An integrated 3D Approach for Effective Mine Risk Education in post war-zone areas

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ABSTRACT

International Mine Action Standards define Mine Risk Education (MRE) as activities that seek to reduce the risk of death and injury from mines and explosive remnants of war, by raising awareness and promoting safe behaviour. MRE systems and practices in post clearance areas in conflict affected regions worldwide promote two main types of activities, identification of explosive remnants of war and making the correct response ensuring individual safety as well as the safety of the community. This can be viewed as a two dimensional approach spanned by Identification and Response dimensions**.** This paper based on the findings from a recent empirical study conducted specifically in the northern Sri Lanka introducing Reconciliation as a third dimension to further improve the present two dimensional approach of mine risk education. The authors acknowledge that MRE has had a positive impact on war affected communities in global context. However, it needs considerable integration of a learning module which should reflect the different causes of life catastrophe risks are similar to mine risks in extreme scenarios- they constitute non-diversifiable risks, so that MRE helps maintain a significant effect and long- lasting impact on attitudes towards landmines and other explosive remnants of war at the community level.
Keywords: Explosive Remnants of War, Mine Risk Education, Reconciliation, Risk

RESUME

Les normes internationales d'action contre les mines définissent l'éducation au risque des mines (MRE) comme une activité visant à réduire les risques de mort et de blessures dues aux mines et aux restes explosifs de guerre, en sensibilisant l'opinion publique et en encourageant les comportements sans danger. Les systèmes et les pratiques d'EDM dans les zones de dépollution dans les régions touchées par les conflits dans le monde encouragent deux types d'activités: l'identification des restes explosifs de guerre et la réaction appropriée assurant la sécurité individuelle ainsi que la sécurité de la communauté. Cela peut être considéré comme une approche bidimensionnelle englobée par les dimensions Identification et Réponse. Ce document s'appuie sur les conclusions d'une étude empirique récente menée spécifiquement dans le nord de Sri Lanka, introduisant la réconciliation en tant que troisième dimension pour améliorer encore l'approche en deux dimensions actuelle de l'éducation au risque des mines. Les auteurs reconnaissent que l'ERM a eu un impact positif sur les communautés touchées par la guerre dans le contexte mondial. Cependant, il faut intégrer un module d'apprentissage qui devrait refléter les différentes causes des risques de catastrophe dans la vie. Ces derniers sont similaires aux risques des mines dans les scénarios extrêmes. Ils constituent des risques non diversifiables, de sorte que les MRE aident à maintenir un effet significatif et durable sur les projets.

Mots-clés: Restes d'explosifs de guerre, éducation au danger des mines, réconciliation, risque

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1. INTRODUCTION

Landmines and other explosive remnants of war (ERW) affect the lives and livelihoods of populations in more than 57 countries worldwide (Landmine and Cluster Munition Monitor, 2015). Lingering conflict and rehabilitated hostilities in unstable parts of the world mean that new threats from landmines, unexploded ordnances (UXO) and improvised explosives (IED) often continue to rise. A landmine is an explosive device, usually victim-activated, normally laid at least 15 cm just below the ground surface and designed to kill, maim or destroy vehicles. UXO are explosive munitions that have failed to function as intended, are left very active and highly dangerous. They may have been fired, dropped, launched or specifically placed, and include artillery and tank shells, mortar bombs, fuses, grenades, large and small bombs including sub- munitions, rockets and missiles. Both landmines and UXO are often extremely unstable and can detonate at the slightest touch, hit or stepped on.

Landmines and ERW make life challenging for people living in contaminated areas – not only in terms of the risk of injury or death, but in terms of the negative economic, social and development impacts. Mines may obstruct land needed for farming and grazing animals. The proximity of land contaminated with mines and ERW cause fear. People tend to worry about themselves and their families (particularly children), livestock and friends. Mines may interfere with freedom of movement, as suspected hazardous roads affect the delivery of assistance and transport of goods and prevent children from going to school on their own. Mines and UXO strategically block access to natural resources and essential infrastructure, water for drinking and irrigation as well as to forest areas where people gather firewood. Fear, restricted movement and restricted access lead to reduced economic opportunity and wellbeing especially for mine victims-with significant long term repercussions, such as increased vulnerability and poverty for those affected.

