Bridging towards Peacebuilding

- Achievement of Cambodian Mine Action Centre and South-south cooperation facilitated by JICA -

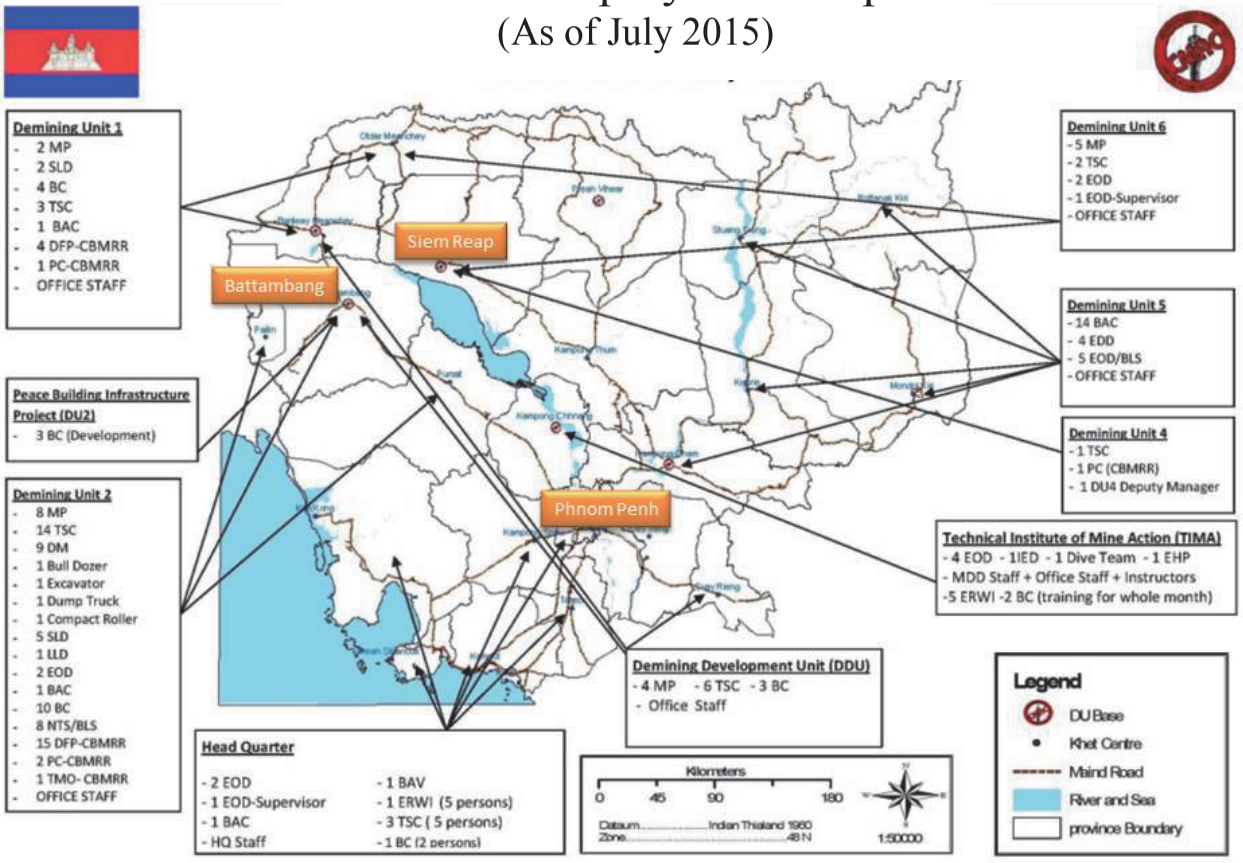
February, 2016

JAPAN INTERNATIONAL COOPERATION AGENCY

Eri Komukai

CMAC Deployment Map

(As of July 2015)



Preface

Cambodia is one of the most landmines and explosive of war (ERW) contaminated country. The result of wars and civil war is that the country has been severely impacted by the crisis of landmines and ERWs, which left thousands of casualties and economic poverty across the country, especially in terms of the formidable threat and obstacles to development.

To cope with the problem, the Cambodian Mine Action Centre (CMAC) was established as a demining organization in June 1992 by the Supreme National Council of Cambodia. This statute was extended by the Royal Decree of November 1, 1993, and the revised statute approved by the Royal Decree of February 25, 1995, conferred to CMAC the statute of a public institution with the legal individual authority placed under the Prime Minister.

On June 21, 1999, a subsequent Royal Decree gave a new statute to CMAC by providing a new structure of the executive responsibilities within CMAC. The need to formally ascertain the roles of CMAC Governing Council vis-à-vis the new authority of the Cambodian Mine Action Authority (CMAA), formally established in September 2000 as a regulatory body, gave rise to the new Royal Decree on the establishment of CMAC, pronounced on August 7, 2001. This new Decree condensed the size of the CMAC Governing Council membership and clarified CMAC's roles as a National Institution to provide mine action services for humanitarian and development projects.

As a National Institution, CMAC has been instrumental in demining and removing unexploded ordnance, under its mission of "Saving Lives and Supporting Development for Cambodia," and working in four important key arrears: 1. Landmine and unexploded ordnance (UXO) clearance, 2. Survey and land release, 3. Landmine and UXO risk education and reduction, and 4. Training, research, and development in mine action.

Japan is one of the largest donor countries that have provided enormous supports to CMAC since 1999 through the Japanese International Cooperation Agency (JICA). JICA has provided CMAC with demining equipment and dispatched experts as well as launching a technological cooperation project to help CMAC function better. With JICA's support, CMAC was able to put the system in place to support ongoing skills development, which led CMAC to be known as having an internationally competitive operation of high standards.

CMAC is now playing a key role in sharing knowledge and skills with other countries affected by landmines such as Colombia, African countries, Vietnam, and Laos. In terms of exchanging skills and know-how, sometimes we can send our experts to other countries. We also bring people from other countries to Cambodia as well. Therefore, we can demonstrate our know-how to other countries.

Moreover, CMAC is also actively utilizing its experiences to help other countries in their demining efforts (South-South cooperation). It has hosted training programs and workshops for officials of Colombia and Laos and been visited by officials of Angola and Myanmar, who wanted to learn its expertise. In 2012, with strong support and guidance from the Government of Cambodia, CMAC provided advice on the establishment of the ASEAN Regional Mine Action Center (ARMAC), and its advice was supported and endorsed by other ASEAN countries. ARMAC will be located in Cambodia, and CMAC is expected to serve as the linchpin of ARMAC.

Under its mission and the ambition to fully free the country from landmines, CMAC has combated against many difficulties and reached a surprisingly result. To its high accomplishment, over 500,872,761 square meters of minefield and UXO field have been totally cleared. Additionally, over 495,970 pieces of anti-personnel mines, 10,165 pieces of antitank mines, and 2,028,582 pieces of UXO have been found and completely destroyed as well as 93,161 of task respon has been made.

With the satisfactory outcomes, Cambodia has been constantly transformed from a mines/ERWs-affected country to a country where people are free from the threat of mines and UXO, which allows for the reconstruction and development activities to take place in a safe environment.

CMAC has grown from its inception day into a professional mine action program employing some 3,000 workforces by 1999. Currently CMAC has a workforce of around 1,800 deployed all around the country with multiple demining tools such as manual demining platoons, demining machines, brush cutters, and mine detection dogs. These tools were arranged in many toolbox arrangements from very small to large teams to address different needs challenged by the mine action sector. CMAC is accredited by CMAA.

CMAC has built up a strong international reputation as a world leader in mine action and shares its knowledge, skills, and experiences with other mine-affected countries through a South-South cooperation initiative and bilateral arrangements. In recent years, CMAC has shared experience and know-how with countries in the region and in other parts of the world such as Angola, Colombia, and Laos though South-South cooperation arrangements, and Vietnam, Sri Lanka, Nepal, Thailand, Myanmar, Afghanistan, Iraq, and other countries from Africa and other continents through bilateral arrangements.

Yours sincerely,

Heng Ratana
Delegate of the Royal Government
in charge as Director General of CMAC

Contents

Abbreviations

CMAA	Cambodian Mine Action and Victim Assistance Authority
CMAC	Cambodian Mine Action Centre
DU	Demining Unit
GICHD	Geneva International Centre for Humanitarian Demining
JICA	Japan International Cooperation Agency
ICBL	International Campaign to Ban Landmines
ICRC	International Committee of the Red Cross
IMAS	International Mine Action Standard
INAD	The National Demining Institute
IMSMA	Information Management System for Mine Action
KPNLF	Khmer People's National Liberation Front
MAG	Mines Advisory Group (NGO based in the UK)
MCTU	Mine Clearance Training Unit
NPA	Norwegian People's Aid (NGO based in Norway)
NRA	National Regulatory Authority
ODA	Official Development Assistance
PAICMA	Programa Presidencial para la Accion Integral contra Minas Antipersonal
PNA	Peacebuilding Needs and Impact Assessment
SNC	Supreme National Council of Cambodia
SOP	Standard Operating Procedure
TMAC	Thai Mine Action Centre
UNDP	United Nations Development Program
UNAMIC	United Nations Advance Mission in Cambodia
UNHCR	United Nations High Commissioner for Refugees
UNMAS	United Nations Mine Action Service
UNTAC	United Nations Transitional Authority in Cambodia
UXO	Unexploded Ordinance
UXO Lao	Lao National Unexploded Ordnance Programme
VNMAC	Vietnam National Mine Action Centre

Introduction key issues on landmines and peacebuilding

What are landmines and what are the issues?

Now, living in Japan, we do not see or hear about landmines in our everyday lives, except for on TV, in films, and in books. However, there are new landmine victims every day and there are areas in the world that are still not accessible due to landmines. Demining activities are being conducted in some countries, while new landmines are being planted in others.

What are landmines, which we do not usually see in our daily lives? It is generally explained that landmines are explosive devices that are planted or concealed under or on the ground and designed to be activated through contact, proximity, or presence of people or vehicles. In many cases, landmines are used to destroy or disable enemy targets in conflicts. Landmines planted in conflict areas kill or injure not only soldiers but also noncombatant civilians indiscriminately during conflicts or even in a post-conflict period for a long time. Anti-personnel landmines are sometimes laid in areas where ordinary people reside, make a living, and go to schools and hospitals, near wells or a riverside, and in farmland. Since mine clearance requires a long time to complete, anti-personnel landmines claim victims continuously after conflicts end. In addition, landmines laid during conflicts become a bottleneck for post-conflict reconstruction and development in many aspects, including infrastructure development, resumption of agricultural activities, and resettlement of refugees and internally displaced persons.

Landmines found from the ground (provided by CMAC)

Different features of a landmine (provided by CMAC)

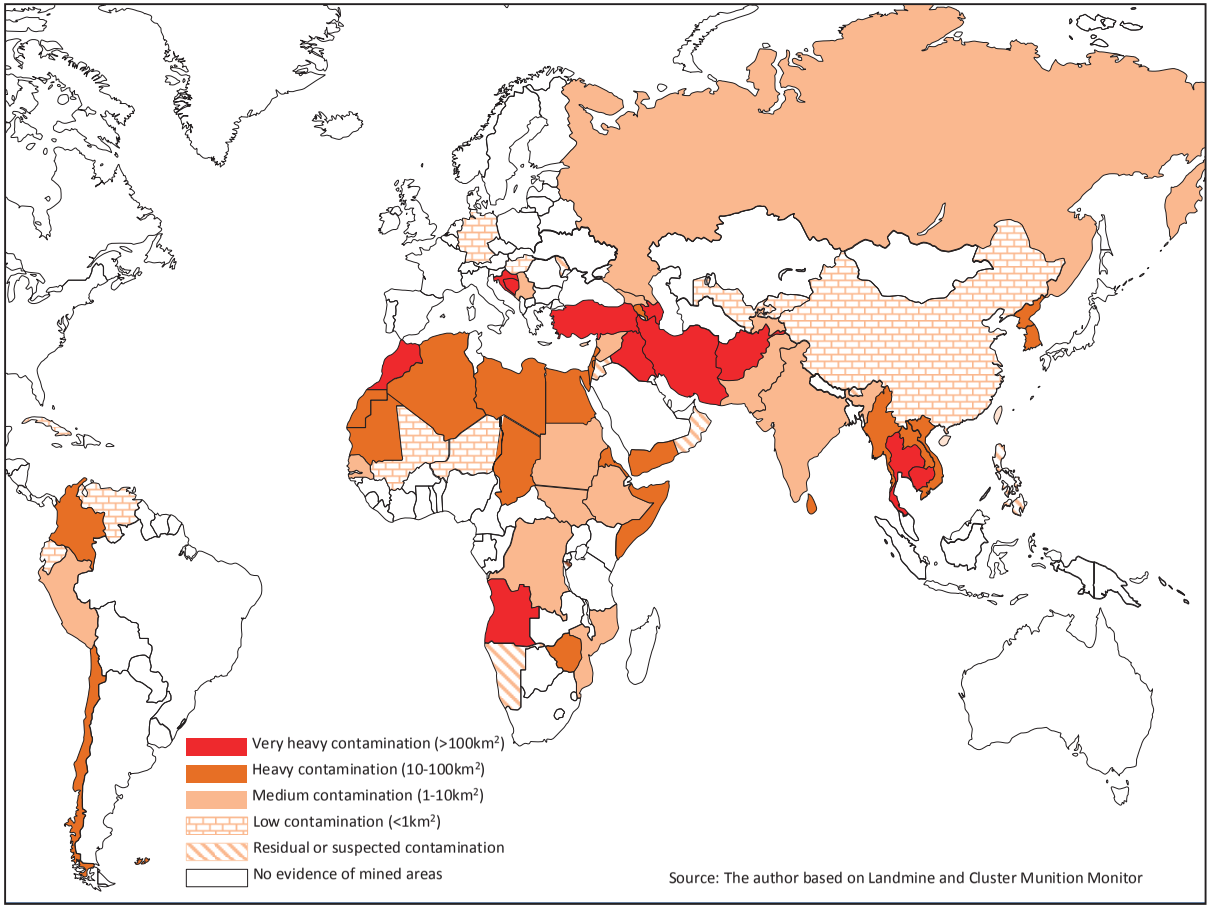
Data collected by Landmine and Cluster Munition Monitor, which publishes annual report on mines and explosive remnants of war, show that in 2012, the Islamic Republic of Afghanistan (Afghanistan) had the most annual casualties with 766 people killed and

injured, followed by the Republic of Colombia (Colombia) with 496 casualties, the Republic of Yemen (Yemen) with 263 casualties, and the Islamic Republic of Pakistan (Pakistan) with 247 casualties. The Kingdom of Cambodia (Cambodia), which this book deals with, was the fifth most affected country in 2012 with 186 casualties. Other States with 100 or more recorded casualties in 2012 are the Islamic Republic of Iran (Iran, 127 casualties), the Republic of the Sudan (Sudan, 109 casualties), and the Republic of the Union of Myanmar (Myanmar, 106 casualties).

