GICHD

THE SUSTAINABLE DEVELOPMENT OUTCOMES OF MINE ACTION: THE CASE OF THE KOREA-VIET NAM PEACE VILLAGE PROJECT

CONTRIBUTORS

Geneva International Centre for Humanitarian Demining

The Geneva International Centre for Humanitarian Demining (GICHD) works towards reducing risk to communities caused by explosive ordnance, with a focus on landmines, cluster munitions and ammunition stockpiles. The Centre helps develop and professionalize the sector for the benefits of its partners: national and local authorities, donors, the United Nations, other international and regional organizations, non-governmental organizations, commercial companies, and academia. It does so by combining four lines of service: field support focused on advice and training; multilateral work focused on norms and standards; research and development focused on cutting-edge solutions; and facilitating dialogue and cooperation.

United Nations Development Programme

The United Nations Development Programme (UNDP) is the leading United Nations organization fighting to end poverty and inequality, and climate change. UNDP partners with people at all levels of society to help build nations that can withstand crisis, and drive and sustain the kind of growth that improves the quality of life for everyone. On the ground in nearly 170 countries and territories, the UNDP offers a global perspective and local insight to help empower lives and build resilient nations.

Viet Nam National Mine Action Centre

The Viet Nam National Mine Action Centre is Viet Nam's national mine action authority. VNMAC was formally established in 2014 through Prime Ministerial Decision No. 319/QĐ-TTg. Its mandate is to coordinate mine action policy, planning, and reporting at the national level, and to support the implementation of the National Mine Action Programme (Program 504) adopted under Decision No. 504/QĐ/TTg of the Government dated 21 April 2010.

ACKNOWLEDGEMENTS

The GICHD would like to extend its sincere thanks to the UNDP Viet Nam, the Viet Nam National Mine Action Centre, the Korea International Cooperation Agency (KOICA), and all their staff for providing indispensable support in carrying out this research. The research team would also like to thank local authorities, international and national mine action operators, as well as community members in project sites who generously took part in the interview process and shared their insights.

This project was made possible thanks to the generous financial support of the Government of Switzerland. The opinions, findings, and conclusions expressed herein are those of the authors and do not necessarily reflect the views of Switzerland. The authors of this study are Alice Spazian and Svenja Liu (GICHD).

Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Cover image: Phú Mỹ area, October 2025 © GICHD

CONTENTS

CONTRIBUTORS 2
ACKNOWLEDGEMENTS 2
LIST OF FIGURES AND TABLES 4
ABBREVIATIONS 4
EXECUTIVE SUMMARY 5
KEY FINDINGS 6
COORDINATION 7
LAND RELEASE 8
Climate Resilient Houses (CRHs) 9
Commune Health Stations 9
Climate-resilient rural development and livelihoods 9
Spillover development outcomes beyond the formal scope of KVPVP 10
Land release under KVMAP 10
EXPLOSIVE ORDNANCE RISK EDUCATION 11
VICTIM ASSISTANCE 12
PURPOSE AND METHODOLOGY OF THE STUDY 13
PURPOSE 13
RESEARCH OBJECTIVES 14
METHODOLOGICAL APPROACH 15
LIMITATIONS 15
INTRODUCTION 16
EXPLOSIVE ORDNANCE CONTAMINATION IN VIET NAM 16
HUMAN AND DEVELOPMENTAL IMPACT 16
VIET NAM'S MINE ACTION ARCHITECTURE 17
BACKGROUND ON THE KVPVP AND KVMAP 18
CONTRIBUTION OF MINE ACTION AND TO THE SDGS UNDER THE KVPVP AND KVMAP 22
COORDINATION 22
LAND RELEASE 29
Land release under the KVPVP and KVMAP 30
Climate-resilient houses 32
CASE STUDY 1 - CLIMATE-RESILIENT HOUSING IN DUC CHANH COMMUNE 34
Commune health stations 35
Climate-resilient rural development and livelihoods 37
Spillover development outcomes beyond the formal scope of the KVPVP 38
CASE STUDY 2 - Coconut irrigation in the Hoài An commune 39
Land release under the KVMAP 40
EXPLOSIVE ORDNANCE RISK EDUCATION 42
CASE STUDY 3 - From land release to livelihood expansion through small-scale snail farming 42
VICTIM ASSISTANCE 45
CONCLUSIONS AND RECOMMENDATIONS 47
ENDNOTES 50

LIST OF FIGURES AND TABLES

Figure 1: Contributions of mine action to the SDGs under the KVPVP and KVMAP 6

Figure 2: SDG wheel showing contribution of mine action to the SDG by activity 6

Figure 3: Areas suspected of being contaminated with unexploded ordnance (UXO) in Viet Nam. 16

Figure 4: Areas suspected of being contaminated with UXO in KVMAP-targeted provinces 21

Figure 5: Areas suspected of being contaminated with UXO in KVPVP-targeted provinces 21

Figure 6: Coordination between Outcome 1 and Outcome 2 on sequencing 24

Figure 7. Coordination mechanism of the KVPVP, provided by the UNDP 27

Figure 8. Enabling factors emerging from the KVPVP coordination model 28

Figure 9: Intended post clearance land use plan for the KVPVP, 2024 31

Figure 10: Satellite imagery of Quy Nhơn in the Gia Lai province (2019 and 2025) 41

Table 1: KVMAP and KVPVP simplified log frame. 19

Table 2: Population, EO contamination level, and share of poor and near-poor households in the three targeted areas. . 20

Table 3: Summary of agricultural models introduced under the KVPVP 35 37

Table 4: Summary of development outcomes enabled by land release under the KVMAP 41

ABBREVIATIONS

APMC	Anti-Personnel Mine Ban Convention
CCM	Convention on Cluster Munitions
CCW	Convention on Certain Conventional Weapons
CHS	commune health stations
CMR	cluster munition remnants
CRH	climate-resilient houses
EO	explosive ordnance
EORE	explosive ordnance risk education
ERW	explosive remnants of war
FDI	foreign direct investment
FFS	farmer field school
FGD	focus group discussions
IMAS	International Mine Action Standards
JPCC	Joint Project Coordination Committee
JPMU	Joint Project Management Unit
KII	Key Informant Interviews
KOICA	Korea International Cooperation Agency
KVMAP	Korea–Viet Nam Mine Action Project
KVPVP	Korea–Viet Nam Peace Village Project
PMU	project management unit
PPC	provincial people's committees
PPMU	provincial project management units
PSC	provincial site command
PVDP	Peace Village Development Programme
PwD	person with disabilities
SDG	Sustainable Development Goals
ToT	training of trainers
UNDP	United Nations Development Programme
UXO	unexploded ordnance
VNMAC	Viet Nam National Mine Action Centre
VNR	Voluntary National Review

EXECUTIVE SUMMARY

Throughout the 20th century, Viet Nam experienced successive conflicts from the mid-1940s to the late 1970s, involving extensive military operations. The widespread use of bombardment, artillery, and explosive devices left significant contamination by explosive ordnance (EO), alongside legacies such as Agent Orange and dioxin. As a result, EO contamination remains a major challenge in Viet Nam. It limits how land can be used, limits employment opportunities, and keeps many households dependent on low-income farming. Contaminated areas also attract less investment, slowing local economic growth.

At the same time, Viet Nam is highly vulnerable to climate change. Many communities, especially in coastal areas, face risks such as flooding and rising sea levels. For communities already affected by EO, these climate risks make poverty and vulnerability even worse.

In this context, mine action is essential. It not only improves safety but also enables development by making land usable again and supporting communities to rebuild their livelihoods.

Integrating mine action and development

The Korea Viet Nam Peace Village Project (KVPVP) offers a new, integrated approach to these challenges. Funded by the Korea International Cooperation Agenda (KOICA) and implemented by the United Nations Development Programme (UNDP) with the Viet Nam National Mine Action Centre (VNMAC), the project combines mine action (including land release, risk education, and victim assistance) with development activities such as:

- The provision of climate-resilient housing for communities living in areas at risk of climate hazards following land release.
- The construction and renovation of commune health stations to improve access to health services for affected communities.
- The provision of climate-smart agricultural models and training following land release.

By linking these efforts, the project helps communities safely use land, access services, and improve their economic opportunities.

Using the Sustainable Development Goals (SDGs) as a framework, this study looks at how mine action contributes to broader development outcomes under KVPVP, and to some extent its predecessor programme. It finds that mine action can play a strong role in supporting development when it is well integrated with other interventions. A key factor in the programme's success is effective coordination between mine action and development actors, from the design of the project through to the implementation. This is supported by national ownership, strong institutional capacity, aligned policies across sectors and levels of government, and appropriate financing. The study also shows that a similar approach could be replicated in other countries where the right conditions, resources, and expertise are in place.

Who can benefit from this study?

This report is intended for:

- National mine action authorities
- Donors and development actors, including the United Nations Development Programme and NGOs working across humanitarian and development sectors
- Government agencies
- Mine action practitioners

It is especially relevant for those interested in linking mine action with development and climate resilience objectives, including the Sustainable Development Goals.

Key recommendations

To replicate this approach, the study recommends:

1. **Include mine action in development planning:** integrate mine action in national and local development plans, such as socio-economic strategies, climate adaptation, and sector investments.

2. **Strengthen coordination across sectors and levels:** Maintain and formalize coordination between different sectors and between national and local authorities, both horizontally (across sectors) and vertically (across governance levels).

3. **Reinforce national and local ownership:** Support national and local authorities to lead decision-making, with targeted capacity strengthening where needed.

4. **Use clear and evidence-based prioritization:** Base clearance priorities on transparent socio-economic and vulnerability data to ensure land release meets local needs.

5. **Enable financing and partnerships for integrated approaches:** Encourage donor funding that supports longer-term, integrated development outcomes alongside mine action.

6. **Improve data integration and monitoring:** Move beyond measuring outputs to tracking long-term socio-economic results by aligning mine action and development indicators.

7. **Promote learning and uptake of good practices:** Document and share lessons learned to support replication, scaling, and better decision-making.

KEY FINDINGS

The study presents evidence of the transformative and multidimensional role of mine action, identifying direct contributions to 16 SDGs and at least 69 of their associated targets. Hence, the mine action sector has clearly contributed to the five dimensions of the 2030 Agenda for Sustainable Development: partnership, peace, people, planet, and prosperity. This section presents only a summary of the findings, and the details of the analysis are included in the section "Contribution of mine action to the SDGs" in the KVPVP and KVMAP.

Figure 1: Contributions of mine action to the SDGs under the KVPVP and KVMAP

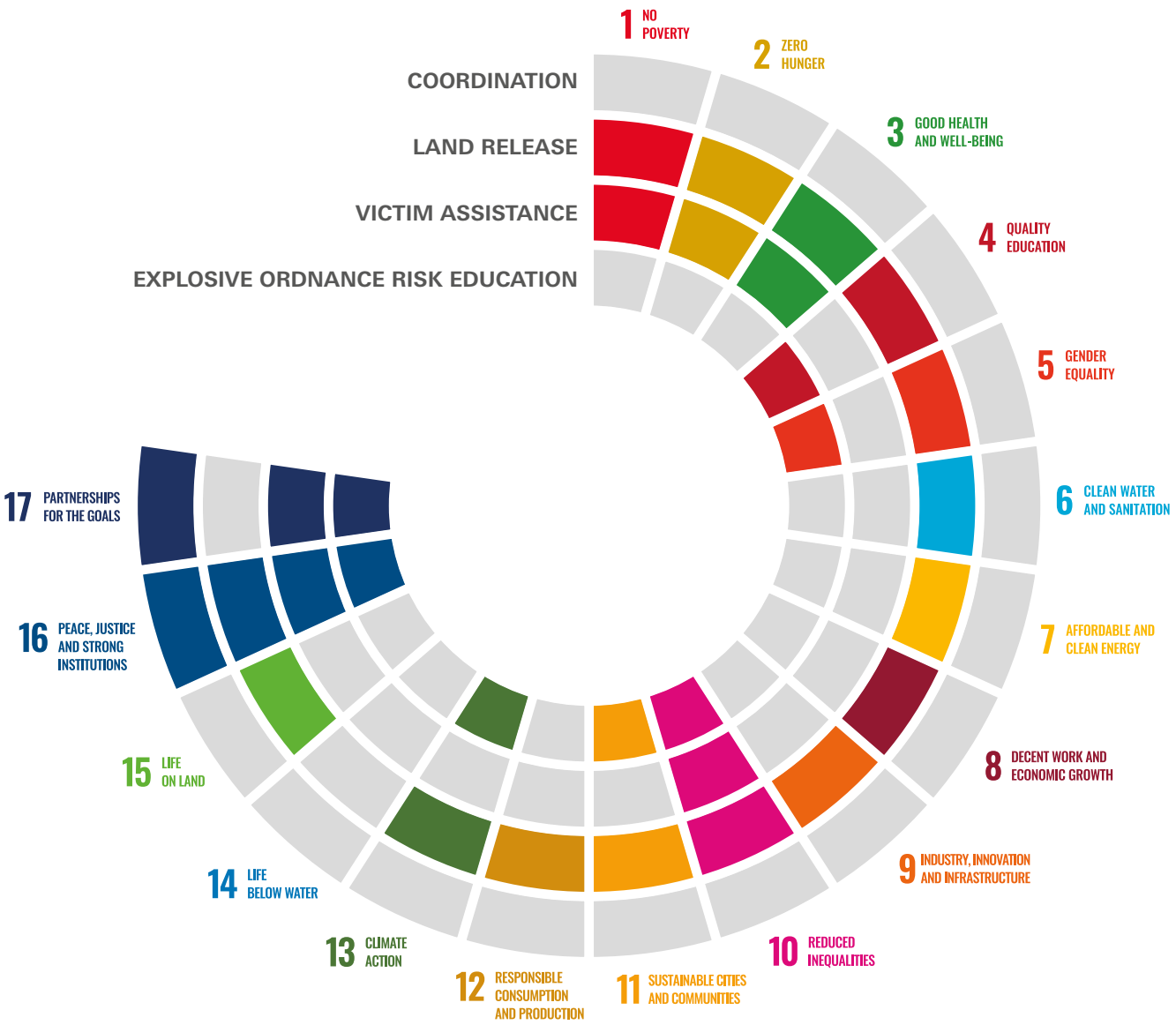

Figure 2: SDG wheel showing contribution of mine action to the SDG by activity

Presentation on mine action and the SDGs in Seoul, on the occasion of the Forum "Beyond Mine Action: Linkage with SDGs and Technical Innovation" October 2025 | Hanyang University, Seoul Campus © GICHD

COORDINATION

In order to improve the longer-term impact of integrated coordination structures under the KVPVP, targeted support for national capacity-building strengthened national ownership, contributing to SDG target 17.9 (Enhanced international support for capacity-building). Through support from UNDP, the project also facilitated the inclusion of VNMAC in international and regional events enabling SDG target 17.6 (Knowledge sharing and cooperation through North-South, South-South and triangular cooperation).

By embedding joint planning and implementation within the design of the project, the KVPVP ensures coherence across stakeholder activities as noted under SDG target 17.14 (Enhance policy coherence for sustainable development). With these joint structures, the project also strengthened working relationships and enhanced the effectiveness of national agencies, contributing to SDG target 16.6 (Develop effective, accountable and transparent institutions at all levels) and 16.a (Strengthen national institutions to prevent violence).

Ensuring that ownership and decision-making exist across multiple levels of governance also strengthened accountability, facilitating SDG target 16.7 (Ensure responsive, inclusive and representative decision-making at all levels).

16.6 Development of accountable institutions

16.7 Inclusive, participatory, representative decision-making

16.a Strengthened national institutions, including through international cooperation

17.6 Access to resources through North-South, South-South and triangular cooperation

17.9 Enhanced international support for capacity-building

17.14 Enhanced policy coherence for sustainable development

LAND RELEASE

1.1 End of extreme poverty

1.2 Reduce poverty by at least 50%

1.4 Equal rights to economic resources and access to basic services

1.5 Improved resilience, reduced vulnerability

2.1 Access to food

2.3 Doubling of the agricultural productivity

2.4 Sustainable food production

3.3 End of communicable diseases

3.4 Reduction of premature mortality through prevention and treatment

3.8 Access to essential health-care services

3.9 By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination

4.2 Equal access to quality pre-primary education

4.4 Increased number of skilled youth and adults

5.5 Women's full and effective participation at all levels of decision making

5.a Equal rights to economic resources, property ownership and financial services

6.2 Access to adequate and equitable sanitation and hygiene

6.4 Increased water-use efficiency

7.2 Increased renewable energy

8.1 Sustained economic growth

8.2 Increased economic productivity through diversification

8.3 Support for productive activities and decent job creation

8.5 Full and productive employment and decent work

8.a Universal access to banking

9.1 Equitable access to infrastructure

9.3 Increased access to financial services

9.4 Upgrade all industries and infrastructures for sustainability

10.1 Reduce income inequalities

10.2 Social, economic, political inclusion of all

10.3 Equal opportunities, reduction of inequalities

11.1 Access to adequate, safe and affordable housing

11.2 Access to safe and sustainable transport systems

11.5 Reduce the adverse effects of natural disasters

11.7 Universal access to public spaces

12.2 Sustainable management and efficient use of natural resources

13.1 Strengthen resilience and adaptive capacity to climate related disasters

15.3 Restoration of degraded land and soil

15.5 Protect biodiversity and natural habitats

16.1 Reduction of all forms of violence

"In addition to its direct contribution to SDG 16 and its target 16.1, on reducing all forms of violence, the study identifies the contribution of land release to 15 SDGs and 38 of its targets"

Climate Resilient Houses (CRHs)

By enabling the construction of climate-resilient houses in areas prone to climate hazards, land release under the KVPVP contributes to SDG targets 11.1 (access to adequate, safe and affordable housing), 11.5 (reducing the adverse effects of natural disasters), 13.1 (strengthening resilience and adaptive capacity to climate related disasters), and 1.5 (build resilience to environmental, economic and social disasters).

Climate resilience is also linked to the design of the houses, which include a series of design features addressing specific environmental risks faced by the target communities, hence contributing to SDG target 9.1 (develop sustainable, resilient and inclusive infrastructures), and 9.4 (upgrade all industries and infrastructures for sustainability).

The prioritisation of EO survivors, persons with disabilities, women-headed households, poor and near-poor households, and ethnic minority communities in the allocation of climate-resilient houses supports SDG target 10.2 (promote universal social, economic and political inclusion), and SDG target 5.a (ensuring equal rights to economic resources, property ownership and financial services), through improved access to secure land tenure for women.

