

Findings from the 7th Round of Data Collection of the Monitoring and Evaluation Mechanism for the United Nations Strategy for Mine Action 2013-2018

(with data as of 30 June 2017)

Prepared by the United Nations Inter-Agency Coordination Group on Mine Action

1. Executive Summary

The United Nations places a strong commitment to monitoring and reporting progress related to the objectives in the UN Strategy on Mine Action 2013-2018 using an M&E Mechanism. This report represents the seventh round of data collection for the M&E Mechanism since 2014 with data current as of 30 June 2017.¹ This report includes findings from data coordinated and provided by field-based UN survey focal points and validated by national authorities where relevant, data from publicly available mine action resources and data from publicly available UN databases.

- Findings suggest that the increase in the mine/ERW casualty rate experienced in 2016 is reducing, however further monitoring is needed to see if the trend persists in light of recent events in Iraq, Syria, and Libya. The casualty rate amongst mine action operational personnel, however, has seen a significant decrease over the last three years, suggesting improved application of safety procedures.
- In aggregate, clearance rates remain fairly steady between 2014 – 2016. Further investigation is advised to assess feasibility of achieving goals of the 2025 Maputo Action Plan based on current rates.²
- MRE continues to be an important pillar of risk reduction, showing a positive relationship between provision of risk education and casualty numbers, indicating that support is provided in areas with the highest casualty rates.
- Analysis suggests countries with a disability policy in place offer more victim assistance services. It seems unlikely that this is causal, and it is more that the presence of a disability policy is an indicator of a more mature health sector.
- The UN's focus on supporting the development of national mine action capacity continues to be in countries in most need of assistance.
- Mainstreaming of mine action within UN peace, humanitarian and development agendas and peace and ceasefire agreements continues, and so mine action is now represented in resolutions in both the Security Council and the General Assembly.

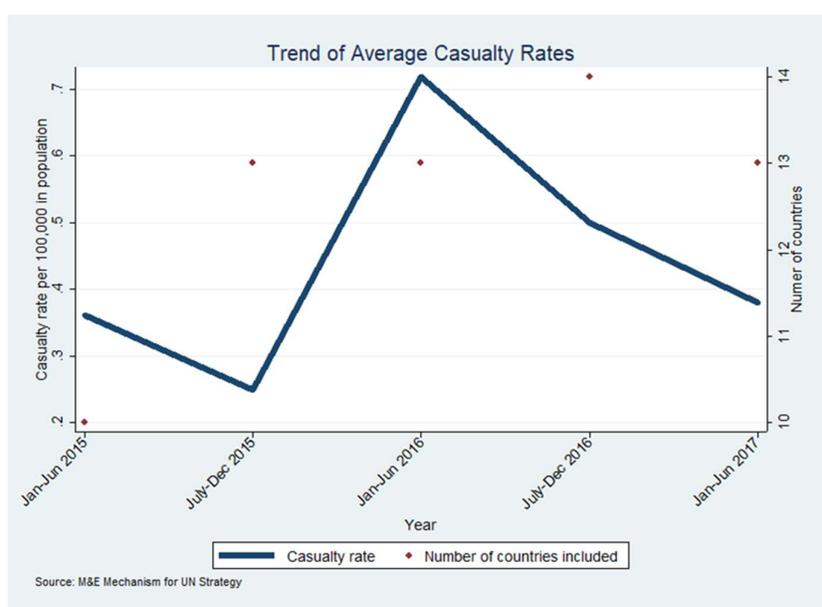
More information about the methodology used to collate information using the M&E Mechanism is available in Annex I.

¹ Annex I provides information about the background and structure of the M&E Mechanism.

² https://www.maputoreviewconference.org/fileadmin/APMBC-RC3/Maputo_Action_Plan.pdf

2. Strategic Objective One

The vision of the United Nations in mine action is a “world free of the threat of mines and explosive remnants of war (ERW), including cluster munitions, where individuals and communities live in a safe environment”.³ Mines, ERW and other explosive devices continued to have an impact throughout the reporting period. While the long-term trend for mine/ERW casualties is downwards, there has been an increase in the incidence of deaths and injuries over the period of data collection for the M&E Mechanism. Over the last three years, there has been a sharp increase in the casualty rate per 100,000 population from 0.25 to 0.72 observed from the 2nd half of 2015 to the 1st half of 2016, followed by a steady decrease in casualty rates from July-Dec 2016 onwards (Graph 2.1). It is worth noting that casualties from mines and ERW from Syria and Iraq has not been available through this M&E Mechanism and it is credible that the mine/ERW casualty rates in these countries would affect the global casualty rate.⁴

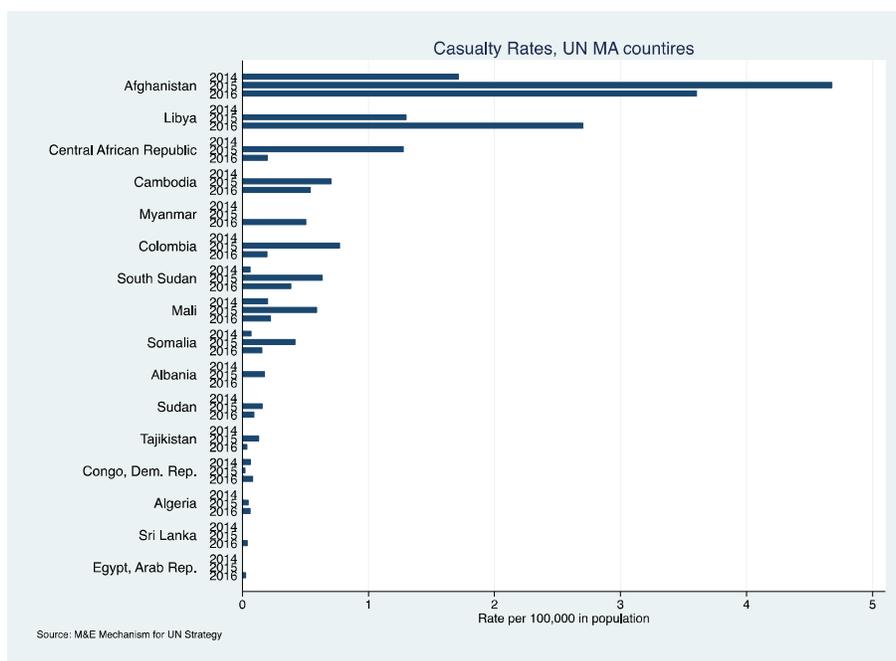


Graph 2.1: Casualty rate per 100,000 population from the M&E Mechanism between Jan 2014 – Jun 2017

Data collected through the M&E Mechanism indicate significant casualty rate increases in primarily eleven countries over a three-year period, as shown in Graph 2.2. The highest casualties were recorded in Libya (2016) and Afghanistan (2016), at a rate of 8.3 and 5.7 per 100,000 population, respectively (Graph 2.2).