Mine clearance is expensive, slow and can take years to complete. One of the immediate challenges faced by the countries recovering from war is the prevention of further casualties from mine contamination. After addressing immediate concerns, including protecting citizens and critical national infrastructure from explosive hazards, governments endeavor to secure safe environments for daily life and socioeconomic recovery. Large numbers of displaced persons are waiting for the mine clearance before returning to their homes. With internal and external pressures in play, it is impossible to plan comprehensive surveys due to inadequate information on the scale and mine contamination. Due to this reason, clearance teams often miss to remove mines in unpattern minefields or mines laid sporadically.

Therefore, it is obvious that there is a probability of having landmines/ UXO buried and those who live in these areas should be educated on how they should regulate their lives, livelihoods and other activities so that the risks they come across are minimized ideally to a near zero level. This can be achieved by educating such people with regard to possible risks they may face and how to act when they confronted with situations involving landmines and other ERW. This educational process is referred to Mine Risk Education

(MRE) and is carried out in many countries where the conflict has prevailed for a long period of time.

The need and scope for MRE is evolving, and it is critical that it be delivered in an effective and controlled manner. MRE is offered as a part of demining efforts to reduce the risk-taking behaviour of communities, increase their capacity to **identify** and **respond** to the threats, and raise awareness of the threats of the dangers of mines/ERW. The wide range of explosive threats present in post clearance areas reinforces the need for comprehensive MRE approach to brainstorm the returnees to meet the challenge as a normal other day-to-day risk.

This paper draws on the experience of working in MRE programmes in Sri Lanka, Myanmar, Philippines and Ukraine. The first author worked on the programmes since its inception and advised on appropriate evaluation at different stages. First, a brief historical overview of the development of mine action and specifically MRE programmes is provided. The paper then provides a brief summary of landmines and UXO before reviewing the relevant mine risk education and health and safety promotion literature. Secondly, it outlines the gaps of two dimensional approach of the current MRE programme and describes its data collection methods and findings in detail. Finally, the lessons learned from the programme are discussed and a third dimension is introduced for improving the effectiveness of approaches to mine risk education.

2. SIGNIFICANCE/APPLICATION

Clean up of wartime debris will likely continue for years. Chan (2013) highlights a case in Cambodia that under economic pressure, local populations frequently resettle in contaminated land while Bottomley (2010) has undertaken a study of informal mine clearance by Cambodian villagers, increasing the number of victims. Despite the significant reduction of landmine/ERW incidents over the past few years, the returnees in Northern Sri Lanka continue to report explosives located in surroundings and paddy lands (Iddamalgoda, 2016). Therefore, Humanitarian demining projects have made Mine Risk Education an integral part of their long term mine action mission aiming to create a safe environment to the returnees.

The proposed 3D approach would have important policy implications for MRE practitioners to improve the mindset of people about risk and how to live with the risk. It is also evident that not much research has been carried out on mine risk education and how they relate to the practice of safe behaviour reality of the resettled. Hence the subject is of value to development planners, policy makers, international demining agencies and others. The journal of Conventional Weapons Destruction and publications from Geneva International Centre for Humanitarian Demining (GICHD) and international mine action standards have been used extensively in literature review.

The study would be beneficial for academics to fill the empirical gaps existing in mine risk education. As MRE has an influencing bearing on behavioural change (Ngo & Nguyen, 2015), findings of the study will be a significant contribution to the mine action body of knowledge as well. Further, this paper will convert the so called dreadful post

clearance area to a normal livelihood area with the psychological transformation of the human mind that has been completely indifference in the current MRE module.

3. GUIDING FRAMEWORKS

3.1. Mine Risk Education (MRE)

Mine Risk Education refers to "activities that seek to reduce the risk of death and injury from mines and ERW, (including unexploded sub-munitions), by raising awareness and promoting safe behaviour. These activities include information exchange with at-risk communities, communication of safety messages to target groups, and support for community risk management and participation in mine action" (UNMAS, 2013, p.8). MRE should ensure that women, men and children in the war torn areas are aware of the risks from landmines and are encouraged to behave in a way to live safely with the risk to people, property, and the environment. According to Hashimi (2012), the aim of MRE is to provide sufficient information to recognize and report these items to the appropriate authorities. The authorities can then remove the items, creating a safe area for people and forming an environment where economic and social development can occur free from the constraints imposed by contamination.

