 2010–25. The plan 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>57</sup>

As at June 2020, no information had been formally provided by VNMAC on the realisation of its 2019 goals or on its goals for 2020.

As at June 2020, there was no national prioritisation system for CMR clearance. However, in Quang Tri province, there is a prioritisation plan in place and an effective system for task allocation.<sup>58</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>59</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 workplans are approved by provincial authorities, in cooperation and dialogue with operators.<sup>60</sup>

In Quang Binh province, there is no survey or clearance tasking by national or provincial authorities.<sup>61</sup> MAG has first been applying its own procedures and process to prioritise clearance tasks based on scores of consent, hazard assessment, and community benefits.<sup>62</sup> From the adoption of the prioritisation process in Quang Tri, MAG has been applying the same procedures and process in Quang Binh in agreement with provincial authorities. This to ensure consistent approach across provinces and to foster standardisation.<sup>63</sup> In Quang Binh, MAG produces its own task dossiers to the same standard as those in Quang Tri. These will be submitted once Quang Binh has a functioning mine action coordination body.<sup>64</sup>

To address the challenge of effective planning for mine action operations in Quang Binh, NPA in joint consortium with MAG, PTVN, and PPC of Quang Binh is proposing a plan for CMRS of the whole province. The survey ambition, based largely on non-technical and technical survey, works to delineate contaminated areas in all Quang Binh and aims to better understand the nature and extent of contamination in the province, and help inform planning processes.<sup>65</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>66</sup>

## LAND RELEASE SYSTEM

### STANDARDS AND LAND RELEASE EFFICIENCY

Vietnam has both National Technical Regulations (QCVNs), which are legally binding and similar in content to standing operating procedures SOPs, and National Mine Action Standards (TCVNs), which despite being standards are considered optional by VNMAC and the MoD.<sup>67</sup>

The existing QCVNs and TCVNs are outdated and not in line with IMAS.<sup>68</sup> According to NPA, the current QCVNs are drafted with the MoD in mind and without consideration of other operators' SOPs, equipment use, land release methods, or structure and composition of teams. There are issues with the terminology used in TCVNs, chapters contradict themselves, and they read as a combination of SOPs and standards.<sup>69</sup> However, in a positive development, VNMAC plans to update the QCVNs and TCVNs in 2020 to bring them in line with IMAS.<sup>70</sup> As part of this process, VNMAC will update the SOP on QM and the SOP on technical and non-technical survey, and although consideration was given on whether to merge the QCVNs and TCVNs into one document,<sup>71</sup> as at August 2020 the QCVNs were being updated separately.<sup>72</sup> Work commenced in May 2020, with the aim to complete the required updates by the end of the year, but it will likely take longer to elaborate and approve the new circulars needed. Updates will reportedly be made in consultation with LWG members and the Geneva International Centre for Humanitarian Demining (GICHD).<sup>73</sup>

### OPERATORS AND OPERATIONAL TOOLS

Most clearance in Vietnam is conducted by the Army Engineering Corps and military-owned commercial companies; coordination for which does not fall under the remit of VNMAC (although Engineering Command teams are, however, also deployed as part of the joint KV-MAP project). Outside the central provinces, the current strength and deployment of military-related demining is unknown.

Since 2016, the Golden West Humanitarian Foundation, supported by US funding, has been training and mentoring the Provincial Military Commands (PMC) EOD teams in Quang Tri, Quang Binh and Ha Tinh. The Quang Tri PMC EOD team is now fully integrated into the tasking structure of the QTMAC as a valuable asset to the province. The Quang Binh PMC are coordinating closely with the KOICA project and offering support to them. Officials have previously reported that it had 250 mine clearance and battle area clearance (BAC) teams nationally. Vietnam reportedly has more than 70 military-owned companies undertaking clearance related to infrastructure and commercial and development projects.<sup>74</sup>

International operators active in 2019 included DDG, working in Quang Nam province; MAG, working in Quang Binh and Quang Tri provinces; NPA, working in Quang Tri and Thua Thien Hue provinces; and PeaceTrees Vietnam, who have been working in Quang Tri province since 1995. DDG ceased operations in Vietnam in January 2020, due to lack of funding.<sup>75</sup>

