

# **THE SOCIO-ECONOMIC IMPACT OF LANDMINES: AN OVERVIEW**

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## **1. INTRODUCTION**

Landmines and unexploded ordnance (UXO) continue to plague the lives of communities over 60 countries around the world of which almost all are from developing countries. The indiscriminate use of landmines or other remnants of war has caused a persistent social, economical and environmental impact in addition of the trauma resulting from war.

Landmines obstruct post war rehabilitation and reconstruction. Access to health, education, water and other infrastructure is denied. The incidents on property or human affect the victim, the family and then the society. This then causes a negative impact on development. Mine clearance is carried out to improve the socio-economy in conflict and post-conflict societies, with clearly defined target groups as primary beneficiaries of the mine action activities.

This paper presents and to a certain extent addresses the issues of mine action activities, their implications and their socio- economic impacts on rural and urban communities. It deals with mine action activities in general, but focuses more specifically on the negative impacts.

Attempts have been made to clearly indicate the problem and recommend measures to be taken to improve the living conditions of target populations and enhance the socio-economic situation within the communities in which mine clearance has been completed.

## **2. HISTORY OF LANDMINES**

### **2.1 Global Landmine Problems**

Landmines have a long history, dating back to the Greek and Roman Empires. However, it is during the Second World War that antipersonnel and antitank landmines started to be widely used. They were then used for defensive and tactical purpose, to achieve military objective. Troops typically mapped the location of the minefields for further clearance, even though many of the mines laid were not immediately cleared. In many European countries, a residual threat still exists from the Second World War.

Advances in technology in the 1960, made it possible to scatter mines mechanically rather than planting them by hand. This means that hundreds of landmines could be deployed at the same time using aircraft, rockets or artillery. While a troop of 30 men could lay approximately 50 mines per hour, one remote delivery system could scatter over 200 mines at the same time. During the Vietnam War, vast areas of land in Vietnam, Laos and Cambodia were completely saturated with mines using these delivery systems.

As conflicts became more brutal, the effect of landmines was no longer strictly limited to military targets. In the 1980, mines proliferated as the weapon of choice in many internal conflicts. The low cost of antipersonnel mines made them particularly appealing to guerrilla and military forces in developing countries. The production of smaller and more sophisticated landmines and the development of homemade devices caused their prolific use. Plastic mines, which cannot be identified with metal detectors, also became common. Civilians became targets because antipersonnel landmines were used internationally to harass and terrorize them, forcing them to leave their homes and blocking access to important infrastructure like water and electricity. These factors, but most of all the indiscriminate use of landmines, led to a global crisis.

Long after conflicts have ended, landmines and UXO continue to maim and kill. These explosive remnants of war are present in at least 60 countries. They do not distinguish between soldiers and civilians, of adults and children. They can prevent entire populations from returning to their homes; resuming normal and productive lives; rebuilding their houses, factories, and schools; and cultivating their agricultural land.

The exact extent of the global problem is not known. In the early days of mine action, estimates run from 60 million to 100 million laid in the ground. More recently, the number of mines has not defined the extent of the problem. The determining factor or the scope of the landmine problem is their impact on people and communities.

Many mine-affected countries are unable to address the problem on their own, nor can any single aid organization or UN Agency hope to remove the threat and rebuild these war torn communities on its own. An integrated approach to removing the landmines threat requires collaboration between the international community and those mine-affected countries requesting assistance.

Landmines and UXO continue to plague the lives of communities over 60 countries around the world of which almost all are from developing countries. The indiscriminate use of landmines or other remnants of war has caused a persistent social, economical and environmental impact in addition of the trauma resulting from war. Landmines obstruct post war rehabilitation and reconstruction. Access to health, education, water and other infrastructure is denied. The incidents on property or human affect the victim, the family and then the society. This then causes a negative impact on development. More than USD 200 million is spent every year on programmes to tackle the impact of mines and UXO on civilians.

In the early 1990s, the international community became aware of the significance of the threat imposed by landmines; a range of humanitarian activities that deal with landmines have evolved. The concept of Humanitarian Mine Action was created. In countries emerging from conflicts, landmines are one of the major challenges faced by governments and their population in rehabilitation and reconstruction efforts. Originally most clearance operations were assisted or conducted by the military.

## **2.2 Overview of the landmine Problem in Ethiopia**

The landmine problems in Ethiopia are the result of the long and historic conflicts. These are: -

- War during Italian invasion
- The Ogaden war between Ethiopia and Somalia.
- The border conflict with the Sudan
- The long civil war
- The recent conflict with Eritrea.

During their 1935-1936 campaign, the Italian expeditionary forces used intensive aerial bombings and artillery. During the two decades preceding the change of the

Government (1991), the long civil war and the Ogaden war (1977 -1978) resulted in wide spread landmine and UXO contamination throughout the country.

