INCLUSIVE DATA MANAGEMENT IN THE MINE ACTION SECTOR

GICHD

Reporting, storing, and sharing information on beneficiaries in the mine action sector

CONTENTS

ACKNOWLEDGEMENTS

LIST OF ABBREVIATIONS

AICMA	Acción Integral Contra Minas Antipersonal (Comprehensive Action against Anti-Personnel Mines, Colombia)
APMBC	Anti-personnel Mine Ban Convention
CCM	Convention on Cluster Munitions
CCW	Convention on Certain Conventional Weapons
CMAA	Cambodian Mine Action and Victim Assistance Authority
CMAC	Cambodian Mine Action Centre
DMA	Directorate for Mine Action (Iraq)
EORE	Explosive ordnance risk education
GDPR	General Data Protection Regulation
GICHD	Geneva International Centre for Humanitarian Demining
HI	Humanity & Inclusion
IHSCO	Iraqi Health and Social Care Organization
IMAS	International Mine Action Standards
iMMAP	Information Management and Mine Action Programme
MAG	Mines Advisory Group
OACP	Office of the High Commissioner for Peace (Oficina del Alto Comisionado para la Paz, Colombia)
RNDP	Red Nacional en Paz y Democracia
SHO	Shareteah Humanitarian Organization
UNMAS	United Nations Mine Action Service

GLOSSARY

Data collection: the process carried out by mine action operators, including the participation of beneficiaries in data collection processes, cooperation between organisations that provide data, and the identification and documentation of relevant data sources. It involves the development of data collection tools, the collection of disaggregated data by age, gender, and other appropriate diversity dimensions, and the establishment of defined standards for key terms and measurements.[1]

Data reporting: this term refers to the timely submission of reports to mine action authorities according to national standards and requirements. It includes the format and medium of reporting processes, performance metrics or key performance indicators, ensuring the relevancy and accuracy of data, and regular data checks performed by information management and operational units. It also involves data quality control for the input and output of processes.[2]

Data storing: the process of determining what information is stored and how it shall be protected, which includes managing data to ensure its protection from unauthorised access and is shared only with authorised parties. It also includes implementing a system to manage data and ensure data security, adhering to security policies, and regularly checking the database for accuracy, completeness, and consistency.[3]

Data sharing: this refers to disseminating information to stakeholders, both within and outside the mine action programme. It includes managing personal information to maintain the privacy of beneficiaries and other stakeholders. This process also involves selecting the format in which information can be shared, ensuring ethical rules and considerations for data sharing are followed, defining communication methods, identifying stakeholders for information distribution, and determining information content and frequency for each stakeholder.[4]

Diversity: diversity encompasses the full range of human differences, including but not limited to race, ethnicity, gender, sexual orientation, socio-economic status, age, physical abilities, religious beliefs, political beliefs, and other ideologies. It also includes diverse ways of doing and being, thinking, working, and communicating.[5]

Feminist principles and approaches: these tenets challenge systemic gender inequalities and highlight diverse experiences and intersecting identities. They advocate for women's rights, gender equity, and social justice. Critiques of patriarchal structures and an emphasis on lived experiences form their core. These principles address broader issues of power, privilege, and oppression in societal contexts.

Gender: "Gender refers to the roles, behaviours, activities, and attributes that a given society at a given time considers appropriate for men and women." It involves a range of identities, roles, expectations, and norms that society ascribes to individuals based on their perceived sex. It is a fluid and dynamic concept that can change over time and across cultures. Gender disparities in the humanitarian and international development sectors must be recognised and addressed to ensure equitable access to resources, opportunities, and outcomes for all individuals, regardless of gender identity.[6]

Intersectionality: for this research, intersectionality is defined as "A metaphor for understanding the ways that multiple forms of inequality or disadvantage sometimes compound themselves and create obstacles that often are not understood among conventional ways of thinking."[7]

Do no harm: for this research, do no harm references "an approach which helps to identify unintended negative or positive impacts of humanitarian and development interventions in settings where there is a conflict or a risk of conflict".[8]

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EXECUTIVE SUMMARY

This research was commissioned by the GICHD and its aim was to critically evaluate and contribute to developing more equitable and effective data management practices in the mine action sector. The key focus was the inclusion of gender, diversity, and intersectionality while adhering to the do no harm principle.

The objectives ranged from mapping gender and diversity-sensitive data collection, storing, sharing, and reporting practices, to assessing their feasibility and effectiveness in mine action. The aim was also to understand how the do no harm principle is currently applied and to suggest good practices for its integration. Additionally, the project sought to provide recommendations for including people of different genders and intersecting social identities in data processes, in order to represent better and address the needs of mine-affected communities.

Key variables of data collection, data reporting, data storing, and data sharing were all explored through the lens of gender and diversity. The intersection of identities and feminist principles, specifically power dynamics and participation, were also central to the research, emphasising the need for equitable and inclusive approaches. The study underscored the significance of adopting a feminist lens to enhance transparency, accountability, and ethical considerations in information management.

The research involved case studies in Cambodia, Colombia, and Iraq, each presenting unique cultural, socio-economic, and political dynamics that influence mine action data practices. In an effort to provide globally relevant recommendations, data collection tools and plans were customised to each country's specific context. This research contributes to

developing more effective mine action data practices that better serve the diverse needs of affected communities.

In conducting this research, the GICHD embraced a feminist and rights-based approach. This involved acknowledging power dynamics and positionality, promoting active participation and utilisation-focused research, foregrounding social justice, and incorporating reflexive practices.

Research methods spanned an extensive desk review of relevant internal and external documentation, key informant interviews with internal and external stakeholders, and peer-learning sessions in each country. The desk review utilised computer-assisted qualitative data analysis software for comprehensive data analysis, while the semi-structured interviews allowed for in-depth investigation into specific areas of inquiry. Peer-learning sessions enabled mine action stakeholders to validate findings, exchange knowledge, and collaborate on recommendations for improving gender and diversity-sensitive data collection.

Thirty-five interviews were conducted across four stakeholder groups, including national authorities, national and international mine action organisations, and external subject matter experts on gender, diversity, and inclusion. The interviewees were selected based on their diverse experiences and expertise in information management, monitoring, evaluation, data collection, and gender, ensuring that the research incorporated a wide array of informed and relevant perspectives.

KEY FINDINGS

Section	Findings
Interpretations of gender, diversity and do no harm	The interpretation of 'gender' varies significantly across organisations within the same country and across different countries, often deviating from established guidelines by international bodies such as UN Women, and the GICHD. This is especially apparent where organisations reported sex and gender interchangeably.
	'Gender' is often equated with 'women'. This oversimplified interpretation overlooks minority genders and misconstrues the comprehensive definition of gender beyond the binary of men and women.
	The understanding of 'diversity' often leans more towards ethnicity rather than encompassing a broader spectrum of identities, including gender, age, disability, race, religion, etc.
	The principle of 'intersectionality' to understand the interplay of multiple social identities, needs to be more represented in the sector's discourse and practices.
	Interpretation and implementation of the do no harm principle vary across countries and organisations. While the principle is recognised, the application is inconsistent and sometimes narrowly focused.
Data collection	Data on beneficiary names, age, and gender is consistently collected across all three case study countries (Colombia, Cambodia, Iraq) and from land release, explosive ordnance risk education and victim assistance activities.
	Data on religion and ethnicity is not often collected, which could lead to a potential inadequacy in addressing the diverse requirements and preferences of various religious and ethnic groups. In certain scenarios, recording information about religion and ethnicity might pose more risks than benefits. The danger is whether cataloguing such personal details can inadvertently lead to misuse or discriminatory practices. It is worth noting that the need for recorded data on religion and ethnicity does not necessarily equate to ignorance on the subject. Decisions might still be made based on tacit knowledge of a person's religious or ethnic background, even if such information is not formally documented.
	Data collection roles vary across countries and are adapted to local contexts. Roles such as enumerators, community liaison officers, and non-technical survey members are deployed based on the specific tasks and beneficiary groups involved. Furthermore, community norms and security risks influence which role is predominant. This versatility ensures that data collection is sensitive to regional distinctions and challenges.
	Different organisations show varied and sometimes unclear criteria for selecting community interviewees. This inconsistency potentially affects the breadth and inclusiveness of participation in data collection processes.

Data collection challenges	Security concerns, fear of stigmatisation and misuse of personal data significantly hamper data collection in Colombia and Iraq.
	In all three countries, cultural diversity and gender issues present challenges, often due to different social norms and rigid data collection formats.
	Constant reassessment due to fluctuating conflict situations and population displacement is a considerable challenge, particularly in Colombia and Iraq.
Data collection and standards	A mix of standards influences data collection in mine action across the countries studied: International Mine Action Standards set global good practice, while national standards detail specific local requirements. Moreover, organisational Standard Operating Procedures and donor requirements detail the criteria for individual stakeholder needs. These standards, though distinct, are intended to be aligned, with the aim of creating a comprehensive set of data collection requirements.
	Power dynamics appear to significantly impact the determination of standards, with international standards, national policies, and donor requirements set by those with financial and structural power dominating the process and no evidence of beneficiary or community involvement in standard data management setting.
	The principle of do no harm is practiced through the assessment of community needs and vulnerabilities, consultation and engagement with local communities, emphasis on consent and voluntariness, avoidance of sensitive topics, adequate training of data collectors, and ensuring that only necessary data is collected.
	Evidence of mixed practices for gaining consent in data collection was found. While some organisations prefer written consent, others rely on verbal consent; these are often contextually appropriate.
	Intersectionality and power analysis are not comprehensively addressed within mine action data collection practices. This can lead to an oversimplified understanding of affected communities and hinder the sector's ability to cater to diverse needs and vulnerabilities, potentially exacerbating inequalities and hampering effectiveness.
Data storage	Different practices for data storage exist, such as digital tools and secure databases, with a few organisations still relying on paper forms due to technical constraints.
	Organisations exhibit a shared commitment to protecting personally identifiable information, implementing specific measures to prevent unauthorised access or data theft.
	Using tablets for data collection is common, allowing for instant, secure data saving on servers.
	In some cases, highly sensitive data is kept under a single individual's custody, which could create a single point of failure risk.
	Data confidentiality is emphasised across organisations, albeit varying in practice due to local laws and cultural norms around privacy.

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Data sharing	Organisations typically share data selectively, prioritising what is most beneficial to the community. They are mandated to share specific information with national authorities as defined by national mine action standards or national reporting requirements. It is not at the organisation's discretion to decide which data is shared; compliance with national authorities is essential for continued accreditation and operation within the country. Additionally, data might be shared upon explicit request from other organisations.
	Data-sharing practices involve multiple levels of approval to ensure that reported data fulfils quality requirements and that only necessary information is shared, aligning with the International Mine Action Standards guidelines for data security and confidentiality.
	In some countries, such as Colombia, organisations upload data directly to the national authority's platform, creating a potential single point of failure risk if the national authority system encounters issues.
	In many cases, beneficiaries are not recognised as the primary rights holders in the data-sharing decision-making process, indicating a potential gap in ethical practices.
Data reporting and use	Beneficiary data is primarily used in reporting, planning, designing interventions, evaluating activities, and coordinating new interventions. Still, data usage and beneficiary involvement vary significantly across organisations and countries.
	In Cambodia, data regarding gender and disability status are primarily used to tailor interventions, develop case studies, and inform target area selection.
	Some organisations do not seek new consent for reusing or resharing data, assuming that the consent obtained during initial data collection covers it. This could lead to ethical concerns.
	In Iraq, data plays a critical role in strategic planning, service provision, and demonstrating project completion to stakeholders, serving as a tool for transparency and accountability.
	In Colombia, when needs or risks are identified within populations, the data collected can influence government awareness of specific population vulnerabilities, enhancing its potential for socio-political impact.

RECOMMENDATIONS

The following recommendations detail a path towards more responsible and inclusive data practices in the sector:

Conscious and critical approach to data usage: adopt a more mindful and strategic approach to handling data across the sector. This would help in mitigating the extractive nature of data collection. Extractive data collection refers to the practice of gathering data from individuals or communities without offering meaningful benefits or understanding, often done without informed consent or clear communication about its use. Proactive engagement with coordination mechanisms in other sectors could support sharing data and good practices that reduce extractive data collection. Clear communication with beneficiaries about the purpose and process of data collection and their rights, is vital. Regularly updating and engaging beneficiaries about data use is recommended.

Recentering beneficiaries as key stakeholders: reframe the narrative around beneficiaries as rights holders and central stakeholders in decision-making processes. This requires re-evaluating terms like 'beneficiary' and considering more inclusive terms such as 'participant' or 'rights holder'. Regular feedback from beneficiaries and inclusion in data management processes are encouraged.

Expanding gender categories in data collection: a more inclusive data collection approach should include non-binary and transgender individuals where contextually safe and appropriate. Updating data collection tools and providing sensitivity training to data collectors are suggested actions.

Diversity: diversity must be equally prioritised in data collection practices, treating it as a dimension as significant as gender. Actions include adapting data collection tools to capture diversity where safe and appropriate.

Implementing a trauma-informed approach: data management processes should be adjusted to incorporate a trauma-informed approach. Training data collectors on principles of trauma-informed care, redesigning data collection tools, and regularly assessing the effectiveness of these approaches are recommended.

Sharing back with beneficiaries and increasing transparency: enhancing transparency through improved data-sharing practices is recommended. Beneficiaries should be notified about changes to how their data is shared and should have access to these changes in a comprehensible format.

Advancing the consent process: a clear and comprehensive consent process should be established, providing multiple options for consent and ensuring beneficiaries can engage with the process.

Enhancing beneficiary engagement: increased beneficiary engagement is suggested, especially during the data interpretation stage. This can be facilitated through inclusive and participatory methods, regular feedback sessions, and training staff on participatory engagement methods.

Improving data utilisation: organisations should better understand and utilise beneficiary demographic data to enhance planning and execution of mine action activities. Developing contextually specific guidelines promoting the usage of demographic data and encouraging cross-departmental collaborations are recommended.

Providing data analysis training: further training and capacity-building in data analysis, particularly related to gender, disability, and other demographic factors, are necessary to make interventions more responsive to beneficiaries' needs.

Implementing a do no harm approach: a checklist is recommended for data management teams. The list should allow for an assessment of the potential positive or negative impact of data collection, data use, data storage and data sharing on beneficiaries' safety, dignity, and well-being.

Conflict sensitivity: prioritise a conflict-sensitive strategy in data management practices. This involves recognising the potential for data processes to unintentionally impact conflict dynamics in mine-affected areas and a commitment to continuous adaptation in response to changing conflict scenarios. This should involve regular context analysis to guide data processes, ensuring they do not inadvertently exacerbate conflict or harm the community.

Incorporate intersectionality: the principle of intersectionality should be considered across all stages of project identification, design, implementation, monitoring, and evaluation. This will help capture the complex interplay of multiple social identities and better serve diverse communities.

Flexibility in frameworks: standardisation should include complex realities and allow participant agency. Frameworks should be designed to accommodate diverse lived experiences, promote participatory approaches, and be responsive to local contexts and knowledge systems. Adaptive data management and scenario-based contingency planning are recommended for flexible data management frameworks.

GICHD's visit to Kosovo, 2021 ©GICHD/Giovanni Diffidenti

1. INTRODUCTION

1.1 Background

The aim of this research project was to analyse current data collection, storage, sharing, and reporting practices in the mine action sector, focusing on gender and diversity sensitivity and, where possible, intersectionality. Furthermore, it sought to understand the application of the do no harm principle and provide recommendations for improving considerations relating to gender, diversity, and intersectionality across data management.

The research was carried out globally, with specific focus on three countries: Cambodia, Colombia, and Iraq. It involved a combination of desk reviews, context analyses, key informant interviews, and peer-learning sessions with representatives from various stakeholder groups, including governments and national and international mine action actors.

Through analysing existing practices and exploring opportunities for improvement, this project aimed to contribute to developing more equitable and effective mine action data management practices that better serve the diverse needs of affected communities.

1.2. Research objectives, questions and themes

The following objectives and key questions were explored:

Objective	Research question
Map existing gender and diversity-sensitive data collection, storing, sharing, and reporting approaches in the mine action sector.	What are the current data collection, storing, sharing, and reporting approaches in the mine action sector? How do they consider intersecting gender and social identities and power dynamics?
Assess the feasibility and effectiveness of these approaches in the mine action sector, as well as the application of the do no harm principle.	How are mine action organisations applying the do no harm principle in their data collection, storing, sharing, and reporting processes? What good practices can be identified to mitigate potential harm?
Provide recommendations on integrating context sensitivity into data collection, storing, sharing, and reporting processes in the mine action sector with a gender, diversity, equality, and inclusion perspective.	

1.3. Scope

Research variables

The following research variables were explored relative to gender and diversity considerations, as referenced in the International Mine Action Standards and other sector-wide standards:

Data collection: how data collection is executed, especially concerning beneficiaries' disaggregated data and participation in these processes. This theme is central to the research as it shapes understanding of who is impacted by mines and how.

Data reporting: exploring reporting processes, formats, and recipients. Effective reporting influences transparency, accountability, and the alignment of activities with national standards, ultimately improving the quality and acceptance of mine action efforts.

Data storing: examining the types of information stored and their protection measures. Given the data sensitivity in this sector, understanding these practices is fundamental for maintaining the trust of communities and stakeholders and for compliance with ethical and legal data protection standards.

Data sharing: exploring the dissemination of information to stakeholders and determining what can be safely shared and how. This directly ties into promoting effective collaboration within the sector and ensuring the safety and privacy of the information of affected communities.

Intersectionality: exploring how organisations consider the intersection of identities that affect people's experiences with mines. Mine action strategies need to account for the complex realities of individuals who experience multiple, intersecting forms of potential discrimination or disadvantage. Ignoring intersectionality could lead to the inadvertent exclusion of vulnerable groups.

Feminist principles and approaches: assessing the power dynamics and participation in existing mine action processes; recognising and making visible the existing power structures that might lead to certain voices dominating others. The feminist lens helps to ensure that interventions are equitable and inclusive, thus more effectively addressing the diverse needs within affected communities.

Applying a feminist lens to information management in mine action highlights the importance of transparency, accountability, and ethical considerations in information management. It calls for critical reflection on the biases, assumptions, and power dynamics that may be embedded within data collection, analysis, and

dissemination practices. A commitment to feminist principles means actively working towards minimising harm, ensuring privacy and consent, and striving for social justice and equality in all aspects of information management.