Recipients of CRHs particularly benefited from reduced psychological stress associated with recurrent climate shocks, supporting progress to SDG target 3.9 (reducing illness and death from hazardous chemicals and pollutions), SDG target 3.4 (promote universal social, economic and political inclusion), improved kitchens, sanitation facilities, and small-scale commercial extensions, supporting progress toward SDG target 6.2 (end open defecation and provide access to sanitation and hygiene), target 2.1 (universal access to safe and nutritious food), and target 8.3 (promote policies to support job creation and growing enterprises). In addition, households reported decreasing repair time, increase in income during the rainy season, and increasing confidence in household safety, reflecting progress toward SDG target 1.4 (equal rights to ownership, basic services, technology, and economic resources), target 8.5 (full employment and decent work with equal pay), and target 10.1 (reduce income inequalities).

Commune Health Stations

Land release under the KVPVP enabled the construction and expansion of climate-resilient CHSs, contributing to SDG target 3.8 (achieve universal health coverage) and improving access to healthcare by rural populations, thereby contributing to SDG target 10.2 (promote universal social, economic and political inclusion).

The renovation and construction of CHS on released land allowed the inclusion of solar energy and water treatment systems, further advancing SDG target 7.2 (increase global percentage of renewable energy), target 3.3 (fight communicable diseases), target 6.2 (end open defecation and provide access to sanitation and hygiene) and target 6.5 (implement integrated water resources management).

Furthermore, the new CHS also functions temporary evacuation centers during flood and storms, thereby contributing to contributing to SDG target 11.5 (reduce the adverse effects of natural disasters).

Climate-resilient rural development and livelihoods

By clearing the way for the promotion of climate resilient and sustainable food production systems, land release under KVPVP contributed to SDG target 2.3 (double the productivity and incomes of small-scale food producers) and to target 2.4 (sustainable food production and resilient agricultural practices).

The provision of inputs and training for sustainable agricultural models on cleared land strengthened the adaptive capacity of small-scale farmers, enabling SDG targets 12.2 (sustainable management and use of natural resources), 13.3 (build knowledge and capacity to meet climate change), 15.3 (end desertification and restore degraded land), and 6.4 (increase water-use efficiency and ensure freshwater supplies).

Post land release support also included activities aimed at increasing market access and micro-credit, helping to address structural economic barriers and facilitating progress towards SDG targets 8.a (universal access to banking, insurance and financial services) and 9.3 (increase access to financial services and markets), as well as SDG target 10.1 (reduce income inequalities).

Finally, by engaging diverse participants and promoting the inclusion of women in economic activities, these activities contribute to SDG target 5.5 (ensure full participation in leadership and decision-making) and 4.4 (increase the number of people with relevant skills for financial success).

KVPVP Project 2025 © UNDP

Spillover development outcomes beyond the formal scope of KVPVP

Spillover outcomes of land release under the KVPVP included an increased willingness of local communities to utilise and invest in agricultural activities on cleared land. In different cases, this allowed community members to reduce irregular work to focus on stable and sustainable sources of income, enabling multiple SDG targets relating to increased income generation and reduced poverty, including SDG targets 1.1 (eradicate extreme poverty), 1.2 (reduce poverty by at least 50%), 8.1 (sustainable economic growth) and 8.2 (diversify, innovate and upgrade for economic productivity).

The release of safe land also enabled deeper soil preparation and safer, more productive land management, supporting contributions to SDG target 2.4 (sustainable food production and resilient agricultural practices), as well as target 15.5 (protect biodiversity and natural habitats).

In Ân Tường, released land was later utilised for new housing development to support national objectives to assist families to remain in rural areas, enabling contributions to SDG target 11.1 (safe and affordable housing), while also reinforcing targets 10.1 (reduce income inequalities) and 10.3 (Ensure equal opportunities and end discrimination).

Land release under KVMAP

Whilst comprehensive data on socio-economic development outcomes were not collected under KVMAP, broader contributions can be made in certain areas where released land made way for impactful activities to occur.

In the former Hoài Nhơn and Phù Mỹ districts of Gia Lai province, the return of safe land facilitated the construction of industrial zones including textile manufacturing and food processing plants, supporting SDG target 8.3 (promote policies to support job creation and growing enterprises), and 9.1 (develop sustainable, resilient and inclusive infrastructures).

Land release also enabled the construction and maintenance of roads in Gia Lai which had previously been prevented due to the presence of EO contamination. Improvements to road access allowed for land-use planning projects to move ahead and for roads impacted for seasonal flooding and landslides to be repaired, enabling SDG target 9.1 (develop sustainable, resilient and inclusive infrastructures) and 11.2 (affordable and sustainable transport systems).

Land release activities also supported housing projects designed to reduce beneficiaries' exposure to flooding and storms. In Cat Nhon commune, where 29 households were financially supported and relocated to new housing on released land at higher altitudes, households reported reduced seasonal displacement and loss of assets. This contributed to SDG target 11.1 (safe and affordable housing), and target 13.1 (strengthen resilience and adaptive capacity to climate related disasters).

Across multiple areas in KVMAP sites, land release enabled land to be returned to productive agricultural use. In some areas, this amounted to safe access whilst in others clearance enabled the use of agricultural machinery, deeper ploughing, and irrigation systems. Increased yields and profits supported contributions to SDG target 2.3 (double the productivity and incomes of small-scale food producers), and target 2.4 (sustainable food production and resilient agricultural practices).

In Quang Tri province, released land was later used to construct a kindergarten and a communal cultural house for ethnic minority communities, facilitating SDG target 4.2 (equal access to quality pre-primary education) and target 11.7 (provide access to safe and inclusive green and public spaces).

Finally, land release under KVMAP enabled to construction of new urban infrastructure, including a sports complex and new housing development in Quy Nhon, contributing to SDG targets 11.1 (safe and affordable housing) and 11.7 (provide access to safe and inclusive green and public spaces).

View of the flooding in Hue city © GICHD

EXPLOSIVE ORDNANCE RISK EDUCATION

4.5 Equal access to all levels of education

4.7 Universal knowledge to promote sustainable development

5.1 End all forms of discrimination against all women and girls

10.2 Social, economic, political inclusion of all

10.7 Safe migration and mobility

11.5 Reduce the adverse effects of natural disasters

13.1 Strengthen resilience and adaptive capacity to climate related disasters

13.3 Build knowlegde and capacity to meet climate change

16.1 Reduction of all forms of violence

16.6 Development of accountable institutions

17.6 Access to resources through North-South, South-South and triangular cooperation

17.16 Enhanced global partnership for sustainable development

17.17 Effective public, public-private and civil society partnerships

Explosive ordnance risk education (EORE) activities promote safe behaviour to reduce risks for communities living and travelling in proximity to EO contaminated zones. In doing so, EORE contributes to SDG target 16.1 (Reduce violence everywhere) and target 10.7 (Safe migration and mobility).

In KVPVP, EORE activities have been integrated into existing communal activities and social groups as well as other risk reduction training activities, with enabling effects on SDG targets 4.7 (Universal knowledge to promote sustainable development); 5.1 (End discrimination against women and girls), 11.5 (Reduce the adverse effects of natural disasters), 13.1 (Strengthen resilience and adaptive capacity to climate related disasters), 13.3 (Build knowledge and adaptive capacity to climate related disasters), and 17.17 (Encourage effective partnerships). EORE communicators also made efforts to reach persons with disabilities (PWDs) through door-to-door campaigns, contributing to SDG target 4.5 (Eliminate all discrimination in education) and 10.2 (Promote universal social, economic and political inclusion).

Through KVPVP, support was also provided for the development of EORE guidelines, workplans, and strategies, ensuring adherence to international best practices and aligning with SDG targets 16.6 (Develop effective, accountable and transparent institutions), and 17.16 (Enhance the Global Partnership for Sustainable Development).

Finally, the focus of KVPVP to strengthen national EORE capacities and to empower local actors to undertake EORE activities strengthen the sustainability of EORE programmes and enables SDG target 17.6 (Knowledge sharing and cooperation for access to science, technology and innovation).

VICTIM ASSISTANCE

1.3 Implementation of social protection systems and measures

1.4 Equal rights to economic resources and access to basic services

1.5 Improved resilience, reduced vulnerability

2.1 Access to food

3.3 End of communicable diseases

3.8 Access to essential health-care services

3.c Increased health financing and health workforce

10.2 Social, economic, political inclusion of all

10.3 Equal opportunities, reduction of inequalities

16.6 Development of accountable institutions

17.9 Enhanced international support for capacity-building

17.18 Capacity-building support to improve access to and quality of data

Both the KVMAP and KVPVP projects recognised the need for centralised data on EO survivors to assess their needs. By collecting disaggregated data and creating accessible platforms for survivors to register for support, the projects enabled SDG target 10.2 (Promote universal social, economic and political inclusion) as well as target 1.4 (Equal rights to ownership, basic services, technology and economic resources) and target 17.18 (Enhance availability of reliable data).

Through the KVMAP project, support was also provided to PWDs, including EO survivors, during the Covid-19 pandemic, contributing to SDG targets 1.3 (Implement social protection systems); 1.5 (Build resilience to environmental, economic and social disasters); 2.1 (Access to food); 3.3 (End of communicable diseases); and 3.8 (Achieve universal health coverage).

Although it is yet to be implemented, an expected partnership with a social enterprise specialised in assistive technologies may enable access to tailored, 3D printed prosthetics for EO survivors, contributing to SDG target 3.8 (Achieve universal health coverage) The provision of effective assistive technologies also enables other aspects of wellbeing for PWDs by improving functional capabilities for different aspects of daily life including employment, movement, etc. In this way, prosthetics can also enable SDG target 10.3 (Ensure equal opportunities and end discrimination).

The project provided support to improve the capacities of social workers to enhance social assistance for PWDs and EO survivors as well as holding outreach campaigns to increase the number of PWD registrations in targeted communes, facilitating SDG target 3.C (Increase health financing and support health workforce in developing countries), target 16.6 (Develop effective, accountable and transparent institutions), and target 17.9 (Enhance SDG capacity in developing countries).

PURPOSE AND METHODOLOGY OF THE STUDY

PURPOSE

The purpose of this study is to map and analyse the sustainable development outcomes of the Korea–Viet Nam Peace Village Project (KVPVP), and to some extent its previous phase, the Korea–Viet Nam Mine Action Project (KVMAP), using the Sustainable Development Goals (SDGs) as the overarching analytical framework. While a detailed description of the project will be provided, it is important to recall that the KVPVP is a multi-year initiative (2022–2026)[1] funded by the Republic of Korea through the Korea International Cooperation Agency (KOICA) and implemented by the United Nations Development Programme (UNDP) in close partnership with the Viet Nam National Mine Action Centre (VNMAC). The projects build on the result of its first phase, the KVMAP, implemented between 2018 and 2021 in the provinces of Gia Lai (former Bình Định and hereafter referred as Gia Lai) and Quảng Trị (former Quảng Bình and hereafter referred as Quảng Trị), and focused on survey and clearance, explosive ordnance risk education (EORE), victim assistance, and capacity-building of VNMAC.[2]

The KVPVP expanded the scope of KVMAP, and was structured around two mutually reinforcing outcomes, combining mine action interventions–including survey and clearance, EORE, and victim assistance–with rural development initiatives, such as the construction of climate-resilient housing, commune health stations, and climate-smart agricultural schemes in three affected provinces: Gia Lai, Quảng Ngãi, and Huế. By deliberately sequencing mine action and development activities, the KVPVP offers one of the first concrete illustrations in Viet Nam of how mine action can directly enable progress towards sustainable development through integrated, multi-sectoral collaboration.[3]

Despite the increasingly recognized potential of mine action to contribute to humanitarian, development, and peace outcomes[4], evidence of its broader impact remains limited.[5] In many contexts, mine action is implemented as a discrete intervention, with development activities following only later, often in the absence of structured coordination.[6] Institutional and operational linkages between mine action and wider development processes are therefore typically weak, leading to delays in translating land release–done through survey and clearance–into tangible socio-economic benefits. The KVPVP, however, was explicitly designed to sequence mine action and development in a coordinated manner, thereby providing a unique opportunity to document good practices and challenges, as well as generate evidence on how land release, when embedded within development planning, can serve as a foundation for sustainable livelihoods, inclusive infrastructure, and resilient community services in areas already vulnerable to climate shocks.

Thus, this study primarily attempts to identify the extent to which the deliberate sequencing of mine action and development activities have had a positive impact, considering diverse humanitarian, social, economic, and environmental implications, using the SDGs and their targets as the frame of reference.

From Millenium Development Goals to SDGs

Building on the achievements and lessons learned from the Millennium Development Goals[7] in 2015, the UN Member States adopted the 2030 Agenda for Sustainable Development as a new plan of action for the following 15 years.[8] The 2030 Agenda is universal, transformative, and rights based, under the premise that "no one will be left behind".[9] It contains 17 integrated SDGs and 169 associated targets, which are based on the three core elements of sustainable development–economic growth, social inclusion, and environmental protection–and calls for peace and partnership. There are five critical dimensions at the core of the 2030 Agenda, known as "the five Ps": people, prosperity, planet, partnership, and peace.[10] The SDGs serve to measure the longer-term consequences of mine action interventions, since they allow the integration and assessment of most of the external dimensions that influence the results of mine action, including political, economic, social, and cultural factors, and the performance of other related projects.[11]

Although the findings of this study are not intended to serve as a formal evaluation of the KVPVP, they aim to provide an evidence base to highlight the added value of connecting mine action and development interventions as mutually reinforcing efforts that advance the 2030 Agenda and its core principle of leaving no one behind.

RESEARCH OBJECTIVES

This study aims to achieve the following research objectives:

- To assess the contribution of the KVPVP and its predecessor, KVMAP, to sustainable development in targeted areas by analysing the relationship between mine action and sustainable development outcomes.
- To assess the processes through which KVPVP integrated mine action and development, with particular focus on the sequencing of land release and development activities, stakeholder coordination, and broader alignment with the 2030 Agenda.

The inclusion of both KVPVP and KVMAP (which concluded in 2021) allows for the analysis of mine action outcomes in both the short and longer term–at least in the Gia Lai province, where the two projects overlapped–examining the contribution of land release, EORE, and victim assistance not only to immediate safety but also to durable socio-economic gains.

This study has been commissioned at the request of UNDP Viet Nam, building on a long-standing collaboration between the UNDP and the GICHD to strengthen the developmental contributions of mine action. Since 2017, the two institutions have coproduced several joint studies and projects highlighting mine action's role as an enabler of sustainable peace and development, reinforcing the nexus between humanitarian, development, and peacebuilding efforts. In July 2024, this partnership was consolidated through a Letter of Interest signed between UNDP Viet Nam and the GICHD, formalizing the GICHD's support to the KVPVP.

Flooding in Hue city © GICHD

This research builds on the following previous studies by the GICHD:

- *Leaving no one behind: Mine action and the Sustainable Development Goals (2017).*
- *The Socio-economic Impact of Anti-vehicle Mines in Angola (2019).*
- *Linking Mine Action and the 2030 Agenda for Sustainable Development. Insights from Bosnia and Herzegovina and Lao PDR (2020).*
- *The Sustainable Development Outcomes of Mine Action in Jordan (2021).*
- *The Sustainable Development Outcomes of Mine Action in Cambodia (2021).*
- *Contribuciones de la acción integral contra minas al desarrollo sostenible en Colombia (2022).*
- *The Sustainable Development Outcomes of Mine Action in Bosnia and Herzegovina (2022).*
- *The Sustainable Development Outcomes of Mine Action in Somalia (2022).*
- *The Sustainable Development Outcomes of Mine Action in South Sudan (2023).*
- *The Sustainable Development Outcomes of Mine Action in Iraq (2024).*

METHODOLOGICAL APPROACH

The assessment combines qualitative methods, structured around comparative case studies to capture the development outcomes of mine action. Specifically:

- **Case 1: Land release under KVPVP.** Documents development outcomes in the three targeted provinces, to assess how deliberate sequencing has influenced the delivery of climate-resilient housing, commune health stations, and climate-resilient agricultural initiatives.

- **Case 2: Land release under KVMAP.** Focuses on communes in the Gia Lai province where land release under KVMAP enabled subsequent development, either through KVPVP or local socio-economic development plans, thereby providing insights into longer-term impacts of mine action interventions.

- **Case 3: Development outcomes outside of KVPVP.** Explores instances where development outcomes materialized outside the projected KVPVP activities.

The study relies on multiple sources of evidence: desk research and policy analysis of national and project-related documents; field visits to selected communes across the three provinces; semi-structured and structured interviews with stakeholders at the national, provincial, and community levels; focus group discussions with direct beneficiaries; and observation of development interventions on released land. Where feasible, primary data have been cross-referenced with statistical data provided by VNMAC and provincial authorities, official reports, and previous evaluations. The analysis was also complemented by satellite imagery to illustrate post–land release changes in land use.

The study utilizes the SDG framework to analyse and demonstrate the contributions of KVPVP activities and approaches to sustainable development in Viet Nam. It is not intended to be an evaluation of the activities conducted under this project, but rather to demonstrate how they enable broader impacts beyond immediate human security. The study identifies outcomes and impacts enabled through the KVPVP project; however, this should not be interpreted as resulting solely from mine action activities. Rather, these outcomes reflect the integrated efforts of the project as a whole and involve the work of multiple stakeholders at the local, provincial, and national levels, and across different government ministries.

LIMITATIONS

The study is subject to several constraints.

First, the sequencing of mine action and development activities is not always linear. In some communes, components of the development intervention began while land release operations were still ongoing in other areas. For example, in certain locations the construction of climate-resilient housing proceeded once specific plots had been certified, even though land release operations continued in nearby areas. Importantly, no construction or livelihood activities were implemented on uncleared land. In other communes, development activities have yet to start.due to delays in the implementation of the mine action component. As a result, the analysis was necessarily limited to locations where both mine action and development activities had already progressed sufficiently to generate observable outcomes.

Second, the availability of pre- and post-intervention data remains limited, restricting the possibility of measuring impacts quantitatively and necessitating a reliance on stakeholder interviews and qualitative assessments.

Third, the research was conducted during a period of significant administrative restructuring in Viet Nam. Pursuant to nationwide institutional reforms and constitutional amendments effective from 1 July 2025, the country transitioned from a three-tier to a two-tier subnational governance structure, abolishing the district level and consolidating provincial administrations.[12] This transition affected administrative continuity and slowed province-level decision-making in some project areas, resulting in delays of project activities. Because these reforms involved the renaming and reorganization of some provincial administrations, this study refers to Gia Lai, Huế, and Quảng Trị, using their current administrative designations for consistency.

Fourth, field work was affected by severe flooding in central Viet Nam during the data collection phase.[13] As a result, some planned in-person interviews could not be conducted and were instead carried out remotely or through local authorities. These adjustments may have limited direct observation and reduced the depth of interaction with some beneficiaries.

Lastly, while the study draws on evidence from multiple provinces, the findings are geographically circumscribed and may not be generalizable to all areas affected by EO in Viet Nam. Nonetheless, the study aims to offer valuable insights into the processes and outcomes of linking mine action with sustainable development, providing lessons of broader relevance to both national stakeholders and the international mine action community.