³ Strategy of the United Nations on Mine Action 2013 – 2018, p. 4

⁴ Countries included: Afghanistan, Albania, Algeria, Bosnia and Herzegovina, Cambodia, Central African Republic, Colombia, Congo, Dem. Rep., Egypt, Arab Rep., Eritrea, Libya, Mali, Myanmar, Somalia, South Sudan, Sri Lanka, Sudan, Tajikistan



Graph 2.2: Casualty rate by country over the last three years

This increase in the casualty rate recorded by the M&E Mechanism for the UN Strategy is also consistent with findings related to casualties in Landmine Monitor 2017, which collates data from all mine-affected states and territories, not just those with a UN mine action presence.⁵

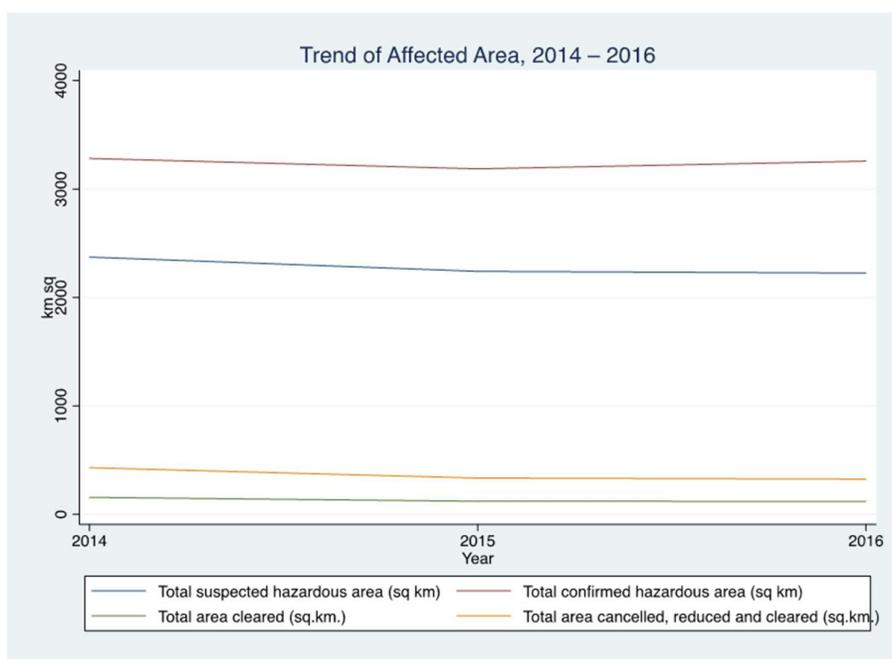
Since the first reports of the M&E Mechanism, there has been a consistent trend that casualties disproportionately affect men and boys: since 2014, the highest share of casualties occurred among men (23.5%) followed by boys (21.9%), women (3.7%) and girls (4.6%). While the M&E Mechanism has observed that the trend in providing data disaggregated by age and gender has improved over the last three years, it is still not possible to disaggregate 46.2% of the data by gender or age. Data from the M&E Mechanism also consistently reflects that a high percentage of casualties are among civilians (98% in 2017), which is consistent with other monitoring mechanisms. Encouragingly, casualties among mine action operational personnel shows a decreasing trend from 3.5% of the reported casualties in 2014 to 0.1% in 2017. This suggests increased maturity in application of safety procedures, however further investigation is required to draw definitive conclusions from this development.

The relationship between casualties and hazardous area is well elaborated with areas with more hazardous land experiencing more mine/ERW casualties. To give an indication of the scale of the impact of hazardous areas on the casualty rate, the average effect of confirmed hazardous area ('CHA' - areas confirmed through non-technical survey to be contaminated with mines and ERW) on the casualty rate per 100,000 has been estimated. A stronger understanding of the average effect of hazardous area on the casualty can be used for prioritizing resources for planning and investment. Based on the data collated on countries in which the UN has a mine action presence, a one square kilometre increase in CHA corresponds to an average of increase of 0.001-0.002 percent of the casualty rate per 100,000 people, holding other variables in the model constant. The model developed, as expected, also shows that UN mine action funding has a negative association with the casualty rate. In addition, the

⁵ Landmine and Cluster Munitions Monitor, 2017, pp 1-2. Available at: <http://www.the-monitor.org/en-gb/home.aspx>

analyses consistently show that higher level of capacity development, a stronger health system capacity and greater political stability is related to a reduced casualty rate (Annex II).

Of the countries included in the analysis of contaminated areas, the largest amounts of land suspected and confirmed to be contaminated with mines and ERW using non-technical survey are found in four countries: Afghanistan, Bosnia and Herzegovina, Cambodia and Iraq. As of 2016, total suspected hazardous area was 1,950 sq.km, 52% of which was from these four countries.⁶ There remained a total of 3,208 sq.km. of confirmed hazardous area, 87% of which was in these countries.⁷ There has been a steady decrease in the amount of land identified as hazardous (suspected and confirmed). Suspected hazardous area has had a net decrease by an average of 141 sq.km. per year over the last three years and confirmed hazardous area has had a net decrease of on average 24 sq.km. per year over the last three years. Graph 2.3 shows the overall trend for affected area, area cleared as well as the combined area cancelled, reduced and cleared over the years 2014, 2015 and 2016.



Graph 2.3: Suspected & confirmed hazardous area, total cleared and total area cancelled, reduced and cleared, in sq.km.