Countries

The research project included three case studies conducted in Cambodia, Colombia, and Iraq and carried out by national researchers. Each country has unique cultural, socio-economic, and political factors that may interact with and influence data collection, reporting, storing, and sharing processes in the mine action sector. To consider these differences and provide relevant global recommendations, data collection tools and plans were tailored to the specific context of each country.

1.4. Chapter summary

Chapter 2: Methodology
An outline of the research approach detailing the feminist principles, sampling methods, quality control mechanisms, and potential limitations. This chapter lays the foundation for the research, indicating how questions about gender, social identities, and power dynamics in the mine action sector were addressed.

Chapter 3: Context
Provides the global backdrop and specific contexts of Cambodia, Colombia, and Iraq, setting the stage for understanding the research questions' relevance. By giving a contextual understanding, this chapter aids in comprehending the specific data collection, storage, sharing, and reporting methods in different regions and their alignment with gender and social identities.

Chapter 4: Findings
A detailed exploration of key research areas. This chapter unpacks definitions of gender and diversity in the context of the mine action sector, discusses the specifics of data collection (covering what data is collected, by whom, the challenges faced, and how data collection is tailored according to certain standards), and further examines the intricacies of data storing, sharing, reporting, and usage. There is consistent integration of intersectionality, feminist principles, and the application of the do no harm principle. This chapter directly addresses the first two research questions by showcasing the current practices in data handling and how these practices consider intersecting gender and social identities while also highlighting the sector's adherence to the principle of do no harm.

Chapter 5: Discussion

A deeper exploration of topics such as participation, the do no harm principle, and intersectionality, highlighting their nuances and intricacies. It provides insight into why certain shortfalls persist and what good practices exist in the sector, aligning with the third objective on gathering recommendations to improve the mine action sectors approach to data management.

Chapter 6: Conclusions

This chapter wraps up the research by summarising the findings, discussions, and what they signify for the mine action sector. It culminates the research's responses to the set questions, presenting a holistic view of the current state of the sector and its challenges.

Chapter 7: Recommendations

This chapter offers actionable advice for more inclusive and comprehensive data practices that cater to diverse gender and intersecting social identities. Directly responds to the third objective, proposing ways to better include and represent affected communities in mine action data processes.

Notes to reader: when reading sections with detailed case study examples, it is essential to understand that these are not presented for direct comparison between country contexts. In line with feminist approaches, the emphasis is on recognising the unique contexts that shape and interact with the findings. Readers are advised to consider each case in isolation, focusing on its specific circumstances rather than drawing comparative conclusions.

The authors have made a conscious decision to retain the word beneficiary in this report, despite the recommendation to move away from this term to reflect the mine action sector's current practices.

2. METHODOLOGY

2.1. Approach

The research adopted a feminist and rights-based approach. This included consideration of the following principles:

Power and positionality: acknowledging the importance of reflecting on researchers' placement and power dynamics. It involves understanding complex power and gender relations and the intersectionality of race/ethnicity, socio-economic status, and past history.

In this research, the positionality of Western-based researchers was critically examined, acknowledging influence in data collection, analysis, and interpretation. Data collection was conducted by national researchers and the research attempted to mitigate bias through participatory reflection.

Active participation: promoting inclusivity and participation by co-designing and co-managing evaluations with a broad range of stakeholders, building trust and understanding and promoting sustained ownership.

Active participation was embedded in this research through participatory data collection design with national researchers in Cambodia, Colombia, and Iraq using Miro[9]. In addition to inviting in-country mine action groups to comment on research design and actively participate in peer-learning sessions.

Utilisation-focused: encouraging targeted and robust data collection, making research findings accessible, and promoting engagement across a range of audiences.

The usability of learning and recommendations was prioritised in this research, evidenced through peer-learning sessions that invited mine action actors to reflect on findings and co-create recommendations. Focusing on what needs to change moving forward ensured the findings were relevant, actionable, and efficiently utilised by various stakeholders.

Social justice: recognising that research and evaluation can be a form of activism and should identify and address systemic inequities that contribute to the marginalisation and oppression of vulnerable communities.

This research adopted a social justice lens, focusing on issues of inequity in the context of gender and diversity in mine action. It aimed to bring these issues to the forefront and contribute to meaningful discussions and actions towards social justice in these contexts.

Reflexivity: regular reflection on one's assumptions, biases, and positioning to promote self-awareness, critical thinking, and learning. Reflexivity was integral to the approach.

Mine action actors were invited to reflect during the peer-learning sessions, providing an opportunity for critical reflection on the research findings and their implications. This engagement facilitated learning and enhanced the validity of the research outcomes.

Culturally responsive and inclusive: prioritising lived experiences, especially those of communities and populations of colour, and recognising the importance of socio-political, demographic, and cultural contexts.

Data collection tools were tailored to the cultural and socio-political contexts of Cambodia, Colombia, and Iraq.

2.2. Data collection methods

The following data collection methods were used:

An extensive **desk review** of relevant internal and external documentation, using computer-assisted qualitative data analysis software to code, analyse, and visualise research data. The research drew on publicly available documents and examples of tools, methods and data collection approaches shared by research participants.

Key informant interviews were conducted with internal and external stakeholders to respond to leading areas of inquiry. Interviews were semi-structured, inviting further investigation as the discussion evolved. In some cases, multiple staff from the same organisation attended interviews, expanding into group interviews.

Peer-learning sessions were conducted in each country to provide opportunities for mine action stakeholders to validate findings, collect missing information, exchange knowledge and experiences, and identify strategies for improving gender and diversity-sensitive data collection. Sessions enabled stakeholders to learn from each other and co-create recommendations for improving data collection approaches.

2.3. Stakeholders and sampling

Interviews were conducted with representatives across four stakeholder groups:

- National authorities.
- National mine action actors.
- International mine action actors.
- External subject matter experts on gender, diversity, and inclusion.

GICHD's visit to Cambodia, 2022 ©GICHD

Thirty-five interviews were conducted across these stakeholder groups.

	Gender	#	#Interviews	Organisations
Global	Women	3	5	Norwegian People's Aid, Mines Advisory Group, Danish Refugee Council, gender experts.
	Men	2		
Cambodia	Women	5	5	Cambodian Mine Authority and Victim Assistance Authority at the national and provincial levels, Cambodian Red Cross, The HALO Trust Cambodia, Mines Advisory Group, UN Women, Cambodian Mine Action Centre.
	Men	3		
Colombia	Women	18	13	Danish Refugee Council, Fundación Tierra de Paz, Fundación Barco, Campaña Colombia Contra Minas, Humanity and Inclusion, UNICEF, Red Nacional en Democracia y Paz, Federación Luterana, International Committee of the Red Cross (ICRC), Colombian Red Cross, The HALO Trust, Humanicemos, OACP–AICMA (Colombian mine action authorities).
	Men	8		
Iraq	Women	5	12	Al-Mayadeen Al-Khadra (AMAK), Danish Refugee Council, Shareteah Humanitarian Organization, United Nations Mine Action Service – Directorate for Mine Action, Iraqi Kurdistan Mine Action Agency, Iraqi Health and Social Care Organization, Information Management and Mine Action Programme (iMMAP), Norwegian People's Aid, Tetra Tech WDSS.
	Men	7		
Total		51	35	

Sampling

Resources such as the Monitor[10] were consulted to map and identify the organisations active in each country. Outreach was made to these organisations through a process known as snowballing. Snowball sampling is a non-probability sampling technique where existing study participants recruit future participants from among their acquaintances, allowing the sample size to grow. This comprehensive approach to stakeholder mapping ensured that the research incorporated a wide array of informed and relevant perspectives. The following was taken into consideration:

Diversity: in relation to gender and type of organisation, for example, authorities, national or international organisation. This meant that representatives were selected to ensure that a range of perspectives were consulted.

Experience: representatives were selected based on their experience in information management, monitoring, evaluation, data collection, and gender and, thus, their ability to provide valuable insights into the research questions.

RESEARCH METHODOLOGY

Desk Review
Key Informant Interviews
Peer-Learning Sessions

DATA COLLECTION

STAKEHOLDER & SAMPLING

Interviews conducted across national and international organisations and mine-action experts

FEMINIST & RIGHTS-BASED APPROACH

GENDER REPRESENTATION

Interviews conducted with people who identify as men and women across countries.

QUALITY CONTROL

UNEG Norms and Standards
Collaborative Design
Pilot Testing

POWER & POSITIONALTY
Acknowledging the importance of reflecting on researchers' placement and power dynamics. It involves understanding complex power and gender relations and the intersectionality of race/ethnicity, socioeconomic status, and past history.

ACTIVE PARTICIPATION
Promoting inclusivity and participation by co-designing and co-managing evaluations with a broad range of stakeholders, building trust, and understanding and promoting sustained ownership.

UTILISATION-FOCUS
Encouraging targeted and robust data collection, making research findings accessible, and promoting engagement across a range of audiences.

SOCIAL INJUSTICE
Recognising that research and evaluation can be a form of activism and should identify and address systemic inequities contributing to the marginalisation and oppression of vulnerable communities.

REFLEXIVITY
Regular reflection on one's assumptions, biases, and positioning to promote self-awareness, critical thinking, and learning. Reflexivity was integral to the approach.

CULTURALLY RESPONSIVE & INCLUSIVE
Prioritising lived experiences, especially those from communities and populations of colour, and recognising the importance of socio-political, demographic, and cultural contexts.

In this research, positionality of the Western-based researchers was critically examined, acknowledging influence in data collection, analysis, and interpretation, and attempted to mitigate bias through participatory reflection and National Researcher conducted data collection.

Active participation was embedded in this research through participatory data collection design with National Researchers in Iraq, Cambodia, and Colombia, using Miro. In addition to inviting in-country Mine Action groups to comment on research design and participate in peer-learning sessions actively.

The usability of learning and recommendations was prioritised in this research, evidenced through peer-learning sessions that invited Mine Action actors to reflect on findings and co-create recommendations. Focusing on what needs to change moving forward ensured the findings were relevant, actionable, and efficiently utilised by various stakeholders.

This research adopted a social justice lens, focusing on issues of inequity in the context of gender and diversity in Mine Action. Aiming to bring these issues to the forefront and contribute to meaningful discussions and actions towards social justice in these contexts.

Mine Action actors were invited to reflect during the peer-learning sessions, providing an opportunity for critical reflection on the research findings and their implications. This engagement facilitated learning and enhanced the validity of the research outcomes.

Data collection tools were tailored to the cultural and socio-political contexts of Iraq, Cambodia, and Colombia.

2.4. Quality assurance

This research adhered to the United Nations Evaluation Group – norms and standards for evaluation – as a guiding framework.[11] These principles emphasise credibility, independence, impartiality, transparency, and utility in evaluation and research processes. Following these norms and standards ensures that the research maintains high quality, reliability, and relevance. The application of the United Nations Evaluation Group's principles was manifested in the following quality control approaches:

Collaborative research design: the research emphasised impartiality and utility; a collaborative design was employed with all researchers across the three countries. This approach ensured that a range of perspectives and experiences were considered, enhancing the credibility and relevance of the research.

Pilot testing: to ensure credibility and ethical considerations, data collection tools were adapted to the specific contexts of Cambodia, Colombia, and Iraq. Tools were pilot tested with peer researchers to confirm they were sensitive to potential harm, were relevant, and were understandable.

Feedback channels: reflecting the United Nations principle of transparency, national researchers established feedback channels, such as using the WhatsApp or Signal apps. These channels were used to maintain open communication and ongoing dialogue with each other and the research team.

Quality assurance checks: adhering to the United Nations' emphasis on credibility, quality assurance checks were conducted during the initial interviews. These checks ensured that the information collected was complete, accurate, and reliable, enhancing the research findings' robustness.

2.5. Limitations

The following limitations should be considered when interpreting this research:

Global stakeholders: five stakeholders participated at the global level, potentially narrowing the breadth of perspectives in the research. To mitigate this, diverse input was actively sought at local and national levels and online secondary sources to ensure a comprehensive understanding of the research themes.

Availability of documents: organisations interviewed were generally reluctant to share examples of data collection tools or internal policies, limiting the diversity of material available for the desk review. The research team tried to mitigate this by leveraging publicly available information and drawing insights from the diverse experiences shared by interviewees.

Language: the primary language of this report is English, which limits its accessibility to non-English speakers. The executive summary, key findings, and recommendations are being translated, and country-specific PowerPoint presentations are available in Khmer, Spanish, Kurdish, and Arabic to address this.

Conceptual complexity: the intersections between data management, intersectionality, and feminist principles may be complex for stakeholders new to these concepts. The research team has strived to present these concepts clearly and consistently throughout the report to aid understanding. Future engagement and training may further embed these ideas within the sector.

Limited beneficiary involvement: beneficiaries were not actively involved in providing feedback on data protection policies and data collection protocols. Future research must consider incorporating beneficiary feedback more directly to ensure perspectives and needs are adequately represented.

Absence of women's rights organisations: these groups were not included in this research phase, potentially limiting the breadth of insights from women. It is recommended that future efforts incorporate these organisations to expand the research on gender and diversity considerations in the mine action sector.

3. CONTEXT

This section provides an overview of the current global rules and practices relating to data management in the mine action sector, highlighting specific conditions and considerations in Cambodia, Colombia, and Iraq.

3.1. Global context

International law instruments that specifically govern mine action, such as the Anti-Personnel Mine Ban Convention (APMBC), the Convention on Cluster Munitions (CCM), and Amended Protocol II and Protocol V of the Convention on Certain Conventional Weapons (CCW), have significantly influenced the development of the mine action sector globally.[12] Key provisions under these instruments go beyond prohibiting or regulating the use of specific categories of explosive device. They also emphasise the critical role of information and data management in supporting the five core pillars of the mine action sector as identified by the United Nations – mine clearance, stockpile destruction, victim assistance, mine risk education, and advocacy. For example, States Parties to Amended Protocol II of the CCW are obliged to record the location of mines (other than remotely delivered mines), minefields, mined areas, booby traps and other devices. For the purpose of detection and clearance, such records must include information on the type, number emplacing method, type of fuse and lifespan, date and time of laying, antihandling devices (if any) and additional relevant information.[13]

The adoption of the CCM increased the importance of a people-centric approach to mine action. States Parties to the CCM, for example, must collect reliable data regarding cluster munition victims that is relevant to the provision of age and gender-sensitive assistance, including medical care, rehabilitation, and psychological support, as well as support for their social and economic inclusion.[14] One of the ways in which the CCM recommends implementation of this obligation is through needs assessments of the victims.[15]

Before adopting the CCM, the relevance of gender within the APMBC and CCW was non-specific within global standards.[16] In 2022, reports on victims of cluster munitions when sex and gender were identified and recorded shows that 31 per cent of casualties were female, out of whom 81 per cent were girls and 19 per cent were women. Among the remaining 69 per cent of casualties recorded as male, 57 per cent were boys and 43 per cent were men.[17] While reasons for involvement in the incident may vary based on factors other than age and gender, boys are clearly disproportionately affected. While direct victimisation of women and girls is recorded to be significantly less than their male counterparts, they nevertheless become indirect victims when assuming caregiving roles for survivors and having to become financially self-sufficient when the breadwinner is injured or killed.[18] As such, assessing differentiated needs in data collection is critical to providing effective victim assistance.

The International Mine Action Standards (IMAS), developed by the United Nations Mine Action Service (UNMAS) and mine action representatives, have provided important guidelines for addressing this challenge. These standards, particularly IMAS 5.10, Information management for mine action, define various aspects of information management, from data collection and use to storage and management, thus guiding stakeholders towards effective management of mine action programmes.

IMAS 5.10 describes, (1) the recommended good practices and responsibilities of the multilayers of mine action organisations and their components in handling information management from collection, use, accessibility, storage and management, among others, to ultimate ownership by the National Mine Action Authority; (2) the need for personnel working in information management to be equipped with sufficient training and adequate hardware and software; (3) the clear definition of processes and cycles for each information management activity for its quality assurance; (4) verification needs for data collected for its quality control; and (5) minimum data requirements for locations of mines, beneficiaries of risk education and victim assistance programmes and details on victims.

The standard set by IMAS 5.10 is a crucial guide for mine action actors in their efforts to establish effective information management, particularly to identify existing gaps and areas for improvement. It also supports international and national cooperation between stakeholders in standardising information management models to assess threat levels to individuals and communities, including access to nature-based resources and critical infrastructure. This is vital for providing an effective response, specific to each affected state's needs. Aside from IMAS 5.10, provisions relating to information management are also referenced across the range of IMAS, depending on the context.[19] For example, under IMAS 2.10, Guide for the establishment of a mine action programme, the mine action centre is specified as the body to establish a management information system.[20] It also stipulates broad responsibilities for the information management section, including ensuring data

availability is kept in a sex- and age-disaggregated manner.[21] Under IMAS 7.14, Risk management in mine action, good information management is deemed crucial to risk management and it recommends that risk management informs the structure and content of the information management system.[22]

An area of growth and ongoing challenge is recognising and integrating gender, diversity, and inclusion considerations in mine action data management. Despite calls for more nuanced and disaggregated data collection, such as from the United Nations Gender Guidelines for Mine Action Programmes,[23] consistent collection and effective use of this data remains an issue. Different social groups – men, women, children, the elderly, and persons with disabilities – may face different risks and impacts related to landmines, and capturing this diversity in data collection tools is crucial for tailoring effective interventions.