Because of the counter-insurgency role of the army, landmines were planted indiscriminately across the countryside during the civil war. Thus they continue to affect civilians long after the hostilities ended.

Landmines were used both for strategic and tactical or military reasons and as a weapon of terror causing a serious loss of civilian lives and livestock and rendering thousands of farmers unproductive. It is estimated that about 2 million landmines have been laid throughout the country during the past conflicts. Due to the lack of maps and other evidences and information, it is difficult to put the exact nature of the problems and their impacts in figures.

Although the landmine threat exists throughout the country, the northern part, Tigray and Afar, are the most affected regions as the result of the recent conflict. In the two year long Ethiopia-Eritrea conflict, landmine and discarded munitions litter northern Ethiopia, in particular western, central and eastern parts of Tigray, and in the Bada and Bure areas of Afar bordering with Eritrea.

As the major landmine and UXO contamination in Ethiopia is the result of the border disputes with Somalia and Sudan and the war with Eritrea, it is concentrated in the areas of confrontation along the borders with these countries. Significant numbers of mine and UXO incidents have been reported in these areas, particularly in the Tigray region. This contamination poses a threat to the resident and returning population and to associated humanitarian relief efforts. In the long term, these same threats if unmitigated will constitute an obstacle to post-emergency rehabilitation and reconstruction efforts.

Immediately after the cessation of hostilities, many IDPs returned to the mine contaminated areas of Tigray and Afar Regions, where there are no markings or physical indications on the ground to provide information to the returnees. Consequently many people died and were injured through their attempts to return to their locales.

The communities of these regions are denied access to their social and economical resources and left arable land, water points, woodlands, roads and bridges unusable. The land mines and UXO in Tigray and Afar has also caused food insecurity and poverty and denied movement, leaving communities isolated from each other. Post war rehabilitation and reconstruction efforts are hampered. The people in these two regions live in close proximity of explosive danger.

The recent conflict between Eritrea and Ethiopia (1998-2000), geographically limited to the Tigray and Afar regions, took place in four specific areas.

**a. Tigray Region**

The terrain and level of explosive threat vary from one conflict area to another in northern Tigray. The west of Tigray Region consists of low level agricultural plains with landmines found along the southern bank of the Tekezze river (Kafta Humera Woreda). The eastern part of the western zone of the Tigray is composed of mid-altitude grassland plains with Ademiti, Selamo, Gamhalo and Badme areas being among the areas mainly affected by landmines where military positions shifted the most thus spreading the explosive threat over the widest areas among all affected (Tahtay Adiabo Woreda and other areas in Laelay Adiabo Woreda). The eastern half of the central zone ranges from mid-altitude to high altitude mountains where the landmine threat is mainly located along the southern bank of the Mereb river (Rama area), the Balesa river (Enticho area) (Mereb Lehe and Ahferom Woreda). The eastern zone of Tigray stretches across high altitude mountains with the landmine threat being located along trenches across the Adigrat-Zalambessa road into the mountain range in Erob (Gulo Mekeda and Erob Woreda).

**b. Afar Region**

The area in Afar Region affected by landmines and UXO consists of semi-arid to arid plains where recorded temperatures are amongst the highest in the country. Eritrean and Ethiopian military positions stretch from the area of Bure town for about 60 kilometers along a northwest axis, starting from the Mussa Ali Mountain at the Djibouti border to Bada (Elidaar, Berhale and Dalo1 Woredas). Although there has been no general survey as yet, from observations on the ground, the explosive threat seems to be similar as in the Tigray region, but to a much lesser geographical extent. Most of the Afar population comprises nomadic communities whom have a fair knowledge of where the landmines are. However with the recent (September-October 2002) drought, reports from EMAO and RaDO indicate that nomads are now exploring alternative grazing areas in search of fodder for their livestock, thus running greater risks of becoming landmine casualties.

Outside the recent battlefields, the landmine threat to civilians is real but diffused over a huge territory, with re-mining by rebel groups possible in the Ethiopian Somali Region and along the border with the Sudan. Around the battle and military areas of the last conflict in northern Ethiopia, the potential threat constrains residents and returnee civilians to portions of their land they empirically know as being free of

explosive danger. Trench areas themselves (particularly in front of forward positions and the no man's land areas between former positions of the Eritrean and Ethiopian armies) do present a contemporary and very direct danger.

The mine contamination occurs mostly in cultivable and grazing areas, though in some cases mines are also found in high altitude mountainous areas. The fact that trenches in most cases cross the arable valley lands results in the best lands being the center of suspect areas. Even those people returning to adjacent safety areas will be affected because their living, agricultural and grazing lands are not accessible.

Due to the recent border war between Ethiopia and Eritrea, the remnants of the war such as trenches, bunkers and military debris are still visible.