The amount of land cancelled from non-technical survey, land reduced from technical survey and land cleared together averages 364 sq.km. per annum, 37% of which is from clearance. Once again,

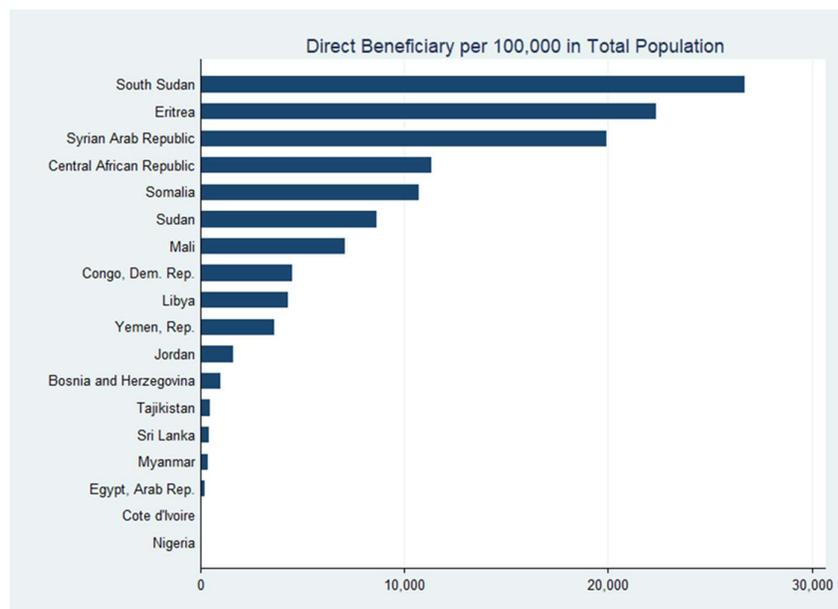
⁶ ‘Suspected Hazardous Area’ (SHA) is an area where there is reasonable suspicion of mine/ERW contamination on the basis of indirect evidence of the presence of mine/ERW. ‘Confirmed Hazardous Area’ (CHA) is an area identified by a non-technical survey in which the necessity for further intervention through either technical survey or clearance has been confirmed.’ <https://www.gichd.org/resources/imas-glossary#.WrqqM4jwZPY>

⁷ Data collated from Landmine and Cluster Munitions Monitor for twenty-five countries and territories in which the UN has a mine action presence. The twenty-five countries and territories are: Afghanistan, Algeria, Azerbaijan, Bosnia, Cambodia, Chad Colombia, Congo Dem. Rep, Cote d’Ivoire, Egypt Arab Rep, Eritrea, Iraq, Lebanon, Jordan, Libya, Myanmar, Palestine, Somalia, South Sudan, Sri Lanka, Sudan, Tajikistan, Turkey, Ukraine, Western Sahara, Yemen.

excluding the countries that are massively contaminated, the average amount of land cancelled, reduced and cleared each year averages at 127 sq.km. of which only 18% is from clearance.⁸ Clearance rates differ significantly between countries. It will be useful to assess on a country-by-country basis whether release of hazardous areas by 2025, as agreed in Maputo, is achievable based on current rates of progress.

There are many areas, especially those suspected to be contaminated with ERW but not necessarily antipersonnel mines, in which non-technical survey has not been carried out due to access limitations. The full extent of this contamination is expected to be significant. For example, in the 2016 Syria Humanitarian Needs Overview, it was noted that: “In 2015 communities identified the presence of explosive remnants of war as among the greatest risks in 50 per cent of governorates, a marked increase from 2014”.⁹ However comprehensive and comparable estimates of the amount of land contaminated with ERW is not known, so it is challenging to quantify the extent of the risk to be addressed.

In addition to survey and land release, another important contribution to risk reduction is the provision of education on the risks of mines and ERW. According to the countries included in this analysis, South Sudan, Eritrea, Syria, Central African Republic and Somalia are the five countries with the highest number of direct beneficiaries of MRE in the first half of 2017 (Graph 2.4).



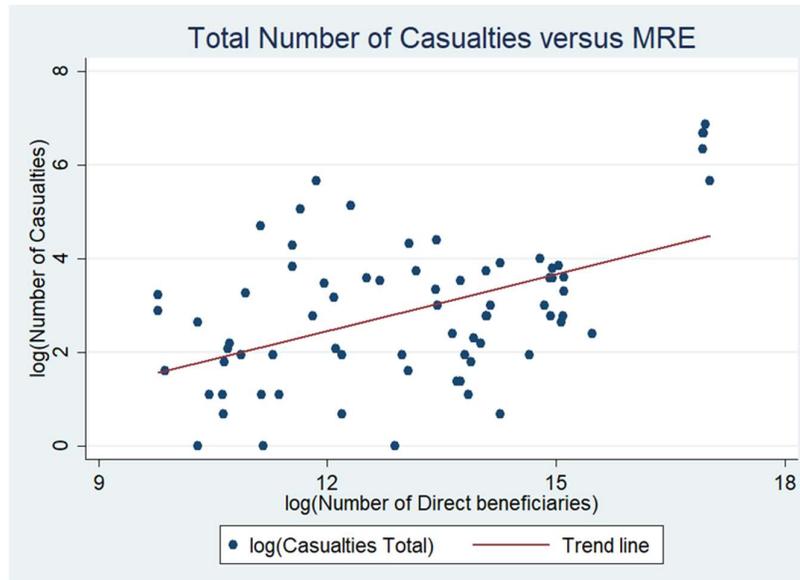
Graph 2.4: MRE direct beneficiaries per 100,000 in total population for the first half of 2017

The relationship between MRE beneficiaries and casualty figures shows that on average, as a country’s casualty figures go up, the number of MRE beneficiaries goes up (Graph 2.5). This relationship could

⁸ Classification according to Landmine and Cluster Munitions Monitor 2017 based on levels of anti-personnel mine contamination, pp 33. Available at: <http://www.the-monitor.org/en-gb/home.aspx>

⁹ 2016 Humanitarian Needs Overview: Syrian Arab Republic, p. 7, https://reliefweb.int/sites/reliefweb.int/files/resources/2016_hno_syrian_arab_republic.pdf

be in place as MRE is initiated in response to high casualty rates, indicating that MRE targeting and prioritization process underway.¹⁰



Graphs 2.5: MRE beneficiaries and casualty rate for data available between 2014 to 30 June 2017

Given that areas affected by mines and ERW present an immediate localized hazard, the socio-economic impact of mines and ERW will ideally be measured in relation to local development. To better understand this impact, the survey of the M&E Mechanism includes questions about the amount of socio-economic infrastructure and services (schools, hospitals, places of workshop, government buildings, markets, etc.) affected and cleared of mine/ERW hazards. However, few of the programmes participating in the survey have this information, and of those that do, results show a high percentage of the infrastructure is cleared, because the infrastructure tends to be recorded as hazardous just before it is cleared.