Using a gender and diversity lens, IMAS 7.40, Monitoring of mine action organisations, emphasises that the success of a mine action programme is dependent upon its ability to reflect on the different needs of gender and diversity groups; it therefore recommends collection, analysis and reporting of data relating to gender and diversity aspects, including the use of sex- and age-disaggregated data in monitoring systems which must be integrated into the information management system.[24] Taking a closer look at people-centric mine action programme standards, this requirement is evidently enshrined in IMAS relating to risk education and victim assistance. IMAS 12.10, Explosive ordnance risk education, integrates information management with the assessment of needs, vulnerabilities, and capacities. The process which is recommended is to adhere to data regulations regarding their collection, management and storage, and to ensure the participation of women, girls, boys and men from at-risk communities, including marginalised and other hard-to-reach at-risk groups (persons with disabilities, the elderly, out-of-school children), with the specification that the different needs of women, girls, boys and men must be taken into consideration. At a minimum, data collection and analysis is meant to determine, among other issues, the main, social and geographical target groups through a comprehensive data gathering on risk-taking behaviour that may relate to gendered social roles.[25] Within IMAS 13.10, Victim assistance in mine action, information management forms part of an integrated approach undertaken by the mine action sector, including data collection on victims, victim assistance services and analysis of disaggregated data and dissemination of aggregated data.[26] It further describes the roles and responsibilities of the National Mine Action Authority, national mine action centre and

mine action operators in ensuring: (1) availability of data on existing victims and their needs; (2) the data collection of standardised sex-aggregated data on victims covering sex, age and disability; (3) accessible communication of data protection regulations to survivors and; (4) conformity with data protection laws and data ethics and protection principles (including confidentiality, provision of information, informed consent and security).[27]

While IMAS on information management, including those relating to gender, seem to provide a comprehensive approach to information management systems, they do not address or guide data protection for countries that have not enacted such laws nationally. This gap could lead to challenges in ensuring personal and sensitive data security and privacy, thus contradicting the do no harm principle. Irresponsibly handled data can have serious consequences, particularly in conflict and post-conflict settings. It could inadvertently reveal sensitive information, making communities or individuals vulnerable to further conflict or exploitation. Furthermore, poor data management could lead to misinformed decision-making in mine action operations, exacerbating rather than alleviating the problem.

According to the Handbook on Data Protection in Humanitarian Action, the processing of personal data should not conflict with other legal obligations about secrecy and confidentiality or with the do no harm principle.[28] Do no harm is regarded as a tool for applying conflict sensitivity, which aims to prevent humanitarian intervention from exacerbating conflict or harming individuals and communities.[29] In the case of data management, the principle is therefore applicable to ensure that the management of personal data under the mine action initiatives would not harm the individuals involved.

This research, therefore, addresses this critical gap by analysing the current practices of data processing within the mine action sector. It seeks to explore how sensitive data, including data about individuals' gender and age, is collected, stored, shared, and used, especially in contexts where data protection laws are absent or inadequate. It further explores the question of how gender and social identities are taken into consideration within the current data management practices and how these practices could be improved to better support gender and socially inclusive outcomes.

While the evolution of data management in the mine action sector is evident, this research also recognises the need for a broader analysis. As such, it seeks to understand how the transition from operational to

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people-centric data management has impacted the effectiveness of mine action programmes and how this transition aligns with the shift towards greater inclusivity and diversity. By bridging this knowledge gap, the research aims to provide a comprehensive view of the current state of data management in mine action and offer insights into potential areas of improvement, contributing significantly to this critical yet under-explored area of study.

3.2. Cambodia

Examining how these themes and challenges manifest within Cambodia is important following the global overview. Cambodia is a country where landmines and explosive remnants of war pose a significant threat to local communities. Yet, it is also a setting where personal data protection legislation is notably lacking, providing a valuable lens through which to examine the practices and implications of data management in the mine action sector.

In general terms, Cambodia does not have personal data protection legislation. Cambodia's data protection initiative remains stalled following an announcement in early 2021 by the Ministry of Post and Telecommunications. In December 2021, Sub-Decree No. 252 on the management, use and protection of personal identification data was issued to promote broad policy objectives such as ensuring peace and order, furthering public interest, and promoting national development. However, the Sub-Decree only applied to personal identification data owned by the Ministry of Interior. Existing legal frameworks on data protection lie within the scope of e-commerce law in protecting consumer data engaging in digital transactions. Other forms of protection fall within the ambit of the right to privacy protected by the constitution, civil code, criminal code and banking law. Cambodia is still working on its cybercrime law, which addresses preserving data during criminal investigations and using computer data as evidence.[30]

With specific regard to data management in mine action, Cambodia, being a State Party to the APMBC, is bound to report on a yearly basis to the United

Nations Secretary-General with information and data on minefields, mined areas, stockpiles, clearance and destruction efforts, as well as protection of civilians from such weapons.[31] In practice, even before it ratified such instruments, in 1992, Cambodia established the Cambodian Mine Action Centre (CMAC) to provide safe passage for refugees to return to Cambodia following prolonged periods of conflict, such as the Khmer Rouge era and the subsequent civil war, which left a large number of landmines and unexploded ordnance. National and international operators work alongside the Cambodian Mine Action and Victim Assistance Authority (CMAA) to lead the country's efforts in all its mine action activities. The CMAA has a database unit responsible for collecting, storing, analysing, and disseminating data supporting planning and prioritisation.[32] Cambodian mine action authorities produce regular reports covering all mine action activities, including the total amount of land released, mine risk education programmes carried out, the number of beneficiaries, and the victim information system.[33]

Regarding mine action, Cambodia has incorporated a gender-responsive approach. The Government of Cambodia recognises the distinct roles of individuals based on gender and disability, especially concerning risk exposure, decision-making, and resource accessibility. This commitment to gender equality and women's empowerment is formalised in the national mine action standards under Goal 8 and Objective 3. Goal 8 emphasises the integration of gender and environmental considerations into quality mine action operations. Objective 3 is centred on embedding gender in mine action, with strategies including the development of a Gender Mine Action Plan proposing to increase the capacity of relevant entities such as the CMAA and ensuring women's equal involvement. The CMAA has shown dedication by rolling out gender-mainstreaming plans, with the 2018–2022 Gender Mine Action Plan being recognised as comprehensive and robust by international evaluators.[34]

The CMAC has endeavoured to balance gender representation in demining teams and has proactively promoted workplace gender equality.[35] It has also sought to foster inclusivity by actively involving local communities in decision-making processes.

According to Cambodia's National Mine Action Strategy 2018–2025, the CMAC is committed to building an inclusive environment that promotes gender equality and supports the participation of people with disabilities, with 50 per cent of the beneficiaries of the strategy being women and 1 per cent being persons with disabilities.[36] This strategy highlights the intention of the Cambodian government to support the empowerment and engagement of marginalised groups within the mine action sector.[37]

Traditional gender roles in Cambodia have mainly been binary, leading individuals to conform to masculine or feminine roles based on their sex at birth.[38] However, there exists a group referred to as 'kteuy', individuals who identify outside these traditional binary gender roles. These individuals, often recognised as a 'third gender' in Cambodian society, despite increasing acceptance, face unique challenges, such as discrimination and stigma.[39] This is complicated by the heterogeneity of Cambodia's cultural understanding, as it has various ethnic groups, each contributing to the diverse practices related to gender and gender identity.[40]

As societal norms and laws evolve, so do the opportunities for greater inclusivity in data collection practices. For instance, in Cambodia, public opinion is slowly shifting despite the absence of specific laws recognising diverse gender identities. Although no specific law accepts these gender types, public opinion is changing, providing an opportunity to be more inclusive in data collection. This move is aligned with the United Nations 'Leave No One Behind' initiative that is supported by the Cambodian government.

In the light of the United Nations independent expert's (Victor Madrigal-Borloz) report on the protection against violence and discrimination based on sexual orientation and gender identity, Madrigal-Borloz's findings spotlight the urgent need for enhanced data collection and analysis about lesbian, gay, bisexual, transgender, queer intersex persons. The identified data shortfall hampers understanding of the unique challenges faced by gender and sexual minorities and the development of effective response strategies.[41]

By integrating these insights into the existing approach, mine action in Cambodia can continue its commitment to building an inclusive environment that promotes gender equality and supports the participation of all marginalised groups. It provides an impetus for the CMAC to further its efforts to ensure the inclusion and protection of the lesbian, gay, bisexual, trans, queer, intersex community within its operations, data collection, and management practices (National Mine Action Strategy, 2018–2025).

Despite the challenges, initiatives have been aimed at improving data registration, especially for persons with disabilities. Efforts led by the Ministry of Social Affairs, Veterans and Youth Rehabilitation have encouraged people with disabilities to register for identification cards to ensure access to social support services. Such measures underline the importance of comprehensive and inclusive data management in addressing the needs of marginalised communities in Cambodia.

3.3. Colombia

Colombia stands out for its robust legal framework around personal data protection laws.

Constitutionally, personal data rights in Colombia are recognised as privacy rights and rectification rights. Its processing is specifically governed under two statutory laws, each with differing scopes and several decrees as supplements. Law 1266, as amended by Law 2157, regulates financial data, credit records and commercial information, while Law 1581 covers all types of personal data and databases, including sensitive data related to an individual's race, ethnicity, political views, religious beliefs, sexual orientation, health status, and criminal record, and so forth. Law 1581 protects individuals against arbitrary use, modification, and disclosure of data by any public or private individual/corporation without the data subject's consent. Supplementing Law 1581, Decree 1377 was issued

to support implementation, including outlining requirements for, but not limited to, authorisation of data usage, limitations to data processing, privacy warnings and adoption of privacy policy and notice.[42]

With specific regard to data management on mine action, Oficina del Alto Comisionado para la Paz – Acción Integral Contra Minas Antipersonal (Office of the High Commissioner for Peace – Comprehensive Action against Anti-Personnel Mines OACP – AICMA) is Colombia's leading national institution managing demining efforts.[43] The OACP – AICMA has the ultimate decision-making power based on information gathered through prevention, marking, mapping, mine clearance and victim assistance activities.[44] To streamline this data collection and analysis, the OACP – AICMA maintains a robust database with regular data collection, storage, analysis, and dissemination procedures to support strategic planning and prioritisation. Through this, the OACP

– AICMA ensures that all mine action activities, including the total amount of land released, mine risk education programmes carried out, and the number of beneficiaries, are appropriately documented and communicated through regular reporting.

Regarding gender in the mine action sector in Colombia, steps have been taken towards realising gender equality and embracing diversity, although certain areas for improvement persist. Notably, the development and implementation of policies and the ability to segregate data according to different demographic groups, have been areas of significant progress.[45]

Efforts made in mine action in Colombia regarding gender equity are consistent with global frameworks such as the United Nations Security Council Resolution 1325 (2000) on Women, Peace, and Security. The resolution underscores the need to account for the distinct needs of women and girls in mine clearance and awareness initiatives. Notably, the recent development of a National Action Plan in May 2023, under the guidance of the new Colombian government, seeks to bolster these initiatives. This National Action Plan aims to promote gender equality and protect the rights of women and other vulnerable groups in conflict scenarios.[46]

In addressing ethnic diversity as a significant facet of inequality, Colombia has shown commitment to catering to its culturally diverse population, with particular attention to indigenous and Afro-Colombian communities. Education tools related to mine risks have been adapted to respect these communities' cultural context and languages. Nevertheless, the inclusion of these communities in broader mine action activities, such as humanitarian demining, is an area where progress is needed.[47]

In the wake of peace process discussions, the discourse in Colombia has started to include a gender-sensitive approach to assisting victims of armed conflict. The National Planning Department's 2013 guidelines acknowledged women's diverse challenges in armed conflict. They offered a holistic approach to enhance access and opportunities across labour, education, health, and land ownership. However, these guidelines expired in 2018, after which the monitoring of its proposed indicators ceased.[48]

Furthermore, the constitutional recognition of non-binary gender identity by the Colombian Constitutional Court in March 2022 was a landmark achievement for gender diversity. This legal advancement, alongside other measures to protect the rights of lesbian, gay, bisexual, transgender, intersex, queer individuals, indicates a growing societal acknowledgement of gender and sexual diversity, despite continuing challenges in societal acceptance and practical implementation.[49] Furthermore, non-binary is now an option for citizens' identification cards, reflecting government policy. A gender expert interviewed for this research pointed out that "people should have the option to decide by themselves whether they want to be open about their identity or not. They, more than anybody else, know how to protect themselves". The current government is creating a Ministry of Equality introduced by the first Afro-Colombian vice-president.[50]

Colombia's robust data protection framework and its advancements in recognising the rights of lesbian, gay, bisexual, transgender, intersex, queer individuals serve as a firm foundation for respectful and secure management of personal data.[51] The need to improve gender-disaggregated data in mine action is recognised, but the process is challenging and ongoing, as discussed in Chapter 4 below.

3.4. Iraq

In the case of Iraq, data protection legislation remains subsumed within the penal code, primarily to shield against arbitrary disclosure and use of a data processing entity.[52] Moreover, sector-specific data protection requirements only specify record retention.[53] A significant development took place in 2022 when the Communications and Media Commission announced a public consultation on a draft data classification policy to ensure confidentiality and regulate access and protection against loss or leakage in data management.[54] However, until such a policy is enacted, data protection in Iraq will continue under the existing legal frameworks.

Data management within the mine action sector in Iraq presents several unique challenges, primarily due to the country's complex socio-cultural and political landscape and logistical issues due to the ongoing impact of conflict.

According to the 2021 report from the assessment capacities project – ACAPS,[55] it is important to highlight that a comprehensive and accurate contamination survey has yet to be possible in Iraq due to insecurity and access constraints. This, combined with the fact that many contamination records were destroyed in 2003, means that the extent of contamination in Iraq is largely unknown. This is a crucial factor affecting the data management landscape within the mine action sector.

One of the biggest challenges for Iraq's mine action data management is the lack of a shared understanding of data collection processes among
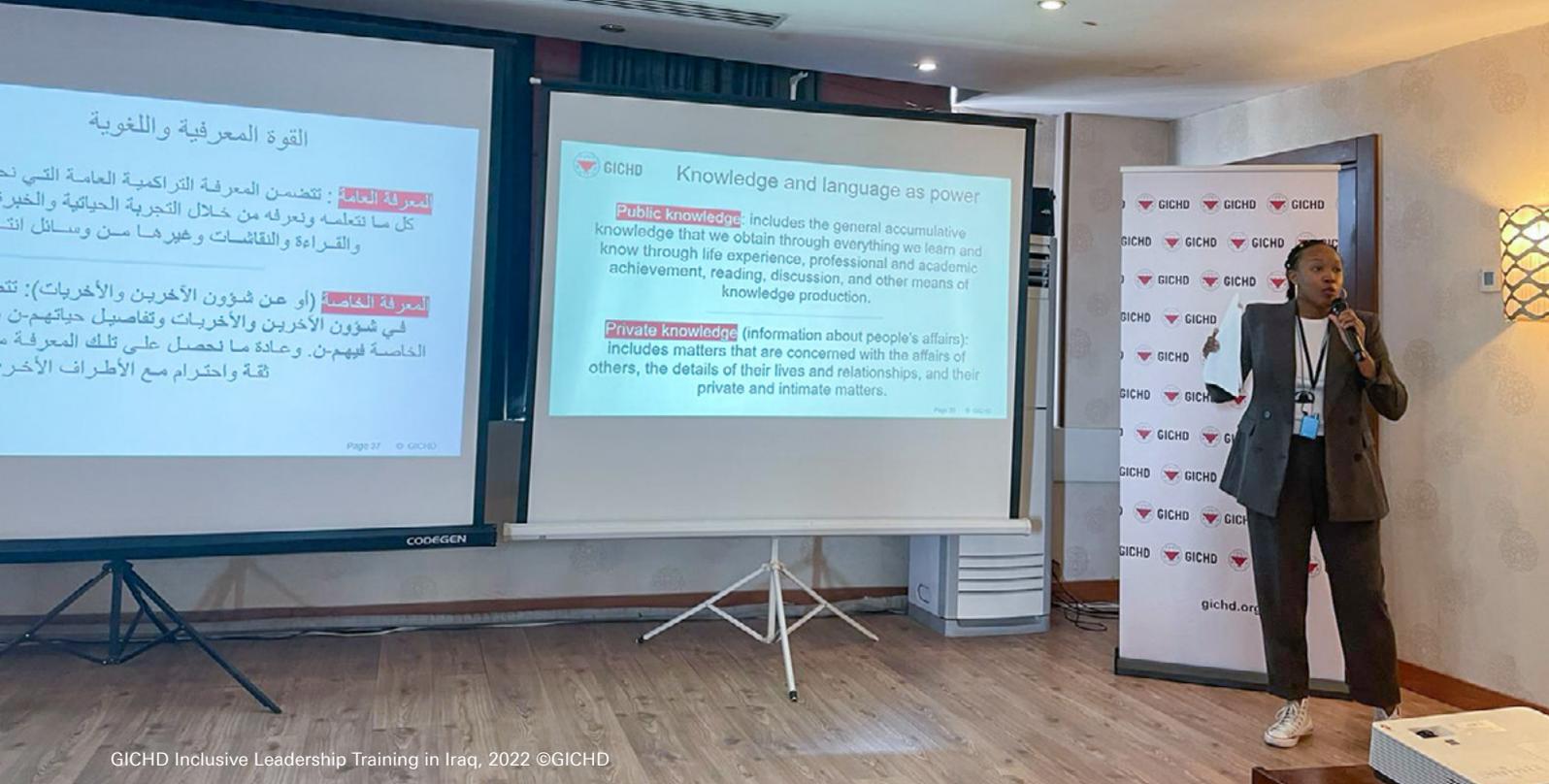
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various stakeholders. According to a report by Humanity and Inclusion,[56] stakeholders were often unclear about the mechanisms or actors involved in data collection, raising concerns about the validity and reliability of the collected data. The report further notes that numerous actors are involved in data collection, each following their own processes, leading to confusion and potential data discrepancies.

Organisations such as the Information Management and Mine Action Programme (iMMAP) are playing a pivotal role in addressing these challenges. In 2015, the Directorate for Mine Action, the Iraqi Kurdistan Mine Action Agency, and iMMAP signed a memorandum of understanding to implement the Information Management System for Mine Action in Iraq.[57] A 2020 article from iMMAP highlights that the organisation has worked with UNMAS to improve data collection and analysis, streamline data management processes, and develop a more efficient and reliable system.[58]

In recent years, efforts have been made to integrate a gender-responsive approach within the mine action sector. For example, UNMAS has been pivotal in promoting gender mainstreaming within its operations. A baseline study conducted by UNMAS in 2021 in the Ninewa Governorate found that while still limited, women's participation in mine action activities improved.[59] The study highlighted the importance of fostering an inclusive environment that addresses the specific needs and priorities of women and men and ensures that the perspectives of all genders are integrated into programme planning and implementation.

The Iraq National Mine Action Strategy for 2023–2028 discusses gender and diversity as central to implementation, saying that "Iraq's mine action recognises the different impact of contamination shaped by gender, age, and ethnic or religious affiliations and requires specific activities targeting those needs, for which disaggregated data is a prerequisite",[60] which indicates a sector-wide commitment to considering gender and inclusion across all activities through the disaggregation of data.