DDG deployed two non-technical survey teams in 2019, totalling four personnel and two clearance teams, totalling 20 personnel. DDG only operated in Quang Nam province in 2019, as it was not able to secure funding for its operations in Thua Thien Hue province. It subsequently ceased operations in Vietnam in January 2020.<sup>76</sup>

MAG deployed 39 clearance teams, totalling 390 deminers in 2019, and 1 technical survey team, totalling 10 personnel from April 2019. This represented an increase of five teams compared to 2018.<sup>77</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 from May 2019. The permission is renewed every three months with the Department of Operations.<sup>78</sup>

In 2019, NPA had 11 non-technical survey teams (10 pairs of survey personnel in Quang Tri and 1 pair in Thua Thien Hue province), totalling 22 survey personnel; 25 technical survey teams totalling 125 personnel; and 3 manual clearance teams totalling 36 deminers (26 in Quang Tri and 10 in Thua Thien Hue province).<sup>79</sup> NPA planned to start up non-technical and technical survey operations in Quang Binh province in 2020.<sup>80</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,<sup>81</sup> once NPA becomes operational there in 2020.

PTVN operates in Quang Tri province and most of its operations are in the two mountainous districts of Huong Hoa and Dakrong. It undertakes EOD, clearance, and integrated risk education, but does not conduct CMRS. In 2019, PTVN deployed 6 clearance teams (totalling 72 technicians/deminers), 2 EOD teams (totalling 16 technicians), and 2 clearance support teams of 15 personnel. This represented an almost doubling of capacity compared to 2018. All of PTVN's technicians are certified for IMAS EOD Level 1, and under a capacity development partnership with Golden West, by the end of 2019 PTVN had 11 technicians certified in IMAS EOD Level 3 (plus 3 under mentoring) and 31 technicians certified in IMAS EOD Level 2. PTVN's capacity includes 2 pairs of surveyors, who focus on re-survey CHAs for the purpose of planning and evaluation.<sup>82</sup>

PTVN also planned to commence operations in Quang Binh province in 2020, together with MAG and NPA, with 4 multi-task teams totalling 32 technicians. PTVN's technicians will mostly be responsible for EOD spot tasks resulting from the Quang Binh hotline and from NPA's survey, along with joint efforts with MAG to conduct clearance of CHAs generated.<sup>83</sup>

KV-MAP (between VNMAC, KOICA, and UNDP), which was initiated in February 2018, calls for ERW survey and clearance in the two provinces in 2018–20 to be carried out by provincial military teams targeting survey of 200km<sup>2</sup> and clearance of about 80km<sup>2</sup>.<sup>84</sup> In 2018, operations in Quang Binh and Binh Dinh focused on survey, with 21 survey teams deployed.<sup>85</sup> Clearance began in 2019 and, as of June, 12 clearance teams were deployed. An additional two survey

teams have also been deployed to Quang Binh. According to VNMAC data provided by UNDP, capacity in 2019 was 21 survey teams and 64 clearance teams. Technical survey operations were completed in April 2020 and the project then focused more on clearance, with 85 clearance teams deployed for ERW clearance (including CMR).<sup>86</sup>

In 2018, a Quality Management System (QMS) consisting of eleven procedures was developed by VNMAC and the GICHD and was piloted in KV-MAP.<sup>87</sup> A new 2020 QM SOP was close to being finalised as at the start of October, as part of the revision of the QCVNs.<sup>88</sup> As mentioned previously, under a DFID funded project, NPA was helping to establish and train a VNMAC QM team, with a view to receiving accreditation in the first half of 2020 from VNMAC, with NPA and GICHD support.<sup>89</sup>

## LAND RELEASE OUTPUTS AND PROGRESS TOWARDS COMPLETION

### LAND RELEASE OUTPUTS IN 2019

As at writing, national land release data from VNMAC for 2019 had still to be made available.

