Community Integrated Mine Action Planning (CIMAP)\(^1\)

**Background**

Bosnia and Herzegovina (BiH), is one of the most impacted countries with landmines in the world. Upon completion of Landmine Impact Survey (LIS) in 2003, the Bosnia and Herzegovina Mine Action Centre (BHMAC), together with other mine action operators, realised that further development of assessment techniques was needed to support mine action operations and planning in order to more effectively use the existing capacities in the country, both material and financial. As soon as the LIS was completed, a pilot project ‘Task Assessment and Planning’ has become its constituent part with the aim to connect socio-economic results obtained through the Landmine Impact Survey with operational mine action planning, particularly at the level of mine impacted communities. Integrated mine action planning for mine affected community became a new approach in the assessment of available information.

UNICEF in Bosnia and Herzegovina has actively worked with government agencies to develop a policy framework to regulate and build the capacity of the mine action sector. UNICEF emphasized the importance of communities’ participation in prioritising minefields that have the most impact on them, either because of increased danger of accidents or hindrance to socio-economic development. As a result of this, UNICEF supported BHMAC through the project ‘Organisation of the planning system for mine risk education in Bosnia and Herzegovina’ in developing a new planning system, called the Community Integrated Mine Action Plan (CIMAP), that prioritizes high impacted communities, rather than minefields. The project was conducted by two local consultants and one MRE partner organisation who piloted the methodology in four mine impacted communities (Brvnik, Grebnice, Samac and Domaljevac) in one municipality (Domaljevac-Samac). Two of the communities were highly impacted by mines/ERW according to the LIS, one was considered medium impact and one was low impact. The municipality was selected due to its accessibility, and because the communities selected included a range of different impact levels, representative of the general situation in Bosnia and Herzegovina.

**Objectives**

CIMAP was developed in 2005 by BHMAC in cooperation with UNICEF, to supplement already existing integrated planning for the mine affected communities with the focus on risk assessment in the affected community. The CIMAP methodology represents an upgrade of the Landmine Impact Survey methodology and it could be suitable as a supplemental planning tool in other countries. However, no usage of the methodology in other countries has been reported. The methodology requires additional training of the personnel conducting data collection, as well the personnel analysing the data and producing the plans.

The planning process relies on the previous systematic and general surveys of mined areas, including the improvements based on the risk management approach developed for Task Assessment and Planning (TAP)\(^2\). Along with the identification and analysis of risk areas, the following segments were introduced: assessment at the level of the affected community, determining the likelihood of the existence of minefields, preliminary estimation of the level of impact and analysis of potential benefits of mine action.

Initially, the survey was created to be conducted by accredited demining organisations in Bosnia and Herzegovina. The survey team members had to be certified in two levels of mine risk education training, MRE Basic Course and MRE Management Course, where survey techniques were taught by BHMAC and supported by UNICEF. In accordance with the MRE SOP every organisation that required accreditation had to have personnel trained for CIMAP survey techniques. Internal control of

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\(^1\) Written by Suzana Srnic Vukovic, July 2010

\(^2\) TAP consists of a risk assessment of suspected hazard areas affecting each community, that assesses the potential benefits that will occur from clearing suspected areas, the specific vulnerability of high risk groups, and the development of CIMAPs, which integrate mine action activities, ie clearance, technical survey, marking, mine risk education and victim assistance.
the survey implementation was conducted by accredited quality assurance teams within the demining organisations. External control was initially planned to be a part of BHMAC quality control activities.

Depending on the size of local community and size of the mine problem, at least one team of surveyors are needed from three weeks to a month to develop a community integrated mine action plan. The development of the plans are funded through different projects. In the beginning, funding came primarily through UNICEF projects. However, most of the donors showed interest in supporting this new approach later. The main costs related to data collection in the field. Some organisations also covered travel costs for local community participants. In some cases it was difficult to organise interview sessions in the communities where participants live. Therefore, some of them had to use public transportation to participate in some of the survey techniques. In other cases, the organisations conducting the survey paid participants a small fee for their time. This was not approved and later caused problems for other organisations, as the word spread that some participants received fees for participating in the survey, while others did not.

The pace of implementing the plans did not follow the pace of developing the plans. As a result, BHMAC had up to 70 community plans sitting on their desks, without the capacity, organisational and mainly financial, to implement them. This problem was recognised and considered during the revision of BiH Mine Action Strategy in 2008. In response, the Community Integrated Mine Action Plans evolved into Municipal Mine Action Activity Plans (MMAAP) in 2009. Even though the major elements of the plan remain the same, the new municipal approach has given the municipal authorities a larger responsibility for plan implementation. Mine action activities are now planned in clusters, as the mine problem is assessed for the entire municipality and activities are planned to address the threat on a municipal level.