Despite these efforts, the need for further improvements and standardisation remains. Tensions between different ethnic and religious groups, as indicated in the 2021 UNMAS study,[61] could impact the collection and reporting of data. In such contexts, perceived data collection or reporting biases could exacerbate tensions. Therefore, ensuring that data collection and management processes are transparent, inclusive, and sensitive to these dynamics is crucial.

In summary, the mine action sector globally underscores the necessity of accounting for gender and diversity considerations and abiding by international data protection standards. Despite the distinctive contextual differences and unique challenges across countries, there is a shared imperative to uphold the principles of transparency, inclusivity, and sensitivity in all mine action operations. It's critical to continue refining and improving these processes for mine action to be truly effective, efficient, and responsive to the needs of affected communities.

4. FINDINGS

This section presents and discusses the main findings reflecting overall patterns and trends that offer insight into the current state of the mine action sector regarding gender and diversity considerations in data management. It examines the varying practices across the countries in focus, offering a more nuanced understanding of how gender and diversity considerations and data protection norms are operationalised within each unique socio-political landscape.

4.1 Definitions of gender and diversity

As a foundation for understanding how gender and diversity are considered in data management, the research examined available guidelines and first asked interviewees how their organisation understood or defined gender and diversity.

The degree to which gender and diversity elements are integrated and applied varies greatly across regions and organisations within the same country. For example, in Colombia, organisations interviewed, reported their range of definitions of gender and diversity as follows:

"Gender is a social construct."

"We consider that is it more important that the norms and gender roles that exist in the community are not an impediment for people to receive education on the risks of mines."

"The assignment of roles about the sex which one is born."

This is despite the clear policies and direction of the Colombian government towards wider inclusivity regarding definitions of gender.[62]

In Iraq, generally, gender was interpreted as an equal representation of male and female. While this might resonate with the prevalent societal norms in Iraq, this perspective overlooks the diverse experiences and identities beyond the man and woman dichotomy. Furthermore, it can perpetuate misunderstandings around gender, mainly when the terms 'sex' and 'gender' are used interchangeably.

As a possible point of contention, the varying interpretations of gender as sex and vice versa were heavily evidenced across interviews and documents. Interview respondents across all countries referred to male or female and man or woman interchangeably throughout the discussions. The interchangeable use of 'male/female' and 'man/woman' could create confusion and potential inaccuracies in data collection. While 'male' and 'female' denote biological sex, 'man' and 'woman' are more appropriately associated with gender identity. A person might be biologically male (sex) but identify as a woman (gender). [63]

The United Nations Gender Guidelines and the International Mine Action Standards (IMAS), in line with this understanding, encourage the collection of sex-disaggregated data. They aim to understand the different experiences, needs, and impacts of mine action interventions on males and females. However, if 'gender' and 'sex' are used interchangeably in surveys and tools, this may not only lead to oversimplified or incorrect assumptions about the lived experiences of individuals based on their biological sex but it may also reflect a lack of understanding of the distinct nuances and concepts related to gender and sex. This conflation could result in misinterpretations or misconceptions, further blurring the lines between these two different yet interconnected concepts.

However, contextually specific understandings of sex and gender must also be considered here. For example, in Iraq, asking for someone to identify their gender was not deemed appropriate by the national researcher but rather should be assumed. Similar cultural sensitivities are necessary when designing and implementing data collection tools and methods, a point also emphasised in a study published on monitoring and evaluating gender equality and inclusion in explosive ordnance risk reduction by the ASEAN Regional Mine Action Center.[64]

A further observation from the evidence available is that 'gender' is often equated primarily with 'women'. This oversimplified interpretation not only overlooks minority genders but also misconstrues the comprehensive definition of gender, which includes the complex array of identities beyond the binary of men and women. For instance, in Cambodia, despite a constitutional recognition of gender as only men and women,[65] the discourse around gender, including non-binary, transgender and gender non-conforming individuals, is increasingly accepted within society and in governmental agencies.[66] However, this was not consistently visible.

As highlighted in the study on monitoring and evaluation of gender equality and inclusion in explosive ordnance risk reduction,[67] this concretisation of the gender binary overlooks the complexities of gender identities and expressions, thereby potentially misrepresenting the experiences of non-binary, transgender, and gender non-conforming individuals. These findings underscore the need for more nuanced and inclusive data collection methodologies that reflect the diverse spectrum of gender identities.

This research and the above-mentioned study by the ASEAN Regional Mine Action Center[68] call for future policy frameworks and guiding documents to expand beyond binary notions of gender, and to address the interchangeability between gender and sex usage across the mine action sector.

When it comes to diversity, the focus often leans towards ethnicity rather than encompassing a broader spectrum of identities. In Colombia, for example, even though the understanding of gender as a social construct is advanced, diversity discussed in interviews was generally associated with ethnic differences.[69]

In addition, intersectionality – a vital consideration in understanding the complex interplay of multiple social identities – seems to be underrepresented in the discourse across the sector. The Geneva International Centre for Humanitarian Demining (GICHD) and Gender Mine Action working group have advocated for intersectionality to be considered at all stages of project identification, design, implementation, monitoring, and evaluation since 2019.[70] Yet, such comprehensive implementation was not evidenced in interviews or available documentation by actors in practice across the three countries. One exception was with Humanity & Inclusion (HI), where intersectionality was referred to as an approach adopted with gender, disability, and age data in armed violence reduction.[71]

4.2. Definitions of do no harm

The do no harm principle is central to data management as it relates to ethical, responsible, and careful data handling. This principle, originating from medical ethics, has been widely adopted across various humanitarian assistance sectors, including mine action. It stipulates that the actions taken – in this case, the collection, storage, use, and sharing of data – should not cause harm to individuals or communities.

Findings present a mixed picture of applying the do no harm principle in the mine action sector. While the principle is recognised and considered crucial by the broader international community, there are variations in its interpretation and implementation across different countries and organisations.

References to do no harm were found across the IMAS in the form of acknowledging beneficiary data privacy or sensitive questioning in data collection tools however there was little acknowledgement of the concept. The Technical Note for Mine Action 12.10/01, Risk education for improvised explosive devices, is the only document with a dedicated do no harm section.[72]

In Cambodia, for instance, the sector's approach seems to strongly focus on safety and physical well-being, as seen in their stringent mine clearance operations and risk education efforts. However, psychological and emotional aspects, such as triggering survey content or the potential stress of participating in interviews, appear to be less frequently considered. Additionally, there seems to be room for improvement in ensuring comprehensive consent and maintaining data confidentiality, as suggested by some data collection tools and knowledge, attitudes and practice surveys shared with the research team.

The data suggests a mixed understanding and implementation of the do no harm principle amongst mine action organisations in Iraq. While some organisations, like the Iraqi Health and Social Care Organization (IHSCO), highlight strict measures to protect the anonymity of beneficiaries' data; others, like the Shareteah Humanitarian Organization (SHO), emphasise participants' consent and autonomy. Such variance implies a certain level of recognition of the do no harm principle and a lack of uniformity in its application.

There appears to be a greater emphasis on engaging with local authorities and communities in Colombia, perhaps due to the complex socio-political landscape. The data shows a conscious effort to be sensitive to the local context and the involvement of local entities to ensure understanding and cooperation.

The variations across countries can be influenced by several factors, such as the complexity and nature of conflicts, socio-political dynamics, resources, and capacity. The common thread is that more efforts are needed to bridge the gap between policy and practice and to ensure the do no harm principle is consistently and effectively applied in all aspects of mine action. These efforts could include more comprehensive training, more precise guidelines, better integration of the principle in operational activities, and greater emphasis on the psychological and emotional aspects of do no harm.

4.3. Data collection

This section directly addresses the first research question, investigating the methodologies of the mine action sector's data collection and how they factor in intersecting gender and social identities and power dynamics. Findings relating to do no harm are integrated throughout.

4.3.1. What data is collected?

Here, the study examines the specific types of data collected by different organisations in the mine action sector, highlighting distinct trends across countries and the varied nature of beneficiary data associated with activities such as land release and explosive ordnance risk education (EORE).

The graph below provides an overview of the types of beneficiary data collected, as reported by the organisation respondents interviewed for this research study.[73]

The United Nations Gender Guidelines for Mine Action Programmes 2019 recommend collecting and analysing sex- and age-disaggregated data in mine action. These guidelines recognise that sex- and age-disaggregated data is important for identifying different groups' specific needs, vulnerabilities, and capacities, developing targeted interventions, and evaluating their impact.

Land release: for land release activities, respondents reported collecting demographic data focusing on age, gender, or sex, whilst location, name, and contact information is sometimes collected. This information is used to monitor representation and assess needs. Furthermore, distinguishing between direct and indirect beneficiaries becomes especially important in land release activities. Data is often analysed qualitatively to understand beneficiary needs and the impact of explosive ordnance comprehensively. It also explores behavioural patterns, community roles, and quality of life. For instance, in Cambodia, data

on gender-based living arrangements in temporary shelters was reported to be collected when land clearance involved the relocation of beneficiaries to new settlements.

Explosive ordnance risk education: respondents reported that data collected for risk education primarily includes the number of beneficiaries, age, and gender. In some cases, location and name are also collected, depending on the organisation. This data aids in understanding the differences in awareness and comprehension of explosive ordnance risks among different age groups, thereby informing tailored interventions. For example, Tetra Tech in Iraq reported collecting information on the number and demographics of individuals who receive EORE sessions and their knowledge level on risk mitigation.

In Cambodia, data is collected on the level of knowledge about mine risks among participants, segmented by gender. However, their current data collection forms do not accommodate non-binary and transgender individuals.

In Colombia, data collection for EORE usually covers basic information like name, age, identity document details, and phone number. In critical security zones with armed groups, sometimes only the number of participants is recorded for security reasons. The identity card includes information on the date of birth, place of birth, blood group and height of a person. For example, organisations which work in critical security zones with the presence of armed groups follow formats outlined by the national authority under the agreement to collect only essential data

Evidence of the kinds of data collection from organisations interviewed

	Cambodia	Columbia	Iraq
Educational attainment			●
Number of family members	●		●
Location	●	●	●
Role in community		●	
Ethnicity or type of population	●	●	
Religion			
Disability	●	●	●
Gender (non-binary)			
Gender or sex (binary)	●	●	●
Age	●	●	●
Name	●	●	●

from the population, given the sensitive nature of the environments they work in, and sometimes armed groups do not approve of community involvement in mine action activities. Sometimes, these organisations can only provide the number of people who attended the activities.

Regardless of the context, organisations must report to the National Mine Action Authority and provide information via the explosive remnants of war (ERW) risk education form and the capacities and vulnerabilities form. Authorities' forms require information on sex, age, ethnicity, and community roles (leaders, teachers, students). When recording gender, government forms typically include options for male, female, and 'no response', with the latter possibly accommodating non-binary individuals. However, the category of sexual orientation is generally not included on the form to avoid potential risks to community members if visibility increases. Some organisations have developed their own forms that allow for a broader range of gender identities, including considerations for intersectionality. For example, The HALO Trust's initial needs analysis characterises the population before entering a community, noting its main economic activities and needs.

Victim assistance: for victim assistance activities, data collection extends to beneficiaries' family status, economic condition, and life before and after injury. In Cambodia, six different forms are used by the Cambodian Mine Action and Victim Assistance Authority (CMAA) to collect comprehensive data on disability, one of which captures explicit information such as the cause of disability, the status of the individual, and detailed information regarding the incident that resulted in the disability. Mines Advisory Group (MAG) collects data about people with disabilities and, sometimes, information about ethnicity and indigenous status. However, these categories aren't consistently recorded across all initiatives. In Iraq, Tetra Tech collects information on individuals with explosive hazard-related injuries who require assistance.

In Iraq, victim assistance activities and data collection extend to beneficiaries' family status, economic condition, and life before and after injury.

Similarly, all countries strongly emphasised the distinction between direct and indirect beneficiaries, particularly in land release activities which echo that found in the Standardising Beneficiary Definitions in Humanitarian Mine Action 2.0,[74] and conform with IMAS 5.10, Information management for mine action. Another consistent theme is the inclusion of qualitative data that helps create a more comprehensive understanding of beneficiaries' needs, including

aspects such as the impact of explosive ordnance, behavioural patterns, community roles, and quality of life.

There is generally a focus on gender, sex, and age across the data collected. As the graph above reveals, no data on ethnicity and religion is collected. The Iraq National Mine Action Strategy 2023–2028 acknowledges the varying impact of contamination based on gender, age, and ethnic or religious affiliations, highlighting the need for targeted activities addressing these specific needs. Disaggregated data is identified as a prerequisite for such efforts.[75] However, findings revealed a significant gap in data collection about ethnicity and religion or any awareness as to why this might be necessary or how it could be used.

"We collect info about gender and disability but not about religion and ethnicity because that doesn't matter for us." – Iraqi Health and Social Care Organization.

"We do not focus on asking about religion and their background; we focus on providing the needed humanitarian support to all of our beneficiaries" – Directorate for Mine Action, Iraq.

Reflecting on the interview responses, the reason for the gap in this data collection seems to be related to relevance and a lack of understanding of how the data could be used.

A review of surveys and tools from Colombian organisations also confirmed that various types of data on EORE, land release, victim assistance, and other activities, are gathered. For instance, in the case of EORE, data collection involves identifying the primary target groups across social and geographical categories, especially those most vulnerable. It provides an understanding of local knowledge about explosive ordnance, attitudes, beliefs, and norms, along with the sources of information regarding explosive ordnance risks and personal safety. Furthermore, insights are gained into the threat of explosive ordnance in the most affected regions. Across the documents reviewed and among respondents, a broad range of data is collected, typically disaggregated by demographic factors such as age and sex and, to a lesser extent, disability and ethnicity. No data on religion was reported, although IMAS 4.10, Glossary of mine action terms, definitions and abbreviations indicates that:

"Data on the population affected by the crisis should always be broken down by age and sex and other relevant factors such as ethnicity or religion."

These differentiated approaches reflect an understanding that diverse social identities experience

risks and hazards differently, and those differences must be accounted for in data collection.

Reflecting on the findings, the widespread gathering of primary demographic data indicates a fundamental recognition of diverse beneficiary experiences and needs. However, the lack of attention to certain factors, notably ethnicity and religion, suggests potential gaps in understanding the full spectrum of beneficiaries' experiences. This might lead to overlooked intersectional challenges and unintentional marginalisation.

4.3.2. Who collects the data?

In Cambodia, Colombia and Iraq, the choice of who collects data in mine action operations largely depends on a mixture of security, local cultural norms, and the specific requirements of each project. In all three countries, a prominent theme is the employment of teams or individuals to collect data, which helps build community trust and rapport. Gender considerations, too, play a significant role, with women sometimes being preferred to interact with other women or children. Meanwhile, organisations also utilise various roles, from dedicated data collection teams to field coordinators and community liaison, illustrating the importance of versatility and adaptability in this process.

Cambodia – The decision regarding who collects the data principally depends on the nature of the activities or interventions. For MAG, the task usually falls under the remit of a specialised information management team, providing support across various programmes such as risk education, impact assessment, and victim assistance.

For the CMAA, each programme or project possesses a dedicated team, which is then further trained by the information management team, as required, to cater for the specific data needs of the project.

"We don't have a specific set of criteria to select data collectors as most of the time there is a pre-set of data collector selection in each type of form. The basic idea here is that each programme/project has its own team trained with support from data management/ IM team…" – Cambodian Mine Action and Victim Assistance Authority.

There is clear encouragement for both men and women to participate in data collection, considering the gender perspectives and sensitivities. It is recognised that, in some instances, women may engage more freely with women respondents. While there are no explicit restrictions on men interviewing women or children, from a protection standpoint, a

second individual must often accompany men data collectors during interviews with women or children.

Iraq – The nature of the tasks, beneficiaries, community restrictions, and security considerations primarily drive data collection decisions. Each role has different data collection requirements. For the Danish Refugee Council, community liaison officers interact with the community, gathering information before and after decontamination. In contrast, non-technical survey members collect information about victims and beneficiaries in contaminated areas, and efforts are made to ensure the teams have a combination of women and men.

Data collectors are generally chosen based on their technical expertise, location, language skills, gender requirements, and general acceptability within the community. They are trained, possess strong communication skills and experience in data collection, and are selected regardless of gender if they meet the qualification requirements. However, ultimately, the gender composition of data collection teams is determined based on the area's cultural nuances and security implications. For example, in some communities, men may not feel comfortable being interviewed by women. Conversely, in some contexts, women may feel more at ease sharing information with women data collectors.

Colombia – Considerations around security and an effort not to overwhelm the local population with too much data collection, influence who collects the data. Sometimes, to reduce the burden on the people, Fundación Tierra de Paz, for example, uses context data that is already available, such as the number of inhabitants.

Fundación Barco operates through local managers based in various municipalities across Colombia. These individuals gather information from people attending the training sessions. The managers receive training to register the information correctly. Their local background helps evaluate security conditions more accurately and builds community trust. For HI, community liaison officers are selected by the community itself. These individuals can address sensitive topics, and in their selection, women and people with disabilities are encouraged to apply.

For Campaña Colombiana Contra Minas, efforts are made to ensure that data collection teams reflect the demographic majority of the population, for example, Afro-Colombian, indigenous, and women, among others.

No guiding documents were available that explicitly informed who should collect the data. However, there is mention that enumerators were responsible for data

collection. Enumerators receive introductory training on specific topics, but specialised training for data collection on sensitive issues is not included.[76]

Reflecting on the findings, it is evident that a combination of security, local cultural norms, and project requirements drives the choice of data collectors in mine action operations. Engaging local teams or individuals, often from the area or similar communities, is a usual practice across Cambodia, Iraq, and Colombia. This approach fosters trust and creates rapport within communities and leverages valuable local insights. Gender considerations are crucial in this process, with women's involvement often necessary for engaging with women or younger respondents effectively and ethically. The roles involved are diverse, highlighting the importance of flexibility and adaptability in varying project needs. Yet, there appears to be a gap in recognising and including these data collectors' insights and perceptions about the data collection processes, potentially missing out on critical perspectives. Furthermore, the lack of explicit guidance on who should conduct data collection and training for sensitive topics suggests that further attention is required to enhance these teams' capacity and ensure comprehensive and ethical data collection practices.

It is also worth being mindful of how all individuals involved in data collection carry assumptions and biases and, in future research, a deeper understanding of how this may affect data collection would be useful. For example, if a certain group were viewed as power-holders, this could impact community members' willingness to share information on sensitive topics.