INTRODUCTION

EXPLOSIVE ORDNANCE CONTAMINATION IN VIET NAM

Throughout the 20th century, Viet Nam experienced successive conflicts, which took place between the mid-1940s and the late 1970s, and involved extensive military operations across large parts of the country.[14] The widespread use of aerial bombardment, artillery, and ground-emplaced explosive devices during these periods resulted in significant contamination by EO, alongside other wartime legacies such as Agent Orange and dioxin.[15] As a result, Viet Nam remains one of the world's most severely EO-contaminated countries in the world.

While precise estimates of the total contamination vary somewhat, EO contamination remains a persistent and widespread issue in Viet Nam. According to The Viet Nam National Mine Action Centre, over 56,000 km^2 (representing more than 17% of Viet Nam's total land area) remains contaminated with EO, affecting all 63 provinces to varying degrees.[16] Similarly, the 2018 government-led Explosive Remnants of War (ERW) Impact Survey estimated EO contamination at 61,308 km^2, or approximately 19% of the national territory, based on data collected from 2004 to 2014.[17] The most heavily impacted provinces include Quảng Trị, Hà Tĩnh, Nghệ An, and Quảng Ngãi, as well as regions within the Central Highlands, the Red River Delta, and the Mekong Delta.[18] In many of these areas, EO contamination continues to constrain land use, investment, and development planning.

Contamination consists predominantly of cluster munition remnants (CMR), discarded military munitions, and other ERW.[19] US forces alone reportedly dropped approximately 413,130 tonnes of submunitions on Viet Nam between 1965 and 1973, impacting 63 provinces and cities.[20] The weight of munitions is estimated to be at least three times greater than that used in either the European or Pacific theatres during the Second World War, translating into hundreds of kilograms of explosives per capita.[21] The 2018 ERW Impact Survey does not detail the precise extent of CMR contamination, but reports that such contamination has been identified in 32 out of Viet Nam's former 63 provinces and centrally governed cities.[22]

While accurate national data on the extent of mine contamination remain limited, it is reported that mines only characterize a smaller portion of the total EO contamination.[23] The 2018 Landmine Impact Survey reported the presence of anti-personnel mines in 26 of the 63 provinces and cities, without providing further detail.[24] Mine contamination is largely attributed to post-1975 conflicts to defend border areas, coastal zones, and river deltas through sea mines, as well as around former US military installations.[25]

Figure 3: Areas suspected of being contaminated with unexploded ordnance (UXO) in Viet Nam.

Note: Map provided by VNMAC in March 2026. Boundaries and names shown do not imply official endorsement by the GICHD.

HUMAN AND DEVELOPMENTAL IMPACT

The legacy of EO contamination in Viet Nam continues to pose serious risks to both human security and the country's sustainable development trajectory. Since 1975, EO accidents have reportedly caused over 40,000 fatalities and more than 60,000 injuries, many of whom were children or primary income earners.[26,27] EO contamination acts as a structural barrier to development in a country currently experiencing significant economic growth. Particularly since the launch of the Doi Moi ("restoration") reforms of 1986, Viet Nam has undergone a significant socio-economic transformation. The country's population reached about 102.2 million by 2026, with a favourable demographic structure in which the working-age population outnumbers dependents – creating the preconditions for supporting sustained growth.[28] In 2008, Viet Nam graduated from the list of the world's least developed countries, reflecting a dramatic reduction in poverty from around 70% in the mid-1980s to just 4.06% in 2023.[29] Between the mid-1980s and 2021, GDP per capita increased more than fourfold, from USD 598.9 to USD 3,409, while average annual GDP growth over the two decades following Doi Moi reached 6.5%, one of the highest rates among developing economies.[30] Growth has been led by the services sector, which has contributed over half of total GDP expansion, followed by industry and construction, and then agriculture, which continues to provide livelihoods for a significant share

of the population.[31] However, in provinces with high levels of EO contamination, these gains are uneven. Agricultural productivity, infrastructure development, and tourism potential are constrained by land that remains unsafe or unusable, creating localized pockets where poverty and vulnerability persist despite progress at the national level.

In contaminated areas, households are statistically less likely to engage in wage-earning or diversified livelihoods, instead remaining reliant on subsistence agriculture–a pattern associated with lower income levels and higher vulnerability to poverty.[32] Comparative findings from the neighbouring Lao PDR analysing the long-term effects of the Viet Nam War suggest similar outcomes, including diminished farming productivity and reduced educational attainment where EO contamination is prevalent.[33] The presence of EO also deters investment and hinders local economic development. Research shows that a 1%-increase in the share of UXO-contaminated land in Viet Nam correlates with a 0.69% decrease in the density of foreign direct investment (FDI) firms and a 0.38% reduction in nighttime light intensity, a proxy for economic activity. These effects reflect both the perceived and real risks associated with operating in EO-affected areas.[34]

In addition, EO contamination has different impacts on affected communities depending on characteristics such as gender, age, disability, and ethnicity. These diversity factors create conditions which may expose certain groups to higher levels of risk or greater impact from EO contamination. In Viet Nam, disproportionate effects have been found on rural communities, including ethnic minorities.[35] In particular, ethnic minority groups can be more likely to encounter and be harmed by EO than majority populations, as exposure is shaped by livelihood patterns that require engagement with contaminated areas, limited access to risk education, and the location of settlements in high-contamination areas. For example, a study from Humanity and Inclusion finds that ethnic minorities in Viet Nam experienced higher casualty rates relative to their share of the overall population, reflecting entrenched structural vulnerabilities.[36]

In general, EO contamination often limits physical access to essential services and markets. Schools, healthcare centres, irrigation systems, and rural roads may be unusable or unsafe due to contamination. In many cases, infrastructure development is delayed or deprioritized because of clearance requirements, creating further spatial inequality and isolation in rural and remote communities.[37]

These development challenges are compounded by Viet Nam's acute exposure to climate risks, which acts as a threat multiplier in contaminated areas.[38] The country's geography and topography make it one of the most climate-vulnerable nations in the Asia-Pacific region. A large share of its population and critical infrastructure is located in low-lying coastal areas highly susceptible to flooding, saltwater intrusion, and sea level rise. According to World Bank projections, climate change could reduce Viet Nam's GDP by up to 3.5% by 2050.[39] In areas where both EO contamination and climate hazards intersect, vulnerabilities are magnified and development efforts are further constrained.[40] This intersection creates a compelling rationale for integrating land release with climate-resilient housing and agricultural support–as examined in subsequent chapters.

Viet Nam's performance toward the SDGs

Viet Nam's 2023 Voluntary National Review (VNR) highlights that, despite the prolonged impacts of the COVID-19 pandemic, global economic volatility, and increasing climate-related disasters, the country has sustained progress across multiple SDGs.[41] Notable achievements include a reduction in multidimensional poverty (SDG 1), near-universal access to improved water sources (SDG 6) and electricity (SDG 7), advances in infrastructure and industrial development (SDG 9), and improvements in public service delivery (SDG 16). All 17 SDGs have been mainstreamed into national and subnational socio-economic strategies, reflecting strong political commitment to the 2030 Agenda. Nevertheless, the VNR also underscores that significant challenges remain in areas such as food security (SDG 2), health (SDG 3), education equity (SDG 4), gender equality (SDG 5), and climate action (SDG 13).[42] While EO contamination is not identified in the VNR as a primary constraint, it remains a cross-cutting factor that hinders local-level development outcomes in precisely these domains,[43] limiting agricultural productivity, delaying infrastructure, and constraining access to essential services in affected provinces.

Against this backdrop, mine action in Viet Nam is more than a humanitarian priority: it is a prerequisite for inclusive and sustainable development. It unlocks access to safe land, enables critical infrastructure and service delivery, facilitates climate-resilient agriculture, and supports economic diversification.

VIET NAM'S MINE ACTION ARCHITECTURE

Viet Nam's engagement in mine action spans more than four decades.[44] Clearance operations were first undertaken during the 1940s and expanded following widespread contamination caused by US bombing between 1965 and 1973. Further contamination occurred during the late 1970s, with military units continuing clearance operations throughout the post-war period. These efforts were initially focused on restoring national security and enabling the return of displaced populations, later evolving to include humanitarian and development-oriented goals.[45] The engagement of non-governmental actors started

in 2001, when international and national non-governmental organizations began supporting community-based clearance and risk education efforts.[46]

Today, Viet Nam's mine action sector is governed through a concurrent institutional framework involving both national and provincial authorities. The country is administratively divided into 34 first-level subdivisions, comprising 28 provinces and 6 centrally administered municipalities.[47] At the national level, VNMAC, under the Ministry of National Defence, is the lead institution responsible for coordinating mine action planning, policy, and reporting across the country. The Provincial People's Committees (PPCs) are responsible for executing mine action at the local level, as well as implementing related development plans.[48]

VNMAC was formally established in 2014 through Prime Ministerial Decision No. 319/QĐ-TTg.[49] Its mandate is to coordinate mine action policy, planning, and reporting at the national level and to support the implementation of the National Mine Action Programme (Program 504), which was originally launched in 2010. Although VNMAC began operations in 2014, it was only formally assigned overall responsibility for mine action in 2019, through Government Decree No. 18/2019/ND-CP.[50] A complementary circular, issued in 2020, clarified roles and responsibilities among national and provincial actors and established a regulatory framework for national and international operators.[51]

Programme 504 set out a National Mine Action Plan for 2010–2025, comprehensively addressing contamination from mines, CMR, and other ERW. The plan's aim is to "mobilize domestic and international resources in making efforts to minimize and finally create impact-free environment for social economic development".[52] Key targets include the release of 8,000km^2 of ERW-contaminated land between 2016 and 2025, the completion of a nationwide impact survey to map contamination, the development of national mine action standards, and the establishment of a centralized database management system. As the current plan ended, the Prime Minister approved the National Action Programme on Overcoming the Consequences of Post-war Landmines and Explosive Ordnance for the 2026–2045, dated on 18 June 2026 (Decision No. 1095/QD-TTg).[53] Under this framework, targets have been set for survey, clearance, and risk education, alongside the allocation of specific responsibilities to relevant government agencies. The new land release objective seeks to release 56,000 km^2 of land by 2045–approximately 100% of the territory currently assessed as contaminated.

Until now, Viet Nam has not acceded to key international disarmament treaties, including the Anti-Personnel Mine Ban Convention (APMBC) and the Convention on Cluster Munitions (CCM). Viet Nam has signed, but not ratified, the Convention on Certain Conventional Weapons (CCW). Notwithstanding its treaty status, Viet Nam has established a national legal and institutional framework for mine action and maintains active cooperation with international partners and donors. The country applies International Mine Action Standards (IMAS) and has developed national standards aligned with international practice, reflecting sustained efforts to address the humanitarian and development impacts of EO contamination.

While VNMAC is primarily funded through the state budget as part of the Ministry of National Defence, international contributions play a significant role in strengthening national capacity and expanding operational reach. Between 2019 and 2023, Viet Nam received approximately USD 112.6 million in international mine action assistance, making it the ninth largest global recipient during this period.[54] In 2023 alone, international donors contributed USD 27.3 million, primarily from Ireland, Japan, Norway, and the United States–with the United States accounting for nearly USD 26 million.[55] In parallel, the Government of South Korea has committed to a five-year USD 25 million project (KVPVP), which started in 2023 and represents one of the largest bilateral investments in Viet Nam's mine action sector,[56] reflecting Korea's increasing global role in humanitarian–development–peace nexus programming.

Operationally, most land release continues to be undertaken by the Army Engineering Corps and 43 military-affiliated commercial companies, complemented by the work of international organizations. These include Mines Advisory Group in Quảng Trị; Norwegian People's Aid, active in Quảng Trị and Huế city, and expanding into Kon Tum since 2022; and Peace Trees Viet Nam, present and operating in Quảng Trị since 1995. Together, these partnerships highlight the extent to which Viet Nam's mine action efforts are embedded within a broader landscape of international cooperation, despite the absence of formal treaty commitments.[57]

BACKGROUND ON THE KVPVP AND KVMAP

The KVMAP (2018–2021) and the KVPVP (2022–2026) constitute two successive and interconnected phases of KOICA's support to mine action and development in Viet Nam, implemented by the UNDP in close partnership with VNMAC and targeted provincial authorities. The KVMAP focused on the provinces of Gia Lai and Quảng Trị and was the first large-scale, foreign-funded project to adopt a comprehensive approach to mine action in Viet Nam.[58] It covered survey and clearance, EORE, victim assistance, and capacity development for VNMAC and relevant institutions. By ensuring that national standards reflect best practices as stipulated by IMAS, and strengthening the governance of mine action through inter-ministerial and provincial coordination mechanisms, the KVMAP directly supported the implementation of the National Mine Action Programme (2010–2025). Importantly, while the project enabled significant socio-economic benefits for affected communities, its terminal evaluation noted that

these developmental impacts were insufficiently measured and recognized.[59] Therefore, among its key recommendations was the need, in a subsequent phase, to explicitly assess and document how mine action contributes to sustainable development outcomes.

Building on these lessons, the KVPVP was designed as both a continuation and an expansion of the KVMAP, with a strengthened emphasis on socio-economic indicators and sequencing logic. Where the KVMAP was designed with the framework of a conventional mine action programme, the KVPVP focuses heavily on ensuring that mine action outputs lead to tangible sustainable development outcomes, incorporating development activities and planning within the scope of the project. In geographic terms, the project has a broader scope, covering the provinces of Gia Lai and Quảng Ngãi, as well as Huế city–three areas heavily affected by EO. In programmatic terms, it is structured around two mutually reinforcing components.

- **Component 1,** led by VNMAC, focuses on mine action activities: survey and clearance, information management, victim assistance, EORE, and institutional capacity-building.

- **Component 2,** under the responsibility of the three PPCs, centres on rural development initiatives implemented on cleared lands, including the construction of CRHs and CHSs, as well as the provision of climate-smart agriculture.

Together, the two components represent a deliberate sequencing of mine action and development, designed to demonstrate how land release activities provide the foundation for sustainable livelihoods and resilient socio-economic infrastructure. This goal is reflected in the monitoring and evaluation framework of the KVPVP, which applies socio-economic and livelihood indicators to measure progress towards enhanced community resilience and sustainable rural development.

KVMAP	**GOAL: Improved physical security leading to progress against all SDGs, with emphasis on an effective, accountable, transparent mine action institutional set up in support of SDG16 and safe human settlement in support of SDG11.**
	OUTCOME 1: Effective national ownership and management of ERW sector
	OUTPUT 1: Institutional capacities of VNMAC and MOLISA are strengthened to further improve the contribution of the mine action activities for human development in contaminated area.
	OUTCOME 2: Target communities have information, feel safer, leading to increased well-being.
	OUTPUT 2: UXO/mine action in Quang Tri and Gia Lai are cleaner through UXO interventions to support human development, dignity and livelihood.
KVPVP	**GOAL: The local communities of the target provinces are empowered towards harmonious, safe, resilient and prosperous rural communities through access to cleared land, capacity enhancement and livelihoods development.**
	OUTCOME 1: Improved human security for communities in target areas
	OUTPUT 1.1: Mine Action (MA) authorities and targeted population have strengthened capacity to meet current requirements (short-term) and address risks from residual contamination (medium/long-term)
	OUTPUT 1.2: Effective investment and implementation, as well as enforcement of the regulations relating to support for survivors (and other PwDs) in target areas
	OUTCOME 2: Enhanced sustainable rural development through increased resilience of livelihoods and infrastructure of target communities
	OUTPUT 2.1: Climate-smart and resilient agriculture for people in target areas
	OUTPUT 2.2: Increased resilience for people in target areas by providing resilient economic and social infrastructure through flood and storm resilient houses and climate resilient commune health stations

Table 1: KVMAP and KVPVP simplified log frame
Source: KVMAP and KVPVP project documents.

The KVPVP's dual focus on both mine action and sustainable rural development through a coordinated approach between the two components, reflects the project's ambition to provide replicable models of integrated mine action and development, in line with the principles of the 2030 Agenda. Although the mine action component experienced delays in its initiation, development activities under Component 2 began in 2023 in Huế city and the Gia Lai province, drawing on land previously released through the KVMAP and government-led efforts. This overlap provides a valuable opportunity for the present study to assess not only the short-term outcomes of the KVPVP, but also the longer-term developmental impacts of mine action under the KVMAP.

KOICA integrated programming from the design phase

The integrated design of the KVPVP is rooted in a broader policy agenda in the Mekong region, organized around the three pillars of people, prosperity, and peace. This orientation is consistent with the Mekong–Han River Declaration for Establishing Partnership for People, Prosperity, and Peace,[60] which endorses the Korea–Mekong Future Peace Community Program as the "the comprehensive development cooperation program that encompasses the clearance of ERW, support for victims, rural development and the protection of the environment".[61] The subsequent Mekong–ROK Plan of Action 2021–2025[62] translates this political consensus into a set of concrete measures under the three pillars, thereby reinforcing the mandate for integrated responses that cut across sectors, such as nontraditional security challenges, environment, agriculture, and rural development.

At the programme level, the KVPVP builds on KOICA's Peace Village Development Programme (PVDP) in the Mekong "CLMV countries" (Cambodia, Lao PDR, Myanmar, and Viet Nam) (2020–2030),[63] which established a "pick and mix approach" combining mine action, victim assistance and rural development. The PVDP's vision is to make "UXO/mine-affected rural communities free from the threat of mine and UXO with victims' rights protected, and transformed into the land of peace and prosperity".[64] Selection of locations under the PVDP is guided by a combination of factors, including the intensity of mine and UXO contamination, the incidence of related accidents and victims, the presence of high poverty rate alongside socio-economic development potential, the priority of the government in the national rural development strategy, and the availability of existing KOICA projects that can be integrated.[65] Within this framework, mine action is deliberately tied to wider development aims, and the three core components–mine action, victim assistance, and rural development–are designed to reinforce each other rather than operate as separate strands.

By integrating mine action and development, the KVPVP gives practical expression to KOICA's peace–development nexus at the country level, using a multisectoral design that connects the removal of explosive hazards (*peace*), the targeting of EO survivors, PwDs, and vulnerable households (*people*), and the provision of rural and climate-resilient livelihood and infrastructures (*prosperity*) in line with both the PVDP framework and the Mekong–ROK cooperation commitments.

The three areas targeted by the KVPVP–Huế, Quảng Ngãi, and Gia Lai–are among the 15 most contaminated provinces in the country, with contamination levels ranging between 33% and 56%, compared to the national average of 17–18% (see Table 2). They also have disproportionately high rates of poor and near-poor households, reflecting the enduring socio-economic vulnerabilities of central Viet Nam. As such, they are both heavily affected by the humanitarian consequences of EO and highly dependent on rural development interventions that enhance livelihoods, strengthen resilience to climate change, and reduce inequality.

Province	Population	EO contamination level (%)	Percentage of poor and near-poor households
Quang Ngai	1,231,697	56.39%	17.22%
Gia Lai	1,534,800	39.87%	13.12%
Hue City	1,163,500	33.50%	9.3%

Table 2: Population, EO contamination level, and share of poor and near-poor households in the three targeted areas
Source: UNDP Project Document (2021) and MOD/VNMAC Project Document (2024).