To fully understand the impact of mine action activities, a baseline socio-economic survey needs to be planned and conducted before implementation. However, resources are limited, so are focussed on survey and clearance, and on identifying hazardous areas, leaving a deeper understanding of the development outcomes and SDG impacts lacking.

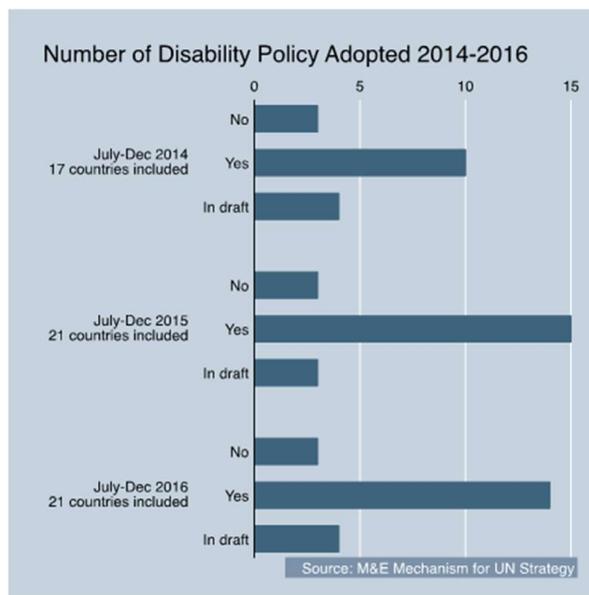
Notwithstanding, many UN mine action activities are executed in high risk environments, so planning processes are executed in an emergency setting, making baseline assessment challenging. Some countries have developed national assessment processes for monitoring changes that have taken place as a result of releasing land, such as the annual socio-economic survey conducted in Afghanistan or the community liaison teams that gather both information about hazards and also community priorities (for example, in South Sudan, Somalia). An area for further investigation is the development of cost-effective assessment methods to estimate affected population numbers as well as affected socio-economic resources through centralized desk reviews of affected area using GIS technologies, for

¹⁰ Afghanistan, Albania, Algeria, Bosnia and Herzegovina, Central African Republic, Congo, Dem. Rep., Egypt, Arab Rep., Eritrea, Libya, Mali, Myanmar, Palestine, Somalia, South Sudan, Sri Lanka, Sudan, Tajikistan, Western Sahara

example which are now built into IMSMA Core. This type of survey information could be structured within an overall SDG-mine action framework methodology, which would provide outcome mapping and give reporting in the next UN Strategy greater nuance.

3. Strategic Objective Two

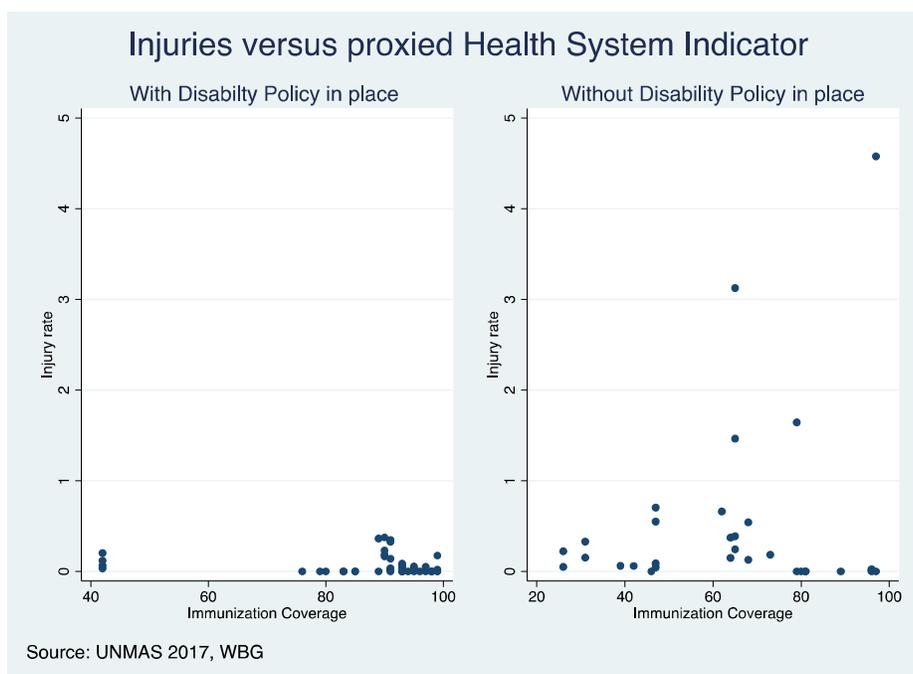
Provision of victim assistance contributes towards meeting the human rights and needs of mine and ERW victims and integrating survivors as equal members of their societies. National policies are put in place to create a framework within which services can be provided to victims. 62% of the twenty-one countries that responded to this survey question reported the presence of a disability policy in 2017. The number of disability policies shows an increasing trend from the first half of 2014, in which ten policies were developed and four were in progress, to the end of 2016 in which fourteen policies were in place and four were in progress (see Graph 3.1). This increase is because two countries (Eritrea and Somalia) reported that policies in draft were now in place, and the rest of the increase is due to new countries joining the reporting round.



Graph 3.1: Progress in development of National Disability Policies¹¹

The presence of a national disability policy is a relevant indicator on the maturity of a country's response to its mine action threat. Analysis shows that states with a disability policy is related to a stronger national commitment to health system development, higher GDP PPP and a lower number of injuries from mines/ERW. The relationship between a lower number of mine/ERW injuries and the presence of a disability policy is shown in the graphs below: Graph 3.2.1, on the left, is for states in which a disability policy is in place with a lower mine/ERW injury rate. Graph 3.2.2, on the right, includes states that do not have a disability policy and shows a higher rate of mine/ERW injuries.