Lately, MRE has emerged as a more formal, generalized and interdisciplinary concept that covers two common dimensions of identification and response. MRE is being played simultaneously to humanitarian demining activities and in some countries just as a stand-alone project. Ngo & Nguyen (2015) states that adults and children can practice safe behaviour if educated about mines and UXO risks and how to react when encountering ERW at home, in the garden, farm or schoolyard, or by the road. To meet this challenge MRE should act beyond the two dimensional approach.

Unlike demining activities, MRE activities are not standardized within all the mine affected countries. Each MRE implementing agency may use its own methodologies and materials when delivering MRE. This argument posited with various MRE strategies by Hashimi (2012) from Afghanistan, Crini (2012) from Algeria, Horsley (2015) from Iraq and Bosnia and Herzegovina, Ngo & Nguyen (2015) and Yen (2015) from Quang Tri Province in Vietnam, Kasack (2015) from Mali, Sri Lanka and Tajikistan, Akello (2015) from Uganda, Gunawardana (2014) from Philippines, Jones & Crowther (2016) from Ukraine. MRE programmes generally shifts from an emergency modality to community based approach. The community based MRE programme aims to understand the needs of mine affected communities, provide MRE and training for community members and volunteers, and link mine action and the affected communities to ensure the awareness of threats posed by mines/ERW. This will encourage community members and volunteers to mobilize, take responsibility for their safety in mine/ERW impacted areas, educate others on mine risks, liaise with survey, demining and MRE teams, and share any recent changes with their communities, in particular by reporting mines/ERW as well as new hazards/minefields.

3.2 Behavioural Change

UNICEF (2015), the key actor for MRE, defines Behavioural change as a "research-based consultative process for addressing knowledge, attitudes and practices. It provides relevant

information and motivation through well-defined strategies, using a mix of media channels and participatory methods". A similar definition is given in a health science research by Galbraith et al (2016). Behavioural change strategies focus on the individual as a locus of change. Michie et al (2011) identified three core components to behaviour change: capability, motivation, and opportunity.

Galbraith et al (2016) argue that educational interventions build capability for behavioural change, but healthcare professionals play an important role in providing motivation and opportunity for behavioural change. Their research suggest that individual counselling has been identified as a potentially effective intervention to improve health behavioural change within various chronic conditions (diabetes and hypertension). Though not specific to mine risk education, the above mentioned interventions which aim to improve overall quality of life have shown promise in reducing mine-related incidents and developing positive attitude to conduct livelihood activities in post clearance areas.

Based on the example from Uganda given by Akello (2015), MRE projects are intended to reduce the risk-taking behaviour of communities, increase their capacity to identify and manage threats, and raise awareness of the dangers of mines/ERW. Increased knowledge to identify a mine/ERW, differentiate it from other explosives or similar looking metals and awareness of where they may be hidden, how minefields are marked and understanding warning signs-does contribute to this objective, but not sufficient to bring about reducing the risk taking behaviour and managing the threat.

The study informs the psychological theory of Planned Behaviour (Armitage & Conner, 2001) as shown in figure 1. The safe behaviour is dependent on one's intention to change the unsafe behaviour. Intention is determined by one's attitude (beliefs and values about the consequence of the behavior - cultural beliefs, thereby enhancing understanding and action targeting stumbling blocks in the reduction of mine or UXO-related accidents) and subjective norms (beliefs about what other people think the person should do or general social pressure – Determine factors which influence the habits and opinions of communities affected by the hazard of mines/ERW and UXO).

Behavior is also determined by an individual's perceived behaviour control, defined as an individual's insights of their ability or feelings of self-efficacy to perform behavior.