KVPVP Project 2025 © UNDP

By combining land release, risk reduction, and victim assistance with rural development interventions, the KVPVP operationalizes the triangular partnership between KOICA, the UNDP, and VNMAC, while ensuring close coordination with line ministries, provincial authorities, and local communities. The project's partnership base thus provides a replicable model for integrated humanitarian–development programming, with potential relevance for other contexts.

Figure 4: Areas suspected of being contaminated with UXO in KVMAP-targeted provinces

Note: Map provided by VNMAC in March 2026. Boundaries and names shown do not imply official endorsement by the GICHD.

Figure 5: Areas suspected of being contaminated with UXO in KVPVP-targeted provinces

Note: Map provided by VNMAC in March 2026. Boundaries and names shown do not imply official endorsement by the GICHD.

CONTRIBUTION OF MINE ACTION AND TO THE SDGS UNDER THE KVPVP AND KVMAP

COORDINATION

16.6 Development of accountable institutions

16.7 Inclusive, participatory, representative decision-making

16.a Strengthened national institutions, including through international cooperation

17.6 Access to resources through North-South, South-South and triangular cooperation

17.9 Enhanced international support for capacity-building

17.14 Enhanced policy coherence for sustainable development

The 2030 Agenda for Sustainable Development positions coordination as a core condition for achieving integrated and durable development outcomes.[66] The interdependent nature of contemporary social, economic, and environmental challenges means that sector-specific interventions implemented in isolation are unlikely to generate sustained impact. Concretely, in Viet Nam's contamination profile and climate-exposed provinces, coordination is the decisive factor that turns land release into usable land for housing, health, and livelihoods.

This section examines coordination through four interrelated dimensions to describe how coordination is operationalized under the KVPVP and identify possible factors for replication in other contexts: (i) vertical and horizontal policy coherence; (ii) national ownership; (iii) institutional capacity-building; and (iv) financing modalities.

Vertical and horizontal policy coherence

Policy coherence for sustainable development requires both vertical and horizontal integration.[67] Vertical policy coherence refers to the alignment of policies, plans, and implementation mechanisms across different levels of governance (local, provincial, national, and, where relevant, international).[68] Effective vertical coordination enables national priorities to be translated into locally relevant interventions, while ensuring that local needs inform higher-level decision-making. In mine action and development settings, where contamination is often treated as a national security concern but has significant social and economic development implications, vertical coherence is essential to ensure that land release contributes meaningfully to community-level recovery and development.[69]

Horizontal policy coherence, by contrast, concerns coordination across thematic areas at the same governance level.[70] The 2030 Agenda recognizes that economic, social, and environmental objectives cannot be pursued independently,[71] as actions in one domain often generate unintended consequences or missed opportunities in others. Horizontal coordination therefore requires institutional arrangements that enable different ministries, technical departments, and implementing agencies to jointly assess risks, identify synergies, and manage trade-offs. In the context of mine action, this implies moving beyond a narrow focus on clearance outputs toward engagement with sectors, such as agriculture, health, housing, environment, and infrastructure, where the developmental value of released land ultimately materializes.

Operationalizing vertical and horizontal coordination under the KVPVP

In the KVPVP, vertical alignment is operationalized through JPCC/JPMU-PPMU mechanisms (see Figure 7 on coordination mechanisms). At the strategic level, the Joint Project Coordination Committee (JPCC) serves as the apex body, bringing together central authorities (the Ministry of Defence and VNMAC), provincial representatives (PPCs of Huế, Quảng Ngãi, and Gia Lai), the UNDP as the executive partner, and KOICA as the donor. The JPCC approves multi-year and annual work plans, procurement strategies, and communication plans. By convening on a biannually basis, with additional ad hoc meetings as needed, it provides a platform for aligning national, provincial, and donor priorities.

Day-to-day coordination is institutionalized through the joint project management unit (JPMU), comprising the project management unit (PMU) for Outcome 1 and the Provincial Project Management Units (PPMU) for Outcome 2. This structure links national mine action authorities with provincial development actors through routine interaction rather than ad hoc collaboration.

To coordinate sequencing between Outcome 1 and Outcome 2, each year VNMAC provides PPMUs with updated EO contamination maps (see Figure 6). On this basis, PPMUs identify priority zones for rural development and communicate location-specific details–such as coordinates and land size–to the provincial site command (PSC). The PSC, in turn, report back to VNMAC which integrates these requests into the annual survey and clearance plan. Once clearance is completed, VNMAC certifies land as safe and transmits this information back to PPMUs, thereby triggering development activities. Furthermore, clear procedures exist for resolving implementation challenges:

- if provincial development priorities diverge from the approved clearance plan, adjustments can be formally requested;
- if development activities are initiated in areas later found to be contaminated, verification and additional clearance can be undertaken to rectify the risk.

In addition, risk education activities planned under Outcome 1 are coordinated with development activities under Outcome 2 to maximize beneficiary outreach, while data collection on PwDs and EO victims is shared to strengthen both victim assistance and inclusive rural development programming.

Horizontal coordination is reinforced through the composition of the PPMUs which comprise representatives from various government departments including finance, agriculture and environment, health, construction, and education. While these members do not have decision-making power, they provide advice and facilitate necessary communications with other provincial departments. In practice, this arrangement has enabled sectoral adjustments to project design. For instance, in the Quảng Ngãi province, the representative of the Department of Agriculture and Environment advised to change the types of fruit trees proposed for the climate-smart agriculture project, as they would be unsuitable to the type of land in the selected communes.[72] Representatives of PSCs have also discussed coordinating their work with other departments in the form, for example, of sharing maps of cleared areas with the Department of Health and working together to identify priority locations for the provision of victim assistance and the construction of commune health stations.[73]

Interview findings suggest that this coordination architecture has been effective in ensuring alignment across the two outcomes. Representatives from PPMU project teams and PSCs described consistent data exchange, joint planning for implementation and monitoring, and strong working relationships, including ad hoc coordination beyond formal meetings when required.[74] Even in the Quảng Ngãi province, where administrative restructuring caused delays, PSC representatives were described as responsive and supportive in identifying priority locations for survey and clearance. By embedding joint planning and implementation within the project design, the KVPVP strengthens policy coherence in line with SDG target 17.14 (Enhance policy coherence for sustainable development).

Figure 6: Coordination between Outcome 1 and Outcome 2 on sequencing

National ownership

Within this broader coordination framework, national ownership is widely recognized as a foundational principle. The 2030 Agenda affirms that each country bears primary responsibility for its economic and social development and must therefore adapt global goals and targets to national contexts, priorities, and capacities.[75] National ownership is particularly critical for mainstreaming mine action into development, as donor-driven priorities, funding cycles, and administrative procedures can otherwise override domestic planning processes and limit sustainability.[76]

National ownership under KVPVP

Ownership under KVPVP is institutionalized through the shared governance structure linking Outcome 1 and Outcome 2, and the process of agreement on the work plans. Under Outcome 1, the PMU (composed of VNMAC and the Department of Social Protection of the Ministry of Health) oversees survey, clearance, risk education, victim assistance, and capacity-building activities, including information management, quality management, and project coordination, respectively. For Outcome 2, the PPMUs–embedded within the PPCs–manage rural development interventions, such as climate-smart agriculture, flood and storm resilient housing, and climate-resilient CHSs.

The two structures are formally linked through quarterly joint meetings which ensure that mine action priorities and development plans are synchronized. These meetings enable forward-looking planning, the identification of bottlenecks, and joint problem-solving, thereby ensuring that released land is rapidly converted into productive use. Both the PMU and the PPMUs have institutionalized coordination at the province level through the presence of PSC for Outcome 1, and project team members for Outcome 2. This arrangement represents one of the first formal instances in which VNMAC and PPC-led development interventions have been linked through a unified project governance structure.

Finally, the inclusion of commune authorities ensures that decisions are made and verified across multiple levels, which can increase accountability and empower authorities at local levels. Although EO contamination is often considered a national issue or security threat, its presence has local impacts. As many communal authorities are local residents, they also have historical knowledge on conflict and the use of explosive weapons, as well as knowledge about previous land use. Unlike representatives from VNMAC, whose responsibilities may require them to rotate across difference provinces, commune authorities are able to provide a level of continuity and accountability in determining longer-term impacts of mine action activities.

In the former Phù Mỹ district, for instance, KVMAP clearance activities undertaken in 2019–2020 enabled the recovery of 100 hectares of land in the locality of Phú Mỹ Bắc. In interviews, the commune authority was able to confirm that this land had been returned to the community and, in the years following clearance, was used for rice cultivation as well as acacia and sandalwood tree plantations.[77]

Ensuring that ownership and decision-making exist across multiple levels of governance strengthens project accountability and facilitates SDG target 16.7 (Ensure responsive, inclusive and representative decision-making at all levels).

Institutional capacity and partnerships

From a policy coherence perspective, national ownership is closely linked to the ability of states to coordinate across institutions and sectors.[78] When national authorities lead prioritization of land release activities, integrate development objectives for released land, and oversee implementation through existing governance structures, coordination mechanisms are more likely to endure beyond individual projects. Capacity development is an essential part of national ownership. Through training and institutional learning, capacity development supports coordination by enabling national mine action stakeholders to engage meaningfully across sectors and governance levels. Partnerships, reflected in SDG 17 on partnerships and the means of implementation, provide the means through which national authorities, donors, and international organizations can pool resources, align incentives, and support nationally led coordination frameworks.[79]

Capacity development under KVPVP

Both the KVMAP and KVPVP have integrated capacity-building as part of project activities to strengthen technical competencies, such as information management, non-technical and technical survey, and quality management, as well as project management skills, such as coordination.[80,81]

For the KVPVP, this has included concrete capacity-building measures that have already been implemented and applied. Pre-deployment training for demining teams conducted in May 2024 resulted in measurable performance improvement, as evidenced through pre– and post–training assessment. A workshop on key performance indicators, held in November 2024, further strengthened management and monitoring practices by enabling standardized indicators in their operational planning and reporting. In addition, the UNDP developed and piloted a capacity assessment scoring tool in November 2025, which VNMAC has begun using to self-assess competencies and to inform targeted capacity development planning, strategic decision-making, and resource allocations.[82]

This targeted support, in addition to more regular advice and technical input from the UNDP, enhances the longer-term impacts of this project and to strengthen national ownership, contributing to SDG target 17.9 (Enhanced international support for capacity-building). Additionally, through this project, the UNDP has facilitated the inclusion of VNMAC in international and regional events to strengthen Viet Nam's participation and cooperation in broader mine action forums as well as enhance knowledge sharing with other EO-affected countries, enabling SDG target 17.6 (Knowledge sharing and cooperation through North–South, South–South and triangular cooperation).

In the longer-term, the working relationships formed through the KVPVP may help to form stronger ties across government agencies and support recognition of the importance of integrating mine action into sustainable development plans and implementation. In addition to the institutional capacity-building activities included in this project, these relationships enhance the effectiveness of national agencies, contributing to SDG target 16.6 (Develop effective, accountable and transparent institutions at all levels) and 16.a (Strengthen national institutions to prevent violence).

Financing modalities and multi-year programming

Beyond institutional coordination, financing modalities are a decisive enabling or constraining factor for integrated mine action–development approaches. Short-term funding can undermine coherence by incentivizing narrowly defined outputs rather than integrated outcomes. As donor funding for mine action is often channelled through humanitarian budget lines, this could limit the ability of national authorities and implementing partners to reallocate resources in line with evolving national development priorities.[83] Conversely, multi-year financing is particularly important in mine-affected contexts where land release and development outcomes unfold over extended timeframes.

Multi-year financing under KVPVP

Multi-year financing, such as Korea's commitment, has been instrumental in creating the space and opportunity for Viet Nam to test an integrated model. KOICA approaches mine action not solely as humanitarian assistance, but as a foundational input to regional development and peacebuilding.[84] This positioning has allowed the donor to support a multi-year, integrated project model in which survey and clearance, victim assistance, and explosive ordnance risk education (Outcome 1) are deliberately linked to development interventions (Outcome 2). KOICA's adoption of the SDGs as a mandatory screening and evaluation framework also ensures that funding decisions are systematically assessed against specific SDG targets, embedding development logic throughout the project cycle.[85] This SDG-screened, multi-year model is transferable to other EO-affected contexts, creating opportunities for similar triangular cooperation.

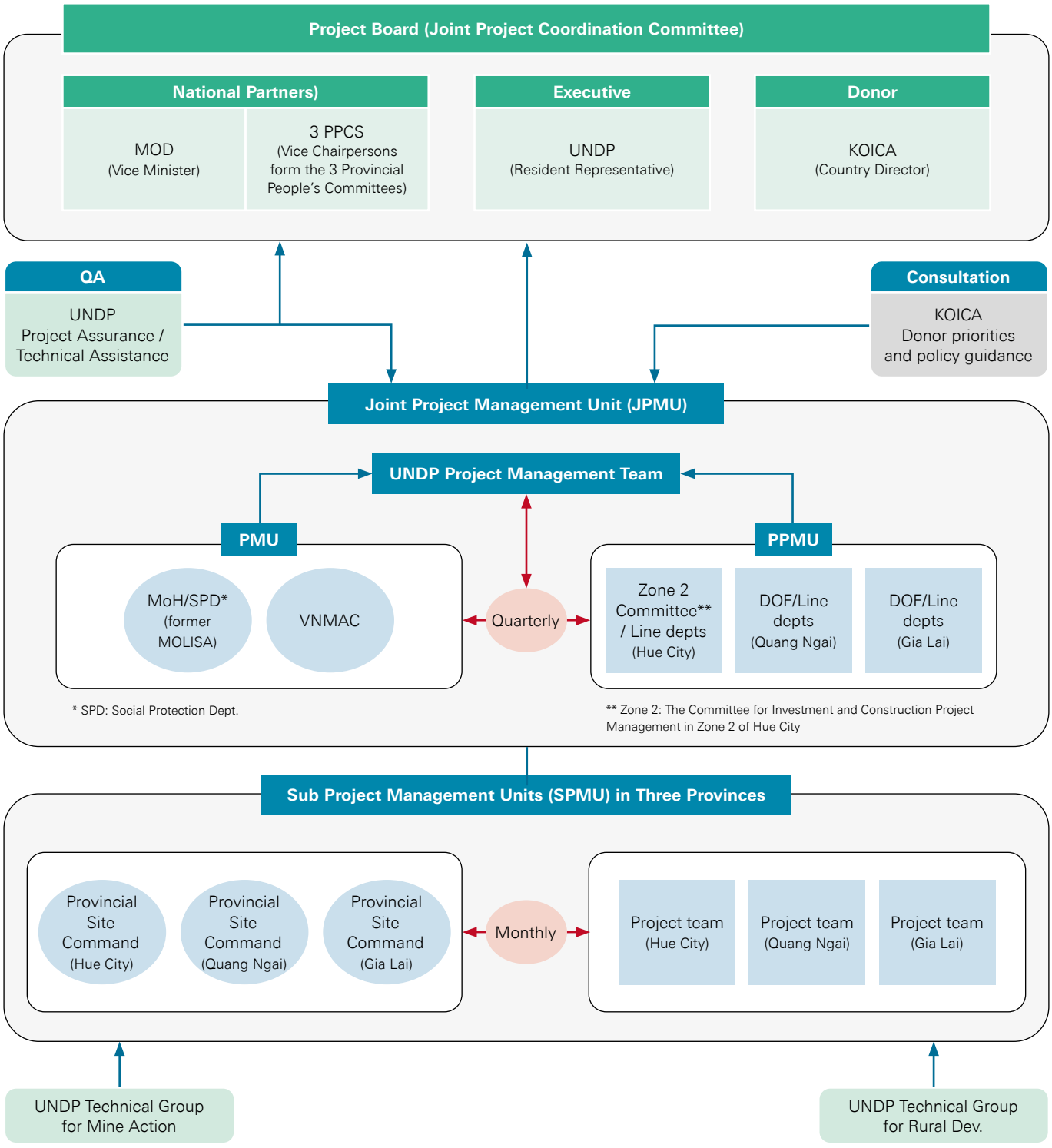

Figure 7. Coordination mechanism of the KVPVP, provided by the UNDP

While the KVPVP architecture exemplifies a structured platform for mine action and development integration, its effectiveness remains dependent on sustained interinstitutional trust, continued data sharing, and multi-year financing. By aligning land release priorities with provincial development planning and embedding decision-making across multiple governance levels, the KVPVP provides a potential blueprint for other contexts seeking to operationalize the nexus between mine action and sustainable development.

Enabling factors emerging from the KVPVP coordination model

The KVPVP coordination model suggests several enabling factors that may support replication in other EO-affected contexts:

ENABLING ENVIRONMENT	FRAMEWORKS AND PROCESSES TO SUPPORT COORDINATION	DEDICATED RESOURCES, EXPERT ADVICE AND SUPPORT
High level recognition of the constraints that EO contamination imposes on sustainable development.	Formalized joint governance architecture linking mine action authorities and development actors through shared decision-making bodies.	Multi-year, financing frameworks that permit integrated planning beyond short-term land release outputs.
National commitment to sustainable development, supported by existing platforms/mechanisms which enable coordinated engagement.	Institutionalized data-sharing and sequencing mechanisms to align land release planning with development site selection.	Donors' commitment to engage with and support an integrated framework model.
A conducive policy and governance setting which permits effective intergovernmental coordination.	Integrated monitoring and evaluation frameworks to ensure alignment of goals across mine action and sustainable development objectives.	Access to technical expertise from both mine action and sustainable development experts and organizations.
Embedded provincial and local ownership, including structured engagement of sub-national authorities in prioritization and monitoring efforts.		Targeted institutional capacity development, including strengthened management systems, coordination mechanisms, and information systems capacities.

Figure 8. Enabling factors emerging from the KVPVP coordination model

LAND RELEASE

1.1 End of extreme poverty

1.2 Reduce poverty by at least 50%

1.4 Equal rights to economic resources and access to basic services

1.5 Improved resilience, reduced vulnerability

2.1 Access to food

2.3 Doubling of the agricultural productivity

2.4 Sustainable food production

3.3 End of communicable diseases

3.4 Reduction of premature mortality through prevention and treatment

3.8 Access to essential health-care services

3.9 By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination

4.2 Equal access to quality pre-primary education

4.4 Increased number of skilled youth and adults

5.5 Women's full and effective participation at all levels of decision making

5.a Equal rights to economic resources, property ownership and financial services

6.2 Access to adequate and equitable sanitation and hygiene

6.4 Increased water-use efficiency

7.2 Increased renewable energy

8.1 Sustained economic growth

8.2 Increased economic productivity through diversification

8.3 Support for productive activities and decent job creation

8.5 Full and productive employment and decent work

8.a Universal access to banking

9.1 Equitable access to infrastructure

9.3 Increased access to financial services

9.4 Upgrade all industries and infrastructures for sustainability

10.1 Reduce income inequalities

10.2 Social, economic, political inclusion of all

10.3 Equal opportunities, reduction of inequalities

11.1 Access to adequate, safe and affordable housing

11.2 Access to safe and sustainable transport systems

11.5 Reduce the adverse effects of natural disasters

11.7 Universal access to public spaces

12.2 Sustainable management and efficient use of natural resources

13.1 Strengthen resilience and adaptive capacity to climate related disasters

15.3 Restoration of degraded land and soil

15.5 Protect biodiversity and natural habitats

16.1 Reduction of all forms of violence

Land release refers to the process of applying "all reasonable effort"[86] to identify, define, and remove all presence or suspicion of EO[87] through non-technical survey, technical survey, and/or clearance.[88]

Viet Nam applies a mix of non-technical survey (desk survey of records and field assessment), technical survey (systematic investigation with manual deminers), and full clearance to declare land safe.