¹¹ Counties included: Afghanistan, Albania, Algeria, Bosnia and Herzegovina, Cambodia, Central African Republic, Chad, Colombia, Congo, Dem. Rep., Cote d'Ivoire, Egypt, Arab Rep., Eritrea, Jordan, Lao PDR, Libya, Mali, Mozambique, Myanmar, Nepal, Palestine, Somalia, South Sudan, Sri Lanka, Sudan, Tajikistan, Yemen



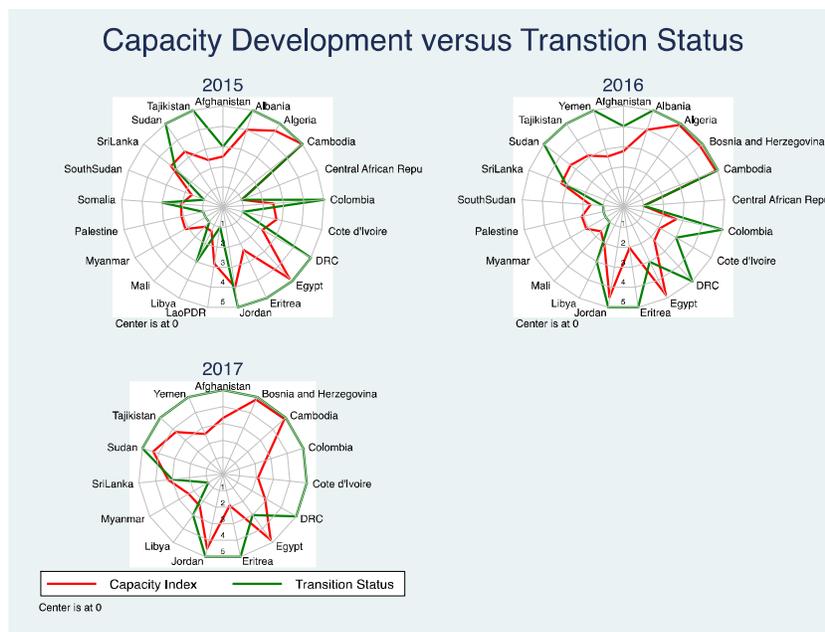
Graphs 3.2.1 and 3.2.2: Relationship between national immunization coverage and mine/ERW injury rate in countries with and without a disability policy

In terms of provision of support for victims, the presence of a national disability policy is related to more victim assistance services being made available. Out of countries with victim services recorded as available, on average countries with a disability policy in place offered 67% more types of services than in countries without a disability policy. Of those services available, the most common were emergency response services and the least common were psychosocial support. It is implausible that the presence of a disability policy alone enables broader provision of victim assistance services, and is more likely that because states are richer, they have better health systems. However, it is possible that the presence of a disability policy can increase focus and create a better umbrella under which victim assistance services can be delivered.

In terms of the quality of victim assistance services provided, little information is available, and what is available indicates poor coverage of services. Only a few countries were able to provide data on the number of beneficiaries of victims, and this is either because the UN programme in the country was not engaged in mine action or victim assistance programmes were not underway. Of those that were able to provide beneficiary figures, they were a small percentage of the overall mine/ERW injury figures, highlighting that there are many victims that are not receiving support services. Lastly, data collected suffered from inconsistent data definitions (for example, for the provision of ongoing support to victims, it was not clear if these were returning victims as part of ongoing rehabilitation, or new victims). This is an area for development in the future, and also indicates a broader lack of standardization in how victim assistance information data is monitored.

4. Strategic Objective Three

The third strategic objective in the mine action strategy focuses attention on increasing national capacity to accelerate the transfer of mine action functions to national actors. Since the start of collecting survey data, the number of countries which nationally manage their mine action programmes has changed from 12 to 14, based on data from 22 reporting countries.¹² Strengthening a country's capacity in mine action is a precursor to transitioning management of the programme to the national government. This progression is illustrated in the radar graph below (Graph 4.1), in which countries with lower national capacity are not transitioned from UN management of core mine action capacities (for example, Somalia, Myanmar, Mali) and countries with higher national capacity scores are already nationally owned (for example, Algeria, Cambodia, Sudan).¹³

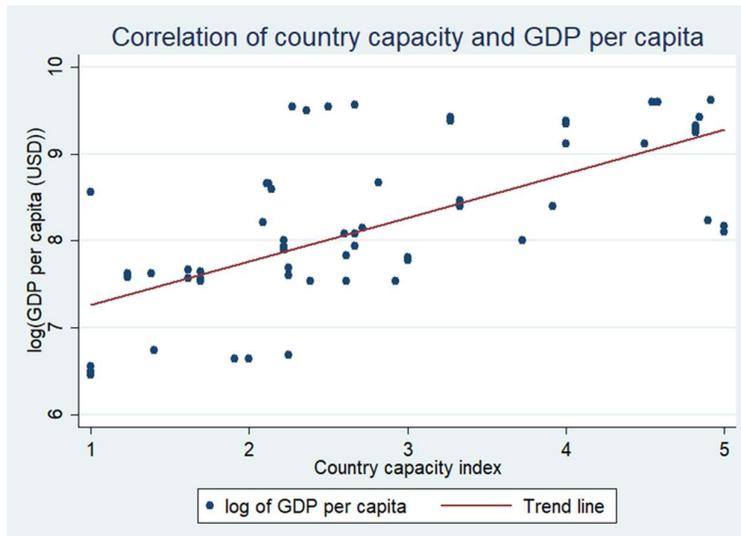


Graph 4.1: The relationship between a country's national capacity and its transition status highlights the importance of having a stronger national capacity as a precursor to transition

Whilst each country context is unique, an important factor that contributes to the strength of a country's national capacity is its level of national development in addition to committed national ownership and leadership. One way to examine this relationship is to examine a country's GDP per capita. The relationship between national development and national capacity is shown in Graph 4.2, in which the capacity score tends to be higher in countries with a higher GDP per capita.

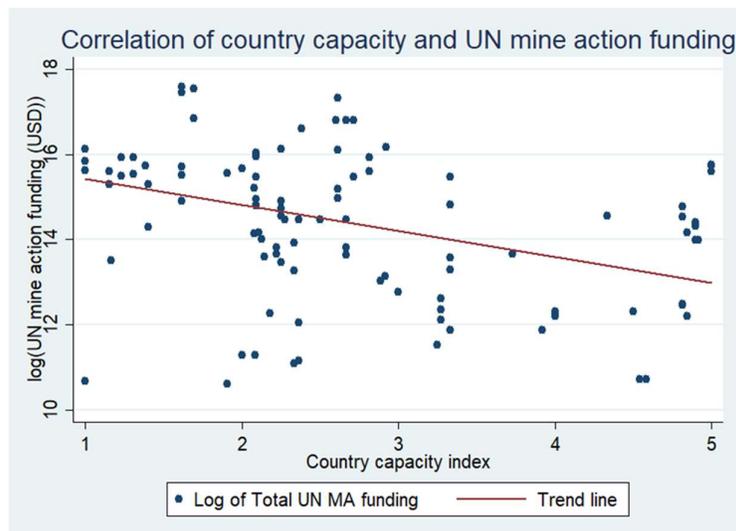
¹² Counties included: Afghanistan, Albania, Algeria, Bosnia and Herzegovina, Cambodia, Central African Republic, Colombia, Congo, Dem. Rep., Cote d'Ivoire, Egypt Arab Rep., Eritrea, Jordan, Lao PDR, Libya, Mali, Myanmar, Palestine, South Sudan, Sri Lanka, Sudan, Tajikistan, Yemen. Countries which have transitioned to national ownership from the UN are Afghanistan and Côte d'Ivoire.