Intention plays a prominent role and stands to be the most important variable in predicting behavior change, suggesting that behaviors are often linked with one's personal motivation. Therefore, it is necessary to present information in such a way that people develop a positive attitude towards the behaviour as a result and stress subjective norms or opinions that support the behavior. For perceived behavioral control to influence behavior change, most likely with self-efficacy, a person must be confident that they have the ability to accept the mine risk as normal other risks they face in life and continue their day-to-day livelihood activities in a conflict affected environment. A vital aspect of the behaviour change process as pointed out by Kritsonis (2005) is perceived control over opportunities, resources, and skills necessary to make a complete change.

According to the model of the theory of planned behaviour, 'intention' of mine risk education is to reduce casualties through behaviour modification, the 'subjective norm' is the beliefs and general perceptions of landmines and UXO in the community, the

'perceived behavioural control' is through education process changing knowledge, attitudes and practices of people to achieve safe behaviour. MRE only makes a difference if as a result people change their everyday behaviour.

However, given the heterogeneous interventions published and a paucity of evidence, the optimal method to elicit behavioural change within MRE is adding a third dimension namely **reconciliation** to the existing 2D approach.

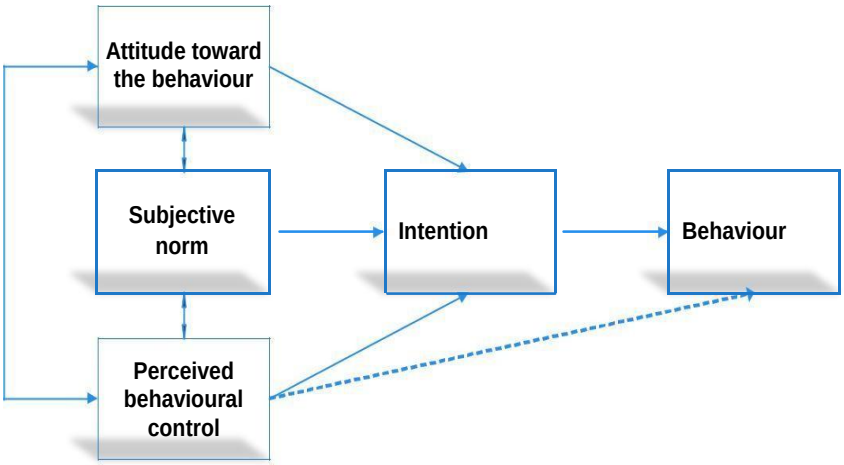

Figure 1: Model of theory of Planned Behaviour (Armitage & Conner, 2001)

4. MATERIALS AND METHODS

4.1. The Research Approach

Information for this study was collected from multiple sources including the first author's first hand information involving survey of professionals working with landmine and UXO-related problems around the world, review of published and unpublished documents from Geneva International Centre for Humanitarian Demining, International Mine Action Standards, United Nations Mine Action Services, Sri Lanka National Mine Action Centre, UNICEF, the Journal of Conventional Weapons Destruction, various international organizations involved in mine action, along with country-level information presented in the annual Landmine Monitor reports and periodicals. Despite the excessive benefits of MRE, very little information is available on their efficacy repercussions. Therefore, instead of a quantitative approach that depends on wide empirical research with predefined theories, assumptions and hypothesis, this review approaches the problem by posing open-ended questions that reflect the experiences of people who have been/are involved in the issue.

Also, the research includes information gathered from a recent pilot study undertaken in October 2016 in three selected Divisional Secretariat divisions (DS Divisions) in Mullaitivu district in Northern region of Sri Lanka that is Mullivaikkal, Mulliyawelei and Puthukudiyerippu DS Divisions. The DS divisions are selected purposively because of their specific experience with final phase of the war, their 192 km² demining experiences, recovery of 261,380 mines/UXO and over 130,000 number of households that have

already resettled in cleared land and have started livelihood (Regional Mine Action Office, 2016). Moreover, the returnees have come across landmines/UXO after the resettlement and have unfortunately made a few fatal accidents too.