The CIMAP approach in Bosnia and Herzegovina has evolved in two ways:

1. The first part of the the MMAAP contains the list of prioritised demining projects and community liaison tasks for the municipality, instead of just individual communities.

2. The second part of the CIMAP methodology in relation to mine risk education has evolved into municipal mine action activity plans (MMAAP), which help municipalities address their mine contamination problem. High and medium impacted communities within a municipality receive demining support, while low impacted communities receive mine risk education. According to the new National Mine Action Strategy for BiH (2009-2019), low impacted communities will only start to be cleared in 2013.

With this new approach, BHMAC is responsible for the development of MMAAPs, while accredited mine action organisations are responsible for their implementation. BHMAC will draw upon existing resources, through its survey teams, to develop the plans.

During the first year of development of MMAAPs, it was estimated that one BHMAC regional office could develop up to three municipal plans. Considering that there are eight regional offices, a total of 24 MMAAPs per year will be developed. This is a large number given that each municipality may include between 10-15 communities. The previous national mine action strategy aimed for the development of 30 CIMAPs per year. To be realistic in achieving the number of developed plans, BHMAC does not require full general survey in surveyed municipalities. General survey is conducted on all areas within the municipality classified as first and second category for demining, the leaving third category for future activities.

Development of CIMAPs required a team of at least two members for data collection at field level, and drafting the plan. Each accredited organisation that worked on a CIMAP, worked on it from the planning phase to the drafting of plan. Upon finalisation of the plan, the plan was sent to BHMAC for approval, and then to the local community for their consent. With the new municipal planning approach, the survey team only work on data collection, while managers within BHMAC at the operational level, are responsible for drafting the final plan.
Implementation
The CIMAP methodology\(^3\) calls for participation from various levels, including the mine action sector, local government and community representatives. The methodology is divided into four phases: (1) data collection and processing, (2) risk assessment in the mine affected community, (3) assessment of needs and capacities in the mine affected community and (4) preparation of the plan.

1. The **data collection** phase includes the collection and analysis of all available data, and the collection of new data in the field. Assessing the risk posed to mine affected groups and communities requires the collection and processing of all available information in databases, archives, past and current mine action projects, and other documents. After collecting and processing available data, conducting a preliminary risk assessment, and identifying the missing data, trained teams carry out new field data collection through observation, measurement and communication with sources of information. As observation and measurement are commonly used in mine action, survey and interviews are key data collection techniques for communicating with members of affected groups. Analysis of the CIMAP survey and interview data was done at two levels. The first level involved an analysis of each individual interview, and the second involves a comparative analysis, including statistical methods, of all interviews and survey data related to a specific mine-affected group or community.

2. The **risk assessment in a mine affected community** phase consists of the following four operations:
   a) identification of hazardous locations, risk identification (mine and ERW hazards and fields where their socio-economic impact is manifested)
   b) identification of affected population groups
   c) risk evaluation and priority setting
   d) creation of a risk register

   a) *The identification of hazardous locations* was conducted in Bosnia and Herzegovina through three levels of survey:
   - systematic survey, which defines the suspected area according to its threat, size, shape and characteristics on the basis of the available information and secondary data. The result of the systematic survey is the least exact image of a mine hazard meaning that the shape and size are not accurate and will require further assessment and survey;
   - general survey, which defines the risk area based on further measurement and collection of data about an area and its risk, without entering the risk area;
   - technical survey, which defines the mined areas. This involves entering the risk area using technical methods, reaching the minefield and defining the boundaries of the mined area for mine clearance.

   CIMAPs involved the use of general survey to identify hazardous areas.

   *Risk identification* starts with the identification of potential hazards. The affected community builds on the assumption that the leftover mines and ERW are the main cause of all other potential hazards. Community members assume that the hazards are co-related with the mine risk, such as: entering the mined area for existential reasons or recreation, unsolicited mine clearance for the purpose of approaching blocked resources, marking or storing of mines, impeded return of refugees/IDPs, blocked infrastructure and reconstruction process, etc. These hazards are associated with social, economic and natural circumstances in each affected community, and are analysed based on the behaviour of community members, economic circumstances, public security and the environment. A further step involves defining the social and economic impact of mines on the community, in terms of safety, health, the environment and living conditions.