Land release aims to reduce casualties caused by EO and it is therefore intrinsically linked to SDG 16 and its target 16.1, which aims to "significantly reduce all forms of violence and related death rates everywhere". However, the implications of land release extend well beyond physical safety alone. By enabling safe mobility, restoring access to land and natural resources, and allowing for the construction of housing, infrastructure, and productive assets, land release operates as a critical enabler of socio-economic development.[89]

In Viet Nam, the National Mine Action Programme for the period 2010–2025[90] identifies the reduction of EO threats as a key objective supporting socio-economic development, explicitly aligning mine action with government socio-economic development strategies and provincial development plans. Even though still in draft form at the time of writing, the forthcoming National Mine Action Programme for 2026–2045 further reinforces this development-oriented framing. The draft framework recognizes that EO contamination has broad implications for public health and socio-economic development, and outlines objectives that extend beyond land release alone. These include ensuring that all areas surveyed and cleared of explosive ordnance are also effectively utilized for socio-economic development and national security purposes, as well as guaranteeing that all EO victims have access to livelihood support and sustainable development services.

Through this lens, land release functions as a prerequisite for development rather than as an end in itself.

Land release under the KVPVP and KVMAP

Land release under the KVPVP provides a concrete example of how mine action is operationalized in alignment with socio-economic development objectives and, in turn, how it enables progress towards the achievement of the SDGs. While subsequent sections of this report examine specific coordinated outcomes implemented under the project, this section considers land release as an enabling process, with particular attention to prioritization mechanisms and foreseen post-clearance land use planning.

Prioritization under the KVPVP reflects a combination of criteria based both on contamination levels and on development prospects.[91] Decisions on where to conduct survey and clearance are informed not only by the extent of EO contamination and the history of accidents and incidents, but also by indicators of socio-economic vulnerability, including the share of poor households and the inclusion of provinces within national priority programmes for rural development. Importantly, land release activities under the KVPVP are required to align with local socio-economic development plans, which encompass land use planning, rural development strategies, poverty reduction objectives, and climate change adaptation measures. This alignment is intended to ensure that land release directly supports planned post-clearance land use, rather than resulting in isolated areas of safe but underutilized land.[92]

To ensure that the project was responsive to the needs of the most vulnerable populations within the target provinces, the baseline survey conducted by the UNDP incorporated explicit criteria related to ethnic minority representation,[93] recognizing that communities with high rates of ethnic minority residents often face compounded development challenges. In addition to survey design, KVPVP project monitoring and reporting include ethnicity-disaggregated data–most notably Output 2.1 on agricultural support, where disaggregation allows for tracking farmers among ethnic minority compared with other groups.[94]

Interviews with beneficiaries and government representatives further suggest that prioritization decisions are increasingly shaped by linkages to broader government programmes, including policies aimed at transitioning from temporary to permanent housing and at supporting long-term settlement in rural areas.[95] In several cases within KVPVP areas of intervention, land release is therefore planned to enable residential land use that aligns with legislation promoting safer and more durable housing, or to ensure that land can be retained by families for future generations, thereby reducing incentives for rural-to-urban migration.

Figure 9 presents the distribution of intended post-clearance land use across the project sites.[96] It should be noted that this distribution reflects planned land use as articulated in local socio-economic development and land use plans at the time of clearance. Therefore, it represents intended development trajectories rather than fully implemented land use outcomes at the time of writing. The planned allocation indicates that the largest share of released land is designated for agriculture, accounting for 32%, followed by residential areas at 25% and forestry at 22%, together reflecting a clear emphasis on livelihoods, settlement, and the sustainable management of natural resources. Smaller, yet significant, proportions of land are planned for public facilities (8%) and livestock farming (7%), underscoring the role of land release in supporting basic service provision and diversified rural economies.[97] By contrast, land earmarked for industry represents 5% of the total, while infrastructure accounts for 2% and tourism for 1%. This suggests that, within the KVPVP context, land release is primarily directed to address immediate socio-economic needs rather than large-scale commercial or extractive development. Figure 9 illustrates one of the ways in which land release under the KVPVP is a deliberately sequenced output into pre-identified development pathways, thereby reinforcing its function as an enabling condition for progress across multiple SDGs, particularly those related to food security, housing, access to basic services, and sustainable rural development.

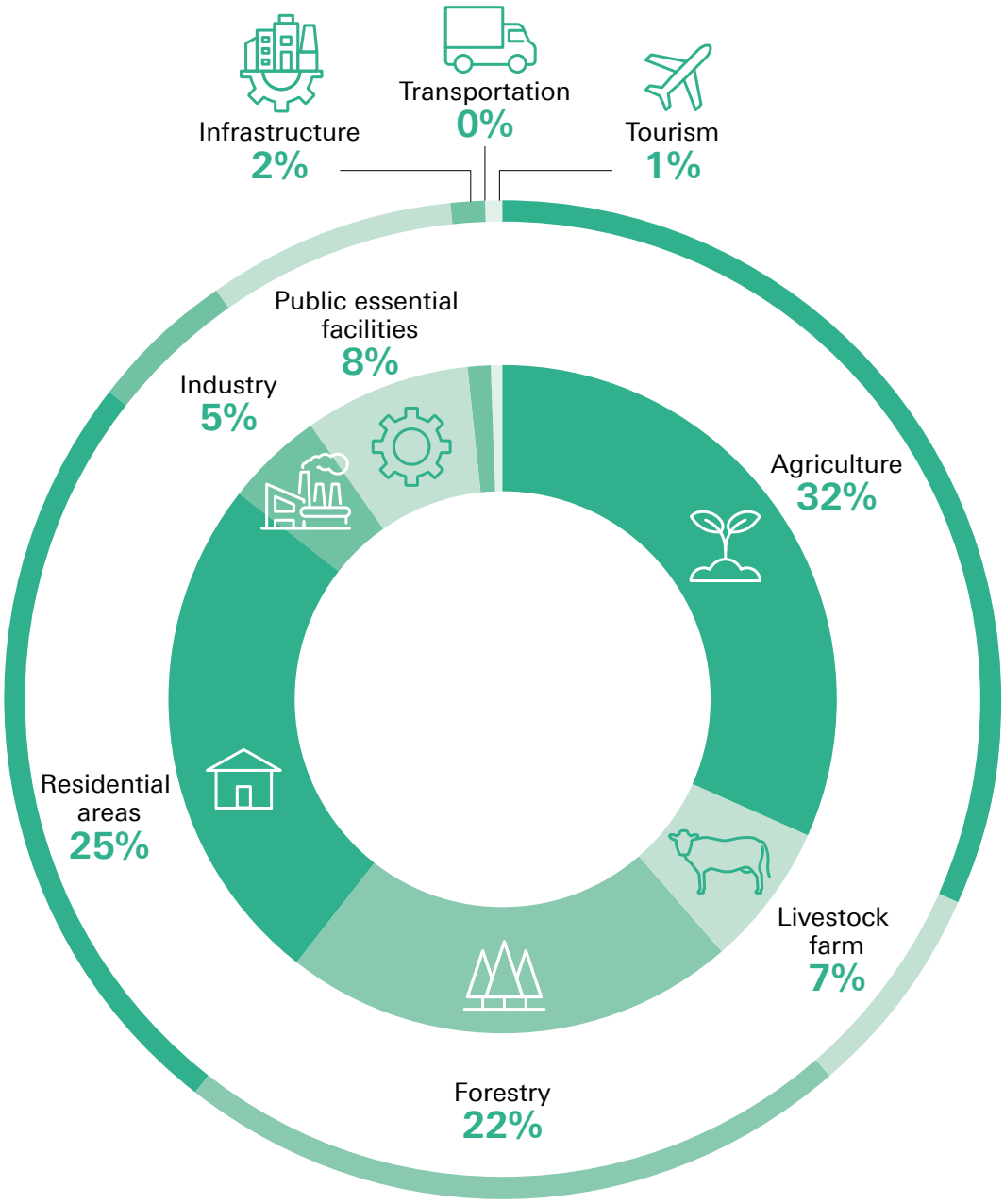

Figure 9: Intended post clearance land use plan for the KVPVP, 2024

Note: Developed by the KVPVP team based on the prioritization report.

In addition to the land release undertaken under the KVPVP, this study also considers the benefits generated through land released during the preceding phase of the programme, namely the KVMAP, which was implemented in the Quảng Trị and Gia Lai provinces. By the end of the KVMAP, a total of 16,759 hectares of land had been released through technical survey and clearance, accompanied by the destruction of tens of thousands of items of EO, including bombs, cluster munitions, projectiles, mortars, grenades, and rockets.[98] In aggregate, this corresponds to an area equivalent to approximately 23,604 football pitches, a scale that illustrates the intensity of historical contamination as well as the magnitude of the clearance effort required to address it.

Land selected for survey and clearance under the KVMAP was predominantly located in the less developed communities of the two provinces and was identified through a structured prioritization process jointly agreed by VNMAC, KOICA, and the respective provincial authorities. This process relied on a scoring system applied by VNMAC based on pre-defined criteria,[99] with final plans formally endorsed by the PPCs through a co-chairing arrangement.[100] Most of the cleared land was intended for agricultural use, although limited areas were also earmarked for other purposes, including the construction of flood-resilient housing, communal houses, and other public services.

Climate-resilient houses

The construction of CRHs under the KVPVP represents one of the clearest illustrations of how mine action, when sequenced with socio-economic and climate resilience interventions, can enable progress towards various SDGs. All three target provinces–Huế, Quảng Ngãi and Gia Lai–have long been characterized by recurrent exposure to flood and storm events, with households frequently experiencing structural damage, prolonged disruptions, and the progressive erosion of already scarce assets. A baseline survey undertaken by the UNDP in 2023 found that approximately 25% of respondents had "very serious" damage to houses as a result of natural disaster, with more than 30% estimating that they had lost around 50–70% of their asset value.[101] These vulnerabilities are compounded by the inconsistent application of safe construction standards across provinces (due to resource constraints and variability in local technical capacity), and by the limited technical and financial capacity of low-income families, who often resort to rebuilding using unsafe or temporary materials.[102] The result is a persistent cycle in which houses deteriorate rapidly, requiring repeated repairs or full reconstruction following extreme weather events, ultimately undermining adaptive capacity and perpetuating vulnerability.

As outlined in section 1, the climate-related vulnerabilities intersect acutely with Viet Nam's historical legacy of EO contamination. Across all three project provinces, families live on land where subsurface explosive hazards pose potential risks, not only to construction activities but also to daily use of the land for livelihood purposes. In addition, flooding events may cause the migration of EO into areas that were previously cleared or had not been affected by UXO,[103] thereby reintroducing risks in already fragile contexts. In such environments, the construction of durable housing without prior land release would expose households to the risk of harm and of undermining the sustainability of climate adaptation investments.

The design of the KVPVP directly responds to this challenge by ensuring that the construction of CRHs is preceded by non-technical and technical survey and the release of safe land. This sequencing establishes the essential precondition for constructing housing that is both physically resilient to climate shocks and demonstrably safe from residual explosive hazards. In doing so, the KVPVP positions mine action as an enabling function for climate adaptation, thereby advancing SDG targets 11.1 (Access to adequate, safe, and affordable housing), 11.5 (Reducing the adverse effects of natural disasters), 13.1 (Strengthening resilience and adaptive capacity to climate-related disasters), and 1.5 (Build resilience to environmental, economic, and social disasters).

Structurally, the CRHs aim at incorporating a range of resilient design features intended to address the specific climatic and environmental risks faced by the targeted communities. These include elevated and reinforced foundations to mitigate flood impacts, solid structural frames and walls to withstand storms, and a mezzanine level designed to shelter household members and protect essential belongings during flood events. Additional features–such as reinforced windows and doors, designated escape doors, and strengthened roofing systems–further enhance the safety and durability of the structures. These design adaptations enhance the longevity of housing assets and contribute to SDG targets 9.1 (Develop sustainable, resilient, and inclusive infrastructures), and 9.4 (Upgrade all industries and infrastructures for sustainability).

The process through which CRHs beneficiaries are selected further illustrates how the KVPVP operationalizes integrated mine action and development programming.[104] In particular, the project adopts a framework in which socio-economic vulnerability criteria are systematically combined with the presence of EO-contaminated land, and exposure to disaster-prone conditions. This dual lens is reflected in the prioritization of EO survivors and their family members, PwDs, women-headed households with dependents, households living in structurally unsafe shelters in areas affected by heavy rains

KVPVP Project 2025 © UNDP

and floods, poor and near-poor households, and ethnic minorities,[105] thereby enabling contributions towards SDG target 10.2 (Promote universal social, economic, and political inclusion). Furthermore, as one of the household selection criteria concerns women-headed households, the construction of CRHs also enables progress towards SDG target 5.a (Equal rights to economic resources, property ownership, and financial services), in alignment with government social protection priorities and creating entry points for considerations of gender and diversity being included in mine action operations.

Feedback collected from beneficiaries illustrates the impact that the construction of CRHs has on their daily life, well-being, and livelihood security. An elderly family member of an EO victim in Quảng Ngãi described constant anxiety during the rainy season, as their previous house was constantly subjected to roof leaking and water damaging the property during heavy rains and floods.[106] The new house, with reinforced roofing, elevated foundations and improved ventilation, has reduced not only physical exposure to climate and EO-related risks but also the psychological stress associated with impending storms. Several beneficiaries explicitly linked their improved living conditions to better health outcomes,[107] aligning with SDG targets 3.9 (Reducing illness and death from hazardous chemicals and pollutions) and 3.4 (Reduce mortality from non-communicable diseases and promote mental health).

Importantly, the security provided by durable housing has enabled some households to make complementary investments, such as improving kitchens and sanitation facilities or expanding small home-based businesses, occasionally through individual loans or public policy loans.[108] While these investments suggest increased confidence and longer-term planning consistent with progress toward SDG targets 6.2 (End open defecation and provide access to sanitation and hygiene), 2.1 (Universal access to safe and nutritious food), and 8.3 (Promote policies to support job creation and growing enterprises), monitoring findings also indicate that access to credit has posed repayment challenges for a subset of beneficiaries. This highlights the importance of accompanying housing support with financial literacy and livelihood strengthening measures to ensure sustainable outcomes.

Finally, beneficiaries reported reduced time spent on repairs, increased ability to pursue income-generating activities during the rainy season, and greater confidence to keep children and elderly family members at home during storms.[109] These outcomes reflect progress toward SDG target 1.4 (Equal rights to ownership, basic services, technology, and economic resources), 8.5 (Full employment and decent work with equal pay), and 10.1 (Reduce income inequalities) due to the increased labour productivity through reduced climate-related disruptions.

Ms Trí and her neighbour standing in front of the new CRH, October 2025 © GICHD

CASE STUDY 1
CLIMATE-RESILIENT HOUSING IN MỎ CÀY COMMUNE

Ms Trí, born in 1937, lives alone in the Mỏ Cày commune. She is the widow of an EO victim who died in 1978 after encountering UXO while working on the slopes of Văn Bàn mountain. Recognized by the commune as an indirect EO victim and as living in poverty, she was selected as a beneficiary of a CRH under the KVPVP, demonstrating how mine action information can help identify vulnerable households and ensure that development interventions reach communities most affected by the legacy of conflict.

The CRH was completed in 2024. In addition to project funding, the commune contributed complementary resources, which made it possible to increase the size of the house and include an indoor toilet, an important improvement for an elderly beneficiary living alone. Ms Trí reports feeling significantly safer and more comfortable in her new home and noted a reduction in chronic leg pain, which she attributes to improved living conditions and protection from dampness and cold. She also observed that the fence surrounding the house prevents vehicles from entering the immediate area, contributing to a greater sense of security.

Prior to the intervention, Ms Trí lived in a structurally unsafe house built of mud and clay, with a cement roof and walls at road level. The house was easily flooded during heavy rains and offered little protection from storms, conditions that had repeatedly exposed her to physical risk and material loss. The house is located approximately 2 to 3 km away from a former military outpost of the Saigon regime's army where clearance activities are ongoing.

Commune health stations

The construction and upgrading of CHSs under the KVPVP provides a second illustration of how the sequencing land release and development interventions can function as an enabler of sustainable development outcomes. In EO-affected rural contexts, primary healthcare facilities often operate at the intersection of multiple vulnerabilities, including the EO contamination, exposure to increasingly frequent and intense climate shocks. It is estimated that, by 2050, the impact of climate change could cost Viet Nam between USD 1 and 3 billion in additional healthcare costs.[110] These constraints tend to converge precisely at the level of CHSs, which often constitute the primary point of access to formal healthcare for rural populations in the country.[111]

Under the KVPVP, the expansion and upgrading of CHSs is implemented in communes affected by EO contamination, where mine action activities contribute to creating the safe conditions necessary for longer-term public infrastructure investment. The design and implementation of CHSs under the KVPVP aligns with the Ministry of Health's emphasis on strengthening primary healthcare in rural and mountainous areas. Constructions adhere to national standards promulgated by the Ministry of Health for facilities located in flood- and storm-prone areas, while also integrating accessibility requirements for PwDs.[112] These standards respond directly to recurrent service disruptions caused by extreme weather events, which have historically compromised the continuity of care.[113]

Empirical evidence from one CHS undergoing expansion illustrates this challenge: the existing facility, constructed in the early 2000s, prior to the update of the Ministry of Health standards, consists of undersized consultation rooms that fall below current national requirements, and are prone to water infiltration during heavy rainfall, undermining infection prevention and control. The expansion, only started following VNMAC certification to ensure staff and patient safety, addresses these limitations through reinforced concrete structures, increased spatial capacity, and improved internal layouts aligned with national standards.