4.2. Sampling and Data Collection

A nonrandom quota sampling procedure was employed to select sample households. In this stage of the sampling procedure, as mentioned earlier, the households were selected purposely based on their specific experience with displacement and resettlement experience. The main source of livelihood is based on farming and fishing in these areas. Primary household and parcel data were collected through focus group discussions with 60 farmers and fishermen. Through these discussions, detailed information was collected about MRE knowledge and understanding, mine incidents/accidents, experiences of dealing with mines/UXO, general beliefs, perceptions about risk and their strategy to mitigate risks, and MRE practices such as community-based MRE, school-based MRE and mass media-delivered MRE. The perceptions of participants about their MRE lessons were validated by field observations (e.g. on live MRE sessions).

Some measurements were also undertaken during the survey to cross-check the interview results such as ongoing clearance sites in the surroundings, degrees of unsafe actions and causes of accidents. The results were discussed with Regional Mine Action Officer and MRE personnel. Moreover, the results were verified with findings of previous studies in the respective mine affected countries worldwide. Research was also undertaken, with lists of questions, on the perceptions of land users about the fear or confidence in living in demined land, land use planning, people's adaptations for survival when contacts an explosive and how to overcome these sort of situations.

Through snowball sampling technique, MRE operators were contacted and interviewed. The participants were asked to give their expert opinions and outputs of their MRE programmes conducted by themselves or their organizations. They were asked questions on the MRE methods and techniques, number of beneficiaries, monitoring and evaluation mechanisms, the importance of a MRE need in post clearance area, SWOT analysis and socio-politico-economic implications. When necessary-for clarification or when supplementary data was needed—follow-up questions were asked via e-mail or skype.

4.3. Analysis Procedure

Interpretation of the data collected from the literature, interviews and field observations determined to identify patterns, recognize relationships from the information collected and aggregate the findings into relevant categories based on those patterns, relationships and pertinent theoretical concepts. The combination of methods allowed covering a broad range of issues. The response received in the scheme of knowledge, attitudes and practices were categorized consistently.

Subsequent to the answers of questionnaire were grouped together and tabulated around the research questions, they were triangulated with literature in order to minimize potential biases in the study sources, or methods; to increase reliability and validity of the findings (to lessen possible misunderstandings between those in diverse fields or between the participants and the researcher); to achieve better convergence of the results; and to present a broad perspective on the issue.

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5. RESULTS AND DISCUSSION

The results reveal that landmines cause particularly complex phenomena in the life of post conflict environments even subsequent to demining activities. This result suggests that people who have just got resettled are more likely to make mine accidents regardless of the emergency or long term mine risk education received. This could be explained by the number of mine accidents in the years of resettlement have been decreased from 27 to 5 from year 2010 to 2016 in Sri Lanka (Ministry of Prison Reforms and Resettlement, 2016). The accident and injury information revealed that approximately 30% of mine/ERW accidents in 2012-2013 occurred as a result of garbage burning in resettlement areas (Iddamalgoda, 2016). Subsequently, specific guidelines for garbage burning were developed, and the proportion of mine/ERW accidents resulting from garbage burning was decreased in 2014. The women and children are likely to make up the majority percentage of mine victims, as they carry out the activities such as ploughing the ground for farming, grazing animals, collection of water and firewood while adolescent boys are vulnerable looking for subsurface metal and scrap metal scavenging.

When the risk factors are considered as a whole, the number of people determined to be at-risk extends beyond contaminated areas to the wider population of affected areas. Based on anecdotal evidence, many MRE operators have intentionally repeated risk education sessions and outreached in at-risk communities to sustain the message over time. Such repetition is considered good practice, especially in high-risk situations where population movement and conflict is dynamic, and where complacency appears to be an issue in risk-

taking behaviour. Moreover, MRE has been intentionally delivered outside of communities currently at risk in anticipation of future mobility. For example, those working temporarily in, or occasionally travelling to or through affected areas. Nevertheless, the respondents highlighted the need for MRE to provide more lessons to children. The study reveals that people have accepted the lands due to economic motivation but they still have an eternal fear of mine risk. The returnees are living in close proximity to contaminated areas or demining lands. They have an instill fear of 'will I be the next victim' especially when they hear about mine incidents in surrounding areas. The findings emphasize that currently Mine Risk Education addresses two dimensions: Identification and Response.