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\(^3\) All the forms used during the assessment and final report for the Community Integrated Mine Action Plan, as well as details about assessment and planning procedures can be accessed via the BHMAC web site: [http://www.bhmac.org/en/stream.daenet?kat=89](http://www.bhmac.org/en/stream.daenet?kat=89) or if unaccessible, [www.bhmac.org](http://www.bhmac.org) under Laws and regulations document BHMAC Standing Operational Procedures for Mine Risk Education.
b) The **identification of affected population groups** is made for several reasons. A significant number of mine action operations use risk reduction methods that change the perception and behaviour of affected groups. Priority setting, as part of the planning process, depends on an assessment of the level of threat at risk groups are exposed to. Risk cannot be described without identifying the groups affected. The assessment of acceptable risk, and resistance to the risk from some population groups, depend on the identification of affected groups. CIMAPs involved the identification of affected groups with survey teams applying a series of simple, interconnected problem-solving and decision-making techniques such as brainstorming, cause and effect diagrams, weighting and the Pareto diagram\(^4\). The use of these techniques requires group work, involving all participants. The quality of the results will depend on the representativeness of the group. Themembers of the working group should consist of representatives of local government, local community, identified risk groups, gender and ethnic groups, local civil protection, mine victims and the municipal mine action coordinator … The bigger the group the better the results.

c) The **risk evaluation and priority setting phase** involves the process for determining the values for likelihood and consequences of the harm as a result of risk exposure. Survey team conducts the procedure using matrices designed for determining the risk level, hazard level, and the level of impact on an affected group. The process for setting priorities also uses a matrix, which combines the scale of hazard level with the scale of benefit level. Apart from being used to set priorities within an affected community, this matrix may be used for defining priorities for any other risk location, whose demining is not connected with integrated mine action plans. CIMAPs are developed and implemented for a specific number of communities per year. However, mine action activities are constantly ongoing in Bosnia and Herzegovina, and for those activities, the matrix may be used for defining priorities.

d) The **creation of a risk register** is the last phase of the risk assessment and involves defining the risk characteristics. The risk register is a form that needs to be filled in by survey team members progressively during survey activities, from the very first step to the final phase of assessment. The form includes information on the description of the risk, including a description of the potential hazardous event, place of potential event, group at highest risk, potential consequence of a hazardous event, measures taken on risk control and level of risk and priority. Risk characterisation is used to describe the risk. The questions related to the risk characterisation include all of the preliminary risk assessment steps, help define the risk in the affected community, help in their classification, determine the level of risk/priority and identify measures taken to prevent the risk. Examples of the questions are:

- What are the nature and probability of health risks?
- What individuals and groups are at risk? Is it probable that some people were at risk more than others?
- How seriously are the unfavourable impacts or effects expected?
- What other sources produce some types of effects or risks?
- Does the risk have any influence on people’s health or on the environment? Are there social and cultural consequences?

All of the risks identified are described and recorded in the risk register, regardless of whether they are going to be treated, controlled or bypassed. Not all of the risks from the risk register will be separately treated, but with treatment of one risk, there is a realistic probability that more risks will be controlled or bypassed.

3. **An assessment of needs and capacities in a mine affected community** determines the extent of the mine/UXO contamination problem and defines the actual potential of the community to deal

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\(^4\) A Pareto diagram is used to further process the results of a weighting technique. The percentages obtained by weighting present the level of mine risk impact on a certain group, and the cause of that impact lies in the nature of the affected group. The graphic presentation of results is the most important phase in the application of Pareto Diagram. See [www.bhmac.org](http://www.bhmac.org) under Laws and regulations BHMAC SOP for MRE.
with the problem. It comprises three procedures: a characterisation of affected groups; a characterisation of the affected community; and an analysis of past mine action operations. Within one affected community, there are possibly several affected groups who are mutually connected by their common interests, and among whom there is a continuous interaction going on. An affected group is a group of local residents that is at risk from mines and UXO, and that is characterised by certain features such as: common goals and interests, regular interaction, an official or unofficial leader, members, well-established rules of behaviour, differences of status within the group, and distinctive roles. Structurally, the analysis of local community characteristics is very similar to the analysis of vulnerable group characteristics. The analysis of the local community’s characteristics includes identification of the available human and material resources and communication channels that may be used for the purpose of achieving the operational goals of the plan based on the following information: basic data about community, cultural and traditional attributes, religious and ethnic groups, rules of behaviour, mine accident survivors, human resources, material resources, bearers of development and communication channels. A SWOT analysis as an efficient way to identify strengths and weaknesses and to examine opportunities and threats faced with in the course of implementing certain activities.

4. The preparation of the plan for an affected community is a sub-process that includes the following procedures: defining goals and tasks, selecting the best option for integrating all mine action activities, preparing the plan and ensuring the consent of the community. A community integrated mine action plan is a standardised document in which quantitative and qualitative data is used. It consists of two main parts.