The expansion of CHS contributes directly to SDG targets 9.1 (Develop sustainable, resilient, and inclusive infrastructures) and 3.8 (Achieve universal health coverage) by strengthening the physical and operational capacity of the facility to deliver essential services without creating additional barriers to the local populations. Increased space and improved layouts enable a higher number of patients to be covered in the area, improving quality of care by allowing for the construction of a vaccination and telehealth rooms. The telehealth service is particularly important in communities where seasonal flooding routinely disrupts access to in-person health services, forcing households to delay treatment or rely on informal and often inadequate alternatives.[114] In such contexts, climate-resilient

CHS Deputy Director in front of the new CHS that is currently being built in Ân Tường, October 2025 © GICHD

CHSs reduce spatial and social inequalities in access to healthcare, thereby contributing to SDG target 10.2 (Promote universal social, economic, and political inclusion).

In addition, the integration of solar panels further enhances the resilience of CHSs by addressing the problem of power outages during floods and storms, which pose significant risks to patient safety, particularly in emergency situations and for the storage of temperature-sensitive medicines and vaccines. By diversifying energy sources and reducing reliance on grid-dependent electricity, the project advances SDG target 7.2 (Increase global percentage of renewable energy), while simultaneously reinforcing SDG target 3.3 (Fight communicable diseases), insofar as reliable cold chains[115] are essential for disease prevention and routine immunization. Stable energy supply also underpins the functionality of telemedicine systems, which extend the reach of healthcare services to isolated populations and individuals with mobility constraints.

Water security constitutes another critical dimension of the renewed CHS. The installation of water treatment systems with filtration capacity ensures access to clean water within CHSs, even during flood events when surface and groundwater sources are compromised. This intervention enables SDG target 6.2 (End open defecation and provide access to sanitation and hygiene) by enabling hygienic service provision and reinforcing infection prevention measures.

Importantly, the climate-resilient CHSs are designed not only as healthcare delivery points but also as multifunctional community assets. Their structural robustness allows them to serve as temporary evacuation centres during floods and storms, thereby reducing disaster-related mortality and contributing to SDG target 11.5 (Reduce the adverse effects of natural disasters), while also contributing to SDG target 13.1 (Strengthen resilience and adaptive capacity to climate-related disasters).

The commune health station being built as an expansion to the old one on the right © GICHD

The commune health station being built © GICHD

Climate-resilient rural development and livelihoods

Among the sequenced outcomes supported under the KVPVP, rural development interventions linked to agriculture further demonstrate how land release can be translated into sustained livelihood gains when land release is intentionally sequenced and combined with targeted development support. Generally, land release removes the physical and psychological constraints associated with EO contamination, creating the pre-conditions for agricultural recovery when coupled with tailored support. To generate sustainable development outcomes, direct support must be specifically targeted. This includes enabling farmers to adopt new practices, invest labour and resources, and access structured agricultural interventions.

Under the outcome dedicated to rural development, the KVPVP seeks to enhance sustainable livelihoods by strengthening the resilience and productivity of agricultural systems in target communities.[116] The project design recognizes that farmers living in EO-affected areas face interlinked constraints, including the risk posed by contamination, increasing exposure to climate-related shocks, limited access to agricultural knowledge and production inputs, and weak market connections. In this sense, land release addresses the access and safety constraints, while the ensuing agricultural interventions aim to convert newly accessible land into a source of stable income, improved food security, and environmentally sustainable production.

To date, implementation has focused primarily on supporting farmers to adopt and scale up climate-resilient cropping systems and practices in Huế city and the Gia Lai province (see Table 3) complemented by initial efforts to improve access to markets and finance in the Quảng Ngãi province. Agricultural models were implemented on land that had previously been released, operationalizing the project's land release–development sequencing logic. These interventions combined technical guidance, provision of inputs, and structured training delivered through farmer field schools (FFSs).[117]

Location	Agricultural model	Year	Beneficiaries
Huế city	Climate-resilient rice cultivation using 3R3G	2024	197 households
Gia Lai	Climate-resilient rice cultivation using 3R3G	2023–2024 and 2024–2025	30 households (2023–2024), and 600 households (2025)
Gia Lai	i) Supporting VietGAP standards-compliant peanut production through provision of seeds and fertlizers; ii) Supporting climate-resilient rice cultivation through inputs and advanced Three Reductions, Three Gains (3R3G) techniques.	2023-2024	64 households
	(i) Promoting rice cultivation through Three Reductions, Three Gains (3R3G) technique; (ii) Supporting cost-efficient and climate-resilient peanut cultivation; (iii) Establishing VietGAP-certified vegetable production model; iv) Providing fertilizers, biological pesticides, and irrigation systems to improve and sustain organic coconut production; (v) Installing irrigation systems to support dwarf coconut production.	2024-2025	941 household

Table 3: Summary of agricultural models introduced under the KVPVP

Evidence from the climate-resilient rice model applying the "three reductions, three gains" approach illustrates how such interventions can generate increased productivity and environmental gains.

During the 2024–2025 season in Gia Lai, the model achieved average yield reached 7,659 kg/ha, which was 388 kg/ha higher than the control fields. With a selling price of VND 7,800 per kilogram, the total revenue of the model was VND 61,340,200 per hectare, exceeding the control by an average of VND 3,026,400 per hectare. In addition to higher yields, participating farmer reported optimized production cost due to lower use of seeds, fertilizers, and pesticides.[118] Similar patterns were observed in the peanut and coconut models introduced by the project. In peanut cultivation, the use of bio-based inputs and improved soil management practices resulted in stronger plant development and higher yields compared to farmers' previous practices, while reducing reliance on chemicals.[119]

Furthermore, in the dwarf coconut irrigation model, households adopting the water-saving irrigation system have recorded preliminary productivity gains of approximately 20–25% more compared to those using traditional irrigation methods, while also improving water-use efficiency.[120]

These outcomes contribute to SDG targets 2.3 (Double the productivity and incomes of small-scale food producers) and

2.4 (Sustainable food production and resilient agricultural practices) by promoting more resilient and sustainable food production systems. They also support SDG target 12.2 (Sustainable management and use of natural resources) through more efficient use of soil nutrients, water, and bio-organic inputs, while strengthening farmers' adaptive capacity to climate change in line with SDG target 13.3 (Build knowledge and capacity to meet climate change), and contributing to SDG target 15.3 (End desertification and restore degraded land) by improving soil management practices and reducing land degradation on previously contaminated land.

For the dwarf coconut irrigation model, as the tree are maturing, these results should be considered indicative and will be further validated through monitoring as the plantations reach full production. These early findings nevertheless suggest promising progress toward SDG target 6.4 (Increase water-use efficiency and ensure freshwater supplies).

Farmer field schools

Although FFSs are not directly linked to land release, they play an important supporting role in the process of ensuring that the land is used effectively and sustainably. By embedding practical training within the agricultural models introduced under the project, FFSs contributed to skills development and increased farmer confidence in continuing new practices independently.[121] From 2023 to 2025, almost 100 FFS sessions were conducted in Huế and Gia Lai, reaching more than a thousand farming households.

By engaging women and PwDs, the FFSs enabled progress towards SDG target 5.5 (Ensure full participation in leadership and decision-making) by promoting women's participation in economic life, while the acquisition of practical agricultural skills aligns with SDG target 4.4 (Increase the number of people with relevant skills for financial success) by enhancing relevant technical competencies for sustainable livelihoods.

Activities related to market access and micro-credit remain at an earlier stage of implementation, particularly in Quảng Ngãi, but initial engagement illustrates the project's intention to address structural barriers that often limit the long-term benefits of increased agricultural production.[122] By facilitating linkages among farmers, cooperatives, buyers, and financial institutions, these interventions aim to improve access to finance and markets, laying the groundwork for progress towards SDG targets 8.a (Universal access to banking, insurance, and financial services), 9.3 (Increase access to financial services and markets), as well as 10.1 (Reduce income inequalities) through income growth among poorer households. While the KVPVP's emerging work on market access and micro-credit creates the conditions for a strong contribution to the achievement of the above-mentioned SDGs, fuller realization will depend on expanded partnerships with cooperatives and financial institutions.

Spillover development outcomes beyond the formal scope of the KVPVP

In addition to the sequenced development outcomes designed and implemented under the KVPVP, land released has also enabled a range of spillover development effects that fall outside the formal intervention portfolio, yet still enabled progress towards the achievement of the SDGs. These outcomes are a good example of how land release can generate enabling conditions for livelihood, forestry, and housing initiatives that extend beyond the project's scope and timelines.

Across Huế city and Gia Lai province, interviews with beneficiaries indicated that the release of safe land increased their willingness to invest additional labour and resources in agricultural activities. Several farmers explicitly linked land release to a renewed sense of security that enabled them to expand cultivation, diversify crops, or shift from subsistence-oriented activities (such as cassava cultivation) to more market-oriented production.[123]

One female beneficiary, for example, described how land that had previously been left unused due to contamination concerns was brought into cultivation for passionfruit and pineapple farming following clearance, allowing her to transition from irregular wage labour towards more stable, self-managed agricultural production.[124] These dynamics contribute to SDG targets 1.1 (Eradicate extreme poverty) and 1.2 (Reduce poverty by at least 50%) through income generation and poverty reduction, as well as to SDG targets 8.1 (Sustainable economic growth) and 8.2 (Diversify, innovate and upgrade for economic productivity) by supporting increased labour productivity and diversification of rural economic activities.

In addition, acacia cultivation emerged as a recurring theme across multiple sites. In both the Mỏ Cày and Thọ Phong communes, acacia planting on cleared land was reported as a primary income-generating activity, giving access to wood supply chains linked to furniture, paper, and chopstick production.[125] Beneficiaries noted that, in some cases, acacia had been planted prior to clearance in some areas, with EO contamination limiting cultivation practices, including the depth of ploughing, thereby constraining productivity and increasing risk of harm.[126]

Through land release, farmers were able to conduct deeper soil preparation and safer land management, with households anticipating higher yields and incomes over the typical three- to five-year harvest cycle.[127] These dynamics contributes to SDG targets 2.4 (Sustainable food production and resilient agricultural practices) and 15.5 (Protect biodiversity and natural habitats), as safer and more sustainable land use contributes to reducing pressure on surrounding forest ecosystems.

Furthermore, after the release of land in the Ân Tường commune (former Đăk R'Măng commune, and hereafter Ân Tường), an area predominantly inhabited by the Bahnar ethnic minority, construction works by the local authorities began for new residential development, with sufficient housing space for approximately 40 households. This initiative aims both to improve housing conditions and help stabilize local settlement patterns. Local authorities consider that improved housing may reduce pressures to migrate from the village to bigger cities,[128] although broader socio-economic factors continue to influence household migration decisions.

While adults may remain with their parents even after marriage, authorities noted that new generations tended to move out following the birth of their children, with many opting to move to cities with more housing options. Therefore, by enabling the construction of new housing development, land release contributes to SDG target 11.1 (Safe and affordable housing), while also reinforcing SDG targets 10.1 (Reduce income inequalities) and 10.3 (Ensure equal opportunities and end discrimination) by supporting improved living conditions among lower-income and ethnic minority households.

CASE STUDY 2
COCONUT IRRIGATION IN THE HOÀI AN COMMUNE

In the former Hoài Ân district, mine action has enabled not only safer land use but also the transition toward more climate-resilient agricultural practices. Trung, a coconut farmer born in 1972, cultivates a 0.5-hectare dwarf coconut plantation that was established prior to land release activities conducted in 2024. While the land had already been under cultivation, its confirmed release from EO hazards created the conditions for targeted development support to enhance productivity and resource efficiency.

Following land release, the project supported the installation of a sprinkler-based irrigation system supplied through a borehole. The system significantly reduces the labour required to manually water coconut trees, which have high and regular water needs, while also improving water efficiency. In addition, the irrigation infrastructure allows fertilizer to be applied directly through the system, enabling more precise and timely nutrient management.

To ensure effective use of technology, Trung participated in an FFS programme consisting of three training sessions delivered between March and May 2025. The sessions focused on operating the irrigation system and on best practices for managing coconut plantations under local climatic conditions. Additional training on market access and micro-credit is planned, with the farmer expected to benefit from future financial support mechanisms.

Since adopting the irrigation system, Trung reports an increase in the number of coconuts successfully produced, reflecting improved growing conditions and more consistent water availability. Coconuts from the plantation are sold locally at approximately VND 6,000 per coconut during the low season and up to VND 8,000 during the summer months.

Mr Trung with a dwarf coconut tree and the water irrigation system in Hoài An commune, October 2025 © GICHD

Trung's experience reflects a broader pattern in the Hoài An commune, where land release has benefited 40 households across approximately 6 hectares of land. It illustrates how land release, when combined with targeted technical assistance and training, can support more productive, less labour-intensive, and climate-resilient agricultural systems–linking mine action directly to sustainable rural development outcomes.

Land release under the KVMAP

Despite the scale of land release achieved under the KVMAP, comprehensive data linking released areas to specific socio-economic development outcomes were not always available, which made it difficult to systematically assess and qualify the contribution of mine action activities to concrete outcomes and longer-term impacts.[129] Nevertheless, this section will explore some specific long-term development effects enabled by land release under the KVMAP, where they are discussed in terms of infrastructural developments, road construction, housing projects, and agriculture.

In the Gia Lai province, particularly in the former Hoài Nhơn and Phù Mỹ districts, land released under the KVMAP enabled the development of industrial zones aligned with provincial economic planning. In the village of Dai Thành and its surrounding areas, survey and clearance conducted between 2019 and 2020 facilitated the establishment of industrial facilities, including textile manufacturing and food processing plants. These developments were also complemented by the installation of electricity lines and the construction of internal access roads. Local authorities consistently emphasized employment creation as a primary benefit.[130] These outcomes contribute to SDG target 8.3 (Promote policies to support job creation and growing enterprises), while also aligning with SDG target 9.1 (Develop sustainable, resilient, and inclusive infrastructures).

Land release under the KVMAP also facilitated road construction in Gia Lai. In several locations (including the villages of Phu My Nam commune, and Bồng Sơn ward, and the former Hoài Nhơn district), released land was used to construct or upgrade roads linking agricultural areas, industrial sites, and residential zones to local markets. Communal authorities highlighted that, prior to land release, the presence of EO constrained both road construction and routine maintenance, particularly in areas affected by seasonal flooding and landslides.[131]

Improved road access facilitated the movement of agricultural products and equipment and enabled the implementation of planned road, railway, and industrial developments identified in provincial land use plans. These outcomes contribute to SDG targets 9.1 (Develop sustainable, resilient, and inclusive infrastructures) and 11.2 (Affordable and sustainable transport systems).

In addition, in Gia Lai, land release directly supported housing projects designed to reduce exposure to flooding and storms. In the Cat Nhơn commune, 29 households were relocated from flood-prone lowland areas to higher ground cleared of EO. Beneficiary accounts describe a marked reduction in seasonal displacement and loss of assets, with families receiving land plots and financial support to construct permanent housing ahead of the flood season.[132]

These outcomes illustrate a clear linkage between land release and SDG targets 11.1(Safe and affordable housing), while also contributing to SDG target 13.1 (Strengthen resilience and adaptive capacity to climate-related disasters).

Agriculture represents the most widespread development outcome associated with land release under the KVMAP across both provinces. In the former Hoài Nhơn and Phú Mỹ districts, released land has been brought back into productive use for rice cultivation, forestry, and crops–such as acacia, sandalwood, cassava, and maize. Communal authorities reported that land release enabled the use of agricultural machinery, deeper ploughing, and irrigation systems, which were previously avoided due to fear of EO.

In the former Hoài Nhơn district, farmers reported an increase from two to three rice harvests per year following clearance and associated infrastructure investments, with yields rising from approximately 6 to 6.5 tonnes per hectare to around 7 tonnes. Similar productivity gains were reported in forestry, where acacia plantations established on released land are expected to generate increasing incomes. These outcomes contribute to SDG targets 2.3 (Double the productivity and incomes of small-scale food producers) and 2.4 (Sustainable food production and resilient agricultural practices).

At the household level, beneficiaries consistently emphasized improved perceptions of safety as a prerequisite for livelihood recovery. Formerly abandoned or cautiously cultivated land could be farmed with greater confidence, reducing risk-taking behaviours (such as shallow ploughing or avoiding certain plots of land), reflecting reduced perceived risk after certification of released land and improved confidence in long-term land use

In the Quảng Trị province, the release of 17 hectares in the commune of Thượng Trạch has allowed provincial authorities to allocate land for the construction of a kindergarten and a communal cultural house in a mountainous border area inhabited entirely by ethnic minority communities.[133] Prior to land release, children faced significant barriers to early childhood education due to distance, lack of transport, and the absence of permanent facilities.

The construction of these facilities contributes to SDG target 4.2 (Equal access to quality pre-primary education), while the cultural house supports SDG target 11.7 (Provide access to safe and inclusive green and public spaces).

Sector	Province	Type of development enabled	Associated SDG targets
Industrial development	Gia Lai	Establishment of industrial zones, textile manufacturing, food processing plants, electricity lines, and internal access roads	8.3 and 9.1
Transport infrastructure	Gia Lai	Road construction and upgrading	9.1 and 11.2
Housing	Gia Lai	Relocation housing on released land to mitigate flood and storm risks	11.1 and 13.1
Agriculture and livelihoods	Gia Lai and Quảng Trị	Released land use for rice cultivation, forestry and crops	2.3 and 2.4
Community infrastructure	Gia Lai and Quảng Trị	Construction of a kindergarten and a communal cultural house; sport complex	4.2 and 11.7

Table 4: Summary of development outcomes enabled by land release under the KVMAP

Finally, land release under the KVMAP has contributed to visible spatial transformation in Quy Nhơn, in the Gia Lai province, where satellite imagery from 2019 to 2025 documents the conversion of previously contaminated land into urban infrastructure, including a sports complex and a new housing development (see Figure 17). The comparison illustrates how mine action can function as a necessary precondition for urban expansion and land use change in rapidly developing coastal cities. These developments align with SDG targets 11.1 (Safe and affordable housing) and 11.7 (Provide access to safe and inclusive green and public spaces).

2019

2025

Figure 10: Satellite imagery of Quy Nhơn in the Gia Lai province (2019 and 2025)

CASE STUDY 3
FROM LAND RELEASE TO LIVELIHOOD EXPANSION THROUGH SMALL-SCALE SNAIL FARMING

In the former Phú Mỹ area, land release under the KVMAP translated into new livelihood opportunities for Mr Thong, who lives with his wife and two kids on land that was cleared between 2018 and 2021.

Prior to land release, the family used the land cautiously due to the risk of encountering EO, avoiding activities that required significant ploughing. Following confirmation that the land was safe, Mr Thong and his family were able to reconfigure its land use and invest in a new income-generating activity: small-scale snail farming for local markets. Using newly accessible land, Mr Thong excavated eight ponds, each incorporating water lilies to filter water and provide a natural food source for the snails. This approach reduced production costs while allowing the ponds to operate as largely self-sustaining units.

Each pond produces approximately 100 kg of snails, resulting in an estimated 30% increase in household income compared to pre-land release activities. Land release also enabled the cultivation of additional crops, including mango, jackfruit, and acacia, which had not previously been grown on the land, thus diversifying income sources and strengthening household resilience. Existing pepper cultivation, practiced for approximately eight years, has continued alongside the new aquaculture activity.