Landmines planted by a road (provided by CMAC)

The Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on Their Destruction (often simply referred to as the Ottawa Treaty) signed in Ottawa, Canada, which came into effect in 1999, bans the use, stockpiling, production, and transfer of anti-personnel landmines and stipulates international cooperation for mine clearance and assistance to victims. One hundred and sixty-one countries including Japan have ratified or acceded to the Ottawa Treaty, as of July 2013.

Figure 1: Mine contamination in the world as of October 2013



Threats of unexploded ordnance

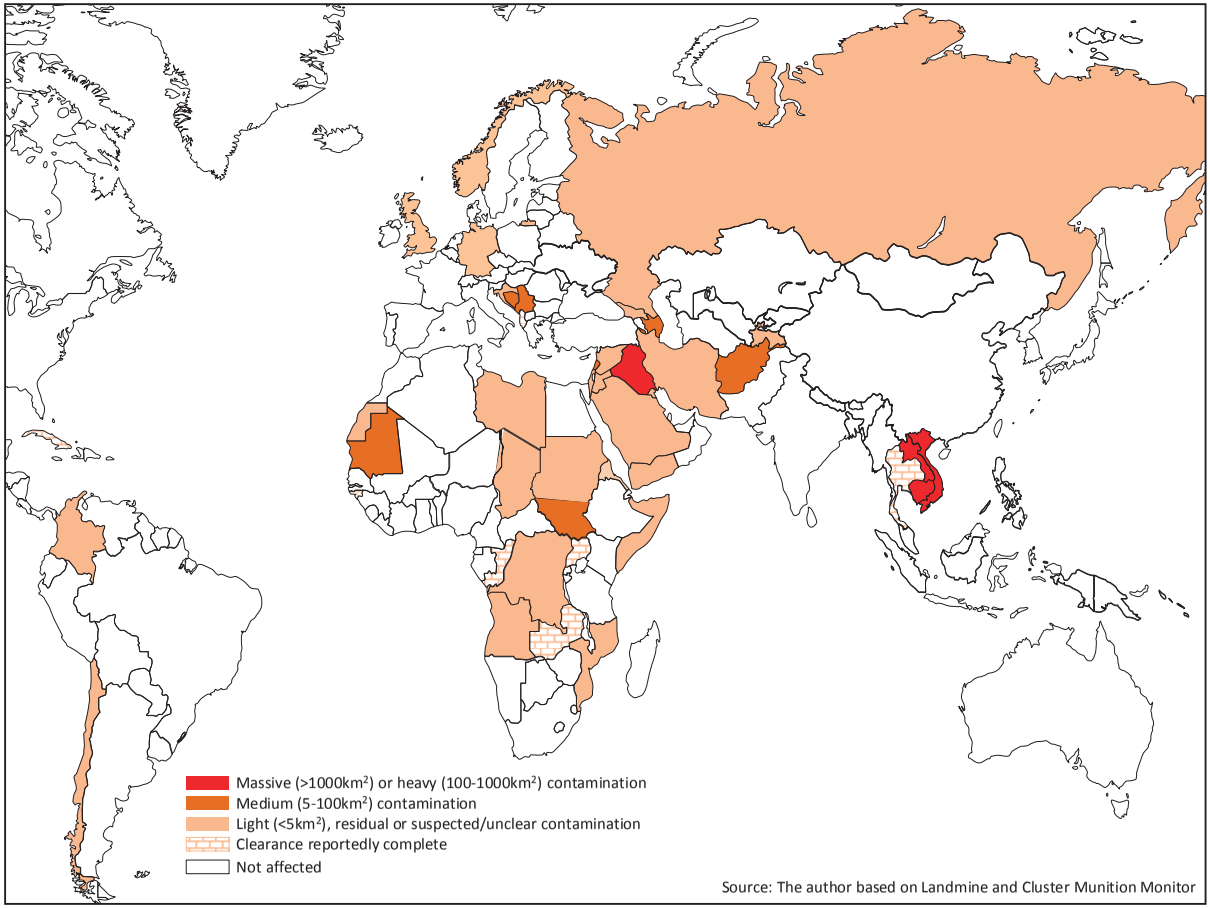
Not only landmines but also unexploded ordnance (UXO), or explosive weapons that did not explode when they were employed and remain placed under, on, or near the ground, continue to harm civilians even after conflicts, and hinder reconstruction and development. Children sometimes pick up UXO to sell as scrap metal and fall victims to UXO when it detonates.

UXO includes all types of unexploded ordnance that differs in size, varying from big ones with a few meters' length, to a small grenade. Of this, cluster munition is a type of explosive weapon that releases smaller submunitions and has a wide-area effect. The Convention on Cluster Munitions (the Oslo Treaty) entered into force in Oslo, Norway, in August 2010; it obliges States Parties never to use, develop, produce, otherwise acquire, stockpile, retain, or transfer cluster munitions, and has a provision of assistance to victims of cluster munitions. Japan has ratified the Oslo Treaty.

Cluster bomb killing civilians indiscriminately

Bombies from cluster bomb (provided by CMAC)

Figure 2: Cluster munition contamination status in the world as of 2013



Assistance for mine action in a peacebuilding framework

Although the Cold War ended in 1989, wars and conflicts still frequently occur in the world. Therefore, in addition to traditional efforts in military operations and a political framework such as preventive diplomacy and mediation, development assistance plays an increasingly important role for peacebuilding in the post-Cold War era.

Reflecting these circumstances, Japan International Cooperation Agency (JICA), a public organization that implements Japan's Official Development Assistance (ODA), selected peacebuilding as one of the global issues to address in 1999, and has since discussed better approaches to cooperation in conflict-affected countries and regions. JICA has conducted projects in various conflict-affected countries and regions, namely Cambodia, former Yugoslavia, the Democratic Republic of Timor-Leste (East Timor), Afghanistan, and countries in Africa and the Middle East. In line with Japan's ODA Charter formulated by the Ministry of Foreign Affairs of Japan in 2003, which set forth "peacebuilding" as one of its key issues to address, JICA also formulated its "Thematic Guidelines on Peacebuilding" in 2003 to clarify its peacebuilding assistance policy. JICA's "Thematic Guidelines on Peacebuilding" has been revised several times to reflect feedback from those involved in projects and global trends. The 2009 revised version defines that the purpose of peacebuilding is "to prevent the occurrence and recurrence of conflicts, alleviate the various difficulties that people face during and immediately after conflicts, and subsequently achieve long-term stable development."

Four pillars have been identified for JICA's peacebuilding assistance: (1) Reconstruction of social capital (reconstruction of social/physical capital and human resources lost by the conflict), (2) Economic recovery (recovery of economic activities at the early stage of reconstruction towards development), (3) Rebuilding the State system and functions (rebuilding of government functions and construction of democratic institutions), and (4) Security enhancement (promotion of security stability, as a precondition of development). Assistance for addressing mine/UXO issue is covered under (4) "Security enhancement."

Being an implementing agency of development assistance, JICA intends to link demining activities to development, achieve poverty reduction, and promote social reintegration of victims. In addition, rather than directly getting involved in activities that JICA does not have any earlier experience of, such as demining operation itself, JICA plans to contribute to mine/UXO sector in the area where JICA has comparative advantage and expertise gained through past traditional development assistance, for instance supporting information systems or enhancing organizational capacity for mine action.

Table 1 presents JICA's assistance menus on addressing mine/UXO problems.

Figure 3: JICA's assistance for mine/UXO action

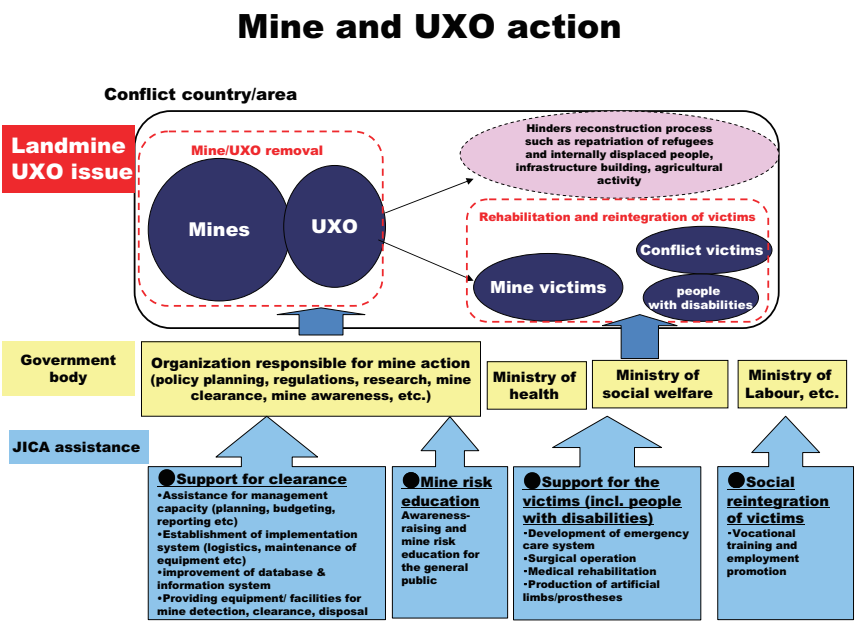


Table 1: JICA's assistance menus on addressing mine/UXO problems

Mine/UXO clearance	Assistance for management capacity (planning, budgeting, reporting, etc.), Establishment of implementation system (logistics, maintenance of equipment, etc.), Improvement of database & information system, Providing equipment/facilities for mine detection, clearance, disposal, etc.
Mine risk education	Awareness-raising and mine/UXO risk education for the general public
Medical and physical rehabilitation of victims	Development of emergency care system, Surgical operation, Medical rehabilitation, Production of artificial limbs/prostheses
Social reintegration of victims	Vocational training and employment promotion for victims

Promoting peace and development through mine action

Mine/UXO clearance may create or worsen instability, depending on the selection of areas to be cleared of mines/UXO and post-clearance land use. For instance, if some politicians or powerful stratum of society should make unfair and non-transparent decisions on land use of cleared fields, mine/UXO clearance efforts, despite the time and money spent, may not lead to peacebuilding and development, but may increase factors that destabilize society. In post-conflict developing countries, it is often seen that poor farmers are engaged in small-scale agricultural activities in mine-/UXO-contaminated land, knowing the presence and threat of mines/UXO. If a successful completion of mine/UXO clearance in cultivatable areas should lead to higher land values and poor farmers should in turn be expelled from the land and lose their livelihoods, they might feel that mines/UXO should not have been cleared. In order to avoid such situations, a transparent process is required for the preparation and application of criteria for selecting areas to be cleared of mines/UXO.

Similarly, information on progress on mine/UXO clearance should be shared with residents, the local government, and international organizations for effective development, instead of being limited for certain agencies and organizations. Otherwise, it may decrease trust towards demining bodies. It is important to establish a democratic system for regular demining activities, avoiding work on an ad hoc basis. Such a system will help prevent mine action from increasing destabilizing factors, and will ensure that mine action contributes to promote peace and development in affected countries and regions.

Landmines have the aspect of a strategic weapon. In recent years, conflicts and wars have become more complicated. Some conflicts are recurrent and restart once they appear to have ended, and other conflicts take a long time for the peace accord to be signed after a cease-fire agreement. Areas in different post-conflict phases, such as areas where a conflict was just brought to an end, areas where humanitarian aid is being provided, and areas where development is needed, can coexist simultaneously in the same country like a patchwork quilt. Thus, transition from conflict to a cease-fire and to a peace agreement, and then to reconstruction and development does not usually take place in a linear way. In such an environment, development aid agencies such as JICA sometimes have to start peacebuilding assistance by consolidating vulnerable peace at the peace negotiations stage just with the cease-fire agreement, without waiting for a conflict to be essentially brought to an end nationwide with a peace accord. Under such circumstances, demining may have significant military and political implications. For instance, where a conflict still continues locally between government and antigovernment forces and a peace agreement is yet to be signed, JICA's assistance for the government in its demining may be regarded by opposition forces as JICA's involvement in military operations conducted by the government. Clearance of landmines planted by both the parties and the provision of information on concealed landmines (e.g., map) can be included as agendas for peace negotiations between the

government and opposition. In this case, mine clearance may have political significance. Without understanding of the context and progress of peacebuilding in the countries and regions concerned, mine action may unintendedly pose risk to the security of residents in the affected areas. Thus, it is imperative to properly grasp situations in the areas concerned prior to tackling mine/UXO issues, and make prudent decisions.