Based on data reported by international NGOs, in 2019, nearly 157km<sup>2</sup> was confirmed as containing CMR by technical survey and 6,352 submunitions were found and destroyed in the process.

A total of nearly 39km<sup>2</sup> of CMR-contaminated area was cleared by international NGOs with 7,871 submunitions found and destroyed. A further 1,050 submunitions were found and destroyed during spot tasks.

### SURVEY IN 2019

In Quang Tri, ranked as one of Vietnam's most heavily contaminated provinces, NPA continued to work in a partnership with MAG, under which NPA conducted CMRS and MAG cleared the resulting CHAs. As part of the process of refining CMRS, NPA continued to adopt a more systematic technical survey approach that included 50-metre fade-out and "skip boxes" methodology which have significantly accelerated the process of defining CHA boundaries. A fade-out of 50 metres whenever evidence of CMR was found was introduced in April 2016 which was augmented by the introduction, in January 2018, of skipping two boxes in each direction of a box with a confirmed evidence point.<sup>90</sup> NPA aimed to complete survey of Quang Tri by April 2021.<sup>91</sup>

**Table 1: Technical survey of CMR-contaminated area in 2019<sup>92</sup>**

Operator	Province	Area surveyed (m <sup>2</sup> )	CHAs identified	Area confirmed (m <sup>2</sup> )	CMR destroyed	Other UXO destroyed
MAG	Quang Binh	7,952,500	7	6,521,349	343	23
NPA	Quang Tri	80,182,500	162	147,350,462	5,908	2,835
NPA	Thua Thien Hue	1,772,500	2	2,975,000	101	21
<b>Totals</b>		<b>89,907,500</b>	<b>171</b>	<b>156,846,811</b>	<b>6,352</b>	<b>2,879</b>

NPA confirmed 150.3km<sup>2</sup> as containing CMR in 2019, an increase on the 113.4km<sup>2</sup> confirmed as CHA the previous year, which it said was due to an increased number of technical survey teams and the introduction of improved methodology for technical survey (CMRS v5).<sup>93</sup> The box-skipping methodology has significantly increased the accuracy, effectiveness, and efficiency of survey and clearance in Quang Tri province.<sup>94</sup>

MAG surveyed 7,952,500m<sup>2</sup> in Quang Binh, during which it found and destroyed 343 CMR and 23 other UXO.<sup>95</sup>

### CLEARANCE IN 2019

Operators cleared over 38.5km<sup>2</sup> in 2019, an increase of 46% on the 26.3km<sup>2</sup> cleared in 2018, however, 2018 did not include PTVN clearance data. Clearance data for the PMC in 2019 was not known, including how much CMR-contaminated area was cleared in 2019 by provincial military teams coordinated by VNMAC as part of the KV-MAP ERW project.

Table 2: CMR clearance in 2019<sup>96</sup>

Operator	Province	Area cleared (m <sup>2</sup> )	Submunitions destroyed	Other UXO destroyed
MAG	Quang Binh	6,942,818	2,422	600
DDG	Quang Nam	88,990	23	19
MAG	Quang Tri	26,219,397	4,583	5,552
NPA	Quang Tri	1,813,572	487	680
PTVN	Quang Tri	3,156,776	198	664
PMC*	N/K	N/K	N/K	N/K
NPA	Thua Thien Hue	321,300	158	95
<b>Totals</b>		<b>38,542,853</b>	<b>7,871</b>	<b>7,610</b>

N/K = not known

A further 1,050 submunitions were found and destroyed during EOD spot tasks in 2019: 5 by DDG, 466 by MAG, 151 by NPA, and 428 by PTVN.<sup>97</sup>

DDG deployed battle area clearance teams to areas with suspected contamination as estimated by non-technical survey teams. Clearance of the area then began from evidence points collected by the non-technical survey teams and clearance to fade-out was applied to determine the boundaries of clearance.<sup>98</sup>