During the conflict, approximately 364,000 people were displaced from the border districts in Tigray and Afar Regions (330,000 from Tigray and 34,000 from Afar). Houses have been destroyed in the course of this conflict; the displaced were forced to stay in IDP camps for extended period of time leaving all their properties behind. Their economy has been disrupted. Since the Cessation of Hostilities Agreement in June 2000, displaced civilians quickly went back to their homes despite official warnings not to return, as the explosive threat of recently abandoned battlefields and areas close to the current line-of-contact was the greatest. Consequently the number of civilian casualties peaked in June 2000. The majority of victims are children and young adults attending their grazing livestock in and around hazardous areas. Medical records of their blast wounds indicate that most injuries are sustained after manipulation of an explosive device. As a result, civilians became sensitized to the landmine/UXO threat while extensive mine clearance operations conducted by the Ethiopian military engineers reduced the immediate danger. Despite the efforts that were carried out immediately after the conflict, people could not access social services and resume their normal production.

The presence of landmines and unexploded ordnance, if unmitigated, will continue to hamper post-emergency rehabilitation and reconstruction efforts. While the Government has undertaken emergency demining operations to clear routes and contaminated areas of visible mines, those areas should not be considered as safe for the return of the displaced persons. Many who have returned to their farms have taken enormous risks to cultivate their land and graze their cattle.

A de-mining group, the Ethiopian Demining Project was established in 1995, through a US Government assistance programme, as a non-combatant unit of the Ministry of National Defense, distinct from the Army's Corps of Engineers. Despite financial and

equipment constraints, EDP contributed significantly to the reduction of the landmine/UXO threat to civilians, to address the problem. In order to attain a humanitarian mine action capability in accordance with international standards for mine action, the Government initiated a series of actions to respond to the current mine contamination problem among which the establishment of a civilian legal autonomous entity called: the Ethiopian Mine Action Office (EMAO) with the overall mandate of coordination and control of any mine action activities in the country. The government also designed an Emergency Recovery Project, within which a mine action component is a pre-requisite for other rehabilitation activities to take place, and is developed in the context of post-conflict rehabilitation.

The EDP and HALO Trust (a British Company) conducted a dangerous area survey of the border disputed zones but it does not provide enough information to base activities on. There is a continuing need to conduct impact and general surveys in order to define the exact danger.

Whilst it is difficult to assess the overall extent to which the front lines were mined, the general consensus is that rather than a continuous mine belt running the entire length of the front line many mines were laid around key positions. Mines and abandoned munitions are also found in areas of tactical importance such as dominant features, roads, tracks, buildings, river and likely approach routes. In addition to the mines laid between the front lines, key areas such as command posts and artillery positions behind the front lines are likely to have been mined.

In addition to the problem of mines, both sides made extensive use of artillery and rocket bombardments and ground attack aircraft. As a result, all areas where fighting has taken place should be considered at risk from UXO (both surface and sub-surface). There is also a localized risk around former military concentrations from discarded or lost munitions.

Currently the EMAO demining capacity only consists of four manual demining companies. Due to the local population in the Tigray and Afar Regions that need to return to their homes and expectations to get back to their normal way of life, the process of manual demining is the surest, safest and most dependable method of clearing minefields. While this is true, manual de-mining is also often the slowest demining method when used in isolation.

The first step in mine detection is to sense the presence of an anomaly on or near the surface of the ground, by detecting the existence of an unexpected object. However this alone is not sufficient to provide a definite indication of mine, as depending on the

detection method the identified anomaly could be some other innocuous object. Removing an identified anomaly, with all the care and attention given to a landmine, to discover in vain that the effort was directed towards clearing a harmless object, is a time consuming and costly process (estimates range upwards of USD 1000.00 per mine cleared). The major problem in demining is to discriminate between a dummy object and a landmine. Therefore, it is important to characterize a detected anomaly as containing an explosive or non-explosive material. Most common and emerging techniques for landmine detection focus on the detection of anomalies in the ground, without providing a definite indication that an explosive material is present.

The time needed to clear land varies enormously depending on local conditions, but the number of mines hardly affects the time required. Destroying them is quick and safe once they are found and identified. It is finding them that take time. Most of the time spent by manual de-miners is in cutting grasses and trip wire feelers as well as prodding a hard soil.

### 3. THE CONCEPT OF HUMANITARIAN MINE ACTION

Mine action refers to all those activities geared towards addressing the problem faced by population as a result of landmine contamination. It is not so much about mines as it is about people and their interactions with a mine-infested environment. Its aim is not technical- to survey, mark and eradicate landmines- but humanitarian and developmental- to recreate an environment in which people can live safely, in which economic and social development can occur free from the constraints imposed by landmine contamination, and in which victim's needs are addressed.

A distinction has sometimes been made between operational mine action (i.e. mine action in support of operations mandated by the UN Security Council, Humanitarian Mine Action, and Mine Action in support of reconstruction and development. There is no need to adhere to this distinction, since it does not reflect the fact that there is considerable overlap between the various aspects of a country's recovery (reintegration of refugees and IDPs, revival of communities, reconstruction and development, and that what really matters is the establishment of clear priorities in relation to the needs of the affected populations.