4.3.3. Who is interviewed?

Common themes emerge in organisations deciding who to collect data from during humanitarian interventions. First, there is an emphasis on capturing data from diverse community members. However, cultural contexts often influence the degree of participation, particularly among women, who may not always be willing or able to contribute. Second, safety and security considerations play a pivotal role in data collection. When risks such as mines are suspected, more intensive data collection efforts are made, often involving entire communities. Lastly, local authorities and community leaders often serve as key informants, underscoring the importance of local partnerships in these efforts.

Cambodia – Data collection is predominantly linked to the activities implemented, such as risk education, impact assessment, non-technical survey and victim assistance. Organisations engage with local authorities and direct beneficiaries. Local authorities are engaged

through focus group discussions. Direct beneficiaries are approached individually for interviews and are primarily characterised as men, women, and children. However, it has been observed that women are generally less willing to answer, often referring the team to their husbands. Some organisations have incorporated the Washington Group Short Set on Functioning in their surveys to identify people with disabilities among their targeted local communities. Overall, there was no evidence of set criteria or processes for ensuring the inclusivity of a diverse range of people in data collection processes. In some cases, for example with The HALO Trust, the themes prioritised relevance, availability, and willingness to answer questions, which does not suggest a targeted approach.

Iraq – Data collection involves a variety of approaches and targets different groups. The involvement of women is particularly encouraged to maintain gender inclusivity. Triangulation is also a common practice at the IHSCO, with focus group discussions conducted separately for women, men, and young people.

Project-specific objectives principally guide the selection of participants and the data collection type. For example, in hazardous areas, the involvement of government agencies, non-governmental organisations, community members residing near the hazard, and personnel in direct contact with the hazardous areas, is crucial. The aim is to understand the situation comprehensively, including the perspectives of different actors and the specific needs of those affected. The selection of interviewees, which can range from children to adults, is based on their exposure to the situation.

Data collection may sometimes focus on specific groups, such as women landowners, widows, or families impacted by accidents. Information about the victims and their families is gathered, as injuries can have broader social, mental, and financial consequences. This more comprehensive understanding of the family's conditions helps inform appropriate assistance measures and support.

Colombia – Data is collected from all attendees of educational activities, and for other activities, information is gathered based on the vulnerability formats discussed with local authorities and community leaders. There is a conscious effort at Fundación Barco to include leaders from the lesbian, gay, bisexual, transgender, intersex, and queer community in these discussions, not necessarily because they have a particular risk from mines but because of their central role in the community.

While diverse sexual orientations are not highlighted explicitly in their activities, as this could lead to

stigmatisation or persecution in certain territories, Fundación Barco maintains an open approach where individuals are asked to share their information. The decision to participate is entirely voluntary, and the organisation respects those who choose not to share their details due to security concerns.

Regarding geographic distribution, in the case of The HALO Trust, the organisation visits 100 per cent of houses, if there is suspicion of mines in a village. In cases where no such suspicion exists, 20 per cent to 30 per cent of households are visited for data collection. If the work is conducted in a school environment, the data collection facilitators are often teachers trained in Explosive Ordnance Risk Education. During emergencies, the data collectors could be community leaders or community liaison officers trained for the task.

Reflecting on the findings, decisions on who to interview during humanitarian interventions vary across contexts. Such decisions are heavily influenced by the activities being carried out, cultural norms, safety considerations, and accessibility of key informants. The critical role of local authorities and community leaders as key informants can perpetuate existing power dynamics, possibly leading to the exclusion of marginalised voices and risking a skewed understanding of community needs. Despite efforts to include women and other demographic groups, these attempts are still largely shaped by social and cultural norms, indicating the need for increased efforts towards inclusivity. The absence of a clear set of criteria for ensuring diversity in data collection processes underscores the need for further consideration of who data is collected from, particularly how to reach and incorporate the views of invisible groups safely. A more comprehensive and balanced picture of the community's needs and experiences can be achieved by doing so.

4.3.4. How are tools tailored?

This section addresses our research questions by examining how tools are tailored for diverse communities, ensuring both representative data collection and adherence to the do no harm principle. Gender inclusivity appeared as a recurring theme, with efforts made to ensure equal representation and engagement of, primarily, men and women in data collection. Additionally, cultural sensitivity and adaptation play a significant role as data collection approaches are adjusted to respect local customs, languages, and traditions. Respondents emphasise that collaboration with local communities, leaders, and stakeholders is crucial, fostering trust and enabling meaningful data collection.

Cambodia – Mines Advisory Group, given the volume of data to be collected, utilises a comprehensive system encompassing 11 different data collection forms tailored to areas such as impact assessment and non-technical survey. Data collection methodologies include group discussions, interviews with community stakeholders, and individual interviews. Their forms are designed to be gender-responsive, alerting the team if a specific gender is underrepresented, thus enabling interventions tailored to that group's needs.

Tablet-based data collection is common for the CMAA. Still, paper-based forms are used as a backup to prevent data loss. Case studies often involve interviewing men and women household members to ensure a full and balanced perspective.

Iraq – Data collection methodologies focus on representing different gender and age groups equally while considering the local context, religion, and ethnicity.

"We care about beneficiaries regardless of their religious backgrounds, but we take into consideration the context, religion and ethnicity of the area." – Iraqi Health and Social Care Organization.

Organisations in Iraq use focus group discussions, key informant interviews, knowledge, attitudes, and practices surveys, and socio-economic surveys. While these tools are designed to be gender-neutral, they are adapted for children to ensure comprehension. Open-ended questions are used for children, while more detailed information is sought from adults.

Special attention is given to ensure inclusivity, regardless of religious or ethnic background. The data collection process remains fundamentally the same for men and women of all ages, with minor adjustments made as required. When collecting data in areas where different languages are spoken, materials and messages are translated into Arabic and Kurdish.

Colombia – Organisations such as the Danish Refugee Council prioritise accessibility and inclusivity in data collection methods, recognising that not all respondents may possess literacy skills. Staff assist individuals in filling out forms and accepting data submissions on any piece of paper, which is then transferred onto standardised forms. Particular attention is paid to include data from frequently overlooked demographics, such as individuals with disabilities and older people.

Cultural nuances are respected and accommodated, particularly in indigenous communities. For instance, in Chocó, an area on the North Pacific coast with a substantial indigenous population, separate meetings

GICHD's Visit to Cambodia, 2022 ©GICHD

are arranged for men and women, to adhere to cultural customs that prevent them from speaking in the same setting. In addition, dedicated workshops are held for children.

Data collection tools and interventions are tailored to the diverse populations identified. For example, interpreters are brought in if a population does not speak Spanish. Similarly, if it is inappropriate to discuss sexual orientation in a community, this category is omitted from the tool. Data collection methodologies are also flexible, dependent on the specifics of the project and the targeted population. For instance, when conducting EORE activities with women, alternative methodologies are employed to accommodate responsibilities. Strategies like communal meals and skill-based courses (nail art, baking or carpentry) are organised to gather the necessary information in a non-invasive way.

Organisations in Colombia adjust their strategies to meet the needs of the target population, tailoring formats to collect data on individuals' places of origin, conducting gender workshops, and adapting strategies to align with the oral traditions of indigenous communities. Additionally, with the high rate of Venezuelan migration and increased focus on indigenous communities and individuals with disabilities, relevant categories have been added to the data collection formats.

In summary, this research found significant evidence of organisations tailoring data collection methodologies to gather comprehensive information. Strategies and tools are adapted to cater to diverse populations, such as migrants, indigenous communities, and individuals with disabilities.

GICHD's visit to Colombia ©GICHD

4.3.5. Challenges faced in data collection

Colombia

In Colombia, the principal challenges for data collection are driven by the country's ongoing conflict. Security is a major hurdle. The territorial control by some armed groups hampers demining activities and risks education initiatives. One representative stated, "En ocasiones los grupos armados no permiten que las personas llenen los listados de asistencia,"[77] meaning "armed groups sometimes prevent people from filling out attendance lists". In certain areas, an armed group has stopped a foundation from carrying out EORE activities.

People's fear of stigmatisation and security concerns often result in under-reporting. There is an ingrained apprehension about the potential misuse of personal data, fears of identification by armed groups, or unwanted political affiliation. These fears have been mitigated to an extent by building trust within communities. "Hay temor en las personas en el uso que se le dará a la información... esto lo han contrarestado con la confianza que han generado con las comunidades,"[78] which translates as "There is fear among the people about the use of the information, which they have counteracted with the trust they have generated with the communities."

Cultural diversity and gender issues pose another challenge. Government forms are often rigid and fail to consider the diversity of identities. For example, people choose whether they identify as migrants or Afro-Colombians without the possibility of selecting both. Furthermore, carrying out activities with rural populations versus indigenous populations presents distinctive cultural obstacles. In some indigenous groups, women are not permitted to speak in group settings unless there are women on the working team – who cannot talk to men either. Some organisations have addressed this by training indigenous men and women to serve as interpreters in these spaces. The language barrier is a significant hurdle for activities in indigenous communities.

The ongoing conflict necessitates constant reassessment of intervention actions due to emergencies or population displacement. This variability in target populations makes it difficult to track progress. Some organisations, such as the Red Cross, use their reputation to access territories with difficult security situations. However, they must be cautious about conducting activities and conveying messages. At times, they decide it's safer to postpone activities rather than risk community or team safety.

GICHD's visit to Cambodia, 2022 ©GICHD
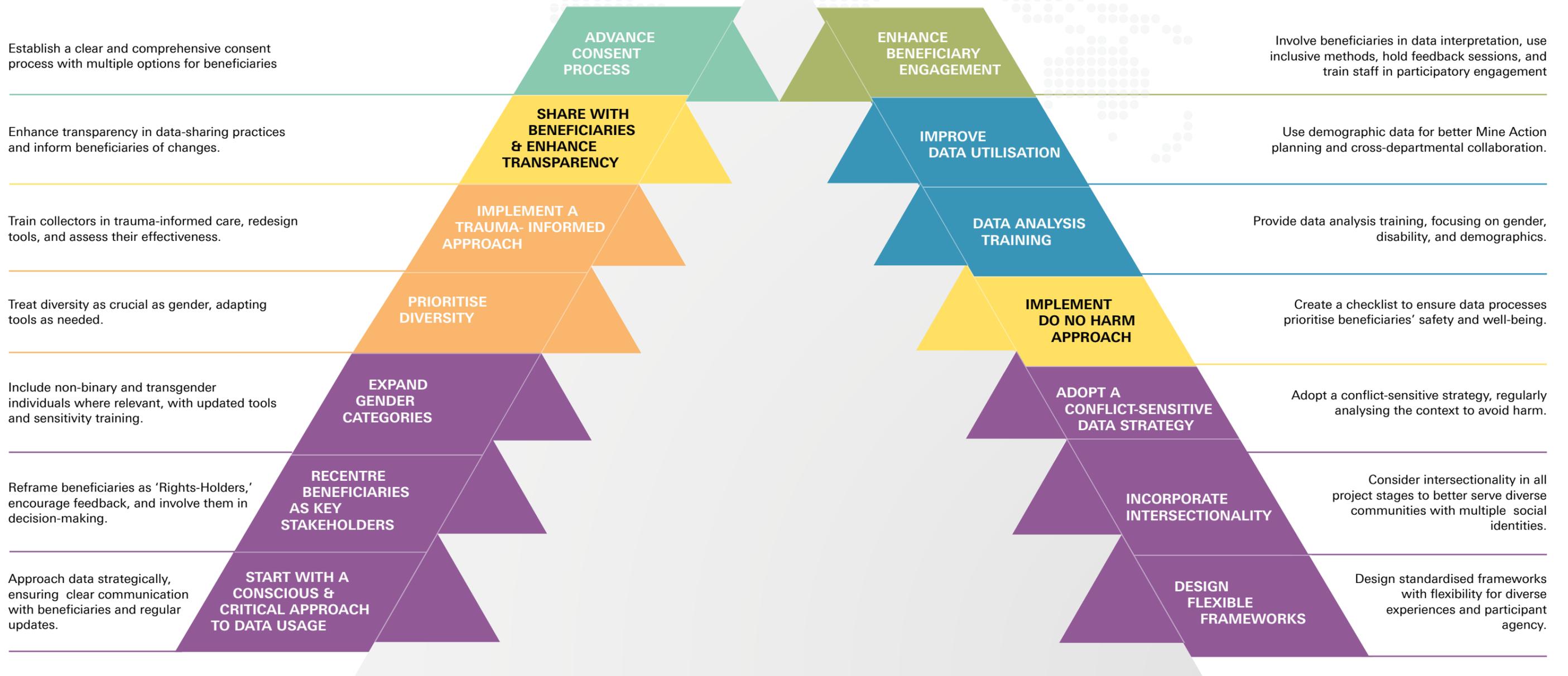
Cambodia

In Cambodia, respondents reported that data collection does not generally face significant obstacles. People are reportedly open to sharing information. However, one respondent noted that there would be significant challenges if data collection were to extend to non-binary or transgender individuals. They said that this would necessitate a self-identification process that could lead to privacy issues and affect relationships within the wider community, noting that "If we are to include data about non-binary or transgender, it would be very challenging because it needs to go through a self-identification process, but on the other hand, the issue about people's privacy and the acceptability and relationship with the wider community people. We need to protect them in the social and environment where they are living."[79]

A significant challenge lies in the depth of understanding of data collectors concerning gender and diversity issues. The issue is not data collection per se, but instead in the analysis phase where gender and diversity-related data is poorly analysed, leading to challenges in conclusions and reporting about gender and diversity. Additionally, some team members struggle with transitioning from paper-based forms to online ones. The perception of gender data is often skewed towards women only, neglecting the balance and roles between women and men, boys and girls.

As one representative said, "When we discuss gender in data collection, most people still only refer to it as women alone... we need to explain to people that gender is not about women alone but about balance and role between women and men, boy and girl."[80]

Accessibility to remote communities was a past challenge, but it has significantly improved over recent years. Seasonal factors like flash floods sometimes prevent access to certain areas. From a gender perspective, a specific challenge is hearing women's voices fully as they often hesitate to respond to data collection questions, deferring to their husbands to answer instead. This is not due to legislation, social norms, or restrictions from the husband but rather cultural expectations where women do not want to handle official or social affairs, leaving these to the men. Despite this, things are changing gradually, and women's engagement has increased. A representative noted, "We could see that women are more engaging from time to time."[81] More inclusive data collection has led to a broader understanding of mine risks and more balanced project designs benefitting women and children. For example, women have pointed out mine risks along routes to schools and water collection points, areas often overlooked when men pinpoint regions at risk, primarily in fields and forests.

INCLUSIVE DATA MANAGEMENT

Establish a clear and comprehensive consent process with multiple options for beneficiaries

ADVANCE CONSENT PROCESS

ENHANCE BENEFICIARY ENGAGEMENT

Involve beneficiaries in data interpretation, use inclusive methods, hold feedback sessions, and train staff in participatory engagement

Enhance transparency in data-sharing practices and inform beneficiaries of changes.

SHARE WITH BENEFICIARIES & ENHANCE TRANSPARENCY

IMPROVE DATA UTILISATION

Use demographic data for better Mine Action planning and cross-departmental collaboration.

Train collectors in trauma-informed care, redesign tools, and assess their effectiveness.

IMPLEMENT A TRAUMA- INFORMED APPROACH

DATA ANALYSIS TRAINING

Provide data analysis training, focusing on gender, disability, and demographics.

Treat diversity as crucial as gender, adapting tools as needed.

PRIORITISE DIVERSITY

IMPLEMENT DO NO HARM APPROACH

Create a checklist to ensure data processes prioritise beneficiaries' safety and well-being.

Include non-binary and transgender individuals where relevant, with updated tools and sensitivity training.

EXPAND GENDER CATEGORIES

ADOPT A CONFLICT-SENSITIVE DATA STRATEGY

Adopt a conflict-sensitive strategy, regularly analysing the context to avoid harm.

Reframe beneficiaries as 'Rights-Holders,' encourage feedback, and involve them in decision-making.

RECENTRE BENEFICIARIES AS KEY STAKEHOLDERS

INCORPORATE INTERSECTIONALITY

Consider intersectionality in all project stages to better serve diverse communities with multiple social identities.

Approach data strategically, ensuring clear communication with beneficiaries and regular updates.

START WITH A CONSCIOUS & CRITICAL APPROACH TO DATA USAGE

DESIGN FLEXIBLE FRAMEWORKS

Design standardised frameworks with flexibility for diverse experiences and participant agency.

Iraq

Conflict-affected areas in Iraq impact data collection efforts. Interviewees point to a range of challenges, such as overcoming cultural barriers, ensuring physical safety, and dealing with political pressures.

In certain societies, particularly among more conservative communities, it is often frowned upon or prohibited for women to interact with outsiders, particularly men. This makes it hard for data collectors to get comprehensive information, especially on sensitive issues like gender-based violence. As one humanitarian worker said, "Interacting with women in these conservative societies can be problematic, especially when the data collectors are men. There are certain cultural codes and traditions that we need to respect, and this can sometimes limit our access to comprehensive data."

Political pressure and the fear of retribution also pose significant challenges. This is particularly relevant in areas with high distrust towards the government or where the population fears reprisals from local power brokers or armed groups. A representative from a local non-governmental organisation expressed this concern, saying, "People are often reluctant to share information for fear of retribution from local power brokers or armed groups. They worry that their responses might be used against them in some way, making our data collection efforts more challenging."

Finally, Iraq hosts a large, displaced population that has been uprooted several times, which adds another layer of complexity to data collection efforts. These populations can be hard to reach and are often suspicious of outsiders, making data collection from these groups particularly difficult. "Collecting data from displaced populations is hard. They've been uprooted and traumatised multiple times and are often wary of outsiders. Building trust with these communities takes time and is often a big challenge," a humanitarian worker pointed out.

GICHD field visit to mine action operations in Shatt-al Arab Basra – Iraq, 2021 ©GICHD

When examining the challenges faced in each of these countries, there are efforts to apply conflict sensitivity principles and to do no harm. Still, these efforts vary depending on the context, and there is room for improvement.

Conflict sensitivity: in Iraq, for example, the challenge of sectarian divides and the fear of reprisal shows an awareness of conflict dynamics. However, it is less clear how these understandings are applied when consulting beneficiaries and mitigating harm. Similarly, Colombia's complexities of ongoing conflict and varying cultural norms among indigenous groups are recognised, but it's unclear how these influence data collection practices. The context of each community seems to be acknowledged but not thoroughly integrated into the methodology.