5.1. Identification

In the first round of data collection, participants were asked to identify the mines and UXO in a printed photograph. All were able to do so. A related finding shows that, people living in close proximity to contaminated areas or ongoing demining sites were clever in identifying warning signs. Mobile PowerPoint presentations, Travelling MRE shows (musicals, role play, dance, leaflets, bill boards, survivor interviews) are common strategies used to disseminate MRE messages, particularly in communities with restricted education levels and information accessibility. The mobile presentations provide entertainment but also create a comfortable environment for learning safety messages. The presentations encourage local residents to avoid touching suspicious items, be very cautious when farming. MRE is also disseminated through public health information, and the use of local radio, or television delivery platforms, text messaging campaigns and internet platforms including social media.

Children are particularly vulnerable to landmine dangers, disguised as toys, therefore, various MRE integration methods have been undertaken by the practitioners. MRE has been included in school curriculum for primary and secondary education in the Northern Sri Lanka (Kasack, 2015). MRE is also provided to school-age children through extra-curricular activities that include outdoor activities such as singing, role-playing, puzzles, jigsaw, painting, games, leaflet distributions, and competitions. Students receive safe-behaviour guidance, and take the messages and supporting materials home to share with family members and neighbours to educate them on safety when encountering mines/UXO.

5.2. Response

Findings from the focused group discussions with residents indicate that they are aware of: basic safety messages, recognition of mines and UXO, what are the effects of mines and UXO, profiles of risk taking behaviours, recognition of areas likely to have landmine/UXO contamination, warning signs and clues indicating contaminated areas, Safe behaviour in a landmine/UXO infested environment, myths/misconceptions, Reporting mines/UXO for relevant authorities, Emergency procedures in the event of finding oneself in a minefield or in the case of an explosion. Almost all of the people interviewed knew that some of their farming and household practices placed them at risk. When different programmes reinforced the same message, mine risk education programmes made a positive contribution in this area.

There was, however, some self-regulation of behaviour with individuals taking a range of actions to keep themselves and their families safe. For example, farmers spent longer time burning land prior to cultivation as a way of detonating sub-surface UXO. The farmers used to burn in the night time to avoid peoples' movement and keep families a considerable metres away from the burning point. Asked to whom they would report an incident, the majority cited a community or religious leader or *Grama Niladari* (village headman). Only one in four said they would report to the demining agency in their area. An obvious conclusion is that *Grama Niladari* are in a position to encourage more reporting and were a potentially valuable asset to mine action programme in Sri Lanka.

5.3. Two dimensional approach – methodological gaps

While the integrated two dimensional (2D) approach has been theorized and widely applied, current challenges in the mine risk education sector are still not properly discussed at local and international levels. As a result MRE practitioners and demining actors also do not address them appropriately.

Crini (2012) interestingly points out that international standards for residual clearance and related activities after a country is mine-impact free have yet to be established. As is widely known, Malawi, Nigeria, Rwanda, Uganda and Mozambique have already completed the mine clearance deadlines. The Government of Sri Lanka has managed to resettle over 882,392 people (253,231 families) in the cleared areas and targets to end mine clearance in year 2020 (Ministry of Prison Reforms and Resettlement, 2016). Despite this triumph, additional questions remain: how will the affected population, national and local authorities face the residual risks? What precautions will reduce the potential accidents? What strategies will remove the eternal fear of people and improve confidence to continue livelihood? Crini (2012) suggests to establish monitoring and supporting, trained and equipped focal points to continue community based reporting and MRE sessions, and managing the hotline that populations used to report suspicious objects or mine accidents. Clearly, these methods will not contribute to eliminate the instill fear of people.

Various MRE experts have noted that, after years of exposure of MRE sessions, the level of knowledge and awareness of at-risk and risk-taking groups improved. However, people tend to feel that explosives still pose real obstacles to the application of safe behaviour, creating a dangerously high likelihood of munitions incidents in their farm or home garden and they have to risk their life everyday due to economic and social needs. Those working in MRE need to better address this particular point, not only through improved education systems but solution- focused counselling psychology. Counseling addresses the emotional, social and physical health concerns people may have at different stages in their lives, focusing on typical life stresses and more severe issues with which people may struggle as individuals and as a part of families, teams and organizations (Aromaa et al., 2011). In this particular study, people have gone through following stages in their life:

IDPs stage: adults and children displaced as a result of war, residing in government-controlled areas. IDPs have settled across the country, with the most vulnerable living conditions in collective welfare centres. They have lost all their belongings and valuables and may not even have the national identity card.