In addition, in supporting landmine victims, it is important to take their situations into consideration. In medical facilities and/or rehabilitation centers, services are provided not only to mine/UXO victims but also to other people with disabilities caused by different reasons (congenital disabilities, traffic accidents, etc.). When we visit a community or village to assist mine/UXO victims in social reintegration projects, we occasionally meet people with disabilities not due to landmines/UXO. In this situation, providing medical and rehabilitation assistance and social rehabilitation only to mine-/UXO-disabled persons may cause feelings of unfairness and stir jealousy among other people with disabilities. It may make social integration of mine/UXO survivors difficult.

Even cooperation intended to promote peace through mine/UXO clearance and assistance for victims may foster factors that destabilize societies and exert adverse impacts, if provided without due considerations to sociopolitical situations and the context surrounding the countries and regions concerned, from a peacebuilding perspective.

In providing cooperation not for military demining but for humanitarian mine clearance and implementing mine action that leads to development and poverty reduction, focus should be given to how to contribute to peacebuilding, development, and stability in the areas concerned and across a country, rather than simply clearing mines/UXO or helping mine/UXO victims. To ensure this, when providing cooperation in conflict-affected countries and areas, JICA conducts Peacebuilding Needs and Impact Assessment (PNA) in all of its assistance areas including mine/UXO action to analyze the background of the conflicts and the destabilizing and stabilizing factors, so that JICA's cooperation will not further destabilizing factors unintendedly, will promote peace, and will prevent conflicts from reoccurring.

Chapter 1 Landmine issues in Cambodia and the establishment of CMAC

Conflicts and landmines/UXO in Cambodia

Conflict had continued over 20 years since the 1970s in Cambodia. A legacy of more than two decades of conflict is a large number of concealed landmines, which continue to pose threats to people living in the affected areas and be a bottleneck to economic activities long after the end of conflict. Reflecting regimes that changed during the conflict, from the government of General Lon Nol to the Khmer Rouge regime and to the subsequent (Heng Samrin) governments, landmines found in the country vary in types, manufactured in the US, China, Vietnam, former Soviet Union, former Yugoslavia, Bulgaria, etc.

On top of that, the eastern region of Cambodia has been contaminated by the UXO left over from the Vietnam War, which continues to remain under or on the ground.

According to information provided by CMAC, from 1965 to 1973, US air force dropped approximately 2,750,000 tons of ordnance on Cambodia. In addition, 89,435 cluster bombs containing 3,500,000 tons' worth submunitions were dropped and around 30% of them failed to detonate.

Landmines and UXO found in Cambodia (provided by CMAC)

Conflict in Cambodia was politically brought to an end on October 23, 1991, when the Agreements on a Comprehensive Political Settlement of the Cambodia Conflict (commonly known as the Paris Peace Agreements) were signed in Paris. Although mine/UXO clearance and contamination survey were launched after the Paris Peace Agreements were signed, the Khmer Rouge guerrillas continued to fight even after 1992. This made it difficult to accurately grasp the information on mines/UXO contamination in the country, and,

Table 2: Chronology of conflict in Cambodia

1970	Coup d'état by General Lon Nol while Prince Sihanouk was out of the country. Fighting between "North Vietnam-National Liberation Front for South Vietnam (NLF)-Khmer Rouge" and "US-South Vietnamese forces-Lon Nol's forces." Cease-fire agreement between the US and North Vietnam (withdrawal of North Vietnam from Cambodia, refusal of the Khmer Rouge on cease-fire).
1973	Cease-fire agreement between the US and North Vietnam (withdrawal of North Vietnam from Cambodia, refusal of the Khmer Rouge on cease-fire).
1975	Establishment of "Democratic Kampuchea" with Pol Pot as the prime minister by the Khmer Rouge, expelling the Lon Nol from the regime.
1976	Unification of North and South Vietnam.
1979	Fighting between Vietnamese forces and the Khmer Rouge.Establishment of the People's Republic of Kampuchea (PRK) with support from Vietnam (the Heng Samrin government). Influenced by the Cold War structure, continuation of the conflict.
1989	Withdrawal of Vietnamese forces from Cambodia. End of the Cold War.
1991	Dispatch of the United Nations Advance Mission in Cambodia (UNAMIC). Signing of the Paris Peace Agreements.
1992	Launch of activities by the United Nations Transition Authority of Cambodia (UNTAC).
1993	Execution of a general election under the supervision of UNTAC, for formulating a new constitution. Promulgation of the new constitution Establishment of the government of Kingdom of Cambodia (a coalition of FUNCINPEC Party and Cambodian People's Party. Withdrawal of UNTAC from Cambodia. Continuous fighting by the Khmer Rouge against government forces in some parts of the country.
1997	Armed confrontation between Norodom Ranariddh (FUNCINPEC Party), the First Prime Minister, and Hun Sen (Cambodian People's Party), the Second Prime Minister (some Khmer Rouge soldiers were involved).
1998	Execution of the second general election. Launch of a parliamentary system with one prime minister, with Hun Sen (Cambodian People's Party) as the prime minister. Death of Pol Pot; surrender of many of remaining Khmer Rouge guerrillas. The end of Khmer Rouge movement.

furthermore, mines were also newly planted in those days. Indeed, the 1991 Paris Peace Agreements played an important role in ending conflict in Cambodia, while the Khmer Rouge movement did not essentially come to an end until 1998. Thus, from 1992 to 1998, effective mine/UXO clearance was a delicate issue.

Dr. Sadako Ogata served as the United Nations High Commissioner for Refugees when Cambodia's conflict ended. In her book My Work, she wrote about the situation in Cambodia three months after the Paris Peace Agreements were signed that "we no longer find any malnourished children and barefoot or naked children in the refugee camps on the Thai-Cambodia border … The only sign of the calamity of the long-lasting civil war that we can see now is people who have lost a leg. The number of landmine victims is estimated to be 5,000 in the refugee camps in Thailand and 35,000 in Cambodia. In addition, 1–2 million landmines estimated to be buried in the country are the biggest bottleneck to safe repatriation of the refugees to Cambodia" (translation).

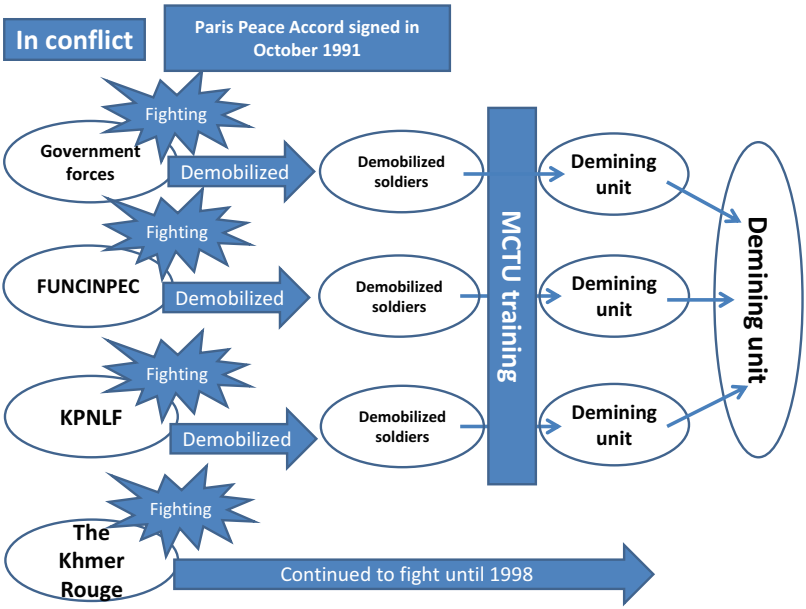
Back then, there were more than 300,000 Cambodian refugees in the border camps in Thailand. A 1991 survey by the United Nations High Commissioner for Refugees (UNHCR) revealed that approximately 190,000 persons, or 57% of the refugees to be repatriated from Thailand, had wished to go to Battambang province in northwestern Cambodia on the Thai border, which was the most mine-contaminated province in the country, and many of the remaining refugees had also wanted to go to other provinces in northwestern Cambodia where landmine contamination was confirmed. Furthermore, a survey contracted to The Halo Trust, an international nongovernmental organization (NGO), showed that of 700 square kilometers of land in Battambang province to be provided to the repatriated refugees, 308 square kilometers of land was "probably clear of mines," but 280 square kilometers of land was "probably mined" and 112 square kilometers of land was "heavily mined."

Deployment of United Nations peacekeeping operations

Prior to signing of the Paris Peace Agreements and upon confirmation of the progress on peace talks, on October 16, 1991, the United Nations Advance Mission in Cambodia (UNAMIC) was deployed. Its initial purposes were to help all four Cambodian confronting parties maintain the cease-fire during the period leading up to the establishment of the United Nations Transitional Authority in Cambodia (UNTAC), and to provide mine awareness training to the civilian population in Cambodia. However, in January 1992, the mandate of UNAMIC was expanded to include the initiation of a mine clearance programme and training of Cambodians in mine clearance around repatriation routes, reception centres, and resettlement sites for refugees. On March 15, 1992, when UNTAC became operational, UNAMIC's mission and functions were completed and were taken over by UNTAC.

UNAMIC set up a Mine Clearance Training Unit (MCTU) for the northwestern region

Figure 4: Formation of demining units by Cambodian demobilized soldiers



Source: The author

of Cambodia, where landmine contamination was confirmed, and the military personnel dispatched to UNAMIC provided training on mine clearance for the Cambodians there. Of the four parties in conflict, three parties (the Khmer Rouge continued to fight after the Paris Peace Agreements), namely government forces, the FUNCINPEC Party, and the Khmer People's National Liberation Front (KPNLF), demobilized their soldiers after the signing of the Paris Peace Agreements. Having been trained on mine clearance, the demobilized soldiers from these three parties formed demining units to work on the respective parties' controlled areas. According to Mr. Tony West, who joined UNAMIC from the New Zealand Army, three parties had initially formed three different demining units, and, gradually, it was shifted to provide training together for different parties' ex-soldiers, resulting in mixing ex-soldiers from different parties in one demining unit. This did not

Deminers of MCTU and UNTAC advisors (provided by CMAC annual report)

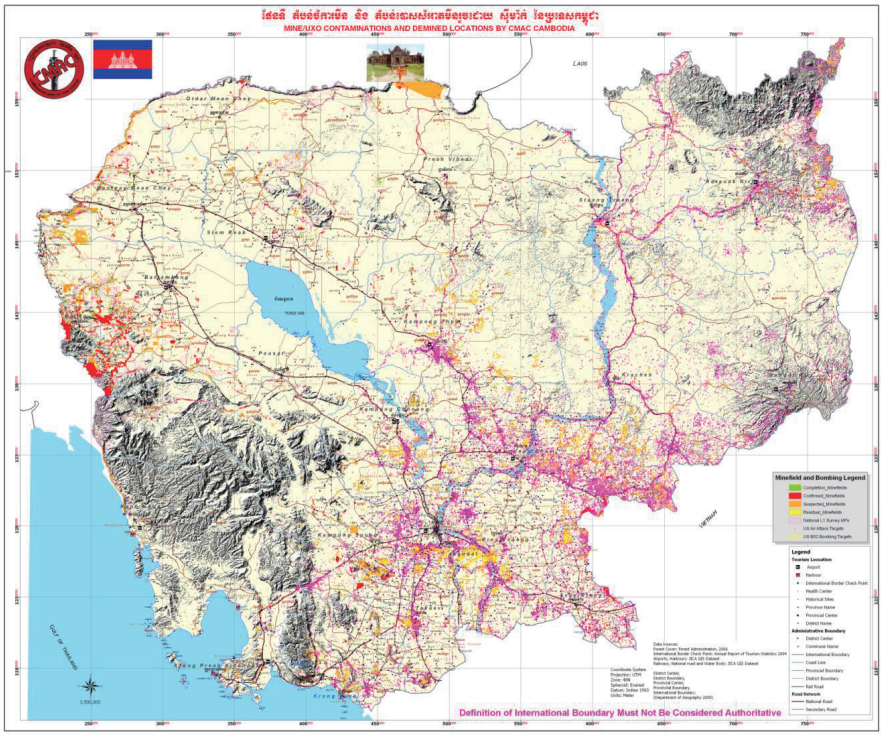
cause any problems among ex-soldiers from different parties, but helped facilitate their reconciliation subconsciously. In fact, Mr. Keo Sarath (currently the manager of Demining Unit 1 of CMAC), who participated in the MCTU-run training course for instructors, also commented that "after we participated in the training together, we were on good terms with former soldiers from different origins."