Doing no harm: the principle of do no harm is adhered to in a reactive rather than proactive manner. In Colombia and Iraq, activities are sometimes cancelled or altered due to security conditions, indicating a consideration for the safety of the community and the data collectors. However, community members' fear of retribution for their participation indicates a potential harm that needs to be better addressed. In Cambodia, the potential harm to non-binary or transgender individuals is acknowledged in the case that data was collected, showing a consideration for the do no harm principle. However, instead of finding ways to include these individuals safely, they have been excluded from data collection, which can be seen, in itself, as a form of harm.

Feminist principles: the application of feminist principles, which prioritise intersectionality, participant-led inquiry, reflexivity, and power analysis, seems to be lacking across the board. In Cambodia, the gender aspect is reduced to a binary understanding and not expanded to include diverse experiences or power dynamics. Similarly, in Colombia, while intersectionality is acknowledged, the rigid forms that force individuals to choose a single identity demonstrate a failure to embrace these principles fully. In Iraq, women's voices seem to be excluded due to cultural norms, which are being addressed through partnerships with the GICHD and acknowledged in Iraq's Mine Action Strategy 2023–2028.

These reflections suggest that while there is an awareness of conflict sensitivity and the need to do no harm, the application of these principles is inconsistent and often reactive. Feminist principles appear to be less understood or applied in these contexts, and there is a notable gap in power analysis and intersectionality in these data collection practices.

4.3.6. Whose standards?

Respondents reported that national and international standards and organisational procedures guided data collection practices. Respondents reported international mine action standards more frequently as a cornerstone for data collection, owing to their global relevance and recognition. International standards are also commonly used to develop national mine action standards (NMAS) detailing requirements that are specific to the context. For example, the CMAA's national standards, complying with the Cambodia Mine/ERW Victim Information System, are pivotal in Cambodia. The HALO Trust, for instance, specifically referred to the baseline survey forms in line with Cambodian Mine Action Standards for minefield surveys.

Government mandates and donor requirements also play a significant role in determining data collection standards. Donor attitudes towards gender equality and inclusion have been found to affect data collection practices significantly.[82] In a study published on monitoring and evaluating gender equality and inclusion in explosive ordnance risk reduction for the ASEAN Regional Mine Action Center, donors were reported to actively promote gender equality or disability inclusion within funded projects, even requiring data to be disaggregated by disability status. Furthermore, these practices point to a broader agenda. Mine Action's contribution across different priority areas, including livelihoods, food security, environment, and the 'triple nexus' of humanitarian, peacebuilding, and development sectors, are important to demonstrate through data collection.[83]

This was evidenced in Colombia. Forms demanded by the authorities and donors direct the standards, along with the application of specific tools such as the Washington Group Short Set for disability data. The same influence of donor policies is evident in Iraq. The standards are often intertwined, reflecting the policy guidelines from the respective organisation, donor requirements, and NMAS approved by the Directorate of Mine Action (DMA). Certain international campaigns or programmes like the Humanitarian Response Plan and Humanitarian Action for Children by the United Nations Children's Fund (UNICEF) and the risk awareness and safer behaviour initiative by the International Committee of the Red Cross, drive data collection standards in particular contexts.

Power dynamics appear to play a significant role in determining these standards. International standards, national policies, and donor requirements, set by those with financial and structural power, dominate. The potential for community members or the affected population to influence these standards, a key element

of challenging power and promoting inclusion, needs to be clarified from the responses. However, a GICHD advisor noted that interested parties could influence the standards' process by joining technical working groups, providing a potential avenue for challenging power structures, and promoting inclusion. However, this may depend on the accessibility of technical working groups and in what languages they are available. Another respondent highlighted that community consultations were included in organisational strategy development, which suggests a wider consideration for beneficiary participation.[84] This highlights a critical area for reflection and potential growth in incorporating wider and more diverse stakeholders into data collection standards in mine action.

An information management advisor also stressed the ethical responsibility of maintaining information security and data sensitivity, which aligns with some respondents' concerns about sensitive data. International standards and donor requirements should not undermine the moral obligation to avoid creating issues for individuals through data collection. The advisor also noted that IMAS should be viewed more as guidelines than strict regulations. This stresses the importance of flexibility and contextual adaptation within these standards, a critical factor for effective data collection in diverse contexts.

4.3.7. How is do no harm applied?

In the research context, the do no harm principle guides how data should be managed to prevent any negative consequences, such as breach of privacy, stigmatisation, or any other form of harm, to the people whose data is being collected and used. Understanding and applying the do no harm principle is crucial for building trust and cooperation with local communities, ensuring data quality and accuracy, and upholding the rights and well-being of the people directly or indirectly involved in mine action work. Earlier, this research revealed a mixed understanding of the do no harm principle within the mine action sector across Cambodia, Colombia, and Iraq and. While the principle is recognised, its interpretation and application are inconsistent, indicating a discrepancy between the theoretical acknowledgement and practical execution of the principle.

Building on this initial understanding, this section now explores how do no harm is applied in practice. Specifically, it highlights actions taken by organisations to minimise harm in data collection and management processes.

Assessment of community needs and vulnerabilities: across various regions, organisations emphasise understanding of the community's needs, vulnerabilities, and capacities before initiating activities. For instance, in Colombia, the Danish Refugee Council states, "Before performing activities, we must fill out the form detailing the population's needs, vulnerabilities, and capacities." The same approach resonates with the philosophy of HI, highlighting the universal trend of adopting sensitive and responsive strategies in data collection. This is a government requirement in Colombia and suggests that higher policy mandates can influence good practice when considering vulnerable community needs.

Engagement and consultation with local communities: engagement and consultation with local communities is widespread. For example, Fundación Tierra de Paz in Colombia operates from a community-based approach, stating that "The Foundation works from a community-based approach, so everything they do is first consulted with the community." Meanwhile, Tetra Tech in Iraq adopts a different approach involving community leaders: "Involving the community leaders (village chiefs, local authority) and focus on ethical and responsible practices." However, the involvement of village chiefs or persons of power in the community could also have negative consequences if certain agendas dominate community consultation over others. This is a delicate balance of inclusion for mine action organisations in respecting local or village structures while ensuring that individual perspectives are not excluded.

Emphasis on consent and voluntariness: consent and voluntariness emerge as fundamental principles globally. In Iraq, Norwegian People's Aid and SHO prioritise consent, with the SHO stating that "We take consent, and we tell them if you don't like a question, don't answer." Norwegian People's Aid affirms that "The participation in the survey is voluntary". Meanwhile, The HALO Trust in Cambodia takes a slightly different approach by relying on verbal consent, stating, "No written consent form is required for data collection or photography but verbal request." However, The HALO Trust has since installed a more systematic consent process with questions added to post-clearance assessments. The adherence to consent across contexts, albeit through varied forms, underscores a shared understanding of the importance of autonomy and informed participation.

Avoidance of sensitive topics: avoidance is a practice shared among organisations. SHO in Iraq explicitly mentions avoiding sensitive topics such as politics and religion, stating that "We do not ask sensitive questions; we try to avoid as much as possible, such as political and religious, that might

cause misunderstanding or conflict." This is coherent with a gender expert interviewed who stated that data collectors need to be sensitive and avoid asking invasive questions.[85] This common approach testifies to a shared understanding of potential harm and conflict from handling sensitive issues without proper care.

Collecting data on sensitive topics like religion or ethnicity in research presents tension. On the one hand, neglecting to gather this information may result in a lack of inclusivity, overlooking specific groups' unique needs and experiences. On the other hand, obtaining such data carries risks: if not stored securely, it might be compromised, jeopardising the safety and privacy of individuals. Furthermore, if the collected data is not utilised meaningfully, gathering it becomes extractive, eroding trust without providing beneficial outcomes. This trade-off highlights the complexity of data collection in sensitive contexts and the need for careful judgment, conflict sensitivity and robust conflict analysis that demonstrates a commitment to security and meaningful application.

Training of data collectors: organisations emphasise the importance of proper training of data collectors. In Iraq, the DMA and SHO stress the importance of well-trained teams, with the DMA stating, "We have our standard operating procedures for data collection for all mine action activities, our teams are well trained." Meanwhile, in Cambodia, The HALO Trust emphasises proper orientation and training for data collectors, stating that "[We] conduct orientation and training for data collectors on how to ask proper questions." These instances highlight the universal recognition of competency and training in ensuring ethical data collection. However, the exact contents of what the ethical training looks like were not made available to the research team.
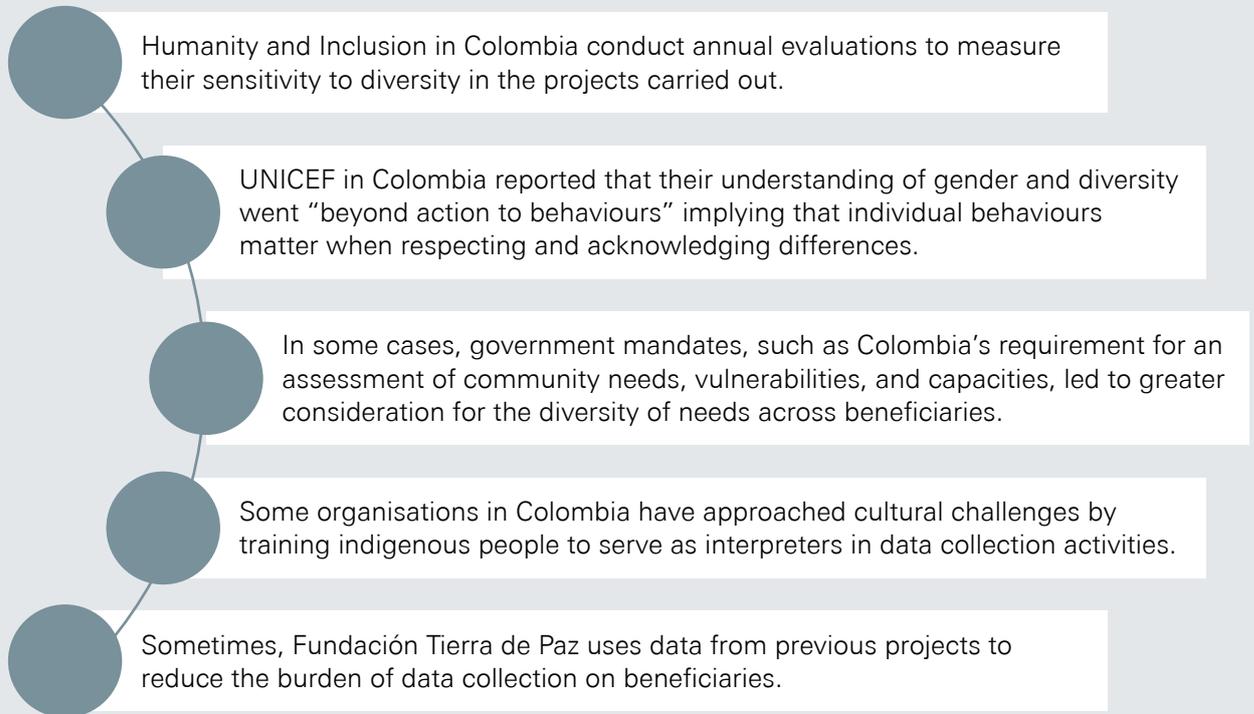
Only collecting data you will use: the United Nations Office for the Coordination of Humanitarian Affairs Data Responsibility Guidelines[86] recommend to "only collect the data that is necessary for a given purpose. For example, if a beneficiary's gender does not impact the aid they will receive, it may not be necessary to collect this information." This is echoed in the IMAS, verified by some respondents, such as MAG in Cambodia. This demonstrates an awareness of do no harm through the necessary time that can be taken from beneficiaries to collect information that will not be used, thus exacerbating the extractive nature of data collection.

The research also looked at examples of data collection tools shared by respondents or available online. The following was observed:

- Consent is generally asked for at the beginning of a survey or questionnaire but rarely reconfirmed at the end. Asking for consent again at the end is especially important when the content is sensitive; beneficiaries can withdraw consent, especially after questions that could have triggered trauma.[87]

- It is unclear in children's knowledge, attitudes and practice surveys, for example, how they understand what the information will be used for and how this is confirmed.

- Questions such as "Can you tell me what a mine or an explosive remnant of war can do to a person?" are not preceded with a trigger warning; this is especially necessary in conflict settings or with people affected by conflict. This is at odds with some of the answers where 'psychological trauma' is given as an answer to a question, but as a requirement to demonstrate their understanding of it instead of their immediate need, because the beneficiaries are in fact experiencing this themselves.[88]

Good practice

Good practice identified included considerations for the diverse needs and sensitivities of beneficiaries. This comprises regular evaluations of project inclusivity, emphasising the significance of individual behaviours in understanding and acknowledging differences, mandated assessments ensuring a comprehensive understanding of community requirements, initiatives to overcome cultural barriers in data collection, and efforts to minimise the data collection burden on participants by repurposing prior data.

Humanity and Inclusion in Colombia conduct annual evaluations to measure their sensitivity to diversity in the projects carried out.

UNICEF in Colombia reported that their understanding of gender and diversity went "beyond action to behaviours" implying that individual behaviours matter when respecting and acknowledging differences.

In some cases, government mandates, such as Colombia's requirement for an assessment of community needs, vulnerabilities, and capacities, led to greater consideration for the diversity of needs across beneficiaries.

Some organisations in Colombia have approached cultural challenges by training indigenous people to serve as interpreters in data collection activities.

Sometimes, Fundación Tierra de Paz uses data from previous projects to reduce the burden of data collection on beneficiaries.

4.4. Data storing

Understanding data storing addresses the first research question regarding the mine action sector's current methodologies and their consideration of gender and social dynamics. As reflected in IMAS 5.10, Information management for mine action, data storing refers to:

- Processes to determine what information is stored and how it shall be protected.

- Management of data in a way that ensures it is protected from unauthorised access and shared only with authorised parties.

- Implementation of a system to manage data and ensure data security, adhering to security policies, and regularly checking the database for accuracy, completeness, and consistency.

In conflict-affected countries, seemingly benign information like a person's name or location can carry significant risk. In cases of sectarian violence, for instance, a person's name can often be used to infer their religious or ethnic identity, which can put them

at risk of targeted violence. Location data could reveal the areas where vulnerable groups are concentrated, making those areas targets for attacks, or forced displacement. There is a requirement to adhere to international and national data protection and private laws and a moral and ethical obligation to protect people's data.

This research asked interview respondents what measures are taken to protect beneficiary data.

Cambodia: mine action organisations collect data digitally using tablets, ensuring data protection through password settings and secure storage once data collection is completed. The CMAA uses a dual method of data collection, incorporating both digital tablets and paper forms. Their reliance on paper forms arises from occasional technical issues like tablet malfunctions or battery failures. Despite the lack of comprehensive personal data protection legislation in Cambodia, practices like these align with the general objectives of Sub-Decree No. 252, which seeks to protect personal identification data owned by the Ministry of Interior. However, reliance on paper forms raises concerns due to the relative ease of accessing the information, and the potential loss of paper forms could lead to unauthorised access to the data.

Colombia: in Colombia, organisations working on victim assistance collect the most sensitive data. Campaña Colombia Contra Minas, for instance, keeps this data on paper and restricts access to a single person. Similarly, Humanicemos, an organisation of ex-guerrilla members, compartmentalises information, adhering to their history of stringent security measures. Personal information is generally kept private across organisations, with access limited to a select few and data uploaded to government systems securely aligning with national policies. Decree 1377 outlines requirements for data usage authorisation, data processing limitations, and a privacy policy's adoption.

Iraq: in Iraq, organisations reported using a range of practices for data protection. These include secure data storage, access control, employee training, regular audits and assessments, and anonymising data using age ranges instead of specific ages. Data is stored digitally, often instantly saved on servers with highly restricted access. Additional measures to prevent data theft include data encryption, two-factor authentication, network security, data backups, and encryption of all offline media. These practices seem to align with the intent of Iraq's draft data classification policy, which aims to ensure confidentiality and regulate access. Until this policy is enacted, data protection in Iraq will persist under the existing legal frameworks. Organisations' emphasis on digital data storage and security measures might be an important step towards compliance with future data protection regulations.

Global: global practices found for data storage involve anonymising data and securely storing it on servers. Sensitive personal information such as names, phone numbers, and addresses are reported to be removed when possible. In line with the General Data Protection Regulation (GDPR), organisations such as Norwegian People's Aid do not share data across different projects or countries. Instead, they are shifting to cloud-based infrastructures, deeming them more secure with better protection. Personal data is never shared, with all collected data going through data protection protocols.

With consideration for do no harm, all organisations, irrespective of their country of operation, express a shared commitment to protecting personally identifiable information. They implement specific measures to prevent data from being accessed or stolen, ensuring the confidentiality and security of the data they handle. Iraq and Colombia, for instance, lean heavily on digital tools and secure databases for data collection and storage, minimising the use of paper to avoid potential data exposure. In Iraq, the IHSCO, for example, highlights the utilisation of phones

and tablets, with data being safeguarded within the information management system for mine action that limits access based on necessity: "we don't use paper for data collection, it is done using phones and tablets. We use the IHSCO information management system for mine action linked to information management, and it is protected according to who needs access to that information".

Similarly, in Colombia, the Danish Refugee Council emphasises the role of a small number of trained individuals responsible for verifying and handling sensitive data, "Desde el territorio la información se sube a la platafora de CDR, luego allí hay personas que verifican que la información esté registrada de manera correcta."

Despite the shared commitment to data protection, different organisations implement diverse strategies to achieve this goal, often informed by their specific operational context. In Iraq, organisations like the Danish Refugee Council and the IHSCO heavily rely on tablets for data collection, with data being instantly saved on a server with limited access: "The Information, Monitoring, Evaluation, Accountability and Learning Department is responsible about it, and it is protected because it is not on paper. We use the tablets, and it directly will be saved in the server, and only limited persons have access to it." On the other hand, in Colombia, while digital methods are also prevalent, some organisations emphasise personal responsibility for data custody. For example, one organisation representative in Colombia indicated that more sensitive information collected from victims is kept under the custody of a single individual and is not digitised, "La información que se recoge de las víctimas, que es más sensible, pues es casi un recuento de su historia clínica, está bajo custodia de una sóla persona de la organización y no se encuentra en formato digital." The practice of placing sensitive data under the control of a single individual could create a single point of failure risk. The data might be at risk if the individual is unavailable, or their security is compromised. IMAS 5.10 recommends having robust, multilayered security measures, indicating that this practice might need to be reconsidered or supplemented with additional measures.