Mr Thong next to one of his snail ponds, October 2025 © GICHD

EXPLOSIVE ORDNANCE RISK EDUCATION

4.5 Equal access to all levels of education

4.7 Universal knowledge to promote sustainable development

5.1 End all forms of discrimination against all women and girls

10.2 Social, economic, political inclusion of all

10.7 Safe migration and mobility

11.5 Reduce the adverse effects of natural disasters

13.1 Strengthen resilience and adaptive capacity to climate related disasters

13.3 Build knowlegde and capacity to meet climate change

16.1 Reduction of all forms of violence

16.6 Development of accountable institutions

17.6 Access to resources through North-South, South-South and triangular cooperation

17.16 Enhanced global partnership for sustainable development

17.17 Effective public, public-private and civil society partnerships

What is EORE?

EORE refers to activities which seek to reduce the risk of injury from EO by raising awareness of women, girls, boys and men in accordance with their different vulnerabilities, roles and needs, and promoting behavioural change. Core activities include public information dissemination, education and training.[134] These interventions can contribute to the operationalization of land release activities and promote their acceptance and support within affected communities while ensuring behaviour change accompanies increased physical safety.

Given the persistent presence of EO contamination in Viet Nam, the effective implementation of EORE is vital for preventing harm to EO-affected communities. EORE is designed to promote safe behaviour and reduce risks for those living or moving in proximity to potentially EO-contaminated zones. In doing so, EORE activities contribute to SDG target 16.1 (Reduce violence everywhere). At the same time, effective EORE enables communities to travel and undertake daily activities in greater safety, contributing to SDG target 10.7 (Safe migration and mobility). Both the KVMAP and KVPVP projects included EORE, with outputs including the development of EORE strategies, design of EORE materials and manuals, capacity-building training for EORE trainers and relevant stakeholders, targeted mass media campaigns, as well as EORE training and awareness events. Over the course of the KVMAP project, almost 300 EORE events were organized for over 450,000 beneficiaries including local residents and students in the Quảng Trị and Gia Lai provinces. The project also provided training of trainers (ToT) to 345 participants working across 49 communes and 113 schools. School teachers were identified as target communicators for EORE, and 5,373 teachers were trained to implement EORE in schools. Surveys conducted in Quảng Trị and Gia Lai showed significant impacts, with improvements in both knowledge on EO risks and changes in attitudes toward EO contamination.[135]

In the KVPVP project, EORE is integrated into Outcome 1, focusing on human security. Initial assessments suggested low levels of knowledge about EO risks among affected populations.[136] Provinces included in the KVPVP, including Quảng Ngãi and Huế, also lacked extensive EORE programmes in the past, due to limited coverage in remote communes and resource constraints.[137] The KVPVP presents a targeted approach to EORE, as per best practices, with a focus on communities particularly impacted by EO contamination, as well as individuals and groups living in isolated or difficult-to-reach areas without regular access to communication technology. Primary and secondary schoolchildren are considered a priority group, since they are particularly vulnerable to EO accidents.[138]

While many activities undertaken under Outcome 1 match those implemented under the KVMAP, the project benefited from the findings of baseline and endline assessments undertaken in the previous project. In addition to supporting the design of province-level EORE training courses, developing a national work plan, providing ToT, and holding EO awareness-raising events, the KVPVP has strengthened EORE capacity for national and provincial authorities. The project has also continued partnering with local community groups, including women's and youth societies, and civil society organizations to spread integrated risk education messaging. This strategy has supported outreach to priority groups and improved the adaptation of training for the most vulnerable, particularly schoolchildren, through the use of focus groups and youth consultations.[139]

Interviews with key beneficiaries suggest that KVPVP activities have had a positive impact in strengthening EORE by local stakeholders. In Mỏ Cày, the Deputy Chair of the Communal Women Union noted that the ToT course she attended was the first time she had learned about EO contamination or the correct behaviour around potential EO hazards. Her union covers 14 villages in the province, spreading messages on a range of topics including flooding and swimming safety as well as climate hazard information. Although the interview illustrated that further guidance from the project in terms of communication planning–as well as adapted EORE guidance for crop harvesting–could prove useful, the ToT was an important first step to support her organization to promote safe behaviour.

Similarly, feedback from teachers suggests that ToT has enabled EORE messaging to be successfully integrated into school curricula with the use of visual aids, games, and role-playing to adapt better to audiences. Teachers suggested that children demonstrated positive behaviour change and that messaging successfully spread to other family members through the medium of school lessons. Meanwhile, the broad messaging on EORE need at higher levels has ensured that risk education programmes are integrated into annual school planning, improving the likelihood for sustainability of these courses.[140]

As noted above, EORE sessions have been integrated into other local community outreach sessions on important topics, including accident and injury prevention, drowning prevention, and disaster risk reduction. For example, EORE messages are incorporated into existing training sessions for farmers, enabling the programme to reach target groups more effectively, while minimizing additional time demands on community members. This aligns with the government's strategy to address multiple hazards through risk education.[141] Accordingly, ToT courses under the KVPVP have also integrated such topics in addition to EORE to support the broader protection of communities from dangers posed by climate hazards.

The integration of EORE into existing communal activities and social groups strengthens the sustainability of these programmes and supports the development of safe and inclusive environments for training. Such practices have enabling effects on SDG targets 4.7 (Universal knowledge to promote sustainable development), 5.1 (End discrimination against women and girls), 11.5 (Reduce the adverse effects of natural disasters), 13.1 (Strengthen resilience and adaptive capacity to climate-related disasters), 13.3 (Build knowledge and adaptive capacity to climate-related disasters), and 17.17 (Encourage effective partnerships). Although not considered a priority group, EORE communicators also noted that efforts were made to reach PwDs with EORE messaging through door-to-door campaigns, contributing to SDG targets 4.5 (Eliminate all discrimination in education) and 10.2 (Promote universal social, economic, and political inclusion of all).[142]

KVPVP programming also included higher-level strategic support for the development of EORE training guidelines, provincial EORE work plans, and a national EORE strategy.[143] Inputs from the UNDP on the national strategy focused on advice and expertise to ensure an adherence to international best practices regarding results-based management and monitoring and evaluation, as well as gender and diversity inclusion, contributing to SDG targets 16.6 (Develop effective, accountable and transparent institutions) and 17.16 (Enhance the Global Partnership for Sustainable Development). Although work on the strategy is ongoing, support for national planning can ensure longer-term effectiveness of EORE activities, while ensuring coherence across provincial work plans.

Overall, the support provided for EORE through the KVPVP project centres on local capacity development and the empowerment of local actors and partnerships. The focus on strategic support, building knowledge on EORE at both national and provincial levels, and strengthening capacities of communicators and teachers, demonstrates a clear aim to strengthen the nationalization of EORE efforts. In addition to enabling longer-term sustainability of EORE programmes, this approach bolsters cooperation and contributes to SDG target 17.6 (Knowledge sharing and cooperation for access to science, technology and innovation).

Focus group discussions held in the Ân Tường Dong commune on 30 October 2025 © UNDP

VICTIM ASSISTANCE

1.3 Implementation of social protection systems and measures

1.4 Equal rights to economic resources and access to basic services

1.5 Improved resilience, reduced vulnerability

2.1 Access to food

3.3 End of communicable diseases

3.8 Access to essential health-care services

3.c Increased health financing and health workforce

10.2 Social, economic, political inclusion of all

10.3 Equal opportunities, reduction of inequalities

16.6 Development of accountable institutions

17.9 Enhanced international support for capacity-building

17.18 Capacity-building support to improve access to and quality of data

What is victim assistance?

Victim assistance refers to efforts made to meet the "short, medium and long-term needs of women, girls, boys and men who have been injured by EO and have suffered physical, mental, and/or sensory trauma as a result, while also addressing affected families and communities".[144]

Effective victim assistance is an integral aspect of mine action, ensuring that EO survivors and their families are supported to have full and meaningful lives. Victim assistance activities contribute to the fulfilment of Article 4 of Viet Nam's Law on Persons with Disabilities which guarantees PwDs' rights to equal social participation, to independent life, and to be provided with required social, health, and economic assistance.[145] In the longer term, these activities can enable victims to move on from conflict and repair livelihoods which have been lost or negatively impacted. While victim assistance is a life-saving activity, especially in the context of emergency care in the event of an EO-related incident, it is also a vital activity enabling sustainable development and post-conflict justice. Effective assistance for victims is a long-term commitment that implies support beyond immediate medical aid.[146]

Both the KVMAP and KVPVP projects recognize the importance of integrated approaches to victim assistance, considering the different needs of EO survivors, from medical rehabilitation and psychosocial support to livelihoods support and social assistance.[147,148] Across the provinces within the scope of these projects, the need for data on EO survivors was identified as a necessary starting point to inform the design of activities. Both projects prioritized the establishment of databases of PwDs, including EO survivors in order to identify needs based on victims' disaggregated data.[149] A centralized system to consolidate databases across different regions of Viet Nam is under development.

The KVMAP project successfully identified and logged 31,121 PwDs in Quảng Trị, including 4,600 EO survivors, and 43,827 PwDs in Gia Lai, including 4,540 EO survivors.[150] The database was launched by the Department of Social Assistance in January 2020, and a mobile application was also created to facilitate future registrations and to increase accessibility for PwDs and EO survivors, particularly those living in remote areas. In so doing, this solution aims to reduce barriers to accessing support and contributes to SDG target 10.2 (Promote universal social, economic, and political inclusion) and 1.4 (Equal rights to ownership, basic services, technology, and economic resources). The support provided for enhancing the collection of disaggregated data also contributes to SDG target 17.18 (Enhance availability of reliable data).

The information gathered from the databases generated concerns regarding the impact of the COVID-19 pandemic on PwDs, leading to a rapid assessment of needs and the distribution of emergency packages of assistance to approximately 6,000 PwDs, including EO survivors. Analysis

of the information from the database, alongside needs assessments, further demonstrated a potential gap in social assistance provision for EO survivors, due to the fact that government assistance is restricted to those with "profound or severe" disabilities.[151] This criteria limits assistance to PwDs whose disabilities cause either partial or full loss of functional capacity and who are unable to perform daily activities, such as dressing or self-care without assistance from another person. The analysis also found that EO survivors prioritized the need for general healthcare, as well as rehabilitation support and prosthetics. As a result, over 1,000 EO survivors were given healthcare screenings, with 176 of them prescribed prosthetic devices.[152]

These activities showcase the importance of data collection and analysis for ensuring victim assistance is well-targeted. By providing medical care and reducing the vulnerability of EO survivors during the COVID-19 pandemic through food and sanitation packages, these solutions contributed to SDG targets 1.3 (Implement social protection systems), 1.5 (Build resilience to environmental, economic and social disasters), 2.1 (Access to food), 3.3 (End of communicable diseases), and 3.8 (Achieve universal health coverage). The analysis of data on EO survivors also fed into the development of 2025 provincial victim assistance implementation plans for both Huế , Gia Lai and Quảng Ngãi.

For the ongoing work under the KVPVP, profiling assessments and PwD data collection is also expected to feed into victim assistance action plans for the Quảng Ngãi and A Lưới communes (Huế city).[153] As of September 2025, 340 EO survivors from targeted communes in Huế had been registered in the system, as well as 111 EO survivors in Quảng Ngãi.[154] These action plans are expected to integrate priority areas identified through the data collection, including rehabilitation, access to healthcare and social protection, and economic and livelihood inclusion.[155] In addition, survivors in cleared areas benefit from reduced mobility constraints, which facilitates their participation in agricultural training, FFSs, and local labour market.

Needs assessments have also informed planning for rehabilitation support in Huế and Quảng Ngãi, as well as an innovative project proposal on victim assistance in A Lưới, which integrates activities across livelihoods, health, and economic inclusion.[156] These proposed plans, along with ongoing consultations into the potential for agriculture-focused livelihood models, could enable a number of impacts across SDGs relating to poverty, health, equality, responsible production, and jobs and economic growth.

As part of the KVPVP, the UNDP has begun exploration into the potential integration of 3D-printed prosthetics into the medical and rehabilitation support provided to EO survivors with amputations. In March 2025, it participated in a mission by Gongsaeng, a South Korean social enterprise specializing in assistive technologies and innovative rehabilitation solutions. The company develops customized devices including 3D-printed prosthetic arms designed to meet users' specific functional needs, such as handling farming tools or kitchen utensils, and operates "a living lab" approach to address practical challenges faced by PwDs in daily life. During the mission, these prosthetics were piloted with the two EO survivors in need of prosthetics for upper limb amputations. While a potential partnership with Gongsaeng remains under discussion, initial feedback from survivors suggests this support could have significant impacts for improving the well-being of EO survivors requiring prosthetics.

Unlike traditional prosthetic limbs, 3D-printed prosthetics can be tailored to the specific needs of PwDs, enabling activities that would be otherwise impossible, such as riding scooters. The provision of effective prosthetics as well as longer-term medical support and oversight remains an important issue for EO survivors, as feedback suggests that some have been unable to replace prosthetics that are no longer functional, while others remain unable to access prosthetics altogether.[157] Therefore, effective support for prosthetics would have a significant impact for SDG target 3.8 (Achieve universal health coverage). The provision of effective assistive technologies also enables other aspects of well-being for PwDs by improving functional capabilities for different aspects of daily life including employment, movement, etc. In this way, prosthetics can also enable SDG target 10.3 (Ensure equal opportunities and end discrimination). In addition to this support, discussions also included the potential for opening 3D-printing labs in Viet Nam, where local staff could be trained to print prosthetics designed from Seoul, allowing for more efficient production as well as increasing local expertise. This consideration reflects a key aspect of sustainable development; that is, the exchange of knowledge and development of local capacities.

Accordingly, the KVPVP also continued the focus on capacity-building for victim assistance which began during the KVMAP project. For instance, a UNDP-supported government training for social workers aimed at raising capacities to provide social assistance for PwDs and EO survivors. These events, organized across nine sessions in Gia Lai, Quảng Ngãi, and Thừa Thiên Huế at the end of 2024, were led by the Department of Social Assistance and reached 521 social workers in total. Previous training has also covered the use of data collection software for the KVMAP.

Similar training is planned for the KVPVP, in combination with outreach campaigns to increase the number of PwD registrations in the targeted communes. This focus on building national capacities contributes to SDG targets 3.c (Increase health financing and support health workforce in developing countries), 16.6 (Develop effective, accountable, and transparent institutions), and 17.9 (Enhance SDG capacity in developing countries).

KVPVP Project 2025 © UNDP

CONCLUSIONS AND RECOMMENDATIONS

While the nexus between mine action and sustainable development is increasingly well recognized, practical implementation remains a challenge. The KVPVP provides a concrete example of how this linkage can be operationalized when supported by appropriate enabling factors. By combining mine action and sustainable development activities under a single model, this project has enabled the sequencing of targeted development interventions and the sustainable and productive use of land. Using the SDG framework, the KVPVP and KVMAP were found to contribute to 16 SDGs and to at least 69 of their targets, benefiting the five critical dimensions of the 2030 Agenda: partnership, peace, people, planet, and prosperity.

The implementation of the KVPVP illustrates how collaboration among national authorities, development partners, and local stakeholders can strengthen national and local capacities while supporting context-responsive approaches. A central innovation of the project lies in the coordinated mechanisms linking mine action and development planning, which enables national priorities to be translated into operational activities at provincial and communal levels. By creating structured vertical and horizontal mechanisms for coordination across policy and governance levels, the project helps ensure that the mine action and development sectors do not operate in isolation and that their respective interventions reinforce one another to maximize benefits for affected populations. Sustaining these efforts will require continued financial support, improved data collection and information management, and ongoing capacity development for national mine action institutions.

Furthermore, the KVPVP illustrates the nexus between mine action and development through several complementary pathways observed across different interventions. First, some of the targeted development interventions were implemented on previously released land, demonstrating the importance of deliberate sequencing between land release activities and rural development initiatives. Second, further integration occurred through beneficiary prioritization, whereby for some of the activities EO victims were prioritized in the design and implementation of development interventions, ensuring that those most directly affected by contamination could benefit from the project activities. Third, in some cases programming decisions reflected the prioritization of areas historically affected by EO contamination and vulnerability to climate-related hazards. In these areas, development interventions were implemented within a broader framework linking mine action, community resilient to climate change, and rural development objectives.

Finally, through the SDG framework, the international community and key stakeholders can increase cross-cutting policy coherence, evidence-based planning, reporting, and data collection to help integrate mine action activities into national SDG efforts and enhance their visibility and funding opportunities.

The KVPVP model demonstrates a viable approach for integrating sustainable development and mine action outcomes in practice. The following recommendations pertain to key lessons learned that may facilitate the design and implementation of similar integrated models in other contexts.

1. Embed mine action within integrated development programming and policy frameworks

Mine action programmes should be systematically designed and implemented in alignment with national socio-economic development strategies, rather than as stand-alone humanitarian interventions. When integration is embedded across the full life cycle of the programme (needs assessment, prioritization, implementation, and monitoring), development outcomes become explicit measures of success rather than incidental by-products.

At the policy level, greater coherence should be ensured between national and provincial mine action strategies (including EORE and victim assistance), as well as national and local development planning instruments, such as socio-economic development plans, climate adaptation strategies, and sectoral investment plans. This alignment strengthens the role of mine action as an enabling condition for sustainable development and supports more effective sequencing of interventions.

2. Strengthen cross-sectoral and multi-level coordination mechanisms

Effective integration of mine action and development interventions depends on clear, structured, and institutionalized coordination between mine action stakeholders and local government bodies involved in development. Coordination mechanisms should operate both horizontally–across sectors, such as agriculture, housing, health, and infrastructure–and vertically, linking national policy frameworks with provincial and commune-level implementation.

Importantly, coordination should extend beyond strategic forums to programmatic and operational levels, enabling routine information exchange, joint planning, sequencing of land release and development activities, and transparent decision-making. Strengthening both horizontal and vertical coherence reduces duplication, helps to identify synergies, and mitigates potential trade-offs between mine action and development objectives.

3. Reinforce national and local ownership of integrated mine action models

Sustained impact requires strong national and local ownership of integrated mine action programmes. National institutions and subnational authorities should play a leading role in decision-making, programme design, and coordination, supported by inclusive consultation processes with affected communities.

Ownership should be accompanied by targeted capacity development, particularly in relation to new coordination mechanisms, data use, and results-based management. As integrated approaches often require changes to established institutional practices, adequate time and resources should be allocated for piloting, learning, and institutional adaptation.

4. Institutionalize transparent and evidence-based prioritization

Structured and decentralized prioritization processes are essential to balance national strategic objectives with differentiated local needs. National frameworks should provide clear guidance and criteria, while allowing sufficient flexibility for provinces and communes to reflect local socio-economic, environmental, and demographic conditions.