In Quang Tri, MAG conducts clearance in partnership with NPA, which defines CHAs through technical survey. In Quang Binh, MAG clears CHAs defined through EPP Mapping. MAG's total clearance of 33.16km<sup>2</sup> in 2019 is a significant increase on the 24.81km<sup>2</sup> the previous year and is due to an increase in clearance capacity from the beginning of 2019. All CHAs cleared by MAG in 2019 were found to have CMR contamination.<sup>99</sup> MAG adjusted its methodology in 2019, merging a number of CHAs close to each other into larger CHAs in Quang Binh province.<sup>100</sup>

In 2018, Quang Tri PMC was in the process of being organised into a functional EOD team so tasks were minimal, but outputs are expected to increase in 2019. The Quang Binh PMC did no clearance and responded to minimal spot tasks in 2018. This was being addressed in 2019.<sup>101</sup>

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>102</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.

In the past, the challenge for VNMAC was identifying and implementing the legal framework that would allow mine action stakeholders to support the decision-making process,<sup>103</sup> but addressing this should now be possible under the Decree 85 and Guiding Circular 195. It is hoped that their adoption will enable 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 accessible to all mine action stakeholders to more accurately determine the extent of CMR contamination; and to set national priorities for clearance.

## PLANNING FOR RESIDUAL RISK AFTER COMPLETION

Golden West is partnering 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>104</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 Resad Junuzagic, Country Director, NPA, 6 May 2019.
- 3 Emails from Jan Erik Støa, Country Director, NPA, 6 April and 24 June 2020.
- 4 Email from Helene Kuperman, Programme Manager, MAG, 10 April 2020.
- 5 Email from Jan Erik Støa, NPA, 24 June 2020.
- 6 "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.
- 7 Interview with Magnus Johansson, NPA, Hanoi, 17 April 2018, and Michael Raine, MAG, Quang Tri, 18 April 2018.
- 8 Email from Helene Kuperman, MAG, 23 June 2020.
- 9 Email from Clinton Smith, Country Director, DDG, 23 March 2017.
- 10 Interview with Sr. Col. Phan Duc Tuan, People's Army of Vietnam (PAVN), in Geneva, 30 June 2011.
- 11 VNMAC, "Report on Explosive Remnants of War Contamination in Vietnam", Hanoi, 2018, pp. 33-36.
- 12 Interviews with Resad Junuzagic, NPA, Jan Eric Støa, 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.
- 13 Draft Decree on the management and implementation of mine action activities, Hanoi, April 2018.
- 14 Email from Jan Erik Støa, NPA, 6 April 2020.
- 15 Decree on Implementation and Management of Mine Action, No.18/2019/ND-CP, 1 February 2019.
- 16 Draft Decree on the management and implementation of mine action activities, Hanoi, April 2018.
- 17 Emails from Jan Erik Støa, NPA, 6 April 2020; and Helene Kuperman, MAG, 10 April 2020.
- 18 Ibid.
- 19 Emails from Jan Erik Støa, NPA, 6 April 2020; and Helene Kuperman, MAG, 23 June 2020.