As discussed in the data collection section, some organisations collected individuals' names and phone numbers alongside locations. This was evidenced across data collection tools shared with the research team. The IMAS advise against collecting excess personal data. However, this could still be seen as aligned with IMAS if this data collection is necessary for operations and if proper consent is obtained. However, this research did not uncover exactly how this information is used, and no analysis was found of

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how collecting names, numbers, and locations could put certain groups at risk if they are stored and shared in government-controlled databases. For example, during conflict, malicious actors could access databases, and information on vulnerable populations could be shared with mal-intent.

Data confidentiality: the importance of data confidentiality is commonly emphasised across organisations and countries. The Danish Refugee Council in Colombia underscores the confidentiality of collected data, stating that, "They always clarify to the communities that all the information they collect is confidential." This sentiment is echoed in Iraq and Cambodia, where emphasis is placed on data privacy and the proper handling of sensitive information. For instance, the SHO in Iraq and organisations in Cambodia express concerns about data protection and confidentiality, showing a shared understanding of potential harm from data mishandling. This commitment to data confidentiality varies in practice across regions, possibly due to local data protection laws and cultural norms around privacy.

Reflecting on the interplay between national legislation and international standards such as the European Union's GDPR, it is evident that the complexities surrounding data protection in the mine action sector are multi-faceted. Adherence to GDPR and other international guidelines provides a robust framework for data protection. Still, the real-life execution of these standards can often be influenced by local legislation or lack thereof. Therefore, a dynamic understanding of international and national standards is vital for organisations to protect beneficiary data effectively. In the absence of strong national data protection laws, as seen in Cambodia and Iraq, the responsibility of ensuring data safety is placed more heavily on the organisations themselves. On the other hand, in countries like Colombia, with robust personal data protection laws, organisations must be aware of and comply with these local requirements alongside international standards. In such a complex landscape, ensuring data protection is not a one-size-fits-all solution but requires a nuanced and country-specific approach.

4.5. Data sharing

Several themes emerge in analysing data-sharing practices among mine action organisations. Notably, the principle of selective sharing, caution in external data sharing, and adherence to the protocol are prominent.

In **Iraq**, data sharing appears to be more selective and controlled. Organisations such as the IHSCO, Danish Refugee Council, and the SHO highlight that they generally only share information that benefits the community and often only with national authorities or in response to specific requests from other organisations. The DMA's practice underscores the extreme caution taken with sensitive data: sharing only the general framework while withholding particular personal details. An interesting approach is that of Norwegian People's Aid, which collects demographic data for internal gender and diversity analysis but refrains from sharing any identifiable information externally.

Cambodian organisations have a similar approach, exemplified by the Mine Advisory Group, The HALO Trust, and the CMAA. These organisations reported keeping data for internal use; when data sharing is required, it goes through multiple levels of approval. The CMAA in Banteay Meanchey province echoes the same approach, indicating an internal focus on data use, especially individual data.

In **Colombia**, common practice, as indicated by The HALO Trust, Fundación Tierra de Paz, and Fundación Barco, is uploading the information directly to the national authority's platform. This information cannot be shared amongst the organisations, but permission for sharing or information requests must go to the authorities for a final decision. Whilst this aligns with IMAS guidelines, emphasising that data should be stored and handled securely and confidentially to protect an individual's privacy and dignity, it also suggests there is only one final decision maker in what information can be shared.

However, some practices in these countries could raise concerns. In Iraq, the Information Management and Mine Action Programme's practice of gaining consent before exposing a beneficiary's face and information is good. Still, it needs to indicate how beneficiaries' understanding of the implications of data sharing is ensured. Despite the robust protocols in Cambodia, beneficiary consent or awareness should be mentioned in the data-sharing process. Meanwhile, in Colombia, while practices largely align with IMAS guidelines, the total reliance on the national authority for data access could create a single point of failure risk.

In all three countries, while the selective sharing, controlled access, and robust approval protocols align with IMAS, focus is needed to ensure beneficiaries' understanding of and consent to data-sharing practices to further uphold the do no harm principle Many respondents referred to authorities and management as decision makers in approving whether beneficiary data can be shared across the mine action sector.

"Upon request and after approval from the programme manager, Norwegian People's Aid shares the data with the national authorities."

"It has to go through approval from the office manager to share specific data."

Coupled with government ownership of mine action information databases, there is a distinct gap in reference to beneficiaries as rights holders and decision makers in how their data is used, shared, and stored. One respondent reported that they do not return to beneficiaries if the information use or sharing purpose has changed. Whilst there may be a logistical barrier to returning to beneficiaries, this questions the level of agency that beneficiaries are afforded in the mine action sector data management process.

4.6. Data reporting and use

Organisations were asked how they used the beneficiary data collected during the research. The reported use of beneficiary data falls mainly into four key areas: planning and designing interventions; reporting; evaluating activities; and coordinating new interventions. However, the depth and breadth of data use, as well as the level of beneficiary involvement, vary significantly between organisations and countries.

In **Cambodia**, most beneficiary data is collected on gender and disability status. It was reported to be used for tailoring interventions, developing case studies, raising awareness about mine risks, informing target

area selection, and developing vulnerability and risk maps. Respondents said that,

"[data was used] for programme design, for showcasing our work, [and] to feed into the national data system."

"We use data to inform the operator for their planning such as where are the locations at risk across the country, with this operator can coordinate with others for their targeting and planning."

Some organisations mentioned that they do not re-request consent for reusing or resharing data as it had already been obtained during the initial data collection. This practice might pose potential ethical concerns, especially if the data's subsequent use significantly differs from what was initially consented to.

In **Iraq**, data is reported to play a critical role in strategic planning, service provision, and demonstrating project completion to stakeholders. However, prioritising mine clearance does not necessarily consider the nuanced needs and vulnerabilities of specific demographic groups such as gender or ethnicity. One respondent commented that, "It's not about gender or ethnicity." This finding suggests an approach based on immediate risk and threat, which may overlook the potential relevance of gender and ethnicity in addressing specific needs or vulnerabilities.

The research also identified the role of data as an instrument of transparency and accountability, with one respondent stating that, "We use the data for our reports and prove that we have done that job." Data in this context is not solely a tool for internal management but plays a pivotal role in building trust with donors and national demining authorities.

One respondent from the SHO provided insight into their data use process, from planning to reporting: "After the survey and analysing the data, we will share the data as a report to our donor." This response underscores the continuous, cyclical data use in mine action work. However, it raises important questions about the extent of beneficiary engagement beyond the data collection stage and the degree to which beneficiary insights and feedback influence data interpretation and subsequent actions.

Norwegian People's Aid Iraq reported conducting ongoing gender and diversity analyses, collecting a broad range of data, including community participation, domestic work divisions, and employment participation.

In **Colombia**, the research revealed that when needs or risks are identified within populations, the

data collected can act as a catalyst, linking to other programmes that can help meet these needs or act towards mitigating risks. Additionally, this information can alert the government about specific population vulnerabilities, enhancing its potential for socio-political impact. One respondent noted that their most valuable information pertains to the conflict dynamics and the presence of armed actors in different populations.

Data collection and analysis further inform the planning of future activities, ensuring they are more sensitive to population peculiarities. In one instance that was shared, gender training emerged from an analysis of territory and population data which identified gender gaps and gender roles.

In addition, the data from victim assistance activities is utilised to propose complementary victim support plans. All personal information gathered from beneficiaries is used to devise better strategies for victim assistance. Pre- and post-assessment surveys are noted as they enable evaluations, facilitate the creation of victim assistance alliances, and direct victims to access state reparations. One respondent explained that "The information facilitates creating alliances for victim assistance. It also directs victims so they can access state reparations."

Furthermore, the research found that data is used to generate reports, evaluate and project future activities, adjust actions, and assess the reach and quality of interventions. It was made clear that data is predominantly for internal use, to evaluate and launch new actions and generate reports for donors and the national authority.

Lastly, one respondent shed light on the broader socio-political dimension of data use, mentioning its role in prioritising territories and activities and integrating with other state policies such as land restitution or education.

Overall, the research suggests that while beneficiary data is collected and used in various ways across the mine action sector, there is a degree of vagueness regarding how the information about specific beneficiary demographics (such as gender, age, and ethnicity) directly impacts the planning and execution of mine clearance activities. For example, both IMAS and United Nations Gender Guidelines suggest that sex, age and disability disaggregated data can inform design and prioritisation. For tailoring risk education materials, information about gendered risk could inform the design of posters, for example. However, it is less clear how gender identities influence mine clearance planning and prioritisation activities. The ASEAN Regional Mine Action Center study echoed similar findings, in that stakeholders are unsure how to analyse, present and use sex, age, and disability disaggregated data.[89]

Furthermore, the research also identified a potential gap in beneficiary engagement post data collection. While data is continuously collected and analysed, it needs to be clarified how beneficiaries' insights and feedback are incorporated into interpreting the data and informing subsequent actions. This could suggest that there is room for increased participation of beneficiaries across the data management cycle.

Good practice

Good practice includes enhancing data anonymity through age ranges instead of specific ages, omitting sensitive personal details to reduce risks, transitioning to cloud-based infrastructures for better security, leveraging data effectively to influence policies, addressing vulnerabilities, and driving socio-political change.
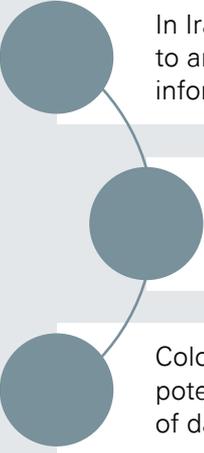
In Iraq, organisations implement practices like using age ranges instead of specific ages to anonymise data. Similarly, global good practices involve removing sensitive personal information when possible, thus minimising risks to individuals.

Organisations such as Norwegian People's Aid are shifting to cloud-based infrastructures for their data storage. Deemed more secure with better protections, these infrastructures can offer robust security measures, including encryption and secure access controls.

Colombia's use of data to inform government about population vulnerabilities, potentially influencing policy and creating socio-political impact, is an excellent example of data's power when used effectively.

5. DISCUSSION

This section reflects on key research variables, such as do no harm and intersectionality, that emerge from the findings.

Reflecting on definitions of gender

Organisations in this research revealed very different interpretations of gender and inclusion, often outside international standards or guidelines. As the mine action sector continues to evolve in its understanding of how gender and inclusion can be applied in data management practice, a more inclusive question could be, "What does gender mean, to whom and when?". This may account for cultural nuances or histories that have influenced the identification of people from different genders.

It is recognised that gender identities are not static but instead dynamic and evolving. R. W. Connell,[90] a prominent sociologist, emphasises this discussion on the fluidity of gender identities. This fluidity necessitates the constant adaptation of our understanding of gender within and across different societies. It also implies that organisations working in diverse contexts need to be cognizant of this dynamism, adapting their interventions to reflect changing realities.

Kimberly Theidon,[91] in their work on gender and transitional justice, underscores the potential harm in imposing a binary concept of gender that may not align with local understandings and cultural norms. Prescribing strict binary definitions of gender or inclusion without considering the local context can inadvertently contribute to stereotypes, marginalisation, or further social exclusion.

Lastly, it is important to consider the potential limitations of applying Western-centric interpretations of gender in non-Western contexts. Dr Chandra Talpade Mohanty,[92] a distinguished feminist scholar, cautions against the imposition of Western feminist ideologies in different cultural contexts. Each culture has its unique constructs and understandings of gender, and these should be respected and considered in any intervention or interpretation.

While it is out of the scope of this research, beneficiary-led definitions may warrant further consideration and whose definitions are prioritised over others.

Citizen-generated data and participation

A reoccurring theme across the research is the need to centre beneficiaries as rights holders and decision makers in data management processes, through citizen or beneficiary-generated data and through increased participation or participatory methods that enable increased involvement.

In Colombia, for example, one respondent mentioned that a key challenge is to empower communities to collect population data, determining what information is relevant and how it is gathered. However, cultural differences, particularly with indigenous communities with different communication methods, pose difficulties in collecting this information. For example, one representative said, "también hay dificultades culturales para recopilar la información, por ejemplo con los indígenas, donde hay otras formas de hablar" meaning there are cultural difficulties in gathering information, especially with the indigenous people, where there are different ways of speaking. Furthermore, respondents in Colombia highlighted that "while systems focus on data capture, they don't consider how this information returns to the community".

This reflection highlights the assumptions behind standard reporting formats, digital forms of data collection and data management in that they work for everyone and, as a result, may exclude indigenous knowledge and alternative forms of documenting information, and reinforce inequalities in as much as who has access to digital platforms.

Equally, the processes discussed in this research have demonstrated a one-way flow in data gathering and extraction. Whilst non-technical survey can involve ongoing discussion with communities, and beneficiaries are informed of land release efforts during hand-over processes, there was no evidence of

data, reports or how the information being used was being shared back with beneficiaries. If beneficiaries, as rights holders, were empowered as decision makers and active participants in data management processes, this could advance the sector away from extraction.

Participatory methods to consider could include:

- Focus group discussions: for example, organisations like Mines Advisory Group, The HALO Trust and Norwegian People's Aid conducted focus group discussions with beneficiaries to understand behaviour change.

- Participatory learning action: inviting beneficiaries to draw, or make things as evidence of change, impact, or experiences, instead of using a conversational medium.

- Community mapping: building maps of contamination and areas where people are at risk collectively with different community groups, ensuring everyone has had a say in building or adding to the map.

Trauma-informed approaches

Trauma-informed practices recognise the widespread impact of trauma and actively seek to avoid re-traumatisation. As defined by the UK government,[93] a trauma-informed approach perceives the widespread impact of trauma. It recognises signs and symptoms in clients, families, staff, and others involved in the system. Adopting these practices within data collection can ensure that the questions asked and the methods used are sensitive to the experiences of those affected by explosive devices and associated psychological trauma.

The research identified a lack of explicit acknowledgement or integration of these practices. Only one respondent reflected on trauma as an approach that needed to be considered within the do no harm principle. However, many respondents did reference the need to ensure that questions about explosive devices and personal experiences are framed sensitively. In reviewing the tools provided, however, we found no evidence of systematic integration of trauma-informed principles. For example, the wording of questions, the design of surveys, and the protocols for data collection did not explicitly acknowledge the potential for re-traumatisation or provide strategies to avoid it.

An article by the Geneva International Centre for Humanitarian Demining[94] on how to proactively support staff in mine action regarding mental health and well-being acknowledges the stressors of staff in humanitarian and conflict settings. It may be worth revisiting this from the perspective of beneficiaries participating in mine action data collection processes.

Six fundamental principles guide a trauma-informed approach:[95]

Safety: creating a physical and emotional space where individuals feel safe. The perception of safety can vary significantly among individuals, so building an environment that caters to these diverse needs is essential.

Trustworthiness and transparency: building trust through consistency, clarity, and transparency in all operations. Trust can be fostered by ensuring that actions align with the set expectations and that any changes are communicated clearly and promptly.

Peer support: harnessing the therapeutic potential of relationships among individuals who have experienced similar traumas. This principle can help individuals feel validated and less isolated in their experiences.

Collaboration and mutuality: emphasising the importance of partnership and shared decision-making. This aims to balance power dynamics, encouraging everyone's active participation in a trauma-informed approach.

Empowerment and choice: giving individuals a say in decisions that impact them, thereby empowering them and reinstating control that traumatic experiences may have taken away.

Cultural, historical, and gender issues: acknowledging the intersection of trauma with cultural, historical, and gender issues. It involves challenging stereotypes and biases, acknowledging cultural identities, and understanding and addressing the impacts of historical trauma.

Applying trauma-informed practices within the mine action sector offers an opportunity to advance the do no harm principle. The sector can ensure effective and empathetic data management processes by incorporating such practices and respecting individuals' experiences, fostering trust, and facilitating healing rather than causing additional harm. Furthermore, this approach will enhance the quality of the collected data, as participants are more likely to share their experiences openly in a safe and respectful environment.

Flexible frameworks

Feminist theory and methods in data collection fundamentally value the lived experiences, voices, and agency of those being studied, with a particular emphasis on addressing power imbalances and the intersectionality of different identities (e.g. gender, race, socio-economic status, etc.) The mine action sector is highly regulated and supported by standards, frameworks and procedures that manage people's safety and security, enabling standardised and comparable data management processes. In this context, standardisation and frameworks can have positive and negative implications. As the sector continues to balance standardisation with flexibility, it is worth reflecting on the following:

Positive implications:

- Facilitating comparability: standardisation allows for data comparability across different contexts, which can highlight systemic patterns of inequality or discrimination.

- Ensuring rigour and reliability: using standardised data collection methods can lend credibility and reliability to research findings, particularly in large-scale studies.

- Promoting consistency and replicability: frameworks provide guidelines for researchers to follow, promoting consistency in data collection and analysis and facilitating replication of studies.

Potential negative implications:

- Risk of oversimplification: standardised data collection methods can risk oversimplifying complex realities, particularly when dealing with intersectional identities and experiences.

- Limitations on participant agency: rigid adherence to a standardised method or framework can limit participant agency, which goes against feminist research principles.

- Risk of power imbalances: the imposition of standardised tools and frameworks may inadvertently reproduce power imbalances if they are not contextually relevant or respectful of local knowledge systems.

To align feminist theory with standardisation and frameworks, creating flexible standards that value and account for diverse lived experiences and intersectional identities is crucial. This could involve designing inclusive data collection tools, promoting participatory research methods, and ensuring that

standards are responsive to local cultural and social contexts. In Colombia, there was a call for flexibility in government formats to include a range of gender identities, for example. Additionally, frameworks should be designed to enable the critical assessment and problematisation of dominant structures and power relations in line with feminist principles.

Furthermore, any standardisation process should consider a continuous feedback loop from the field to allow for necessary modifications. The data collection process should be transparent and co-creative, involving the community members in the stages of data design, collection, and interpretation. The community's consent and well-being should always be prioritised, ensuring that the process is not extractive but empowering for the participants.

5.1. Applying feminist data principles to the quality management approach to information management

This sub-section explores the potential of integrating feminist data principles with a quality management approach to information management within the context of mine action. Mine action relies on accurate and timely information. By intertwining feminist data principles with the quality management approach to information management as described in IMAS 5.10,[96] Information management for mine action, mine action can strive for more inclusive, equitable, and efficient practices that address power imbalances, challenge systemic biases, and prioritise the needs of marginalised individuals and communities.