In March 1992, about six months after the dispatch of UNAMIC, UNTAC commenced its activities in Cambodia. The Paris Peace Agreements had detailed provisions regarding the mandate of UNTAC. UNTAC's mandate was more extensive than other UN PKO missions' mandates in the past, including not only monitoring of the cease-fire and maintenance of security, but also the organization and conduct of elections, demobilization of the military forces of the parties concerned, and facilitation of repatriation of Cambodian refugees and displaced persons. UNTAC was expected to play various roles in mine action, including mine clearance, collection of information about the minefields laid, provision of a mine awareness program among the Cambodian people, undertaking training programs for Cambodian people in mine clearance and disposing of UXO, and the provision of emergency first-aid training to Cambodian volunteers. As commented by Dr. Ogata, since landmines were a key obstacle to the repatriation of refugees, once the conflict ended, responding to landmine issues was among top priorities for the reconstruction of Cambodia in order to repatriate Cambodian refugees in Thai refugee camps swiftly and safely to their home country.

According to information collected in the period from 1992 to 1993 during which UNTAC operated, it was estimated that there were 1,900 minefields in Cambodia; 3 million landmines had been buried within just 800–1000 square kilometers of the land bordering Thailand, and 4–6 million landmines had been buried across the country.

In addition to landmines, UXO left over from the Vietnam War, during which approximately 2,750,000 tons of bombs were dropped by the US, and grenades used over a long period of conflict continued to remain in the ground and posed a threat to the people living there.

Figure 5: Mine/UXO contamination and demined locations by CMAC Cambodia



"Dots in the central, south eastern and north eastern areas indicate US air attack targets, and dots in the northwestern area indicate minefields."

Source: CMAC

Birth of CMAC

Given the Paris Peace Agreements and the establishment of UNTAC, by a royal decree, in June 1992, the Cambodian Mine Action Centre (CMAC) was established by the Supreme National Council (SNC) of Cambodia with support from UNTAC. CMAC consists of implementation units and a governing council that supervises the units. The first chairperson of the governing council of CMAC was Prince Norodom Sihanouk, and the first executive director was Mr. Yasushi Akashi, special Representative Permanent Secretary of the UN in Cambodia. The governing council comprised 10 members (five Cambodians and five foreign nationals), and all Cambodian directors were selected from SNC members and a foreign director from each of UNTAC, UNDP, UNICEF, Handicap International (an

international NGO), and the International Red Cross. The first Director General of CMAC was Mr. Sérgio de Mello, who was to be killed in a terrorist bomb attack in Baghdad in 2003 at the post of Secretary-General's Special Representative in Iraq. When Mr. De Mello was appointed as the Director General of CMAC, he served as the Director for Repatriation and Resettlement Operations of UNTAC. This organizational setting indicates that during the period of UNTAC's deployment, CMAC was administered half by the UN/foreigners and half by Cambodians. Mr. Ieng Mouly, who was among the first Cambodian members of the governing council of CMAC and who later became the chairman of the governing council after the withdrawal of UNTAC, said that "same as the administration was shared half by the UN and half by Cambodians, operations of landmine clearance was also conducted by combined efforts of foreigners and Cambodians. Foreign experts provided guidance and training to Cambodians, and about 1,500 trained Cambodians were engaged in demining operations."

When CMAC was established, CMAC was responsible for four areas in mine action, namely mine awareness, mine information/minefield marking, mine clearance, and training. The MCTU set up by UNAMIC was integrated into CMAC. To this point, numbers of training bases had increased; in addition to the New Zealand Army, armies from India, Pakistan, the Netherlands, Belgium, the UK, and Bangladesh had provided training to Cambodian demobilized soldiers from different parties. Trained Cambodians conducted demining operations under the supervision of foreign experts. In addition to training and demining units in rural areas, a department of UNTAC in charge of collection and provision of data on landmines and standardization of mine-related activities at the Phnom Penh base was also integrated into CMAC.

According to Mr. Mao Vanna, who had been engaged in collecting information on landmines as part of UNTAC activities prior to the establishment of CMAC, he was the only Cambodian working at the headquarters in Phnom Penh at the time of the establishment of CMAC and was working with five foreign specialists who instructed in mine awareness activities, survey, and marking. After CMAC was established, the organization employed more Cambodians to start marking contaminated areas and carry out mine awareness activities in earnest. Mr. Mao Vanna said that "first of all, we distributed information on landmines to NGOs which had assisted in repatriating refugees so as not to be killed or injured by landmines during the repatriating process. CMAC also formed teams to promote mine awareness and worked directly on repatriated refugees." In those days, few people listened to the radio or watched television, and they were not effective tools to disseminate information. So CMAC did not use these media and, instead, considered alternatives to communicate locations of landmines found to the people. The first method CMAC introduced was local signs such as a cross made out of tree branches to indicate existence of mines. Later, CMAC produced a white skull on red background panel, which was to become the

standard for minefield marker, and they distributed many copies of it to villagers.

Landmine marking of CMAC (provided by Mr. Tony West)

Around this time, international NGOs including The Halo Trust, Mines Advisory Group (MAG), and Norwegian People's Aid (NPA) also started demining activities in the heavily contaminated northwestern part of Cambodia. Cambodian Red Cross and World Vision (an international NGO) commenced mine risk education, and Handicap International, the International Red Cross, and Veterans International Cambodia (a local NGO formed with support from a foundation in the US) provided rehabilitation services for persons with disabilities including landmine victims. CMAC headquarters were responsible for the approval and registration of and coordination among these NGOs working in the landmine sector.

Identifying mine-contaminated areas in early days

Collecting information on mine contamination gradually started since UNAMIC was dispatched, and it continued as UNTAC's activities even before the establishment of CMAC. According to Mr. Mao Vanna, "Prior to the establishment of CMAC by UNTAC, we visited military bases of the four warring factions, i.e. CPAF (Cambodian People's Armed Forces) government forces, FUNCINPEC (Front Uni National pour un Cambodge Indépendant, Neutre, Pacifique, et Coopératif—in English, the National United Front for an Independent, Neutral, Peaceful, and Cooperative Cambodia), KPNLF (Khmer People's National Liberation Front) and NADK (National Army of Democratic Kampuchea) also known as Khmer Rouge, to collect information on landmine-contaminated areas and stockpile. We sometimes used helicopters to collect information across the country to the possible extent, which was a time consuming task. Combining the collected information with external data on landmines brought daily from UNTAC, NGOs and government forces, we made landmine contamination maps and distributed them to concerned organizations." There seem to have been some technical difficulties even among the UNTAC participating countries, as exemplified by differences in codes used on maps by the North Atlantic Treaty Organization (NATO) and others in those days.

Mr. Alan Beaver, a New Zealand military personnel who was dispatched to Cambodia under UNAMIC and UNTAC, commented, "after UNTAC was established, we started asking chief engineers and commanders from each party that participated in the conflict for information on locations where mines were planted. However, although they had rough ideas

about locations, their information was often inaccurate. After around 1975 when Cambodia conflict worsened, civilians who had had no previous military experience were forced into fighting. They did not use landmines strategically and did not keep the information on minefields. This made it difficult for us to tackle mine clearance after the conflict was over. Cambodia's situations were different from other post-war countries that I have worked before. We interviewed villagers on damages from landmines, and marked hazardous areas. But Cambodia was an especially difficult case to identify areas of contamination with landmine." Besides, in those days, even the UN had not formulated standards and regulations on mine action, including survey, marking, and database on landmines. Troops participating in the PKO offered their own military knowledge and expertise from different forces to Cambodia. Combining that different knowledge and expertise on an ad hoc basis, UNTAC military advisors dealt with the landmine-related issues.

Mr. Keo Sarath, who served as a deminer in Banteay Meanchey province, which is located in the northwest of the country and was as heavily contaminated with landmines as Battambang province, said, as did Mr. Alan Beaver, that "At the beginning of 1992, UNTAC requested each of the government forces, FUNCINPEC, KPNLF and the Khmer Rouge, to offer information on landmines planted, and their representatives to instruct their local demobilized soldiers to hand manuscript maps on mine-contaminated areas over to UNTAC. However, due to inaccurate maps and floods that entailed unearthing and removing landmines from their original locations, landmines continued to pose risk to deminers and villagers." Nevertheless, in the initial stage of UNTAC, it was made clear that the northwestern region of the country had been contaminated from landmines, and the eastern region from UXO, and the information was useful for their planning on mine/UXO clearance.

Withdrawal of UNTAC and the transformation of CMAC to a governmental demining body

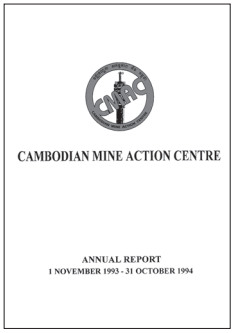
The mandate given to UNTAC was set to end with the promulgation of constitution for the Kingdom of Cambodia and the formation of a new government. Confirming that a new constitution was promulgated on September 23, 1993, following the general election in May 1993, the restoration of Cambodian monarchy, and the reestablishment of the Kingdom of Cambodia on September 24, when Norodom Sihanouk was again crowned king, the mandate entrusted to UNTAC was concluded on the same day, withdrawing the personnel and equipment gradually.

On the other hand, mine/UXO clearance was still needed. In May 1993 and around the time of the general election, when the withdrawal of UNTAC appeared to be a realistic choice, discussion started on the "Cambodianization of CMAC." According to Mr. Ieng

Mouly, who was to become the first Cambodian to serve as the chairman of the governing council and Director General of CMAC, in August 1993, having confirmed the agreement with King Sihanouk and Prime Ministers Ranariddh and Hun Sen, Mr. Akashi, Special Representative Permanent Secretary of the UN in Cambodia, sent a letter to Mr. Ieng Mouly that he was to be appointed as the Director General of CMAC after the withdrawal of UNTAC. In fact, in November 1993 after the mandate of UNTAC ended, a royal decree was issued to acknowledge CMAC to continue its operations as an entity after the withdrawal of UNTAC, and Mr. Ieng Mouly was appointed as the chairman of governing council as well as the Director General of CMAC. Mr. Ieng Mouly said that "two imminent issues to address were how to retain foreign experts in Cambodia and how to acquire financial resources from the international community." In order to prevent foreign experts from pulling out of Cambodia with UNTAC, the Government of Cambodia requested the UN that it would extend these foreign experts' missions, and, simultaneously, a trust fund was set up into which funds for CMAC's activities were flown. To be more specific, UNTAC's responsibilities for CMAC's budget shouldered by UNTAC and financial management were transferred to the United Nations Development Programme (UNDP), and UNDP set up a trust fund for CMAC. At the same time, donors formed a steering committee for the trust fund.

Mr. Alan Beaver, who had been dispatched overseas under the UN PKO and engaged in mine clearance in other countries prior to working for Cambodia, said that "Cambodia was the first case in which the UN's demining units led to the establishment of a demining organization by the government of the country concerned." The background to this was that "since the country faced urgent need of clearance of landmines deterring repatriation and resettlement, landmine clearance must be carried out immediately by Cambodian demobilized soldiers with support from the foreign advisors dispatched under the UN PKO; there was a pressing need for setting up the system for information on landmine-contaminated areas and approval and registration of many European NGOs that had been conducting demining operations. All these reasons combined must have led to the establishment of a demining organization for the people and by the people in Cambodia."

CMAC's annual report for November 1993–October 1994 stated that CMAC's goal was "to achieve a state within Cambodia, where people can go about their lives free from the threat of mines and reconstruction and development activities can take place in safe environment," and set forth four major objectives to achieve the goal, namely mine awareness, mine information/minefield marking, mine clearance, and training.



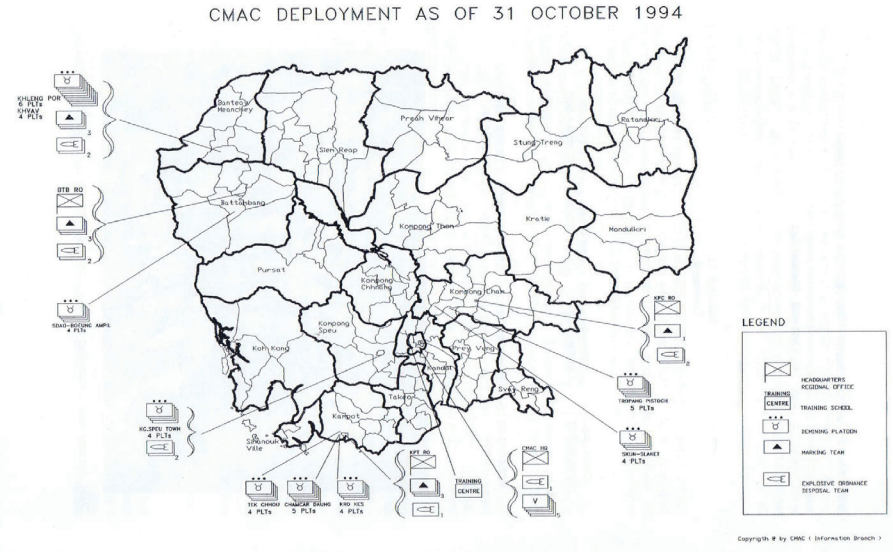
CMAC annual report
(provided by Mr. Ieng Mouly)

Moreover, CMAC also coordinated with NGOs in the demining sector and logistics (equipment procurement, registration, maintenance, etc.) required for the organization's activities in those days.

According to its annual report, as of 1994, CMAC had a total of 1,556 staff members working in the headquarters in Phnom Penh, the training center, which was also in Phnom Penh back then, and three provincial demining units.