Prioritization should also be informed by robust needs assessments and the systematic use of transparent, disaggregated data, including socio-economic indicators (such as poverty levels, vulnerability criteria (age, gender, disability status, ethnic minority status, displacement status, etc.), and access to basic services) alongside mine action data. Explicitly integrating development indicators into prioritization processes, while considering national development and environmental planning, can further strengthen the role of mine action as a catalyst for wider development outcomes.

5. Enable financing and partnerships that support integrated approaches

Long-term commitment of donors is critical to the viability of integrated mine action and development models. Financing modalities should allow for multi-sectoral programming, flexible sequencing, and longer implementation horizons that reflect the timeframes required for development outcomes to materialize.

In parallel, partnerships should be expanded beyond traditional mine action actors to include line ministries, development agencies, financial institutions, civil society organizations, and private sector actors. Such partnerships can bring sector-specific expertise–particularly in areas such as victim assistance, livelihoods, housing, and climate adaptation–and enhance the sustainability of results.

6. Strengthen data integration and results-based monitoring frameworks

Monitoring, evaluation, accountability and learning (MEAL) systems should move beyond activity-level outputs to capture socio-economic outcomes and longer-term development effects. Integrating mine action data with sectoral development data–at the national and subnational levels–would enable more robust impact measurement and policy learning.

Harmonized mine action indicators aligned with socio-economic ones, combined with qualitative evidence from affected communities, can support institutional accountability and inform adaptive programme management. Investment in interoperable data systems and analytical capacity is therefore essential.

7. Promote learning, documentation, and policy uptake

Systematic documentation of lessons learned from integrated programming should be prioritized. This includes both successes and implementation challenges related to coordination and sequenced implementation. Translating operational experience into policy-relevant guidance can support replication, scaling-up, and informed decision-making within Viet Nam and across the international mine action community.

ENDNOTES

1 The KVPVP is currently undergoing a no-cost extension through 2027, in accordance with the decision of the Joint Project Coordination Committee.

2 UNDP, "Korea-Vietnam Mine Action Project".

3 Ibid.

4 GICHD and UNDP, 2017, *Leaving No One Behind: Mine Action and the Sustainable Development Goals*.

5 Markus Schindler, 2023, "Mine Action and the Triple Nexus", *JMU*, 24 February 2023.

6 GICHD, 2008, *Linking Mine Action and Development: Humanitarian and Development NGOs*; GICHD, 2009, *Linking Mine Action and Development: Official Development Cooperation Agencies*.

7 In September 2000, the UN Member States adopted the United Nations Millennium Declaration to reduce extreme poverty, hunger, and child mortality as well as to promote gender equality, and all this through a global partnership. The Declaration set out eight measurable goals, known as the Millennium Development Goals, to be reached by 2015.

8 UN General Assembly, 2015, resolution 70/1, *Transforming Our World: The 2030 Agenda for Sustainable Development*, A/RES/70/1.

9 UN General Assembly, 2015.

10 UN General Assembly, 2015.

11 In line with the definition of impact evaluation in IMAS 14.10:2025, *Monitoring, Evaluation, Accountability and Learning in Mine Action*.

12 Allen & Gledhill, "Significant Restructuring of Vietnam Government Underway".

13 *AlJazeera*, "Record Rains Drive Flooding in Viet Nam, Submerging Ancient City", 28 October 2025.

14 Thuy Ngoc Nguyen, Tuyen Quang Tran, and Huong Van Vu, 2022, "Unexploded Ordnance Contamination and Household Livelihood Choice in Rural Vietnam", *Russian Journal of Economics* 8 (3): 276–294.

15 Britannica, "Indochina wars".

16 VNMAC, *Summary Report of the National Mine Action Program for the 2010–2025,* unpublished report, emailed by UNDP to the author, 2025.

17 Mine Action Review, 2024a, "Clearing Cluster Munition Remnants 2024: Vietnam".

18 Mine Action Review, 2024a.

19 Mine Action Review, 2024a.

20 Mine Action Review, 2024a.

21 Edward Miguel and Gérard Roland, 2011, "The Long-Run Impact of Bombing in Vietnam", *Journal of Development Economics* 96 (1): 1–15.

22 Mine Action Review, 2022, "Clearing Cluster Munition Remnants 2022: Vietnam". To date, Viet Nam has not officially published data on this matter.

23 Mine Action Review, 2022.

24 Mine Action Review, 2024b, "Clearing the Mines 2024: Vietnam". To date, Viet Nam has not officially published data on this matter.

25 Mine Action Review, 2024b.

26 Apopo, "GFFO Funded Project".

27 NPA Vietnam, 2022, "Recommendations for the Development of Mine Action in Vietnam: Towards 2045".

28 World Population Review, "Vietnam".

29 World Bank Group, 2023, "Vietnam", Poverty and Equity Brief, East Asia and the Pacific.

30 World Bank Group, 2023.; Hong Anh Tuan, 2009, "Doi Moi and the Remaking of Vietnam", *GlobalAsia* 4 (3): 37–41.

31 Sudhanshu Singh, 2025, "Vietnam's Economy in H1 2025: Inflation, Trade, FDI, and Business Trends", *Vietnam Briefing*, 10 July 2025.

32 Thuy Ngoc Nguyen, Tuyen Quang Tran, and Huong Van Vu, 2022, "Unexploded Ordnance Contamination and Household Livelihood Choice in Rural Vietnam", *Russian Journal of Economics* 8 (3): 276–294.

33 Shiqi Guo, 2020, "The Legacy Effect of Unexploded Bombs on Educational Attainment in Laos", *Journal of Development Economics*, 147(3): 102527.

34 Cuong Viet Nguyen, Tuyen Quang Tran, and Huong Van Vu, 2024, "The Long-Term Effects of War on Foreign Direct Investment and Economic Development: Evidence From Vietnam", *Journal of Urban Economics* 143: 103680.

35 Handicap International, 2007, *Circle of Impact: The Fatal Footprint of Cluster Munitions on People and Communities*.

36 Handicap International, 2007., p. 39: "Ethnic minorities were 14.6 per cent of all cluster submunitions casualties, but only 7.9 per cent of the population".

37 GICHD and UNDP, 2017.

38 GICHD, 2023, *Mine Action and the Resilience of Communities to Climate Change*.

39 World Bank Group, 2023.

40 GICHD, 2023.

41 UN, 2023, *Socialist Republic of Viet Nam: Voluntary National Reviews 2023 On The Implementation Of The Sustainable Development Goals*.

42 UN, 2023.

43 UN, 2023., para. 6.16.4: "By 2030, significantly reduce illicit financial and arms flows; strengthen the recovery and return of stolen assets, and combat all forms of organized crime".

44 KOICA, VNMAC and UNDP, n.d., *Korea–Vietnam Mine Action Project: Vietnam Mine Action Capacity Assessments*.

45 KOICA, VNMAC and UNDP, n.d.

46 KOICA, VNMAC and UNDP, n.d.

47 Reflects post-2025 administrative restructuring under the two-tier governance system.

48 VNMAC, n.d., Detailed Project Document Korea – Vietnam Peace Village Project, unpublished document, emailed by UNDP to the author, October 2025.

49 Viet Nam, 2013, Prime Ministerial Decree No. 738 of 2013 on the Management and Implementation of Mine Action Activities, unpublished document, shared by UNDP.

50 Viet Nam, 2019a, Decree No. 18/2019/ND-CP on the Management and Clearance of Unexploded Ordnance, 1 February 2019.

51 Viet Nam, 2019a; Viet Nam, 2019b, Circular No. 195/2019/TT-BQP on the Implementation of Decree No. 18/2019/ND-CP, 27 December 2019

52 Viet Nam, 2010, *National Mine Action Plan for the Period 2010–2023 for Vietnam*.

53 Huong Giang, "Viet Nam Targets to Clear UXO-Contaminated Land by 2045," Viet Nam Government News, January 14, 2026, https://en.baochinhphu.vn/viet-nam-targets-to-clear-uxo-contaminated-land-by-2045-111260114095946268.htm.

54 Landmine and Cluster Munition Monitor, "Country Profile: Vietnam".

55 Ibid.

56 Ibid.

57 Mine Action Review, 2024a.

58 Guy Rhodes and Nguyen Thu Ha, 2021, Korea-Vietnam Mine Action Project 2018-2021,Terminal Evaluation, final report, UNDP.

59 Guy Rhodes and Nguyen Thu Ha, 2021, Korea-Vietnam Mine Action Project 2018-2021,Terminal Evaluation, final report, UNDP.

60 Mekong-Republic of Korea Cooperation, 2019a, *Mekong-Han River Declaration for Establishing Partnership for People, Prosperity and Peace*, First Mekong-Republic of Korea Summit.

61 Mekong-Republic of Korea Cooperation, 2019b, *Plan of Action (POA) 2021–2025 for the Implementation of the Mekong-Han River Declaration*, para. 27

62 Mekong-Republic of Korea Cooperation, 2019b.

63 KOICA's Implementation Strategy of Peace Village Development Program (PVDP) in the Mekong CLMV countries, unpublished document, 8 November 2019.

64 Ibid, Page 13.

65 Ibid, Page 19.

66 GICHD and UNDP, 2017.

67 OECD, 2016, *Better Policies for Sustainable Development 2016: A New Framework for Policy Coherence*.

68 OECD, 2016.

69 GICHD and UNDP, 2017.

70 OECD, 2016.

71 UN General Assembly, 2015, Preamble. The 2030 Agenda emphasizes that its 17 SDGs are "integrated and indivisible and balance the three dimensions of sustainable development: the economic, social and environmental", requiring policies that account for interactions and synergies across goals.

72 PPMU Meeting Minutes, Quảng Ngãi province, 19 December 2024, unpublished minutes, emailed by UNDP to the author, October 2025.

73 Key Informant Interview with PPMU and JPMU, Huế Province, 26 October 2025.

74 Ibid.

75 UN General Assembly, 2015, paras 41 and 55.

76 PRIO and UNDP, 2004, *Reclaiming the Fields of War: Mainstreaming Mine Action in Development*; UN General Assembly, 2004, resolution 58/127, *Assistance in Mine Action*, A/RES/58/127, paras 9 and 19.

77 Key Informant Interview with, Hoài Nhơn (Gia Lai)- 3 November 2025.

78 PRIO and UNDP, 2004.

79 GICHD, 2017.

80 Guy Rhodes and Nguyen Thu Ha, 2021.

81 UNDP, 2022, Korea – Vietnam Peace Village Project (KVPVP) (2022-2026/ USD 25M) KOICA Project Proposal Final Version, unpublished document, 17/03/2022, p.22, emailed by UNDP to the author, October 2025.

82 UNDP, 2025b, KVPVP KOICA Quarterly Update, Q3 2025, page 7.

83 PRIO and UNDP, 2004.

84 GICHD Questionnaire submitted to KOICA, received on 30 October 2025.

85 Ibid.

86 The criteria for "all reasonable effort" shall be defined by the national mine action authority.

87 According to IMAS 04.10, explosive ordnance is interpreted as encompassing mine action's response to the following munitions: mines, cluster munitions, unexploded ordnance, abandoned ordnance, booby traps, other devices (as defined by the Convention on Certain Conventional Weapons, Amended Protocol II), and improvised explosive devices.

88 IMAS 07.11, *Land release*.

89 GICHD, 2017.

90 Viet Nam, 2010.

91 Written interview with VNMAC, November 2025.

92 Guy Rhodes and Nguyen Thu Ha, 2021, Korea-Vietnam Mine Action Project 2018-2021,Terminal Evaluation, final report, UNDP.

93 UNDP, 2024, Baseline survey for the Korea–Viet Nam Peace Village Project in Thua Thiên Huế, Quảng Ngãi and Bình Dinh provinces, unpublished baseline survey report, emailed by UNDP to the author, October 2025.

94 UNDP, 2022.

95 Written Interview with VNMAC, November 2025; Visit to demining site in Đắk R'Măng, 31 October 2025.

96 Prioritization Assessment Matrix provided by UNDP, unpublished matrix, November 2025.

97 Reflecting the current content of local plans and beneficiary needs at the time of prioritization; actual realized uses will be tracked where data permit.

98 Guy Rhodes and Nguyen Thu Ha, 2021.

99 The prioritization criteria for KVMAP are based on a two-tier criteria framework, consisting of: (i) eligibility – public good, relevance to socio-economic development plan and status as a suspected hazardous area; and (ii) assessment scoring – risk to life, land use and development potential and beneficiary impact.

100 Guy Rhodes and Nguyen Thu Ha, 2021.

101 UNDP, 2024.

102 UNDP, 2022.

103 Sarah Njeri and Christina Greene, "How Unexploded Bombs Cause Environmental Damage – And Why Climate Change Exacerbates the Problem", *The Conversation*, 3 September 2025.

104 According to the GICHD's *Linking Mine Action and Development* series, "integrated mine action and development refers to the need to ensure that mine action is actively promoting socio-economic development and poverty reduction in contaminated areas and communities" page 4.

105 UNDP Household Criteria Assessment Checklist, unpublished checklist, emailed by UNDP to the author, November 2025.

106 KII with beneficiary of CRH in Đức Chánh, Quảng Ngãi, 29 October 2025.

107 KII with beneficiary of CRH in Đức Chánh, Quảng Ngãi, 29 October 2025; in An Toàn, Gia Lai, 30 October 2025 (remote); Focus group discussions in Tịnh Thọ, Quảng Ngãi, October 2025.

108 KII with beneficiary of CRH in Đức Chánh, Quảng Ngãi, 29 October 2025; in An Toàn, Gia Lai, 30 October 2025; in Đắk R'Măng, Gia Lai, 31 October 2025; Focus group discussions in An Toàn, Gia Lai, 30 October 2025; in Đắk R'Măng, Gia Lai, 31 October 2025.

109 KII with beneficiary of CRH in Đức Chánh, Quảng Ngãi, 29 October 2025; in An Toàn, Gia Lai, 30 October 2025; in Đắk R'Măng, Gia Lai, 31 October 2025; Focus group discussions in An Toàn, Gia Lai, 30 October 2025; in Đắk R'Măng, Gia Lai, 31 October 2025.

110 Nu Quy Linh Tran et al., 2023, "Climate Change and Human Health in Viet Nam: A Systematic Review and Additional Analyses on Current Impacts, Future Risk, and Adaptation", *The Lancet Regional Health – Western Pacific* 40: 100943.

111 Toan N.V. et al., 2002, "Public Health Services Use in a Mountainous Area, Viet Nam: Implications for Health for Policy". *Scandinavian Journal of Public Health* 30 (2): 86–93.

112 UNDP, 2022.

113 Viet Nam Ministry of Health, 2021, Circular No. 32/2021/TT-BYT Providing Guidelines on the Basic Design for Commune, Ward, and Township Health Stations, 31 December 2021.

114 UNDP, 2022.

115 UNIDO, "Montreal Protocol and Beyond: 17 Stories Along the Journey From Ozone Protection to Sustainable Development", p. 10: "[A cold chain is] an uninterrupted series of temperature-controlled environments to transport, stock and distribute food".

116 UNDP, 2022.

117 FFSs are season-long, community-based training cycles where farmers learn through field observation, experimentation, and peer-to-peer exchange.

118 UNDP, 2025a, *Donor Report: KVPVP Biannual Progress Update, January-June 2025,* unpublished report, emailed by UNDP to the author, October 2025.

119 UNDP, 2025a.

120 UNDP, 2025a.

121 Focus group discussions in A Lưới, Thừa Thiên Huế, 29 October 2025.

122 UNDP, 2025a.

123 Focus group discussions in A Lưới, Huế, 29 October 2025; in An Toàn, Gia Lai, 30 October 2025; in Đắk R'Măng, Gia Lai, 31 October 2025.

124 Visit to demining site in An Toàn, Gia Lai, 30 October 2025.

125 Focus group discussions in Tịnh Thọ, Quảng Ngãi, October 2025; FGD in Đức Chánh, Quảng Ngãi, 29 October 2025.

126 Focus group discussions in Tịnh Thọ, Quảng Ngãi, October 2025; FGD in Đức Chánh, Quảng Ngãi, 29 October 2025.

127 Focus group discussions in Đắk R'Măng, Gia Lai, 31 October 2025; FGD in Đức Chánh, Quảng Ngãi, 29 October 2025; FGD in A Lưới, Huế, October 2025.

128 Visit to demining site/forest development site in Ân Tường commune, Gia Lai, 31 October 2025.

129 Guy Rhodes and Nguyen Thu Ha, 2021.

130 Interview with commune authorities and visits to demining sites in Hoài Nhơn and Phú My, Gia Lai, 3 November 2025.

131 Visit to demining sites in Quy Nhơn, Gia Lai, 4 November 2025.

132 KOICA, VNMAC, and UNDP, 2022, Annex V.

133 KOICA, VNMAC, and UNDP, 2022, Annex IV.

134 IMAS 04.10, *Glossary of Mine Action Terms, Definitions and Abbreviations*.

135 KOICA, VNMAC, and UNDP, 2022.

136 UNDP, 2024, Baseline survey report for the Korea–Viet Nam Peace Village Project in Thừa Thiên Huế, Quảng Ngãi and Bình Dinh provinces (January), unpublished baseline survey report, emailed by UNDP to the author, October 2025.

137 UNDP, 2022, page 40.

138 Written interview response from VNMAC November 2025

139 Focus group discussions in Đức Chánh, 29 October 2025.

140 Focus group discussions in Huế and Quảng Ngãi, 29 October 2025.

141 UNDP, 2022 page 40.

142 Focus group discussions in An Toàn, 30 October 2025.

143 UNDP, 2025c, *Donor Report: KVPVP Quarterly Updates, January-June 2025*, unpublished report, emailed by UNDP to the author, October 2025.

144 IMAS 13.10, *Victim Assistance in Mine Action*.

145 Government of Viet Nam, *Law on Persons with Disabilities* (Hanoi: National Assembly, 2010)

146 Ibid.

147 KOICA, VNMAC, and UNDP, 2022, page 31.

148 UNDP, n.d, KVPVP Narrative note on victim assistance, email to the author, October 2025.

149 UNDP, n.d, KVPVP Narrative note on victim assistance, email to the author, October 2025.

150 KOICA, VNMAC, and UNDP, 2022, page 7.

151 VNMAC, KOICA, UNDP, n.d., KVMAP 2018–2021 Final Progress Report, unpublished report, emailed by UNDP to the author, October 2025.

152 VNMAC, KOICA, UNDP, n.d., KVMAP 2018–2021 Final Progress Report, unpublished report, emailed by UNDP to the author, October 2025.

153 UNDP, 2025a.

154 UNDP, 2025a.

155 UNDP, 2025a.

156 Strengthening livelihood support for EO survivors in A Lưới, Thừa Thiên Huế, unpublished document, emailed by UNDP to the author, October 2025.

157 Focus group discussions in Hoài Nhơn, 6 October 2025.

Geneva International Centre for Humanitarian Demining

Maison de la paix, Tower 3, Chemin Eugène-Rigot 2C
PO Box 1300, 1211 Geneva 1, Switzerland