Returnees stage: subsequent to mine clearance activities, adults and children are transported to their areas of origin or to live with host families under government control. The returnees have been provided with cash grants, non-food items, water and temporary shelters to start living. They engage, when possible, in daily labour activities such as fishing, paddy or vegetable cultivation, firewood collection, craft activities, poultry rearing etc.

Residents stage: Adults and children residing in conflict-affected areas under government control, including residents in their place of origin or may not. People have started large scale farming and fishing in post clearance area with the assistance of government/nongovernment financial aid.

According to Pathak (2016), counseling psychologists help people with physical and emotional issues improve their sense of well-being, alleviate feelings of fear and uncertainty and resolve crises. Counselling can be applied across all stages of development (i.e., adolescence, adulthood and older age), counseling psychologists focus on healthy aspects and strengths of individuals, couples, families, groups or organizations, situational influences (how cultural, gender and lifestyle issues shape people's experiences and concerns) and issues of diversity and social justice, the role of career and work in peoples' lives (Schweitzer et al., 2006).

Counseling psychologists work with individuals of all ages, such as children who have behavioral problems; late adolescents with educational and career concerns (Rigby, 2000); adults facing family difficulties or stress, livelihood changes, or overcoming disabilities and fear. They work with groups to assist them in finding solutions to these problems, as well as to improve the personal and interpersonal functioning of group members. In a medical study undertaken by Kaleeba et al (1997) states that counseling psychologists also consult with organizations (e.g., businesses) and work groups to help provide a work environment in which people can succeed, and to enhance the ability of organizations to increase productivity and effectiveness. Therefore, counselling would be a potential application for mine risk education.

The two dimensional approach of Identification and Response have placed the responsibility for change solely within the individual with few realistic alternatives being offered. The study is opposed to the common centralized approach to developing MRE messages and notes that realistic alternative behaviours have rarely been offered. The MRE messages and response should be localized and built in negotiation and consultation with affected communities. Durham et al (2005) highlights a suggestion from recent health and safety promotion literature, on its own, a message-driven approach may be inadequate as a strategy for promoting sustainable behavioural change.

MRE has significantly contributed to reduce landmine injuries and promote safe behaviour but the eternal fear of the risk is galvanized in the mindsets of affected communities. Educating affected families to recognize landmines/UXO and report the dangerous devices to the relevant authorities do not necessarily contribute to eliminate the eternal fear of risk. Focusing primarily on information dissemination, although in a culturally sensitive way, assumes that all individuals have the ability to adopt safe behaviour. This cannot be achieved as long as people have a generic understanding about the life risks and how

landmines include in the list of life risks. MRE has definitely overlooked to educate people about potential risks and carefully prescribe how landmines stand among those risks. In planning interventions, mine risk education practitioners need to broaden their focus to include an examination and critique of the structural factors and local perceptions of risk.

The two dimensional approach emphasizes the dynamic interface between identification and response, from this perspective, the most effective way to improve an individual's behaviour is to systematically address the psychological issues that contribute to fear of risk, thereby expanding the 2D approach of the whole MRE system. The study proposes a third dimension for MRE: reconciliation.

The study experience shows that people are living with fear in the post clearance areas. This eternal fear can be evaporated when people accept mine risk as any other normal risk which could pop in their daily activities. Understanding the nature of risks in life involves, natural hazards (floods, landslides, tsunami, earth quakes etc), or hit by a vehicle on the road, bitten by a snake while farming, falling off a bicycle while riding, stitching finger by mistake while sewing, elephant attacks in farms etc. It is a measure of people's wisdom and a society's values if a community is willing to learn from others' experiences, rather than to suffer its own. Cases (2013) states that people have different beliefs about risks they face even if they fear the same things such as death and illness. Hence, they have different ways of managing and acting on risks. Understanding how individuals define, interpret and act upon risks is important not only in accounting for the potential gap between the perception of MRE experts and the public in identifying key risks and appropriate responses but also in explaining why and how "people perceive risks the way they do" (Sjöberg 2004:51).