The three demining units were based respectively in Battambang province to cover the northwestern region of the country, in Kampong Cham province for the central eastern region, and in Kampot province for the southern region, and, as of October 1994, had 41 demining platoons (30 deminers per platoon), 16 mine marking teams, 10 explosive ordnance disposal teams, and two mobile mine awareness teams. Ten demining platoons, three mine marking teams, and two explosive ordnance disposal teams were deployed to the country's northwestern Banteay Meanchey province, which had been heavily contaminated with landmines. To its neighboring Battambang province, four demining platoons, three mine marking teams, and two explosive ordnance disposal teams were assigned. In the central-eastern region of Cambodia, demining platoons and other teams were concentrated in the UXO-contaminated Kampong Cham province and mine-and-UXO mix-contaminated Kampong Speu province, and in the southern region, platoons and teams were deployed

Figure 6: CMAC deployment, as of October 31, 1994



Source: CMAC

to Kampot province, which had been strongly influenced by the Khmer Rouge.

Mr. Mao Vanna, who was working on information and database on landmines under UNTAC prior to the establishment of CMAC, started serving as the chief of information policy in November 1993. His responsibilities included not only the establishment of information systems and database, but also mine awareness, marking, and public relations. He recalled that "a marking team consisted of four members and a total of approximately 100 Cambodians worked under my supervision. There were foreign experts from New Zealand, too." With no accurate map on mine contamination available, they inquired the local communities about landmine incidents that killed/injured their livestock, and marked suspected hazardous areas.

Activities of CMAC marking team (provided by CMAC annual report)

As of October 1994, 28 military advisors were dispatched from Canada, Australia, Belgium, the Netherlands, and New Zealand, 10 technical advisors from Norwegian People's Aid (NPA, an international NGO), Australia, and France, and five advisors for administrative support from Handicap International (an international NGO) were also dispatched to CMAC, totaling 43 foreign experts as a whole. Except for a few Phnom Penh-based foreign experts, such as the chief advisor, financial advisor, chief of operations, and chief of training, many of these 43 foreign experts were working at field bases.

Since the royal decree issued in November 1993 was just meant for an extension of CMAC established under UNTAC in June 1992, a new royal decree was issued in February 1995 to revise it to allow CMAC to be a public institution for mine clearance and mine awareness under the prime minister. However, in those days, CMAC did not have its own office and rented a building for the headquarters. In 1995, CMAC formulated its first strategic plan for mine action and, simultaneously, the organization reinforced its departments responsible for planning, survey, and database. In 1996, CMAC was granted authority to approve demining organizations (NGOs, private companies, etc.). The approved organizations were required to present their respective demining plans to CMAC, and this framework enabled CMAC to coordinate demining organizations for effective performance.

Information collection, which had been a formidable task to tackle at the beginning, progressed to a certain extent by 1995. In 1994, CMACs training center in Phnom Penh was relocated to Kampong Chhnang province, where the center was based in bigger premises.

CMAC became "independent" from UNTAC in November 1993 and gradually enhanced

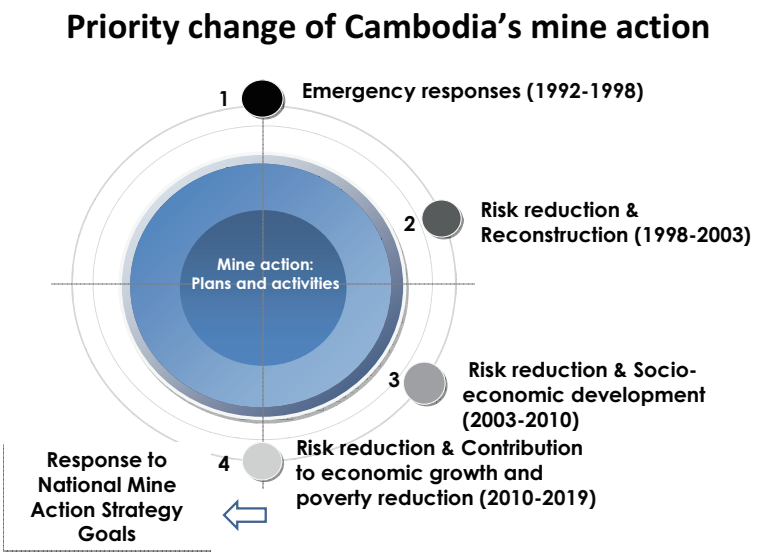
its operations and activities through legal revisions in February 1995.

Demining operations before total peace —emergency phase of mine action: 1992–1998

CMAC was established as an organization specialized in mine action and gradually developed itself to tackle problems of landmines and UXO, a legacy of the conflict in Cambodia. Clearance of landmines and UXO was the precondition for reconstruction of the country. However, until 1998, fighting against the Khmer Rouge continued in some territories. The northeastern part of Cambodia bordering Thailand, or the most heavily mine-contaminated region in the country, was still influenced by the Khmer Rouge. The fact that a comprehensive survey to identify mine contamination across the country (National Level 1 Survey) was finally conducted in 2001 signifies that political and security environment was not conducive to the implementation of such survey before 2001. In other words, in the period leading up to it, mine clearance had been undertaken without sufficient information on mine contamination in the country. The post-conflict period from 1992 to 1998 is considered as the emergency phase of mine action in Cambodia.

CMAC's presentation materials also indicate that it regards the period of 1992–1998 as the "emergency response" phase, the period of 1998–2003 as that of "risk reduction

Figure 7: Priority change of Cambodia's mine action



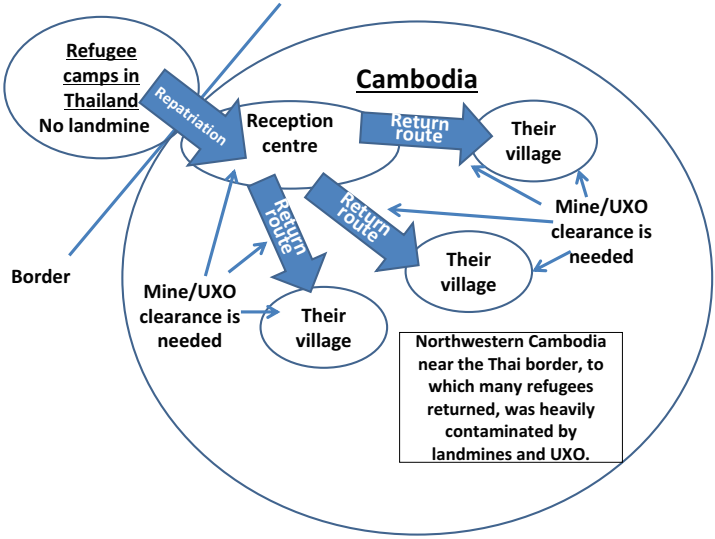
Source: CMAC

and reconstruction," the period of 2003–2010 of "risk reduction and socio-economic development," and the period of 2010 and onward of "risk reduction and contribution to economic growth and poverty reduction" (see Figure 7).

After the conflict ended, in the process of returning refugees and internally displaced persons to their home, accidents of landmines and UXO caused many casualties. In and after 1995, when the repatriation started in earnest, casualties increased as a large number of people moved around. In 1995, annual casualties were counted to be more than 3,000, and in 1996, the number rose to 4,320. A rough calculation implies that more than 11 people per day, or one person every two hours, were/was killed or injured by landmines and UXO in Cambodia in 1996. People repatriating to their homeland from refugee camps had left their villages during the conflict and had lived in refugee camps in Thailand for two decades. They arrived in their homeland without updated information on those areas, and this appeared to be one of the reasons why many of them had fallen victim to landmines and UXO.

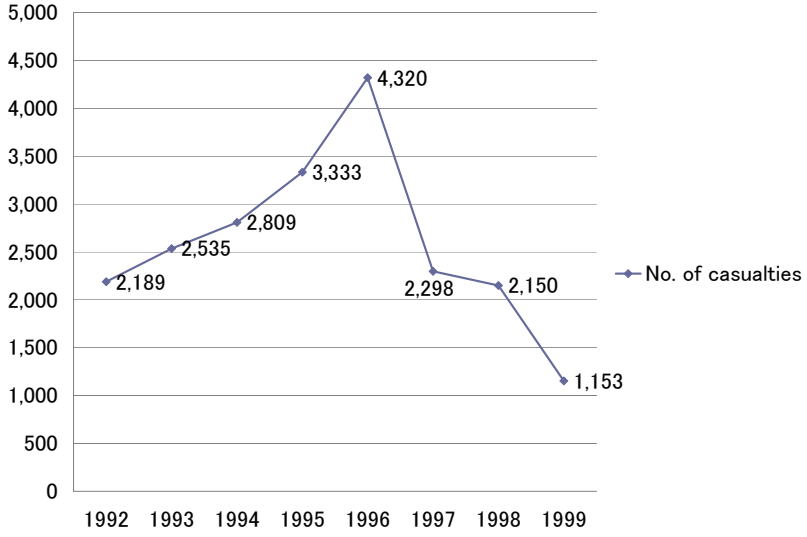
Figure 9 presents the number of landmine/UXO victims from 1992 to 1999. The aim of the demining operations commenced in 1992 was, first and foremost, to ensure safe repatriation of refugees.

Figure 8: Return from refugee camps and urgent need for mine/UXO clearance



Source: The author

Figure 9: Transition in the number of mine/UXO victims from 1992 to 1999



Source: The author based on a JICA report

Political background—fight against the Khmer Rouge

The Paris Peace Agreements were signed by all parties concerned including the Khmer Rouge in October 1991. However, the Khmer Rouge refused to enter UNTAC's disarmament process, boycotted the 1993 general elections held under UNTAC's supervision, and refused to accept the election results. The Khmer Rouge resumed fighting, which continued until 1998 when Pol Pot died and other key Khmer Rouge major figures surrendered to the government. Mine clearance started in 1992 but had been adversely affected by the fight against the Khmer Rouge. Since mine awareness activities were less susceptible to the conflict, they were conducted actively even before 1998. However, mine clearance in areas influenced by the Khmer Rouge was occasionally suspended, depending on situations and environment.

Mr. Kong Kimchouon, currently deputy manager of CMAC's Demining Unit 4, was engaged in mine clearance in Oddar Meanchey province before the withdrawal of UNTAC, in Battambang province from 1993 to 1996, and in Kampong Thom province from 1996 onward. He explained that "when the Khmer Rouge movement was active, the demining platoons were accompanied by the police, and were provided with information on the Khmer Rouge from the police. Sometimes, we could clear landmines in the Khmer Rouge-

controlled areas without being disturbed by the Khmer Rouge, and sometimes, the Khmer Rouge newly planted landmines in the areas where we were operating for clearance." In addition, Mr. Keo Sarath, currently manager of CMAC's Demining Unit 1, who engaged in mine clearance in Banteay Meanchey province in those days, told a story similar to Mr. Kimchouon's: "in conducting mine clearance operations in the areas where the Khmer Rouge was fighting, the following procedures were followed—CMAC commander proposed demining to the people living in the mine-contaminated areas. Then, the residents requested mine clearance to an influential local Khmer Rouge commander. When he agreed, we implemented clearance operations. But sometimes, we did not receive an agreement."

The period up to 1998 is often considered as an incomplete peace as the Khmer Rouge continued to fight against the government forces. In addition, as the result of the 1993 elections, Cambodia had two co-prime ministers from FUNCINPEC Party and Cambodian People's Party. These two parties partnered in the coalition government with the Buddhist Liberal Democratic Party, which was created as a successor to the KPNLF. The three parties had confronted one another during the conflict period, due to their different political philosophies. The Government of Cambodia set in 1993 was balanced precariously. Coupled with these political risks, the presence of the Khmer Rouge allowed Cambodia only to maintain vulnerable stability. It was said that some civilians kept small arms and light weapons at home to be prepared for possible recurrence of conflict. In fact, prior to the general election in 1998, in June and July 1997, an armed confrontation erupted between the two parties led by the First and Second Prime Ministers, in which Khmer Rouge soldiers were also involved. Amid a heightened political or military tension, landmines may be regarded as a sensitive issue due to their nature of strategic weapons. Thus, CMAC dealing with landmines and UXO was affected by the military and political context.

Cambodia's political and military situations were drastically changed by the eventual collapse of the Khmer Rouge in 1998, which completely terminated the conflict in the country, with the Cambodian People's Party winning majority in the 1998 election with one prime minister. In December 1998, areas that had been controlled by the Khmer Rouge were liberated, and clearance of landmines in these areas started in collaboration with UNHCR to facilitate the safe repatriation of refugees, just as it did in 1992. Simultaneously, the former Khmer Rouge soldiers offered information on landmines planted. Above all, no threat of fighting made landmine and UXO clearance operations much easier. Many interviewees who had worked with CMAC commented that "real peace was realized in 1998."

The dawn of CMAC—its achievements and challenges

Post-conflict reconstruction of Cambodia drew international attention, and many developed countries provided assistance to the country. On the other hand, the Government

of Cambodia had been just established after the end of the civil war. In order to return large numbers of refugees and internally displaced persons and to help them restore their livelihoods in the resettled areas, there were so many issues to be tackled, for instance, the restoration of governmental functions, reconstruction of basic infrastructure, security maintenance, and infrastructure development for economic activities, while the lack of financial and human resources in the country was overwhelming. To support reconstruction of the country, assistance was provided by the international community in every sector. Especially, CMAC had received various supports from donors since its establishment, because from a humanitarian perspective, the international community focused on addressing the issue of anti-personnel landmines, and CMAC was originally established with the support of UNTAC. Those engaged in the management of CMAC in those days recalled that landmine clearance in Cambodia had been led first by UNAMIC and then by UNTAC, which mobilized human and financial resources from outside Cambodia, and it was impossible to replace them with Cambodian people and funds upon the withdrawal of UNTAC. Therefore, CMAC management actively worked for the international community not to withdraw funds and personnel together with UNTAC.