In general, mine action deals with activities, which aim to reduce the social, economic and environmental impact of landmines and unexploded ordnance UXO). Mine action is not just about demining, it is also about people and societies, and how they are affected by landmine contamination.

The objective of mine action is to reduce the risk from landmines to a level where people can live safely; in which economic, social and health development can occur free from the constraints imposed by landmine contamination, and in which the victims' needs can be addressed.

Given the importance of an integrated and holistic response to the issue of landmine contamination, and the need to bring real and lasting support to those who are at risk, Humanitarian Mine Action encompasses five complementary core components.

- Mine awareness and risk reduction education
- Minefield clearance, including survey, mapping and marking
- Victim assistance, including rehabilitation and reintegration
- Stockpile destruction and
- Advocacy to stigmatize the use of landmines and support a total ban on antipersonnel landmines.

In support of these core components, other activities are also key to the success of mine action and mine action programmes. These activities include: resource mobilization, national/local capacity building and requisite institutional support (including human resource development of local counter parts from both government and civil society), information management (including surveys and more generally, data gathering), training of personnel (all mine-related responsibilities, including management) and quality management (including setting of standards and programme monitoring and evaluations).

Although mine action is often described as a humanitarian and/or development issue, in practice no such distinction is made when devising country strategies. Mine action operators look first and foremost at the impact that mines have on local communities and how best to alleviate the human suffering and obstacles to reconstruction and development.

#### 4. HUMANITARIAN MINE ACTION VERSUS MILITARY DEMINING

The humanitarian mine clearance operations that have become a familiar component of post-conflict activities in many countries in recent times, evolved from military techniques and standards. The first of the modern-day humanitarian clearance programmes was started in Afghanistan in 1989, and was initially based on military engineers from a variety of countries, teaching locals how to undertake basic mine

clearance. In most cases, these lessons were developed straight from military mine clearance manuals often with only minor amendments being made.

Much has happened since that time. Mine action programmes, concepts, expectations and technology have all evolved. Humanitarian mine action has become both an industry and crusade.

One of the important developments in recent times was the introduction of the international standards for humanitarian mine clearance operations. This document provides minimum standards to which clearance activities must be completed, as well as specifying standards for ancillaries such as the deminer's Personal Protective Equipment (PPE), and medical support to clearance operations.

With the introduction of standards and a concurrent and related over complication of the whole process, there is now seen to be clear distinction between mine clearance conducted by militaries and mine clearance conducted by humanitarian organizations. This belief is reinforced when military minefield breaching operations during conflict situations are considered. Breaching operations clearly are distinct military activities that have their specific place during times of war.

There is an obvious and necessary distinction between the two activities, but the difference is when the activity is undertaken and who is undertaking it. In this regard, a more accurate way of describing the difference is to talk about mine clearance undertaken during wartime operations and that undertaken in post-conflict scenarios.

## 5. MINE ACTION IN ETHIOPIA

### 5.1 The Emergency Recovery Project

Following the June 2000 cessation of hostilities agreement with Eritrea, the Ethiopian government approached the World Bank and other donors for assistance in putting together a comprehensive package of interventions to cope with the aftermath of the conflict. As part of its response, the World Bank is financing an Emergency Recovery Project (USD 230 million) to be implemented through December 2005.

The objectives of the Emergency Recovery Project (ERP) are to assist the government to help the war-affected people to rebuild their lives and resume productive economic activities; reconstruct and rehabilitate destroyed and damaged infrastructure to restart the provision of services; and support macro-economic stability in the country.

The total project financing from the Bank is USD 230 million, out of which USD 109.91, (47.8 %) allocated for household & community level infrastructure rehabilitation; USD 30.00 million (13 %) for demining, USD 86.14 million (37.4 %) for rehabilitation of roads and USD 3.95 (1.8 %) for institutional strengthening.

It was agreed that the Government actively discourages people from returning to their homes until they are cleared and safe from mines and UXO and will ensure that the household rehabilitation sub-component in the war-affected areas strictly follow an implementation plan that allows people to return only to areas that are declared safe. The household rehabilitation sub-component would continue only as long as demining done according to international humanitarian standards, as confirmed by independent quality control unit precedes resettlement of displaced persons in areas determined by the current survey to be unsafe for civilian occupation.

## **5.2 Need for Demining**

As mentioned earlier, the threat in Ethiopia comes from three broad sources. These are mines, UXO and improvised devices. Stake mines which are found in large numbers, if triggered, discharge metal fragmentation in 360 degree radius, killing anyone within 13 feet with the potential to kill /injure at a distance of about 75 feet. Other types of mines also found in Ethiopia, e.g. bounding mines, which are very difficult to see as only the fuse protrudes above the soil. These mines discharge lethal fragments up to 100 feet and can inflict severe injuries up to a distance of 300 feet.