The first part consists of an assessment of the situation in the affected community, which contains information on: general data, the mine situation in the community, the most important affected groups, a description of the most important risks to be treated, and a list of risks/suspected areas. The general data about the community includes numerical data, and a descriptive summary of the social and economic situation in the community. For example, the influence of the war on the situation in the community (damages of war, number of war casualties, displaced persons and refugees), post war reconstruction, the prevalent activity and possible investments. The mine situation summary includes: data about the socio-economic impact of mines, which describes incidents/accidents in detail, including a time-space framework and consequences; most significant blockages of economic resources; a description of suspected areas that give their position in the community and the potential purpose and likelihood of a mine hazard; and the mine action history. The data about the most affected groups, the description of the most important risks to be treated and a list of risk/suspected areas are based on the previously prepared risk assessment and the analysis of needs and capacities.

The second part of the plan is referred to as the plan of activities. It contains the following elements: goals, tasks by phases, mode of mine action integration, effects expected from plan implementation, agreement of the community, and appendices. The final goal, specific goals and the immediate goals achieved through tasks are entered into the plan. The plan includes one or more phases, with task descriptions. A short description is provided for each task, which shows the connection with the immediate goals (for example, the period in which it will be carried out, who will implement it, and during which phase it will be achieved).

As assessment is provided about reducing risks, and the extent to which the entire socio-economic impact will be reduced as a result of implementing the CIMAP. Community representatives sign off on the plan formally, and confirm the participation community members in the assessment and decision-making process. This creates the conditions for improved communication in the course of implementing the plan, and reflects a willingness on the part of the community to control the residual risk after the risk reduction intervention is completed.
Analysis

During the implementation of the community integrated mine action plans, one question repeatedly arose: “How to encourage community ownership of the plan?” CIMAPs were originally developed for high and medium impacted communities to reduce the impact of mine contamination in specific communities for at least one level, e.g. from high to medium impact, or medium to low impact. However, during the development and implementation of the CIMAPs, several lessons were learned.

The revision of the National Mine Action Strategy for BiH and the general survey results showed that mine/ERW-impacted communities mainly appear in clusters. For example, a high impacted community is typically surrounded with several medium and low impacted communities, and sometimes even more high impacted communities. Once one of those impacted communities is cleared, the implementation of other pillars of mine action such as risk education and victim assistance in that specific community loses its main purpose due to removal of the treat in that community. However, threats remain in neighbouring communities, those communities require immediate mine action. This is significant as the boundaries between communities are not physical and for the local population, those boundaries are not relevant. Community members very often do not even know where boundaries are, and are freely cross them during their everyday activities. The boundaries between communities are relevant for mine action and planning system which actively uses the cadastral boundaries for project planning. So the remaining threat in the neighbouring communities could bring those communities to higher impact level if incident/accident occurs.

Another lesson learned from the initial years of implementing the CIMAPs was that the implementation of mine risk education in parallel with demining, was in some ways, pointless as there was no need for mine awareness in the community if the risk was removed.

At the local community level, there is no institutional structure or official body that could take over responsibility for future maintenance of the programme within the community. Some of the communities were quite small, particularly after the conflict. Sustainability was therefore problematic in some communities.

The implementation of CIMAP techniques and methodology has proven more effective at the municipal level. The municipal mine action planning approach directly involves local government by giving them more direct responsibility. Local government officials are encouraged and made partially responsible for the implementation and funding of the plan. There is no legal framework which binds the municipalities to these plans. However, following one year of implementation, the donor community has signally interest in supporting mine action in the municipalities where the municipal mine action plans have been developed (e.g. Gradacac, Gracanica, Lopare). For example, the European Commission is currently funding mine risk education activities in the municipalities which have already developed municipal plans.

All municipal structures are interrelated and are involved in some way in municipal plan development. Most of the municipalities in Bosnia and Herzegovina have their own development plan/urban plan, that are strictly respected during the development of the municipal mine action plans. In the communities where no development plan exists, the municipal mine action plan represent the ideal foundation for the development plan.

Another positive experience resulting from the integration of mine action in municipal development plans is illustrated in the District of Brcko. The BHMAC regional office submitted a complete mine situation map to the authorities of District Brcko. As a result of acknowledging the problem in their area, the authorities started compensating the population whose land is blocked by mines, to help prevent them from engaging in high risk behaviour. For example, privately owned mined land is swapped by district authorities in Brcko, for state-owned land of the same size and purpose. Until the mined land is cleared, it remains unused and marked with mine warning signs. This prevents the local population from encountering risk when collecting firewood or food.
The community integrated mine action planning approach used in Bosnia and Herzegovina has resulted in a more sustainable approach to both mine action and development in affected communities. Affected communities are more actively involved in planning, making decisions about, and implementing mine action activities in their communities.

Reference and other sources of data

Background documents

- Darvin Lisica and Suzana Srnic Vukovic, “Mine Risk Education for Mine-Affected Communities, Guidelines for risk assessment and planning in Bosnia and Herzegovina”, UNICEF Bosnia and Herzegovina, November 2005;

Interviews and emails

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