Feminist data principles call for the examination of power dynamics and the amplification of diverse voices in data collection, analysis, and utilisation. This approach emphasises the importance of adopting an intersectional lens to understand how various social identities intersect and shape experiences within mine action.

Recognising that information is not neutral but influenced by societal structures and biases, a feminist perspective actively challenges and transforms these structures. Integrating feminist data principles with a quality management approach in mine action may increase the integration of diverse perspectives and experiences, equitable distribution of resources and benefits, and facilitate meaningful participation in decision-making processes. By embedding these principles, information management can move towards greater accountability to mine-affected populations.

The following table explores specific strategies for applying feminist data principles in relation to the principles of quality management:

Customer focus: the goal of information management is to meet stakeholder requirements.	From a feminist standpoint, quality information management aims to acknowledge and fulfil stakeholders' varied requirements and expectations, particularly emphasising the needs and perspectives of marginalised and underrepresented groups.
Leadership and engagement of others: information management requires the engagement of people from all levels of the organisation to work together towards the same goal.	A feminist approach to quality information management challenges traditional hierarchies and power dynamics by promoting collaboration, shared decision-making, and meaningful participation. It recognises that stakeholders possess valuable knowledge and expertise and actively seek their input in shaping information systems and processes. This approach fosters a more democratic and inclusive environment where all voices are heard and respected.
Process approach: well-defined and documented information management processes lead to efficient resource use and consistent results.	Applying a feminist lens to the process approach in information management recognises that gender norms and biases can impact how processes are designed, executed, and experienced. Ensure that resources are allocated equitably and inclusively within information management processes. Challenge any preconceptions or inequalities in resource distribution that may perpetuate existing power imbalances. This may involve actively seeking input from diverse stakeholders and prioritising the needs of marginalised groups when allocating resources.
Continual improvement: opportunities to improve information management should always be exploited and implemented. This will increase the capacity to meet stakeholder requirements and, ultimately, a more effective and efficient mine action programme.	Applying a feminist lens to the concept of continual improvement in information management involves recognising and addressing power imbalances that affect decision-making processes and hinder the equitable distribution of resources. Adopting an intersectional lens helps to understand how different identities and social positions intersect with information management processes. This analysis helps identify and prioritise improvements that address marginalised communities' specific needs and challenges.
Relationship management: good information management relies on the continual involvement of its stakeholders.	Within a feminist information management framework, relationship management actively seeks out and listens to the concerns, priorities, and aspirations of individuals and communities who have historically faced discrimination or marginalisation. This approach fosters a more inclusive, fair, and representative process of gathering and managing information.
Evidence-based decision-making: decisions made to improve information management processes and products should be based on evidence gained from monitoring performance indicators of processes and control of information management products against requirements.	Through a feminist lens, evidence-based decision-making in information management requires analysing evidence critically, recognising that existing evidence may reflect systemic biases and power dynamics. Applying a critical lens to examine the sources and methodologies critically question whose knowledge is being prioritised to challenge prevailing inequalities.

CASE STUDIES: LESSONS FROM COLOMBIA, CAMBODIA, AND IRAQ

DATA COLLECTION

COLOMBIA: The community itself identifies community liaisons to address sensitive topics and build trust. Women and people with disabilities are encouraged to apply. Data collection teams are sought to reflect the demographic majority of the population, for example, Afro-Colombian, indigenous, and women, among others.

CAMBODIA: Comprehensive data collection system that includes tailored impact assessment and non-technical surveys across eleven forms.

IRAQ: Data collection sometimes focuses on specific groups, such as women landowners, widows, or families impacted by accidents.

DO NO HARM

COLOMBIA: Forms must be filled out detailing population needs, vulnerabilities and capacities. This is a government requirement in Colombia and suggests that higher policy mandates can influence good practice when considering vulnerable community needs.

CAMBODIA: Data is only collected if required and with utilisation in mind. This demonstrates an awareness of do no harm through the necessary time that can be taken from beneficiaries to collect information that will not be used, thus exacerbating the extractive nature of data collection.

IRAQ: Community leaders are involved in identifying who to talk to in the communities. This is a delicate balance of inclusion for Mine Action organisations in respecting local or village structures while ensuring that individual perspectives are not excluded.

DATA STORAGE

COLOMBIA: Personal information is kept private across organisations, with access limited to a select few and data uploaded to government systems securely aligning with national policies.

CAMBODIA: Organisations collect data digitally using tablets, ensuring data protection through password settings and secure storage once data collection is completed.

IRAQ: Organisations reported using a range of practices for data protection. These include secure data storage, access control, employee training, regular audits and assessments, and anonymising data using age ranges instead of specific ages. Data is stored digitally, often instantly saved on servers with highly restricted access.

DATA SHARING

COLOMBIA: Standard practice includes uploading the information directly to the national authority's platform. This information cannot be shared amongst the organisations, but permissions for sharing or information requests must go to the authorities for a final decision.

CAMBODIA: Organisations reported keeping data for internal use; when data sharing is required, it goes through multiple levels of approval.

IRAQ: Data sharing appears to be more selective and controlled. Organisations only share information that benefits the community and often only with national authorities or in response to specific requests from other organisations.

DATA REPORTING & USE

COLOMBIA: When needs or risks are identified within populations, the data collected can act as a catalyst, linking to other programmes that can help meet these needs or take action towards risks. Additionally, this information can alert the government about specific population vulnerabilities, enhancing its potential for socio-political impact.

CAMBODIA: Most beneficiary data is collected on gender and disability status and used for tailoring interventions, developing case studies, raising awareness about mine risks, informing target area selection, and developing vulnerability and risk maps.

IRAQ: Organisations implement practices like using age ranges instead of specific ages to anonymise data. Similarly, global best practices involve removing sensitive personal information when possible, thus minimising risks to individuals.

GOOD PRACTICES   **COLOMBIA**   **CAMBODIA**   **IRAQ**

6. CONCLUSIONS

Research question one: "What are the current data collection, storing, sharing, and reporting approaches in the mine action sector? How do they consider intersecting gender and social identities and power dynamics?"

Reflecting on the first research question, we can draw the following conclusions:

Data collection approaches: different aspects, from security concerns to local cultural norms, shape the data collection methods in the mine action sector. Country teams are central to the collection process, emphasising the need to build community trust. The focus on binary gender perspectives suggests an underlying gap, and the sector might benefit from embracing a broader spectrum of gender identities. Given the diverse socio-cultural landscape of countries affected by mines, tailoring data collection methods to individual community needs can offer richer insights.

Standards and guidelines: the mine action sector's guidelines and standards are primarily driven by decision makers at the international and national levels. However, the influence of power-holdersoften means that affected communities' voices are overshadowed. More robust community-driven guidelines and standards can lead to improved interventions and sustained results and ownership that resonate with affected communities.

Data storing practices: the emphasis on protecting personal data highlights the sector's commitment to beneficiary privacy. However, this must be more than just a technical effort. Ensuring that data custodians are trained and aware of the broader ethical implications of their role can further strengthen data security.

Data sharing, reporting, and use: while data-sharing practices are commendable, beneficiary engagement remains an area where more consistent efforts are needed. After all, the data collected belongs to the communities, and their voice in its use is vital. This engagement respects their autonomy and can provide additional layers of insights that can improve interventions.

The mine action sector employs varied data collection, storing, sharing, and reporting practices influenced by numerous factors such as security and cultural norms. While there's a commendable effort towards considering gender, there remains a strong need for a more inclusive approach that captures a wider spectrum of social identities and power dynamics.

Research question two: "How are mine action organisations applying the do no harm principle in their data collection, storing, sharing, and reporting processes? What good practices can be identified to mitigate potential harm?" As currently applied, the do no harm principle is more reactive than proactive. Integrating feminist principles, intersectionality, and power dynamics promises a more holistic approach to data collection. Regular training and team capacity building can ensure that these principles better link policy documents with active practice.

The need for more beneficiary-led initiatives signals a shift in the sector's thinking. What is important is clearing mines ***and*** ensuring the post-clearance communities can thrive. Hence, feedback mechanisms, grievance redressal systems, and beneficiary participation forums become essential.

The tension between standardised approaches and a more tailored, feminist-informed approach is evident. But it's not an either/or situation. The sector can create flexible standard operating procedures that allow for contextual adjustments.

Applying the do no harm principle in the mine action sector is presently more reactionary. There is a move towards integrating feminist principles and intersectionality, but a more anticipatory approach is needed. Good practices highlight the value of community engagement, sensitivity, and training but also point to the importance of continually evolving and adapting these practices based on feedback and changing contexts.

What does this mean for the mine action sector?
Merging feminist principles with traditional quality management sets the stage for a more nuanced approach to data management, emphasising both the 'what' and the 'how'. It's not just about the quantity of data but its quality, depth, and relevance. This research's emphasis on beneficiary-led and participatory methods is a recommendation and a call for reflection. It's a push for the sector to evolve, be more agile, and centre processes around the people it seeks to help.

7. RECOMMENDATIONS

Recommendation	Findings[97]	Actions
Data collection		
Towards a conscious and critical approach to data usage: adopt a mindful and critical strategy in handling data across the sector, particularly sensitive information. This could help mitigate the extractive nature of data collection. Extractive data collection refers to the practice of gathering data from individuals or communities without offering them meaningful benefits or understanding, often done without their informed consent or clear communication about its use.	*Section 4.4.10*	Clearly communicate to beneficiaries the purpose and process of data collection, rights to privacy and abilities to withdraw information at any point. Incorporate mechanisms for beneficiaries to ask questions, raise concerns, and receive information about data in a manner that is accessible and understandable at frequent points across an information management cycle. Proactive engagement with coordination mechanisms in other sectors could support in sharing data and lessons that reduce extractive data collection. Recognise and stress the significance of 'accountability to affected populations' in advancing towards a more conscious approach. Encourage consistent consultation with communities during the entire data management cycle – from defining information requirements to the use and protection of this data.
Recentering beneficiaries as key stakeholders: treat beneficiaries as 'rights holders' and central stakeholders in decision-making processes relating to data usage.	*Section 4.2.6 4.2.9*	Revisit the term 'beneficiary' and whether terms like participant, citizen or rights holder are better suited to the relationship that partnership organisations want with mine-affected communities and the agency of people involved in data management and collection processes. Regularly gather feedback from beneficiaries to improve data management processes. Develop mechanisms to ensure beneficiaries have a say in how data is used and shared.
Expanding gender categories in data collection: broaden the coverage of gender categories in data collection to include non-binary and transgender individuals where it is contextually safe and appropriate.	*Section 4.1*	Update data collection tools to include options beyond the binary gender categories. Provide sensitivity training to data collectors about various gender identities and expressions. Use caution with the option of 'other' in data collection forms as this could be deemed as 'othering' and creating an 'us and them' dynamic with already excluded vulnerable or marginalised groups.

Diversity: incorporate diversity into data collection practices, treating it as a dimension as significant as gender.	*Section 4.1*	Adapt data collection tools to capture diversity, acknowledging its influence on individuals' experiences and perspectives.
		Understand and respect the cultural norms and traditions of the communities involved in the data collection process; for example, consider different kinds of knowledge or how information is shared and received in a particular community.
		Work towards integrating the insights gained from cultural diversity into the planning and implementation of mine action programmes.
Implementing a trauma-informed approach: incorporate a trauma-informed approach into data management processes, recognising the profound impact of trauma on individuals affected by mine action.	*Section 4.1 4.2.7*	Train data collectors on the principles of trauma-informed care and how to apply them in their work.
		Redesign data collection tools and surveys to consider trauma, avoiding rephrasing questions but rather giving beneficiaries an idea of what kinds of questions are coming up; include frequent pauses or check-in points to enable beneficiaries to stop or voice concerns.
		Ensure safety, trustworthiness, peer support, collaboration, empowerment, and cultural sensitivity in all interactions with beneficiaries.
		Regularly assess the effectiveness of trauma-informed approaches and refine strategies based on feedback from beneficiaries and stakeholders.
Data sharing		
Sharing back with beneficiaries and increasing transparency: enhance transparency by improving data-sharing practices. Beneficiaries should be notified about changes to how their data is shared.	*Section 4.4.9*	Develop a standard process for updating beneficiaries about data usage and sharing changes.
		Create clear and accessible resources (both written and verbal) explaining these changes to beneficiaries.
		Document and make accessible to all, any changes in data sharing or reporting processes to bring awareness to who needs to be informed.

Data reporting and use		
Advancing the consent process: improve the consent process to ensure multiple options for consent are available, and beneficiaries understand exactly what they are consenting to.	*Section 4.4.10*	Revise consent forms to explicitly state all potential future uses of collected data. Where feasible and particularly for sensitive content, ask for consent at the beginning and end of data collection processes to ensure individuals have a continuous right to withdraw consent. Consider using 'engaged consent' processes – as a more human-centred approach, this involves asking beneficiaries what they have understood about the consent process before moving on, testing overall knowledge and not assuming that its data usage, reporting and sharing is understood.
Enhancing beneficiary engagement: increase beneficiary engagement, especially during the data interpretation stage and subsequent actions. This can ensure that insights and feedback from beneficiaries are integrated into operations.	*Section 4.4.10*	Involve beneficiaries in interpreting data findings and shaping subsequent actions through inclusive and participatory methods, as guided by models such as the Ladder of Citizen Participation: https://organisingengagement.org/models/ladder-of-citisen-participation/. Consider how to advance from consultation to empowerment. Conduct regular feedback sessions or community meetings to share findings and hear responses directly from beneficiaries. Train staff on participatory engagement methods and ensure this approach is embedded into organisational practices.
Improving data utilisation: organisations need to better understand and utilise data on beneficiary demographics to enhance the planning, prioritisation, and execution of mine clearance activities. Particular attention should be paid to how data on gender and sex are used.	*Section 4.4.10*	Develop data utilisation guidelines that promote the usage of demographic data (including gender and sex data) in planning and prioritising mine clearance activities. Encourage cross-departmental collaborations, where the data collection team works closely with the teams responsible for planning and executing mine clearance activities to ensure that data is fully understood and utilised. Regularly review and revise how demographic data is used to continually improve the responsiveness and effectiveness of interventions.
Providing data analysis training: provide further training and capacity-building in data analysis, particularly relating to gender, disability, and other relevant demographic factors, to make interventions more responsive to beneficiaries' needs.	*Section 4.4.10*	Develop and implement a training programme focused on data analysis skills, particularly analysing gender, disability, and other demographic data. Foster partnerships with external experts or institutions to provide this training, ensuring it remains up-to-date and relevant. Establish an ongoing mentorship or coaching programme to support staff in applying data analysis skills, reinforcing training, and facilitating the integration of these skills into everyday practice.

Do no harm		
Implement a do no harm checklist for data management teams: incorporate a do no harm checklist to guide data management teams. This checklist should emphasise the potential impact of data collection, use, storage, analysis, and sharing on beneficiaries' safety, dignity, and well-being.	*Section 4.2.7*	Develop a standard checklist drawing from resources such as the Displacement Tracking Matrix's do no harm checklist and guidance document. This document provides a set of considerations to assess the possible impact on the beneficiary's safety, dignity, and well-being when collecting, using, storing, analysing, and sharing datasets. The document underscores the potential harms during data collection and in the future. Regularly train data management staff on what do no harm looks like in practice, utilising this checklist or ethical dilemmas that may arise, ensuring they understand their actions' potential implications. Consider updating and promoting more widely the checklists available in the gender & diversity in mine action quality management guide[98] with a conflict-sensitive and do no harm lens. For example, "has every effort been made to reach men, women, girls and boys to tell them about X?" – considering whether engaging could put them in harm's way if they are groups that prefer not to be visible.
Advancing the do no harm principle to develop a conflict-sensitive approach for data management: the mine action sector should proactively move beyond a do no harm approach to adopt a more nuanced conflict-sensitive strategy in managing data. This transition involves being more attuned to how data collection, analysis, and usage can affect the conflict dynamics in mine-affected regions, intentionally or unintentionally. Embedding conflict sensitivity in data management practices makes it necessary for the sector to constantly adjust its methodologies and strategies to the changing dynamics of conflict.		Contextual analysis: conduct regular conflict analyses to understand the current dynamics in the areas of operation. Use the findings to inform data collection, storage, analysis, and sharing processes, ensuring these practices don't inadvertently exacerbate conflict, or harm the community. Training: equip staff with the necessary skills and knowledge to understand and apply a conflict-sensitive approach. This can be accomplished through dedicated training sessions, case studies, and regular discussions. Adaptive management: foster an adaptive management culture that is responsive to changes in the conflict context. This involves constantly monitoring and evaluating data management practices and making necessary adjustments based on shifts in conflict dynamics.

Incorporate intersectionality in project phases: organisations should consider the principle of 'intersectionality' across all stages of project identification, design, implementation, monitoring, and evaluation. This will help capture the complex interplay of multiple social identities and better serve diverse communities.	*Section 4.2*	When analysing data, consider the intersection of different identity factors. For instance, the experience of a young disabled woman may be different from that of an elderly disabled woman. Provide training to all staff on intersectionality and how to interpret and apply intersectional data in their work. This could include case studies and practical exercises to ensure staff can apply these concepts in real-world scenarios. In project planning and design stages, actively seek input from diverse stakeholders, including those from different gender, ages, ethnicity, and disability groups. This can help to ensure that programmes are designed in a way that is sensitive to the needs and experiences of all community members.
Flexibility in frameworks: while standardisation offers benefits such as comparability and rigour, it should not oversimplify complex realities or limit participant agency. Instead, frameworks should be designed to accommodate diverse lived experiences, promote participatory approaches, and be responsive to local contexts and knowledge systems.	*Section 5*	Adaptive data management: incorporate a system of adaptive data management, with regular conflict analyses informing how, what, and when data is collected, stored, and shared. This ensures that the data management process is responsive and sensitive to the changing context, such as alterations in the security situation, demographic shifts, or socio-political changes that mean certain data collected is no longer necessary or safe. Plan for scenario-based contingencies: develop contingency plans for different potential scenarios guided by conflict and context analysis. These plans should outline potential adaptations to data management practices in response to environmental shifts. Regularly revisit and revise these plans to keep them aligned with the evolving context.

ENDNOTES

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International Mine Action Standard 14.10 – Guide for the evaluation of mine action interventions

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