¹³ Capacity levels are assessed by those that complete the M&E Mechanism country survey based on five dimensions of capacity (resource allocation, activity management, policies and framework development, knowledge of relevant issues, planning) across different functional areas in mine action. Discussions are underway about the evolution of such an assessment mechanism.



Graph 4.2: Positive relationship between a country's GDP per capita and its capacity in mine action¹⁴

Correspondingly, UN support in terms of funding is focused on countries with lower national mine action capacity, indicating the UN is targeting areas of greatest need for support (see Graph 4.3).¹⁵



Graph 4.3: Countries with the highest score of capacity development on average received lower levels of UN funding¹⁶

¹⁴ Countries included: Afghanistan, Albania, Algeria, Bosnia and Herzegovina, Cambodia, Central African Republic, Chad, Colombia, Cote d'Ivoire, Congo, Dem. Rep., Egypt, Arab Rep., Eritrea, Jordan, Lao PDR, Liberia, Libya, Mali, Myanmar, Nepal, Nigeria, Pakistan, Palestine, Somalia, South Sudan, Sri Lanka, Sudan, Tajikistan, Yemen, Rep.

¹⁵ Correlation coefficient of -0.3

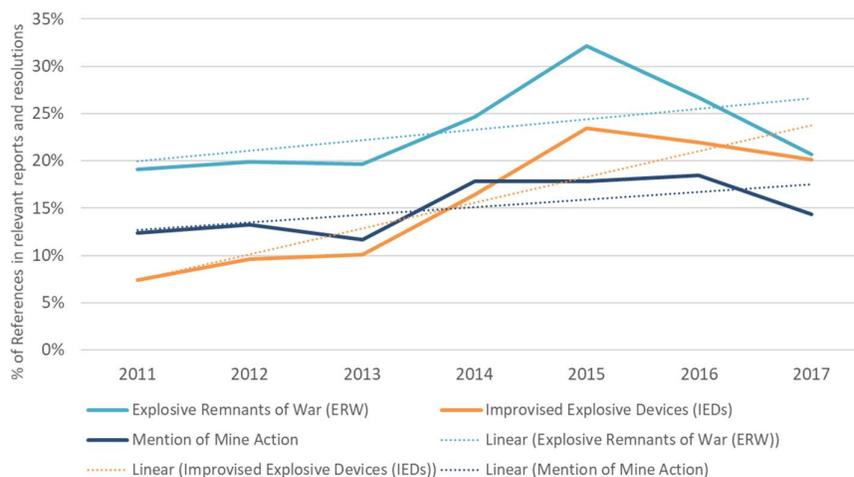
¹⁶ Countries included: Afghanistan, Albania, Algeria, Bosnia and Herzegovina, Cambodia, Central African Republic, Chad, Colombia, Cote d'Ivoire, Congo, Dem. Rep., Egypt, Arab Rep., Eritrea, Jordan, Lao PDR, Liberia, Libya, Mali, Myanmar, Nepal, Nigeria, Pakistan, Palestine, Somalia, South Sudan, Sri Lanka, Sudan, Tajikistan, Yemen, Rep.

Capacity development is a broad term that covers a variety of activities in which the UN engages to better support a country context. In the future, it will be useful to define and capture more information about the UN role in capacity development as part of understanding better how the UN can maximize its contribution in support of the 2025 vision and the sustainable development goals.

5. Strategic Objective Four

The fourth strategic objective is for mine action to be promoted and integrated into multilateral instruments and frameworks. Significant progress has been made in 2017 as, with the first-ever resolution passed by the Security Council on mine action (S/RES/2365), mine action is now represented by resolutions in both the Security Council and the General Assembly. In 2017, the General Assembly affirmed existing resolutions A/RES/72/75 on “Assistance in mine action” and A/RES/72/36 on “Countering the threat posed by improvised explosive devices” signifies the growing urgency of Member States to address the growing threat of explosive hazards.

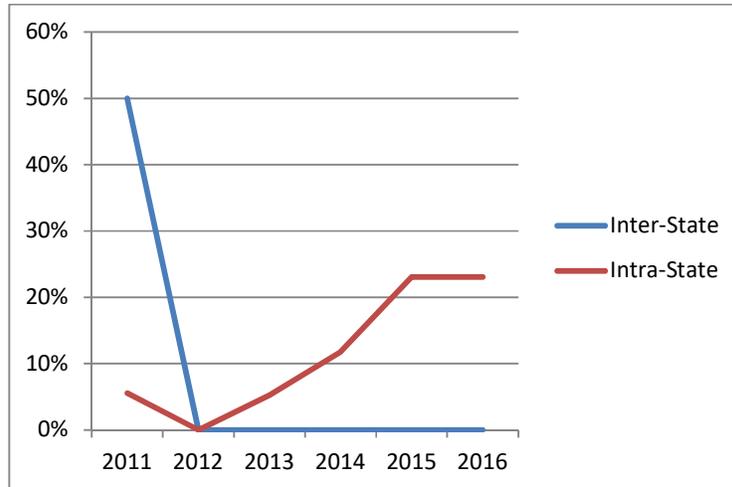
For mine action overall within relevant UN reports and resolutions, there has also been a positive trend in the references to mine action, explosive remnants of war (ERW) and improvised explosive devices (IEDs) in relevant UN reports and resolutions (see Graph 5.1) between 2011 and 2017.¹⁷ This trend suggests there is a growing understanding within the UN of how the threat of mines and ERW can not only cause short-term tragedy but inhibit longer-term development and therefore the need to mainstream mine action into the broader UN agenda at the political level. Further monitoring of the recent decrease in references from 2015 – 2017 is underway to understand better if it represents a substantive shift in policy, or if there has been a shift in key terminology used that is not identified by the current monitoring structure.