According to various sources of information, including local NGO, and the UN, the level of contamination by mines and UXO in the former battle area in Ethiopia is sever. There is defensive minefield laid in depth, nuisance mines laid by both armies as they retreated, booby traps, air dropped sub-munitions, iron bombs and the whole range of artillery and infantry ordnance.

There are reports that mines exist in and around clinics, schools and water points in different locations of Tigray. IDPs have spontaneously been going back into former battle areas despite being advised not to return by the government/local authorities to check on their houses and collect vegetables and fruits. As a result, reported injuries have sharply increased, and in addition to casualties inflicted on the population, large numbers of livestock have been killed, with several accidents reported almost daily. Over 60 percent of the victims of landmines or UXO are reported to be children despite mine awareness efforts conducted by a local non-government organization, the Relief and Development Organization (RaDO) in cooperation with UNICEF, in the three contaminated zones in Tigray.

To address this problem, the Ethiopian Mine Action Office was established in February 2001. This office acts as the Government's central agency for management of mine action operations and activities and is responsible for planning, prioritization, accreditation, monitoring, resource mobilization, mine information database, and the investigation of accidents and follow up activities.

The responsibility of this office also includes reducing the threat to the returning population in the target areas by removing and/or marking mines to international humanitarian standards and by increasing the productivity of demining.

The sheer size of the country and the many conflicts it has experienced in modern times make a thorough humanitarian demining effort a huge task that requires extensive information gathering. The search for mines is painstaking, requiring patience and time. Time that nobody really has in view of the destruction and pain that these lethal weapons produce, the rehabilitation programmes that are hampered and the delay of the return of IDPs.

### **5.3 Demining Efforts to Date**

Small-scale demining operations have already been started (by the military) for strategic and military purposes. It has basically involved clearance of routes and adjacent areas or random clearance of visible mines. Military demining is not conducted according to international humanitarian standards, and the clearance done by the Ethiopian Demining Project (EDP), a non-combatant unit of military has neither been properly marked nor should it be considered as safe for the return of the displaced persons. It is obvious that many IDPs who returned to their farms took enormous risks to cultivate their land and graze their cattle.

EDP, between 1995 and 1998 has cleared 8,440 anti-tank mines, 26,846 anti-personnel mines and 364,395 unexploded ordnances throughout Ethiopia.

The following are also few of previous efforts:

- An EDP/HALO Trust Danger Area Survey was conducted at the end of 2000 and provided basic information on the primary target areas for initial demining.
- General surveys conducted in the priority areas of the Gulomekeda and Ahferom Woredas provide data for demining activities to be carried out.
- Norwegian Peoples' Aid (NPA), contracted by the Survey Action Center (SAC), in Washington D.C., in close partnership with EMAO has conducted a landmine impact survey with attention focused on the whole of Ethiopia.

- Concurrent with the Emergency Recovery Project, the Government is also demobilized soldiers after the recent war. The mine action programme provided job opportunities to some of these demobilized soldiers. Currently about 450 of demobilized soldiers are employed by EMAO.

During 2001, the US Department of State through a company known as RONCO, trained two manual demining companies (demobilized soldiers). With the assistance of UNDP additional two manual demining companies (also demobilized soldiers) trained and deployed to the Tigray and Afar regions.

- Currently RaDO, a national NGO supported by UNICEF, is conducting a mine risk education programme in the Tigray and Afar Regions. Their programme is to be continued to implement community awareness activities in the affected areas, as part of the whole mine action programme. The Mine Risk Education Section at EMAO is also structured, activated and enabled to coordinate all mine risk education activities.
- EDP, between 1995 and 1998 has cleared 8, 440 anti-tank mines, 26,846 anti-personnel mines and 364,395 unexploded ordnances throughout Ethiopia.
- Immediately after the conflict, the military engineers together with EDP cleared 203,011 anti-personnel mines and 10,319 anti-mines in the Tigray and Afar Regions as an emergency measure to prevent casualties as much as possible.
- Since the start of humanitarian demining operations in may 2002, the four existing manual clearance companies of the Ethiopian Mine Action Office, cleared 3,810,294 square meters of land. During this period, a total of 552 anti personal mines, 53 anti tank mines and 7109 UXOs are found and destroyed.

The ongoing landmine clearance process includes the following basic tasks,

- Locating and identifying a minefield in order to map it.
- Preparing the minefield for the clearance operation, which includes clearance of vegetation, collecting metal fragments from the surface, etc.
- Locating and marking individual mines within the identified area.
- Removing the threat of the detected mines by neutralization,
- Enforcing quality control measures.