The breakdown of CMAC's revenues and donors' disbursements to UNDP Trust Fund from 1993 to 1998 is as shown on Table 3 and Figure 10 (based on JICA's survey in 1998). Disbursements from the Government of Cambodia to CMAC totaled approximately USD930,000 for the period of 1993–1998, or about 2% of the total revenues of CMAC in the same period.

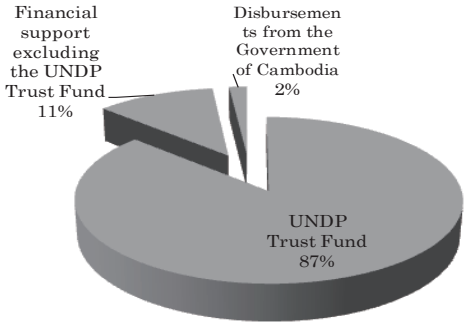
In those days, CMAC was heavily dependent on foreign experts as well as external financial support. At the initial stage of the organization after the withdrawal of UNTAC,

Table 3: CMAC's revenues (November 1993–August 1998, USD)

UNDP Trust Fund	Total 46,967,193
Contributors: Australia, Sweden, the Netherlands, Japan, Denmark, the UK, Canada, Norway, the USA, Belgium, New Zealand, Finland, Switzerland (in descending order of disbursement amount)	
Direct financial support excluding the UNDP Trust Fund	Total 6,211,031
Germany, Sweden, EU, UNICEF, USAID, and others (including NGOs; in descending order of disbursement amount)	
Contribution from the Government of Cambodia	929,764
Grand total (the Government of Cambodia + Trust Fund + direct financial support)	54,107,988

Source: The author based on a JICA report

Figure 10: The breakdown of CMAC's revenues (November 1993–August 1998, USD)



Source: The author based on a JICA report

CMAC had 43 foreign experts (as of October 1994), according to the annual report by CMAC. JICA's survey conducted in 1998 recorded that as of December 1998, 30 foreign experts worked at the headquarters, demining units (on site) and training center. Of these, 22 persons were military personnel and eight were civilians.

CMAC does not keep chronological records on the numbers of foreign experts. However,

Table 4: Number of foreign experts (as of December 1998)

	The headquarters	Demining units	Training center	Number of.	
				Military	Civilians
UNDP	6	-	-	-	6
Canada	3	2	1	6	-
Australia	2	2	-	4	-
New Zealand	1	-	1	2	-
Belgium	1	1	-	2	-
Netherlands	1	1	-	2	-
Norway	3	2	-	5	-
Sweden	1	-	-	1	-
H.I.*	-	2	-	-	2
Total	18	10	2	22	8
				30	

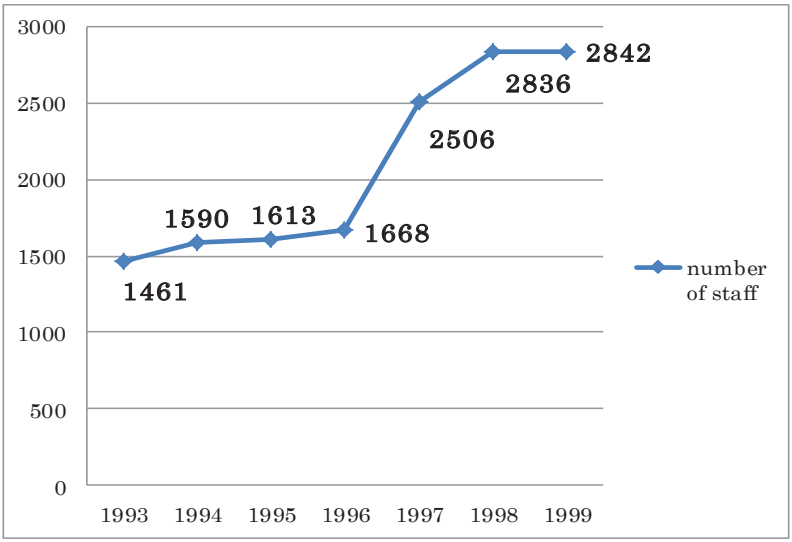
*Handicap International (an NGO)
Source: A JICA report

according to long-term employees and former managers of CMAC, the number of foreign experts at the organization peaked around 1995–1996, and it seemed that approximately 100 foreign experts worked at CMAC, including short-term experts to introduce specific technologies on equipment or detection dogs. In either case, foreign experts played an important role at CMAC until around 1998. On the other hand, many foreign military advisors were on a six-month contract and they went back home when they became accustomed to working in the country and at CMAC, and then new advisors arrived. Therefore, some Cambodian employees at CMAC had felt that such a rotation system was rather faulty.

The number of Cambodian staff at CMAC had increased since 1993. According to the data provided by CMAC, the number of local staff doubled from 1,461 persons in 1993 to 2,836 in 1998.

International Mine Action Standard (IMAS), which is currently regarded as the international standard for landmines-related activities, was approved in September 2001. The Geneva International Centre for Humanitarian Demining (GICHD) was established in 1998 for technical discussions among experts on mine-related criteria and methods. The United Nations Mine Action Service (UNMAS), an office of the UN specialized in landmine issues, was created in 1997. That is to say, CMAC had started its operations before all these international frameworks for addressing landmine-related matters were in

Figure 11: Transition in the number of CMAC staff members (1993–1998)



Source: The author based on data provided by CMAC

place. Mr. Alan Beaver, who served as a military advisor under UNTAC, said that "back then, even the UN had not formulated any official rules and regulation on landmines, and we shared military knowledge of landmines among the participating PKO troops in order to handle mine action in Cambodia." Currently, CMAC has a "standard operating procedure (SOP)" in place, which is an updated version of the one prepared after 2000. CMAC started compiling its policy and procedures in around 1996. However, without international criteria and the UN guidelines that otherwise could have provided a basis, CMAC faced difficulties in consistently collating different policies and expertise provided by the participating troops from various countries. For instance, information provided by the foreign military advisors was not in electronic form but paper documents in those days. A few page-long documents bound together had come apart over time. The documents were written in various languages such as English and French, depending on the nationalities of advisors. Military advisors changed every six months, and there were only a few Cambodian deminers who could read documents written in foreign languages such as English and French.

The period of 1992–1998 was considered as the "emergency response" phase after the conflict, and top priority was given to emergency landmine clearance operations to prevent repatriating refugees from being killed or injured by landmines. Therefore, during this period, it must have been not so easy for CMAC to reinforce its organizational capacity along with urgent demining operations. Table 5 presents CMAC's achievements in clearance during the period.

Table 5: CMAC''s achievements in mine/UXO clearance during 1992–1999

Year/period	Area of land cleared (m^2)	No. of mines/UXO found/destroyed		
		Anti-personnel mines	Antitank mines	UXO
1992–Oct. 1993	5,479,850	19,433	132	96,486
Nov. 1993–Dec. 1994	7,865,242	12,126	121	208,854
1995	10,150,014	22,115	93	47,123
1996	10,493,654	7,126	190	31,574
1997	15,565,421	17,035	266	32,767
1998	12,382,541	13,536	245	47,313
1999	10,797,705	14,322	649	67,610
Total	72,734,427	105,693	1,696	531,727

Source: The author based on "20 Years: CMAC's Achievements in Mine Action"

CMAC's crisis—suspended operations

CMAC, created as an implementing body of mine action, grew to be a big organization whose governing council had authorities over the country's mine action. CMAC managers attended international conferences on mine action representing Cambodia.

Responding to alleged mismanagement of CMAC concerning the distribution of post-clearance land and financial management, in June 1999, KPMG (one of the world's leading accounting firms) conducted an audit on CMAC's finance and management system. The audit concluded that "the performance of the financial, management and operational activities was seriously deficient." Through that process, donors lost trust in CMAC, and, consequently, many managers including the Director General and staff members left CMAC or were demoted. The UNDP coordinator to CMAC also resigned.

Mr. Heng Ratana, the current Director General of CMAC, first started working for CMAC in 1998 and engaged in setting up the office of quality management, before the CMAC faced its suspension. He explained about the background to the establishment of the new office that donors had pointed out several issues on demining activities at minefields, survey, finance, procurement, and management of equipment, and CMAC was under pressure to ensure quality in various aspects of its operations. Mr. Ratana cited the rapid growth of CMAC without organizational reforms as an underlying cause for these issues.

As shown in Figure 11, the number of staff members increased by more than 800 persons or 50% up, from 1,668 persons in 1996 to 2,506 persons in 1997, and then continued to increase by more than 300 persons to 2,836 persons in 1998. During this period, little attention had been paid to reinforcement of the organization in terms of human resources, administration, finance, and procurement, or departments that provide support for operations, while CMAC's focus was more on clearing mines and UXO, or the imminent danger. This observation corresponds to CMAC's regarding this period as the "emergency response" phase. It was pointed out that on top of the organization's structural factors, the security and political situations in Cambodia had also influenced CMAC. Because CMAC was dependent on external financial and human resources, once support from the international community was suspended, it exerted direct impact on CMAC's operations. In fact, according to CMAC's data, the number of Cambodian staff of CMAC dropped from 2,842 persons in 1999 to 947 persons in 2000. Of 2,842 Cambodian staff members in 1999, field staff members including deminers were 2,273 and the remaining staff members, such as office clerks, were 569. The breakdown of the number of Cambodian staff in 2000 was: 928 field staff and 95 office staff. This means that between 1999 and 2000, 1,421 field staff members and 474 office staff members were dismissed. Mr. Keo Sarath, who served as the demining unit manager in Kampong Thom, recalled that dismissal of many deminers at his unit in 1999 greatly lowered morale and motivation in the workplace. Following the order from the headquarters, lots were drawn to decide the deminers to be dismissed, avoiding an arbitrary choice.

CMAC established under UNTAC in 1992 continued its operations as an institution of the Government of Cambodia after the withdrawal of UNTAC in 1993. Despite ongoing fighting against the Khmer Rouge in the country, CMAC had conducted demining operations to promote safe return and resettlement of the refugees and internally displaced persons, with international funds and guidance by foreign experts. However, in 1999, various issues that had accumulated over the years became apparent, forcing CMAC to suspend its operations, while that was the year when the conflict with the Khmer Rouge just completely ended, and there were needs for mine clearance in areas controlled by the Khmer Rouge for the repatriation and resettlement of refugees and internally displaced persons. The number of casualties in whole of Cambodia exceeded 1,000 a year at this point, so efforts to reduce this number were also needed. Thanks to the peace brought by the end of the conflict with the Khmer Rouge, a prerequisite was fulfilled for conducting a comprehensive national survey on mine contaminations, and Cambodia got ready for reconstruction nationwide. Back then, mine action activities, including survey and clearance, were much needed, and there seemed to be no end in sight.

Under such circumstances, CMAC phased in reforms to address its organizational troubles and continued its operations as a demining organization.

Column 1

Landmines in Cambodia, as a legacy of the civil war

Koji Sakane
(1994–1996: a staff member of JICA Cambodia Office in Phnom Penh)

Landmines set up along the road; they were used to prevent guerrillas and thieves from entering the village

Cambodia used to be a rich country. In the 19th century, as a protectorate of French Indochina, the country had been modernizing itself with support from France. Even after its independence from France in 1953, Cambodia continued to enjoy steady growth. The 1960s were characterized as a "golden age," when King Norodom Sihanouk held power and major infrastructure in Phnom Penh, such as the Olympic Stadium, a water supply plant, a thermal power station, public markets, and riverfronts in front of the palace, was constructed.

King Sihanouk was, however, ousted by the coup d'état by General Lon Nol in 1970. Since then, the country had suffered from ceaseless political turmoil, which lasted for 20 years, including control by the Khmer Rouge led by Pol Pot, the establishment of Viet Nam-supported Cambodian People's Party (the Heng Samrin regime), and its confrontation against the three-party alliance consisting of the Sihanouk royalists, the Khmer Rouge, and Son Sann's National Liberation Front.

It was estimated that 2–3 million Cambodians died in those 20 years. Many Cambodians, especially intellectuals, were killed or died during forced labor, most intensively between 1976 and 1979 under the Khmer Rouge regime. The population pyramid shape of Cambodia clearly shows the influence of population decline during that time due to large-scale execution.

After the turmoil, the general elections in 1993 resolved the conflict between the Heng Samrin regime and the three-party alliance, putting an end to the long-lasting civil war.

Before the 1993 elections, the international community, as a whole, had not been able to accord unanimous diplomatic recognition to Cambodia, because the two conflicting factions respectively insisted on legitimacy. After the election, the international community could recognize it as a sole State and started providing assistance for reconstruction and development.

Twenty years of civil war had destroyed the country's infrastructure completely. Infrastructure development as well as human resource development were urgently needed, and an institutional framework had to be built from scratch. One of the major obstacles to reconstruction and development was landmines.

One of the features of landmine issues in Cambodia at that time was a large number of different types of landmines. A civil war in Cambodia took place between 1970 and 1990, which was the period of Cold War in the global context. One side of the conflicting parties was supported by the US alliance, and the other side by the Union of Soviet Socialist Republics (USSR) alliance, as if they were fighting an integral Cold War. Landmines were provided from the both sides, and the

losing party usually planted landmines to protect its territory. Through the long-lasting civil war, various types of landmines were planted across the country without any record of marking. Many ordinary people became victims of landmines when walking down the roads, walking through the bush, and working in the field.