- 20 Ibid.
- 21 Emails from Helene Kuperman, MAG, 10 April 2020; and Jan Erik Støa, NPA, 24 June 2020.
- 22 Ibid.
- 23 Emails from Helene Kuperman, MAG, 10 April and 23 June 2020; and Jan Erik Støa, NPA, 24 June 2020.
- 24 Emails from Resad Junuzagic, NPA, 6 May 2019; and Jan Erik Støa, NPA, 6 April 2020.
- 25 Emails from Jan Erik Støa, NPA, 6 April and 24 June 2020; and Helene Kuperman, MAG, 10 April 2020.
- 26 Email from Helene Kuperman, MAG, 10 April 2020.
- 27 Email from Phạm Hoàng Hà, Country Director, PeaceTrees Vietnam (PTVN), 1 September 2020.
- 28 Email from Nils Christensen, Chief Technical Advisor, UNDP, 20 August 2020.
- 29 Interview with Nguyen Hang Phuc, Deputy Director General, VNMAC, Hanoi, 18 April 2018; telephone interview with Nils Christensen, UNDP, 23 April 2018; and emails, 3 May and 11 June 2018 and 20 August 2020.
- 30 2019 Annual Report of the ASEAN Regional Mine Action Centre (ARMAC), available at: [bit.ly/30oRDVJ](http://bit.ly/30oRDVJ).
- 31 Email from Jan Erik Støa, NPA, 6 April 2020.
- 32 Email from Helene Kuperman, MAG, 10 April 2020.
- 33 Ibid.
- 34 Email from Clinton Smith, DDG, 29 May 2019.
- 35 Ibid.
- 36 Email from Søren Adser Sørensen, DDG, 5 May 2020.
- 37 Emails from Simon Rea, MAG, 24 April 2019; and Helene Kuperman, MAG, 23 June 2020.
- 38 Emails from Helene Kuperman, MAG, 10 April and 23 June 2020.
- 39 Email from Simon Rea, MAG, 24 April 2019.
- 40 Email from Resad Junuzagic, NPA, 6 May 2019.
- 41 Email from Jan Erik Støa, NPA, 6 April 2020.
- 42 Email from Resad Junuzagic, NPA, 6 May 2019.
- 43 Email from Phạm Hoàng Hà, PTVN, 1 September 2020.
- 44 Emails from Simon Rea, MAG, 24 April 2019; Resad Junuzagic, NPA, 6 May 2019; and Clinton Smith, DDG, 29 May 2019.
- 45 Emails from Resad Junuzagic, NPA, 6 May 2019; and Helene Kuperman, MAG, 10 April 2020.
- 46 VNMAC, "Report on Explosive Remnants of War Contamination in Vietnam", Hanoi, 2018, pp. 36–37.
- 47 Email from Nils Christensen, UNDP, 20 August 2020.
- 48 Emails from Jan Erik Støa, NPA, 6 April 2020; and Helene Kuperman, MAG, 10 April 2020.
- 49 Email from Jan Erik Støa, NPA, 6 April 2020.
- 50 Ibid.
- 51 Email from Helene Kuperman, MAG, 10 April 2020.
- 52 Emails from Resad Junuzagic, NPA, 6 May 2019; and Jan Erik Støa, NPA, 24 June 2020.
- 53 UNDP, "Vietnam mine action project: Project brief", January 2019.
- 54 Emails from Helene Kuperman, MAG, 23 June 2020; and Nils Christensen, UNDP, 2 October 2020.
- 55 Email from Helene Kuperman, MAG, 10 April 2020.
- 56 Email from Jan Erik Støa, NPA, 6 April 2020.
- 57 Prime Minister, "Decision on Approval of the National Mine Action Plan Period 2010–2025", Hanoi, 21 April 2010.
- 58 Email from Resad Junuzagic, NPA, 6 May 2019.
- 59 Email from Simon Rea, MAG, 16 June 2019.
- 60 Emails from Jan Erik Støa, NPA, 6 April 2020; and Simon Rea, MAG, 24 April 2019.
- 61 Email from Helene Kuperman, MAG, 10 April 2020.
- 62 Email from Simon Rea, MAG, 24 April 2019.
- 63 Email from Helene Kuperman, MAG, 23 June 2020.
- 64 Email from Simon Rea, MAG, 24 April 2019.
- 65 Email from Jan Erik Støa, NPA, 24 June 2020.
- 66 Email from Jan Erik Støa, NPA, 6 April 2020.
- 67 Email from Resad Junuzagic, NPA, 6 May 2019.
- 68 Emails from Jan Erik Støa, NPA, 6 April 2020; and Helene Kuperman, MAG, 10 April 2020.
- 69 Email from Resad Junuzagic, NPA, 6 May 2019.
- 70 Emails from Jan Erik Støa, NPA, 6 April 2020; and Helene Kuperman, MAG, 10 April 2020.