## 6. IMPACT OF LANDMINES IN ETHIOPIA

Landmine impact refers to all the ways in which landmines and unexploded ordnances (UXO) negatively affect human lives. In addition to the physical harm they can cause, landmines and UXOs also cause social and economic harm by interfering with activities such as cultivation, herding and pasturing, water collection, and free movement of population.

The removal and the destruction of all forms of dangerous battlefield debris, particularly landmines, are vital prerequisites for any region to recover from their impact. These tasks involve a great deal of effort and time, and high risk, all of which result in high clearance cost per surface unit.

The major effect of mines is to deny access to land and its resources, causing deprivation and social problems among the affected population. In addition, the medical, social, economic and environmental consequences are immense.

### **Consider this scenario:**

You know, or suspect, that road between your village and neighboring village is mined. How do you change your life to address the threat? Do you stop visiting neighboring villages? Do you take another, longer route? Do you leave the road, possibly exposing yourself to other risks? Whatever you do, landmines affect your life. Now imagine the mined area is between your house and your child's school. How might that affect your child? Perhaps your community is aware of mind area, and as a result there are no mine accidents. But, in order to prevent those injuries, your community does not cultivate the land in that area. Is your community really unaffected? When we think about affected populations and not simply number of mine incidents, we begin to see the full scope of the problem and the sheer number of people affected by landmines.

Over the last two years, the Norwegian People's Aid (NPA), in cooperation with the Ethiopian Mine Action Office conducted the Ethiopian Landmine Impact Survey (ELIS). The aim of this survey was to document and classify the economic impact of landmines and unexploded ordnance (UXO) on the Ethiopian society. During the course of the field wok, the survey teams visited more than 4,500 communities across the entire country.

Some of the key findings are:

- The Tigray, Afar and Somali regions are the most heavily impacted regions in Ethiopia.
- 1,492 communities of ten regions in Ethiopia are harmfully impacted by landmines/UXO contamination.
- There are approximately two million people in the country that are adversely affected by landmines/UXO.
- The survey has documented over 16,000-landmine/UXO victims-out of which in the last two years 1,295 have been killed or injured. Most victims are female, herders and farmers.

The 1,492 impacted communities indicated by the survey are distributed in 10 regions, primarily in the northern and eastern parts of the country. There are an estimated 2,000,000 civilians, roughly about 3 percent of the total population, living in these communities. This means that at least one in every 30 Ethiopians lives by, works near or is otherwise affected by the presence of landmines.

The number of people affected by landmines and unexploded ordnance is far higher than the number of people killed and maimed by them, but this often goes unnoticed. These "unseen victims" number in hundreds of thousands, for the presence of landmines/UXO in or near a community affects the lives of every community members.

It is clear that these treats, if unmitigated, are continuing to affect the normal life of the population in different ways, including:

- High risk of being killed or maimed
- Restricted access to neighbors, water, food, agricultural land
- IDPs/Deportees can't go back
- High risk to loose livestock
- Rehabilitation and reconstruction work can't start

**The following four key issues need due consideration:**

1. Water is critical to the health and well being of affected communities, and when mines block access to water, the negative impacts upon local communities can be profound. Special attention should be given to those communities where water access is blocked.

2. Impacts are clustered in groups of communities, creating broad swaths of contamination and suggesting that well targeted mine action programmes can quickly reach a larger number of affected communities.
3. Community size does not matter much and small communities should not be ignored.
4. Accident profiles indicate that mine awareness education programmes should target persons engaged in livestock grazing (particularly women) and risk-taking behaviors (especially teenage boys and young men)

## 7. SOLUTIONS AND PRIORITIES

### 7.1 Establishing a Sustainable Mine Action Programme

Sustainability in the context of mine action programme is frequently defined as the ability of mine action centers to effectively carry out their functions within the context of the financial, human, political and managerial framework within which they are working. Although there are no templates for establishing a sustainable mine action programme, certain elements have proved themselves to be the basis for a solid programme where local and international operators can work to greatest effect.

Accordingly, some combination of the following is suggested for Ethiopian Mine Action Programme,

- A national legislative framework to set out how mine action should be conducted. This should provide for inter-sectoral consultation so that mine action is well integrated in to overall national development plans.
- The development and implementation of a resource mobilization strategy, (as it is very expensive and difficult to finance mine action activities from own sources only),
- Information gathering and management mechanisms for strategic planning and prioritization. This may include Landmine Impact Surveys tailored to a country's requirements, to use it for strategic planning,
- The building of the capacity of national staff, etc.

One of the continuing challenges that mine action programmes face is providing donors with regular narrative and financial reports from the field. Resource

mobilization should be viewed as an integral part. Satisfied donors are likely to provide additional contributions to a programme, whereas discontented donors are not. Timely reporting is the key to ensuring a regular streaming of funding.

## **7.2 Working in Partnership with UN and other Agencies,**

Unless landmines and UXO are cleared, the lives of individuals and communities cannot return to normal. In Ethiopia, as in most mine-affected developing countries, the institutional, technical and financial capacity does not exist to cope with the problem alone. The international community, including the United Nations and its non-governmental partners are working to minimize this problem.