Another feature of landmine issues in Cambodia was the severity of damages caused by landmines. Anti-personnel landmines are explosive devices intended to injure people rather than to kill. Because of this characteristic of landmines, many people lost their limbs, and social costs of supporting physically disabled people increased.

Another feature was the difficulty of mine clearance. Many parts of the country were covered by plain field. In rainy season, many lands, especially in river basins along the Mekong River and Tonlé Sap Lake, were inundated. Though flooded water made the soil rich and brought high agricultural production, it also carried floatable plastic landmines to "landmine-free" or "cleared" areas. As people could easily get landmines, local residents buried landmines around their houses to protect against thieves and guerrillas, and sometimes they themselves were injured or killed by landmines.

The Japanese government took positive actions in addressing landmine issues. There were several reasons for this: first, Cambodian government had renounced World War II reparations from Japan at an early stage; second, Cambodian people's feelings toward Japan were very favorable; and third, Mr. Yukio Imagawa, Japanese ambassador to Cambodia at that time, was good at Khmer language as he had studied and worked in Cambodia in his early days, and won the trust of King Sihanouk in particular.

Although Japan was the world's top Official Development Assistance (ODA) provider (on a net disbursement basis) at the time, Japan seldom took leadership in the international arena. As many refugees in Indochina had headed for Japan, the end of the civil war in Cambodia and its reconstruction and restoration of stability became a pressing and immediate issue for Japan.

Under such circumstances, Japan, together with France, took strong leadership in making peace in Cambodia. Japan's Self-Defense Forces were dispatched to Cambodia in UN Peacekeeping Operations (PKO) for the first time. In addition, Mr. Yasuhi Akashi was appointed as Special Representative of the UN Secretary-General to United Nations Transitional Authority in Cambodia (UNTAC). Through these efforts, Japan made its presence felt in Cambodia and the international community.

Landmines were not often used when a war was conducted between nations. During the Cold War, wars between nations decreased, while internal conflicts increased. Then, landmines were often used as cheap but efficient weapons. The number of landmine victims increased accordingly. This raised a serious concern among the international community. Japanese government got fully involved in the landmine issue in Cambodia. In December 1997, the Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on Their Destruction (the Ottawa Treaty) was signed by over 100 countries. In the same year, the Nobel Peace Prize was awarded to International Campaign to Ban Landmines (ICBL). The Japanese government has made great contributions to the creation of the momentum for a ban on landmines in the international community.

Chapter 2 CMAC's reforms and growth and the commencement of Japan's assistance

CMAC's organizational reforms—phased restoration

"Transitioning Mine Action Programs to National Ownership, Cambodia," a report published by Geneva International Centre for Humanitarian Demining (GICHD) in 2012, stated that in early 1999, several issues concerning CMAC were widely reported by the media. Following these media reports, an audit was conducted by KPMG, one of the leading accounting firms with a global network, and the audit found that the performance of financial, management, and operational activities and human resource management were seriously deficient. Responding to the conclusion of the audit, a large number of managers and staff including the Director General were either demoted or left the organization. Affected by these events, most donors stopped providing their financial support, which drove CMAC into a critical situation by late 1999.

Donors' financial assistance being CMAC's main source of finance, CMAC was required to reform its structure to regain donors' trust in the organization.

First, CMAC signed a contract with an international accounting firm to have CMAC's expenditures checked. Then, CMAC prepared the White Paper 2000, which presented a clear picture of reforms to be made by the end of 1999, and at the beginning of 2000, two key evaluation missions were conducted: an Independent Assessment of the Reform Program in CMAC, and a Socio-Economic Evaluation of CMAC's demined land.

Mr. Heng Ratana, the current Director General of CMAC, was appointed to the Chief of Cabinet in 1999 and was responsible for human resources, administration, and procurement. As KPMG's audit findings of mismanagements and recommendations were mostly about human resources, administration, and procurement, CMAC's reform efforts focused on these areas. CMAC formulated a matrix for reform together with donors and implemented the tasks. Mr. Ratana said, "in restoring the organization, CMAC needed an explicit action plan to enhance accountability to donors. Moreover, CMAC was also requested to provide information such as the ownership of cleared land in the former Khmer Rouge controlled." The organization's key reform efforts included: 1) reform in human resource management system (transparent recruitment process, abolishment of quota system, the provision of training and regular rotation among different offices and departments for office staff, etc.); 2) reinforcement of policy and regulations (translation of mine action standards of the UN, donors, etc., into Khmer, formulation of human resource policy, development of standard operating procedures (SOPs), etc.); 3) financial reform (right number of employees

that fits within a realistic budget, etc.); and 4) technology improvement (development of technologies and methods concerning demining process). The implementation of each activity for the reforms was monitored and observed.

Furthermore, it was proposed to set up another organization responsible for regulatory and national authority functions on mine action, separating those functions from CMAC. Responding to it, in September 2000, Cambodian Mine Action and Victim Assistance Authority (CMAA) was newly established. In November 2000, the Government of Cambodia held a national symposium on mine action to which related parties including donors were invited. At the symposium, representatives from the Royal Government of Cambodia clarified the functions and responsibilities of the newly established CMAA, and presented a new framework for CMAC, that was downsized through its reforms, with three departments at the headquarters and six demining units and one training center to support the local activities in a more flexible manner. The participating parties approved the new setups. "Transitioning Mine Action Programmes to National Ownership, Cambodia" writes that "[t]he symposium contributed to the restoration of confidence between the Royal Government of Cambodia (RGC) and the donor community … Many donors resumed their support to a downsized CMAC."

The Government of Cambodia's political commitment to mine action

The origin of an international movement against anti-personnel landmines dates back to the early 1990s, when NGOs working in conflict areas contaminated by landmines started drawing attention to the inhumanity of landmines, which led to heightened interest in anti-personnel landmines in the international community. The International Committee of the Red Cross (ICRC) and the then UN Secretary General, Boutros-Ghali, took the initiative of appealing for international support in addressing anti-personnel mine issues, which facilitated international movement toward signing a treaty to ban anti-personnel mines.

The Government of Cambodia had attended international conferences concerning the banning of anti-personnel landmines since the mid-1990s. The Government of Cambodia also participated in the Ottawa process, which started in Ottawa, the capital of Canada, in October 1996, and led to the adoption of the Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on Their Destruction (commonly known as the Ottawa Treaty or the Mine Ban Treaty) in December 1997.

Prior to the Ottawa Treaty signing ceremony in December 1997, the Government of Cambodia had internally discussed support of the ban on anti-personnel landmines. However, in those days, given the fact that the Khmer Rouge was still using landmines, some government officials questioned if the government forces should stop using landmines. In November 1997, one month before the signing of the Ottawa Treaty, managing the

The Ottawa Treaty
Officially known as the Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on Their Destruction, the convention was opened for signing on December 3, 1997, in Ottawa and became effective on March 1, 1999. The Ottawa Treaty requires state parties never to use anti-personnel mines, nor develop, produce, otherwise acquire, stockpile, retain, or transfer to anyone; to destroy all stockpiled anti-personnel mines within four years; and to destroy all anti-personnel mines in mined areas under its jurisdiction within 10 years. The Ottawa Treaty also has a provision on international cooperation and assistance for landmine clearance and the care, rehabilitation, and reintegration of mine victims. As of August 2014, 162 countries including Japan and Cambodia have signed and ratified or acceded to the Ottawa Treaty. Since 1999, a meeting of the State parties to the Ottawa Treaty has been convened annually in rotation by the State parties, and a review conference of the Ottawa Treaty has been held every five years, where international organizations and NGOs gather in addition to the State parties. The countries that have not ratified or acceded to the Ottawa Treaty include influential States such as the US, Russia, China, and India. Even these States not party to the Ottawa Treaty sometimes attend meetings of the State parties and/or review conferences as observers.

aforementioned opposing viewpoints, the Government of Cambodia clarified its position to support the landmine ban. The meeting held in December was attended by First Prime Minister Ranariddh, Mr. Ieng Mouly, the then CMAC Chairman, and Mr. Sam Sotha, the then CMAC Director General. Although the country's political and security situations such as the existence of the Khmer Rouge delayed the adoption of the Cambodian law to implement the Ottawa Treaty, finally, the Cambodian National Assembly adopted it in 1999 following the end of fighting against the Khmer Rouge. The Government of Cambodia ratified the Ottawa Treaty in July 1999, and the treaty entered into force in Cambodia in January 2000.

The first States Parties meeting to Ottawa Treaty, Maputo, November 1999 (provided by Mr. Ieng Mouly)

When the first meeting of States Parties to the Ottawa Treaty was held in Maputo, Mozambique, in November 1999, Cambodia was given an observer status, as the treaty had not entered into force in Cambodia. Cambodia, together with France, cochaired the steering committee of technology development on demining.

One hundred and eighty-nine countries met at the Millennium Summit of the United Nations, in New York, in September 2000 and adopted the United Nations Millennium Declaration having eight goals in different sectors known as the "Millennium Development Goals (MDGs)," to be achieved by 2015. Cambodia published "The Cambodia Millennium Development Goals Report" in November 2003, which included nine goals with "De-mining, UXO and Victim Assistance" added as the ninth goal to the eight MDGs. The "Cambodia Millennium Development Goals No. 9" is as mentioned below, in which the Government of Cambodia expressed its political commitment to address landmine/UXO issues.

Cambodia MDG9: De-mining, UXO and Victim Assistance
- Overall target I: Moving towards zero impact from landmines and UXOs by 2012 (Zero Impact)
  - Target (1): Reduce the annual number of civilian casualties recorded to 0 by 2012
  - Target (2): Clear completely all high/medium/low suspected contaminated areas by 2012
- Overall target II: Eliminate the negative humanitarian and socio-economic impacts of landmines and UXOs by 2025
  - Target (1): Develop a comprehensive victim assistance framework by 2025 and fully implement it.
  - Target (2): Increase the numbers of landmine/UXO victims receiving an assistance package and integrated into the society.

Prior to the "Cambodia Millennium Development Goals No. 9," CMAA formulated a National Mine Action Strategy in March 2003, offering medium- to long-term vision.

Based on the National Mine Action Strategy, the "Five Year Mine Action Plan for 2003–2007" was formulated in 2003, which was followed by the "Five Year Mine Action Plan for 2005–2009" in 2005. After this, the Five Year Mine Action Plan was incorporated into the National Strategic Development Plan, NSDP (2006–2010), and mine action has since been considered as one of key sectors of development for the country.

Comprehensive identification of mine contamination —the National Level 1 Survey

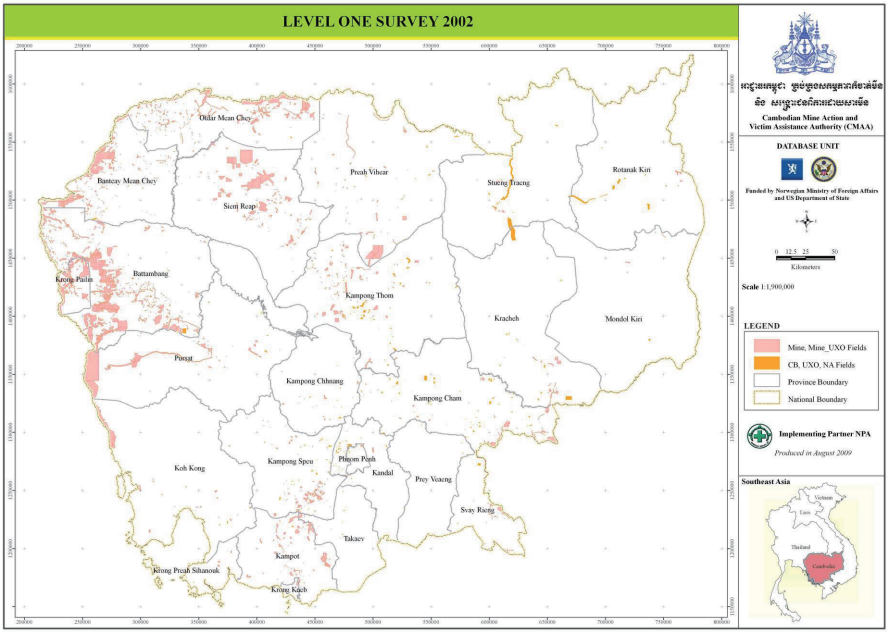
Given the complete end of the conflict in Cambodia following the collapse of the Khmer Rouge and the signing of the Ottawa Treaty in July 1999, the Government of Cambodia needed to change its approach to mine action, shifting its focus away from

emergency response but more to medium-term development. As the first step, the National Level One Survey was conducted from 2000 to 2002 to define the extent of the impact of landmines and UXO in the country.