Graph 5.1: Trend of references to key mine action terms in relevant UN reports and resolutions

¹⁷ Reference to ‘mine action’: 12% in 2011, 14% in 2017, Peak 2014 – 2016 at 18%. References to ‘explosive remnants of war’: 19% in 2011, 23% in 2017, Peak 2015 at 32%. References to ‘improvised explosive devices’: 7% in 2011, 23% in 2017, Peak in 2015 and 2017 at 23%.

For trends of references to mine action in peace and ceasefire agreements, mine action has been integrated in relevant documents in CAR, Colombia, Libya and Sudan. The majority of mine action references are in country-specific documents, as evidenced in Graph 5.2, below. However, this also reflects the small number of relevant inter-state documents (no inter-state, as opposed to 13 intra-state documents in 2016).



Graph 5.2: Trend of references to mine action terms in relevant peace and ceasefire agreements

Monitoring efforts were also undertaken to understand better the integration of mine action into relevant documents at the national level. Challenges were faced in determining a wide definition of ‘relevant’ documents that applies in different country contexts. In the future, country-specific political analysis is useful to assess integration of mine action within national frameworks. Other areas for development of the UN’s monitoring capacity are to investigate the integration of mine action into relevant development frameworks (such as interagency Mainstream, Accelerating, Policy Support (MAPS) missions, Common Country Assessments (CCA) and United Nations Development Assistance Framework (UNDAFs). In addition, it will be valuable to discuss how to assess the UN contribution in this area, either in terms of financial investment, personnel invested or other factors.

6. The UN in mine action

The UN provides mine action-related support, usually programming support as well as technical advice, to thirty-five states and territories to address the risks posed by anti-personnel mines as well as explosive remnants of war (ERW), including cluster munitions. The UN actively contributes to mine action efforts in thirty-one out of a total of seventy-one states and territories confirmed or suspected to be contaminated with anti-personnel mines.¹⁸ The UN also provides mine action support in countries and territories in which there is no known contamination by anti-personnel mines but there is contamination from ERW and other types of explosive devices.¹⁹ UN mine action also provides support for areas affected by anti-vehicle mines and IEDs.

¹⁸ Landmine and Cluster Munitions Monitor, p. 31. Available at: <http://www.the-monitor.org/en-gb/home.aspx>

¹⁹ Abyei, Albania, CAR, Darfur

7. Developments for UN Mine Action Monitoring

To demonstrate the scale of the threat faced in mine action, as well as provide information on the sector's response, it is useful to collect, analyze and disseminate information to monitor the vision and the strategic objectives in the UN mine action strategy. Moving forward as part of development of the next strategy, it will be valuable to elaborate further the UN role through the development of a theory of change in mine action. Ideally any global framework will complement more detailed country specific reporting and analysis by providing context. In support of country analysis, it will be possible to agree useful methodologies, such as case studies, group interviews or standards for rapid assessment, that can be used to assess areas of operation in which standardised data is not readily accessible or expensive to obtain. In addition, there are opportunities to agree common criteria for post-transition evaluation, such as conducting lessons learned studies and sharing with the IACG-MA. Lastly, ongoing engagement across the mine action sector will also be important to develop the quality of data available to strengthen data definitions and standards for reporting and improve the ability to identify sectoral trends and relationships,

Annex I: About the M&E Mechanism of the UN Strategy on Mine Action 2013 – 2018

According to the UN Strategy on Mine Action 2013-2018, the vision of the UN is a world free from the threat of mines /ERW. The strategy focuses on four strategic objectives outlining outcomes that the UN is committed to supporting in mine action. Each strategic objective also outlines indicators to assess progress being made, as well as describes different activities that the UN undertakes in support of the objective. The UN is committed to working with affected states as well as partnering with civil society, the private sector, international and regional arrangements, and donors to progress its objectives.

One of the core assessment tools of the strategy has been the M&E mechanism. The monitoring mechanism is made up of two components: a country survey that collates data biannually from programmes in which the UN provides mine action support, and a data collection process reviewing inclusion of mine action in UN reports and resolutions as well as peace and ceasefire agreements. Implementation of the country survey relies on a network of UN survey focal points from UN mine action programmes. Participation numbers of UN programmes contributing to the survey have steadily increased from fourteen in 2014 to twenty-seven in 2017, at a rate of 79%. Survey focal points have used participation in the survey as a regular benchmark to capture progress relative to the UN mine action strategy. Alignment of the data collection with country programme information management systems has been programme specific. The survey is managed by a team providing support that conducts regular review of the M&E survey tool, provides updates, analyses data and draft reports that aim to also provide evidence for realignment of UN focus and future programmatic direction. The findings of the monitoring tool are reviewed by the ‘Consultative working group’ (‘CWG’), an interagency group with representatives from UNICEF, UNDP, UNOPS and UNMAS. This consultative working group reports findings and recommendations to the UN’s Interagency Coordination Group on Mine Action (IACG-MA). Findings have been shared in respective Reports of the Secretary-General on Assistance in Mine Action in 2013, 2015, and 2017 as well as during presentations at the annual meetings of the Mine Action National Directors and UN Advisors since 2013.

Undertaking this M&E approach to the UN Strategy has afforded many opportunities for best practices and for reinforcing existing theories -of -change and methodological approaches, whether at HQ or at country level. It has also identified gaps and challenges. Challenges with implementation of the M&E mechanism are related to what data is collected, what data is available and data quality. As much as possible the intent of the M&E Mechanism was to take advantage of existing data collection systems. The data collected captures progress made within countries in which the UN supports mine action efforts (for example, all land released, as opposed to land released using UN-channelled donor funds). As a result, it is necessary to make assumptions about the UN contribution based on proportion of funding invested.