United Nations Mine Action is the response of the United Nations system to the global landmine and unexploded ordnance (UXO) problem. The United Nations has been actively involved in humanitarian mine action activities since 1989 when a mine action programme was initiated in Afghanistan.

In recognition of the scope of the landmine problem, eleven United Nations Departments and Agencies are now involved, to varying degrees, in humanitarian mine action. They work under the overall coordination of the United Nations Mine Action Service (UNMAS) and share the common vision of a world safe from the threat of landmines, where economic and social development can occur free from the constraints imposed by landmine contamination, and where the needs of mine victims are addressed.

Since 1993, the role of the United Nations in mine action has been repeatedly reaffirmed and supported by annual Resolutions of the UN General Assembly on Assistance in Mine Action.

Eleven UN entities are involved in mine action, but most field-level projects in this area are under the responsibility of UNMAS, UNDP and UNICEF. The integrated programmes are often executed with UNOPS.

**Few of *Mine Action Actors* are listed below:**

### **A. UN Bodies**

- ***United Nations Mine Action Service (UNMAS)***

UNMAS is the focal point within the UN system for all mine-related activities. At the global level, it is responsible for the overall coordination of UN mine action. At the

field level, it is responsible for the initiation of assistance programmes in the context of humanitarian emergencies and peacekeeping operations.

▪ ***United Nations Development Programme (UNDP)***

UNDP address the long-term socio-economic consequences of landmine contamination. It supports the development of local and national mine action capacities to ensure the elimination of the obstacles posed by landmines and UXO to the resumption of normal economic activity, as well as to reconstruction and development.

▪ ***United Nations Children's Fund (UNICEF)***

UNICEF is the UN focal point on risk reduction education. It is in charge of providing guidance for mine awareness programmes in coordination with other UN partners as well as the ICRC, the GICHD and NCOs. UNICEF is also actively involved in the promotion of a global ban on antipersonnel landmines.

▪ ***World Health Organization (WHO)***

WHO is primarily responsible for the development of standards and the provision of technical assistance, and for the promotion of capacity building for victim assistance. To do so, it works with the Ministries of Health of affected countries and cooperates closely with UNICEF and the ICRC.

▪ ***United Nations Department for Disarmament Affairs (DDA)***

DDA supports the role of the UN Secretary-General in relation to the Antipersonnel Mine Ban Convention and the Convention on Certain Conventional Weapons. It is responsible for the organization of States Parties meetings and acts as depository of the reports submitted under article 7 of the AP Mine Ban Convention.

▪ ***United Nations Office for Project Services (UNOPS)***

UNOPS is a principal provider of mine action services within the UN system. At the request primarily of UNMAS and UNDP, it executes emergency as well as capacity-building mine action programmes.

▪ ***Office for the Coordination of Humanitarian Affairs (OCHA)***

OCHA's main responsibility is to share all critical information with all relevant partners regarding the humanitarian implication of landmines. OCHA also works with UNMAS on resource mobilization in its capacity as manager of the Central Emergency Revolving Fund (CERF) and coordinator of the Consolidated Appeal Process (CAP).

- **Office of the United Nations High Commissioner for Refugees (UNHCR)**  
In the context of mine action, the role of UNHCR is to ensure that the needs of refugees and other populations of concern to UNHCR are addressed. UNHCR often works closely with UNICEF to implement mine awareness programmes in refugee camps.
- **World Food Programme (WFP)**  
WFP is involved in mine action for the clearance of landmines and UXO blocking the delivery of food assistance in emergency situations. It also assists in the clearance of land required for the return of displaced populations
- **Food and Agricultural Organization (FAO)**  
FAO's mandate for humanitarian agricultural relief makes mine action an important aspect of its activities in countries affected by complex emergencies.
- **The World Bank (WB)**  
The World Bank's role is to help address the long-term consequences of landmines and UXO on development. It also has a significant role to play in the mobilization of the resources required and in setting agendas for international support for mine action.

## **B. International Non-Governmental Organization**

- **International Campaign to Ban Landmines (ICBL)**  
The International Campaign to Ban Landmines (ICBL) was launched in 1992 at the initiative of six non-governmental organizations. It has since brought together over 1,400 human rights, humanitarian, children, peace, disability, veterans, medical, humanitarian mine action, development, arms control, religious, environmental and women's groups in over 90 countries who work locally, nationally, regionally, internationally to ban antipersonnel (AP) mines. The work of the International Campaign to Ban Landmines has brought about tremendous change in a short period of time. In 1997, the Nobel Peace Prize was awarded to the ICBL and its then coordinator, Jody Williams.