The concept of trust should be incorporated in the reconciliation to underscore peoples' reliance on trust regardless of their motivations for their actions. Trust is demonstrated in the belief that a particular strategy is the most effective and efficient means to manage risks. It is also manifest in one's conviction that such action could actually work despite uncertainty. Trust enables actors to act. It facilitates the choice of what strategies are the most appropriate given a particular situation. Most of the strategies participants employed are mainly based either on their past experiences or the experiences of people they trust or most importantly religion.

As we did not interview a large group of people in the general population, we cannot really make comparisons. We also did not gather statistical materials that would allow us to compare with existing data. However, on the basis of general sociological data about religious practices and our knowledge about the Tamil-Hindu and Tamil-Christians context, we can interpret the data. In general, Hindu temple practices and religious involvement is rather high in Northern Sri Lanka. People live in Northern Sri Lanka are used to attend the Hindu temple every morning/evening for praying and do have a personal faith on God. People also follow religious practices at home, such as praying or wearing religious symbols.

Faith that is put into practice, that shows itself in concrete actions, seem to be very important for the interviewees in our research. For instance, their willingness and ability to

allocate some time every day to visit the temple is influenced largely by trust. The daily religious activities facilitated and encouraged the participation of both young and old members in the community and persuasion of the priests and religious leaders. The active religious leaders have managed to gain trust from the local population. There are current members who decided to get involved in the religious activities because they know and trust their seniors and adults.

Therefore, it will be quite useful to integrate the religious leaders and priests whom people trust to remove the eternal fear of landmines/UXO. MRE can be integrated to their religious discussions and lessons to people on building hope, positive ways of dealing with difficulties in life and adapting to possible changes. It is important to see that faith might be important in the life of people living in poverty, especially also expressed in relation to religious material symbols. People will learn that there is a risk in every action they do and it's just a matter to be careful. Faith and good deeds are consciously considered as effective means to attain a goal (e.g. volunteering in exchange for good health) particularly in the context of the lack of material resources.

Findings from this study also indicate that understanding risk rationalities from the perspective of participants is a productive exercise. Participants' reliance on faith and fate instead on objective, instrumental rationality to interpret and manage risks in their everyday practices does not mean that the participants can be characteristically dismissed as irrational for being fatalistic. On the contrary, faith, hope and belief are survival strategies to recover from losses and struggle to make their lives better even given the challenging circumstances.

Finally, this paper highlights the role of trust in informing the participants what strategies to take and what they should avoid. Trust is mainly fostered by their own or their reference groups' positive experiences. Incorporating the concept of trust in the modified model of MRE sharpens the usefulness of the reconciliation in understanding risk management strategies beyond identification-response. The 3D model also facilitates a view of social action that is more relevant and grounded to the everyday of experiences of affected population who orient their actions not only in terms of identifying and reporting a suspicious object but may also be smart enough to accept it as a general day-to-day risk. It is then important to take into account and acknowledge the capacity of what Zinn (2008a) referred to as in-between approaches in managing risks. This way, analysts are able to make sense of different forms of rationalities that individuals employ in managing risks and future uncertainties.

MRE should be strengthened and sustained to protect the individuals in post clearance areas where residual risks remain, threating the population. The mine action practitioners can implement a MRE strategy by integrating reconciliation to the existing two dimensional approach to reinforce sustainable behavioural change. In summary, the proposed three dimensional mechanism should standardize and improve MRE for the coming years.

6. CONCLUSION

Landmines are a fact of life, but they need not wash away health, hope and livelihoods. Reconciliation, the third dimension that is proposed to integrate into MRE in particular, its qualitative dimension, raised a number of vital considerations for mine risk education programmes in facilitating behaviour change. This is especially so in countries where the conflict is either protracted or completed many years ago and landmines/UXOs are, to a considerable extent, considered an obstacle for livelihood and demoralize peoples' attitudes and beliefs. A number of lessons can be learned from the Sri Lanka experience.

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