- 71 Emails from Helene Kuperman, MAG, 10 April and 23 June 2020; and Jan Erik Støa, NPA, 24 June 2020.
- 72 Email from Nils Christensen, UNDP, 20 August 2020.
- 73 Emails from Helene Kuperman, MAG, 10 April and 23 June 2020; and Jan Erik Støa, NPA, 24 June 2020.
- 74 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.
- 75 Email from Søren Adser Sørensen, Programme Specialist, DDG, 5 May 2020.
- 76 Email from Clinton Smith, DDG, 29 May 2019.
- 77 Email from Helene Kuperman, MAG, 10 April 2020.
- 78 Ibid.
- 79 Email from Jan Erik Støa, NPA, 6 April 2020.
- 80 Ibid.
- 81 Email from Helene Kuperman, MAG, 10 April 2020.
- 82 Email from Phạm Hoàng Hà, PTVN, 1 September 2020.
- 83 Ibid.
- 84 Interview with Nguyen Hang Phuc, Deputy Director General, VNMAC, Hanoi, 18 April 2018; telephone interview with Nils Christensen, UNDP, 23 April 2018; and emails, 3 May and 11 June 2018.
- 85 Email from Nils Christensen, UNDP, 2 October 2020, based on VNMAC data.
- 86 Ibid.
- 87 Emails from Resad Junuzagic, NPA, 6 May 2019; and Jan Erik Støa, NPA, 6 April 2020.
- 88 Email from Nils Christensen, UNDP, 2 October 2020.
- 89 Emails from Resad Junuzagic, NPA, 6 May 2019; and Jan Erik Støa, NPA, 6 April 2020.
- 90 GICHD, "Field Study: Cluster Munition Remnant Survey (CMRS) approach applied in Quang Tri province, Vietnam", December 2018.
- 91 Email from Jan Erik Støa, NPA, 6 April 2020.
- 92 Emails from Jan Erik Støa, NPA, 6 April 2020; Helene Kuperman, MAG, 10 April 2020; and Dinh Ngoc Vu, Vice Director, Quang Tri Provincial Mine Action Center (QTMAC), 31 August 2020. QTMAC reported that 79,287,500m<sup>2</sup> was reduced through technical survey by NPA in Quang Tri province in 2019; slightly less than that reported by NPA directly.
- 93 Email from Jan Erik Støa, NPA, 6 April 2020.
- 94 Email from Jan Erik Støa, NPA, 24 June 2020.
- 95 Emails from Helene Kuperman, MAG, 10 April and 23 June 2020.
- 96 Emails from Jan Erik Støa, NPA, 6 April 2020; Helene Kuperman, MAG, 10 April and 23 June 2020; Søren Adser Sørensen, DDG, 5 May 2020; Phạm Hoàng Hà, PTVN, 1 September 2020; and Dinh Ngoc Vu, Vice Director, Quang Tri Provincial Mine Action Center (QTMAC), 31 August 2020. QTMAC reported that 1,851,693m<sup>2</sup> was cleared by NPA in Quang Tri province in 2019 with the destruction of 454 submunitions and 634 other UXO; a slight variance on clearance data reported by NPA directly. QTMAC also reported that 3,003,149m<sup>2</sup> was cleared by PTVN in Quang Tri province in 2019 with the destruction of 200 submunitions and 784 other UXO; a slight variance on clearance data reported by PTVN directly.
- 97 Emails from Jan Erik Støa, NPA, 6 April and 24 June 2020; Helene Kuperman, MAG, 10 April 2020; Søren Adser Sørensen, DDG, 5 May 2020; and Phạm Hoàng Hà, PTVN, 1 September 2020.
- 98 Email from Clinton Smith, DDG, 29 May 2019; and Søren Adser Sørensen, DDG, 5 May 2020.
- 99 Email from Helene Kuperman, MAG, 10 April 2020.
- 100 Ibid.
- 101 Email from Lee Moroney, Golden West Humanitarian Foundation, 22 June 2019.
- 102 Prime Minister, "Decision on Approval of the National Mine Action Plan Period 2010–2025", Hanoi, 21 April 2010.
- 103 Email from Resad Junuzagic, NPA, 6 May 2019.
- 104 Emails from Lee Moroney, Vietnam Country Director, Golden West Humanitarian Foundation, 22 April 2018 and 22 June 2019; and Rob White, Adviser, Strategic Management and Residual Contamination, GICHD, 25 April 2018.