In June 1998, the International Campaign to Ban Landmines established "Landmine Monitor," a unique and unprecedented civil society-based reporting network to systematically monitor and document nations' compliance with the 1997 AP Mine Ban Treaty and the humanitarian response to the global landmine crisis. Landmine Monitor complements the existing state-based reporting and compliance mechanisms established by the AP Mine Ban Treaty.

▪ ***Association for Aid and Relief (AAR)***

AAR was founded as the first Japanese NGO to support refugees in 1979. Since then, many volunteers have been supporting AAR's activities. AAR has special consultative status with the Economic and Social Council (ECOSOC) of the United Nations and it seeks to contribute to international cooperation through supporting refugees. Since 1997, the organization has become one of the 16 members of the Coordinating Committee of the International Campaign to Ban Landmines (ICBL), co-laureate of Nobel Peace Prize in 1997. AAR is now operational in many mine-affected countries, such as Afghanistan, Angola, Cambodia, Myanmar and the former Yugoslavia.

▪ ***CARE International***

CARE International manages relief, rehabilitation and development projects in over 60 countries in Asia and Europe, Southern and West Africa, Latin America, and East Africa and the Middle East. CARE implements programmes in the following areas: education; emergency relief and rehabilitation; food security; health and population; economic development; and environment.

▪ ***Dan Church Aid (DCA)***

With the backing of the Danish International Development Agency (DANIDA), DCA has been one of Denmark's biggest and consistent donors to humanitarian mine action programmes worldwide throughout the 1990's. Since becoming an implementing agency in 1999, mine action has become the key activity of the Operations Unit at DCA's head office in Copenhagen.

DCA Mine Action is currently involved in comprehensive mine action programmes in Albania, Eritrea, Lebanon, Sudan and Ingushetia. Through its intervention in Kosovo and Eritrea, DCA's Mine Action Team has trained a national capacity in various mine action countries. Besides giving the DCA Mine Action Team valuable experience in capacity building programmes, the results DCA has achieved in Kosovo have contributed positively to the elimination of mines and UXO, and toward reducing the number of mine victims.

DCA have a longstanding commitment in both relief and development aid through its local partnerships and partner networks. DCA is a funding member of Action by Churches Together (ACT) International.

### **C. Academic Institutions**

#### ▪ ***Cranfield Mine Action (CMA)***

Cranfield Mine Action (CMA), a part of Cranfield University, is involved in the development and implementation of training programmes for mine action managers on behalf of UNDP. It is also working on the design of strategic planning tools building on information collected as part of the impact surveys to assist nations develop coherent national strategic plans. CMA's aim is to draw from the University's academic skills and facilities and combine these with the skills and field experience of CMA staff to produce quality improvements in the way mine action is carried out.

#### ▪ ***The Mine Action Information Center (MAIC) at James Madison University (JMU)***

The MAIC, which acts on behalf of the United States Department of Defense, is a clearinghouse for mine action information, and performs related functions for other global partners. Among a series of responsibilities, it publishes the Journal of Mine Action, conducts various international conferences focused on mine action matters and maintains both a Spatial Data Information Clearinghouse specifically for mine action organizations as well as an on-line Mine Action Lessons Learned Database

## **8. CONCLUSION AND RECOMMENDATIONS**

- Finding mines -or confirming their absence- is exacting and dangerous work and there is often no alternative to painstaking manual clearance. The task is time consuming and labor intensive. Hence, even when maximum use is made of local resources, clearance operations are expensive. Adequate attention has not always been given to measuring the cost and the consequent benefits of clearance to determine priorities. Cruder measures, such as numbers of mines identified and destroyed, or area of land cleared, do not in themselves indicate how the land is used -what it produces and who benefits from its regained productivity. This may give us new highlights in which we prepare ourselves for the detail studies to identify better measures of the social and economic impact of landmines.
- Until now, demining programmes have been mostly concerned with numbers "how many mines planted, and how many square meters of land cleared". A new direction should be adopted to assess that the impact on people's lives, rather than the sheer number of mines, should decide the viability and focus of mine action programmes.

- Social and economic impact alone will never be the sole criteria for determining priorities in mine action. Immediately after a war, the priorities will be to save lives, facilitate the return of displaced people/ refugees and enable society to rebuild. But mine action is a long term activity; it can take decades. Priorities shift over time from a pure focus on immediate survival to creating opportunities for land to be farmed, goods to be transported and schools to be reopened, all with very limited resources. This requires a careful analysis based on local conditions to ensure optimal use of the available resources.
  
- Training programmes should be designed as inherent components of building indigenous capacity. Greater attention should be given to the development of administrative and management skills as well as to specializations such as surveying and data management. Whenever expatriate personnel are used in training and advisory functions, national counterparts should be available and given maximum on-job-training.
  
- The concerned bodies should develop and establish a process to enable prioritization of minefield clearance and survey tasks. Prioritization should be developed with the advice and expertise of personnel familiar with rural development and social issues in affected communities.

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