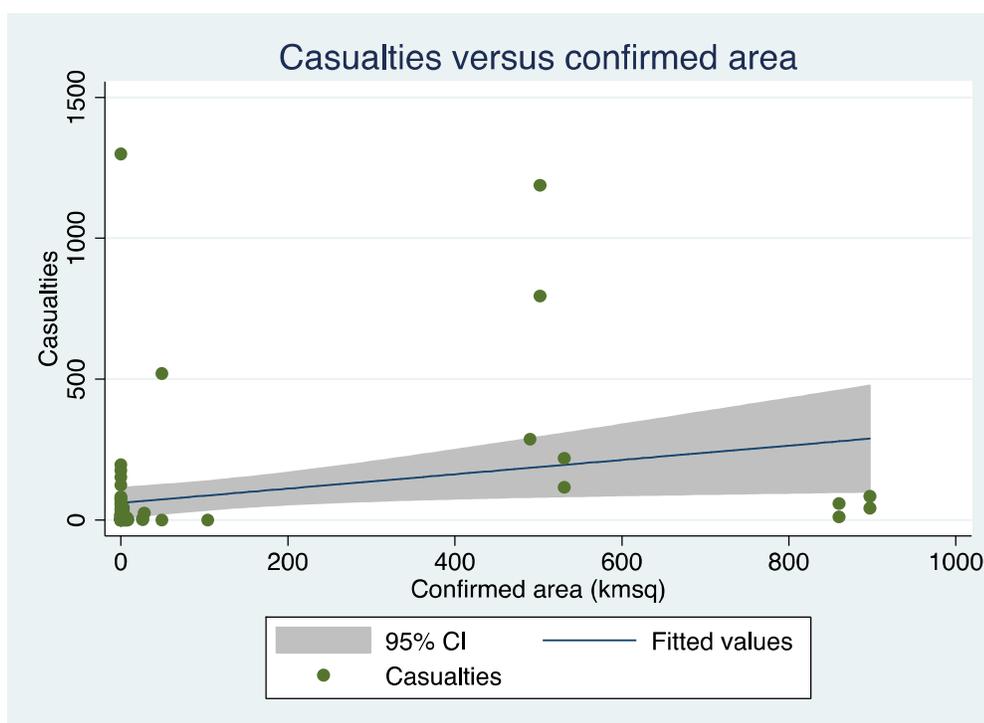
A second challenge for the M&E Mechanism was on the availability of data: participation in the survey tool is encouraged by all UN programmes and implementation is dependent on staff capacity, resource constraints, prioritization of mine action in overall UN country-level programming, and extent to which respective UN entity approaches to mine action are centralized or decentralized. Given this, it is a testament to the effective advocacy of the members of the CWG, the regular support and outreach from the HQ technical capacity and, most importantly, to the commitment of the UN programme and survey focal points that participation increased as it did through the data collection period. In addition, the ability of each UN programme to provide data to the survey tool, including to capture disaggregated data by gender and age, varies based on what mine action activities each programme is engaged with, and the amount of information available to each programme. For example, if the UN is not engaged in victim assistance projects it would not have straight forward access to victim assistance data. Or, if data

collected does not differentiate between explosive devices, input into the survey cannot be disaggregated along those lines. In essence, there is a lack of standardized approaches to data collection between programmes or even between UN entities. The M&E Mechanism has to a minimum extent streamlined these processes in some country contexts but mostly has cast light on this issue and provided evidence that would be useful for closer examination and design of its M&E data collection methodology in the development of the 2019-2023 UN Strategy.

As a result of the above, the analysis conducted is either a sub-set of participating states and territories that have provided relevant data, or on a changing number of states and territories as participation numbers have changed – these differences have been noted, as well as their potential effect on the findings, in the analysis commentary. Lastly, data consistency and quality continues to be a challenge faced in the sector, unsurprisingly given the sequencing of field-level support and challenging operating conditions in which mine action is conducted. Any country or sector initiatives to improve data quality through standardised data definitions, improved technology or other methods are strongly supported.

Annex II: Relationship between hazardous land and casualties

The relationship between casualties and hazardous area is well elaborated with areas with more hazardous land experiencing more mine/ERW casualties. The relationship between confirmed hazardous area confirmed hazardous area ('CHA' - areas confirmed through non-technical survey to be contaminated with mines and ERW) and mine/ERW casualties is illustrated in Graph A.III.1.



Graph A.III.1: Relationship between hazardous area and mine/ERW casualties

Understanding what factors affect the casualty rate, and the scale of the effect, can provide useful information in planning the type and scale of a response to a mine/ERW threat. In order to investigate this, regression analysis was conducted. It is speculated that higher economic growth instrumentalized with higher government spending on MA and stronger national capacity reduces casualties. In addition, it is hypothesized that countries with higher government commitment to health and political stability and an absence of violence will have a lower casualty rate. It addition, it is hypothesized that UN mine action funding has a direct negative effect on casualty rates.

To conduct the analysis, simple ordinary least squares ('OLS') and random effect estimators has been used to explain the hypothesized associations. The dependent variable in this model is the casualty rate and the explanatory variables are: confirmed hazardous area in square kilometers, UN mine action funding per capita in USD (proxy for total mine action funding), GDP PPP per capita in USD, capacity development index, immunization coverage (proxy for health system capacity and government commitment to support social and health programmes), political stability and absence of violence.

The findings show from the first model, the OLS model, shows that for one square kilometer increase of confirmed hazardous area, on average, an increase of 0.001 ($p < 0.05$) of the casualty rate per 100,000 people can be expected, holding another variables constant in the model.

A second and third model were used to triangulate the findings. In these, more advanced, random effects models, the finding from the first OLS model is confirmed: these additional models estimate a positive and significant association between confirmed hazardous area and casualty rate with a regression coefficient of 0.002 (p<0.001 for lin-lin model and p<0.01 for semi-log model). In addition, these additional models indicate that UN mine action funding has a negative association with the casualty rate. All analyses consistently show that a higher level of capacity development, a stronger health system capacity and greater political stability contribute to reducing the casualty rate.

The results from all three models (OLS and random effect) are shown in Table AIII.1.

	OLS	Random(lin-lin)	Random(semi-log)
Confirmed area (km2)	0.001* (0.001)	0.002*** (0.001)	0.002* (0.001)
UNMA funding p.c.	-0.000 (0.000)		
UNMA funding p.c.(log)		-0.064 (0.120)	-0.116 (0.116)
GDP p.c.	0.000 (0.000)	0.000 (0.000)	
GDP p.c.(log)			-0.001 (0.238)
Capacity Development	-0.120 (0.065)	-0.159 (0.144)	-0.038 (0.194)
Immunization coverage	-0.010 (0.014)	-0.002 (0.013)	-0.007 (0.015)
Political stability	-0.301 (0.167)	-0.407* (0.207)	-0.402 (0.273)
Constant	0.869 (1.279)	0.484 (2.393)	1.209 (3.335)
R-squared	0.420		
N	44	36	36

* p<0.05, ** p<0.01, *** p<0.001

Table AIII.1: Results of regression to assess effect on casualty rate of confirmed hazardous areas, UN mine action funding, GDP per capita, national capacity in mine action, government commitment to healthcare and political stability