Conducting the Level 1 Survey through water (provided by Mr. Mao Vanna)

The objectives of the National Level One Survey were "to define the problem in terms of scale, type, location, hazard and socio-economic impact"; "improve national planning by allowing for clear prioritization of resources"; "foster development of national plans with well-defined immediate, intermediate and end-state objectives" with clear prioritization for mine/UXO action; and "establish baseline data for measuring mine action performance." In the National Level One Survey, surveyors visited all villages in Cambodia, including rural villages near the borders, rivers, and lakes and in mountains. They conducted interviews with community members to identify the impacts of mine/UXO

Figure 12: Contaminated areas identified in the National Level One Survey



Source: CMAC

Table 6: Number of contaminated areas by province from the National Level One Survey database

Ratanakiri	27	Kampong Chhnang	31
Mondulkiri	6	Kampong Speu	158
Stung Treng	28	Kampot	98
Kratié	51	Krong Kep	9
Preah Vihear	109	Oddar Meanchey	348
Kampong Thom	225	Siem Reap	192
Kampong Cham	143	Banteay Meanchey	334
Svay Rieng	35	Battambang	853
Prey Veng	6	Pailin	109
Kandal	67	Pursat	91
Phnom Penh	9	Koh Kong	37
Takeo	21	Sihanoukville	9

Source: The author based on the materials provided by CMAC

contamination and recorded hazard areas with classifications of "mined areas," "cluster bomb areas," and "spot UXO contamination."

The National Level One Survey identified 6,422 villages (46%) as contaminated by mines and/or UXO, 4,544 square kilometers of land as suspected to be contaminated by mines and/or UXO, and 5,186,771 persons, or 45.3% of the population, as exposed to the risks of mines and/or UXO (data source: CMAC presentation materials).

The results of the National Level One Survey revealed that villagers had restricted access to agricultural land, pasture land, forest, and water sources due to contamination of mines and UXO. It was pointed out that these restrictions had been root causes of poverty. Safe livelihood activities are difficult in areas contaminated by mines/UXO, and living in such areas may lead to psychological traumas. In 2002, when the National Level One Survey was completed, there were reportedly a total of 847 victims (367 mine victims and 480 UXO victims), which was around one-fifth of 4,320 victims when the number peaked in 1996 after the end of the conflict. Nevertheless, if simply divided by 12, about 70 people per month were killed

Conducting the Level 1 Survey in remote areas (provided by Mr. Mao Vanna)

or injured by mines or UXO. The number of victims implies that the significant impact of landmines and UXO continued to remain even 10 years after the signing of the Paris Peace Agreements.

According to Mr. Mao Vanna, who participated in the National Level One Survey, there were new villages identified in the survey that had been neither indicated on maps nor recorded in data. When the National Level One Survey was completed in 2002, Mr. Vanna, together with the then ambassador of Canada to Cambodia and CEO of GeoSpatial International Inc., which was commissioned with the survey, visited the house of Prime Minister Hun Sen to report the result of the survey.

The reports and all data of the Level One Survey were managed by CMAA established in 2000, and have been updated to include subsequent survey results.

Transparent process for selecting demining sites—LUPU and MAPU

Following the emergency response phase on mine clearance, discussions started in around 1998 about how to link mine clearance with development, or, specifically, a prioritization process for mine clearance. CMAC held a workshop in June 1998 in Battambang province. At this workshop, CMAC, in cooperation with local governments, Royal Cambodia Armed Forces, police, and NGOs, decided to create a new system to ensure that cleared lands would be protected from land grabbing and would be handed over to intended beneficiaries. This system was called Land Use Planning Unit (LUPU). In May 1999, the Government of Cambodia set up LUPU in Battambang and Banteay Meanchey provinces. LUPU consisted of officials from related departments/offices (rural development, land management, planning, etc.) of the provincial government and Royal Cambodia Armed Forces, CMAC, and staff of NGOs engaged in demining. LUPU was an institution belonging to the respective provinces. A Provincial Sub-Committee was also established to supervise the LUPU, headed by the respective provincial governors. Table 7 presents the process from planning to implementation for demining and the responsibilities of the LUPU, when LUPU was set up. By 2004, LUPU (the title of "LUPU" varied by province) was established in six provinces heavily contaminated by mines.

LUPU was positively evaluated both at the workshop held in 2002 as well as in LUPU's assessment survey conducted in 2003, that the establishment of LUPU contributed to reducing conflicts over land and addressing improper use of cleared land. In October 2004, the Sub-Decree on Socio-Economic Management of Mine Clearance Operations was approved by the Council of Ministers, with which LUPU became Mine Action Planning Unit (MAPU), and the Provincial Sub-Committee (PSC) became the Provincial Mine Action Committee (PMAC), chaired by the provincial governor, or vice provincial governor. Based on the Sub-Decree, CMAA prepared guidelines in February 2005, which were revised in November

Table 7: Procedures for mine clearance: from planning to implementation

Tasks	Participants
Application for demining	Village leaders, etc.
Verification of list of beneficiaries of demining	Local governments (province, district, cities, etc.), LUPU, NGOs and aid organizations
Selection of demining areas through district workshop	Local governments, LUPU, NGOs and aid organizations, demining operators including CMAC
Brief survey on the target areas	LUPU, demining operators including CMAC
Final confirmation on the target areas	Local governments, LUPU, NGOs and aid organizations, demining operators including CMAC
Finalization of annual plan	LUPU
Approval of annual plan	Provincial Sub-Committee
Coordination between activities by demining operators and annual plan	LUPU and demining operators including CMAC
Individual application for demining	Beneficiaries
Demining activities	Demining operators (CMAC or NGOs, government forces)
Monitoring demining activities	LUPU
Survey on cleared land and preparation of a survey report	Land management bureau, land planning bureau, construction bureau, cadastre bureau
Handover of cleared land at a ceremony	Governor and local governments
Finding suitable development organizations and resources, where post-clearance development needed	LUPU
Monitoring beneficiaries' activities in cleared land after the handover	Local governments, LUPU

Source: The author

2006. MAPU, under the PMAC's guidance, would facilitate a bottom-up planning process for identifying areas suspected of mine contamination and prioritizing areas to be cleared through participatory approach.

PMAC's responsibilities were to select areas to be cleared by ensuring transparency in demining process in alignment with national strategy/plan and commune development plan;

to prioritize landmine clearance in line with the guidelines formulated by CMAA; and to approve provincial annual clearance plan. MAPU is a permanent technical unit designed to support PMAC, and its responsibilities include the identification of areas to be cleared, monitoring of demining activities, and on-site visit to conduct a post-mine clearance survey.

Thus, law and guidelines were formulated, and, subsequently, a system was established to address issues on the prioritization process of demining and use of cleared land, which were also pointed out when the organization's operations were suspended in 1999. Nevertheless, whether or not the system works properly depends on the people engaged in it. It is necessary for a third party to continuously monitor whether or not mine clearance is conducted to meet humanitarian purposes and/or achieve the goals of poverty reduction and development.

Expansion of Japan's assistance to landmine sector —Prime Minister Obuchi's initiative

The Ottawa process, which commenced in October 1996, promoted the Japanese government's support for addressing landmine issues. Prior to the signing of the Ottawa Treaty in December 1997, the Japanese government held "The Tokyo Conference on Anti-Personnel Landmines" in March 1996. At the conference, 27 countries (i.e., landmine-contaminated countries including Cambodia, and donor countries), and international organizations comprehensively discussed issues on anti-personnel landmines. As a result of the conference, the "Tokyo Guidelines for International Efforts on Anti-Personnel Landmines in the Humanitarian Field (The Tokyo Guidelines)" were formulated with an aim to substantially reduce the number of mine victims, ultimately to zero. At the conference, CMAC presented how the organization had been established.

The then Minister of Foreign Affairs Obuchi attended the Ottawa Treaty signing ceremony in December 1997 and announced the "Zero Victim Program," that is, a comprehensive approach toward the goal of "zero victims," with two pillars of: 1) "formulation of a universal and effective ban on anti-personnel mines" and 2) "assistance for demining and victims." With the first pillar, it was expressed that Japan had expectations for many more countries to sign the Ottawa Treaty and the importance of aiming for a universal and effective ban on anti-personnel mines was pointed out. With the second pillar, the goal of "zero victims" set forth in the Tokyo Guidelines was proposed, and it was commented that the number of landmines planted was not the issue, but what was important would be to expand safe areas of land to be used for roads and agriculture and to reduce the number of victims to zero. It was also announced that the Government of Japan would provide assistance totaling JPY10 billion for the next five years. The JPY10 billion worth ODA was intended for the following: supplies of equipment for demining operations, assistance to reinforce the coordination function of the UN, and medical and rehabilitation assistance

for landmine victims. In addition, as part of the "Zero Victim Program," the Government of Japan announced exception to its law on Three Principles on Arms Exports to equipment intended for supporting humanitarian demining. The decision was to allow exports of anti-personnel clearance equipment for humanitarian anti-personnel landmine activities with a permit where two conditions were to be met, specifically 1) an international agreement signed between the government of Japan and the government of the mine-contaminated country on the use of such equipment exclusively for humanitarian anti-personnel landmine activities and 2) a stipulation that ensures ban on transfer of such equipment without a prior agreement by the Government of Japan.

In September 1998, following the signing ceremony for the Ottawa Treaty, as part of the initiative by Mr. Obuchi, who had become the prime minister, the government of Japan ratified the Ottawa Treaty, and enacted a domestic law, "Act on the Prohibition of the Manufacture and Regulation of Possession of Anti-Personnel Mines." In March 1999, Japan became a party to the Ottawa Treaty. Around 1998, when Japan ratified the Ottawa Treaty, Japan had approximately 1 million anti-personnel landmines stockpiled. However, in compliance with the Ottawa Treaty, Japan moved forward with the destruction of all stockpiled anti-personnel mines it owned, and completed the task in 2003.

In October 1998, with Japan's support, the "Phnom Penh International Forum on Deming and Victim Assistance" was held in Phnom Penh, the capital of Cambodia, with attendance of approximately 230 persons from countries contaminated by landmines, donors including Japan, international organizations and NGOs, as well as the attendance of Prime Minister Mr. Hun Sen and the then Vice-Minister of Foreign Affairs of Japan, Mr. Machimura. The key objective of the forum was to share CMAC's experience on landmine action.

In the fiscal year 2004, the Ministry of Foreign Affairs of Japan commissioned a third-party evaluation, "Evaluation of Japan's Anti-Personnel Mine Action Assistance Policy." The evaluation assessed Japan's anti-personnel mine action assistance provided under ODA from January 1998 to March 2004, which totaled to JPY 13,315,782,725. Cambodia ranked second, accounting for 28% of the total in terms of value, following 34% of Afghanistan. With regard to the number of projects, Cambodia ranked first with 53 projects, while Afghanistan with 24. While the projects for Afghanistan were mostly disbursement of funds to the UN and NGOs providing assistance for landmine sector in the country, those for Cambodia also included many bilateral cooperation projects such as provision of equipment to

Phnom Penh International Forum (provided by Mr. Ieng Mouly)

CMAC and the government hospitals that accommodate mine victims and dispatch of JICA experts, in addition to disbursement of funds to the UN and NGOs.

Japan's cooperation to CMAC —comprehensive approaches with funding, provision of equipment, and technical cooperation

Since the announcement of the "Zero Victim Program" in December 1997, the Government of Japan has made earnest efforts of assisting in anti-personnel landmine action. Japan continued to provide CMAC with funds for its operations through a UNDP Trust Fund from 1998 to 2005, and has supported CMAC's activities through other funding schemes.

JICA's first involvement in support for CMAC was in June 1998, when a survey mission was dispatched to Cambodia to conduct a preliminary study to consider cooperation in demining and assistance for victims. The"Zero Victim Program," in which the Government of Japan expressed its intention to actively support demining activities in contaminated countries and assist mine victims, promoted JICA to dispatch a mission to Cambodia where nearly 3,000 people had been killed or injured by landmines every year for the purpose of identification of possible projects in the fields of demining and victim assistance, apart from disbursement of funds through the Ministry of Foreign Affairs.

In February 2002, the Embassy of Japan in Cambodia conducted an evaluation on Japan's assistance provided to CMAC under ODA. More specifically, four of the projects shown on Table 8 were evaluated, namely grant aid for the "Project for Improvement of Equipment for Demining Activities (Phase 1) (FY 1998, JPY470 million)"; grant aid for the "Project for Improvement of Equipment for Demining Activities (Phase 2) (FY 1999, JPY330 million)"; a dispatch of "communications network senior advisor (a long-term expert, FY 1999)"; and a dispatch of "vehicle maintenance and transportation technical advisor (a long-term expert, FY 2000)."

The evaluation report stated that "the findings from the interviews with CMAC's Demining Unit 2 working around Battambang province indicated that as of 2001 the projects have produced the outcomes shown below, and we have concluded that the implementation of projects are fully relevant." The effectiveness of the provision of equipment and dispatch of experts was described as below (excerpted from the home page of Ministry of Foreign Affairs of Japan.) (translation).

＜Provision of equipment＞

Provision of equipment (especially introduction of brush cutters) enabled deminers to work in high-risk minefields where trees with a diameter exceeding 20 cm had grown and three to four landmines had been buried per square meter, resulting in significant expansion

Table 8: Japan's assistance for CMAC; major events of the Governments of Cambodia and Japan in early phases of assistance

	Cambodia	Japan	Japan's assistance for CMAC
1996 October	Launch of the Ottawa process		
1997 March		The Tokyo Conference on Anti-Personnel Landmines "The Tokyo Guidelines"	
December	The Ottawa Treaty signing ceremony		
		"Zero Victim Program"	
1998 February			First disbursement to the UNDP Trust Fund
June			Dispatch of the first JICA mission
September		Ratification of the Ottawa Treaty	
October	"Phnom Penh International Forum on Deming and Victim Assistance" (with Japan's support)		
December			Dispatch JICA mission on a project for equipment to CMAC
1999 March		Joining as a party to the Ottawa Treaty	First project to provide equipment to CMAC (brush cutters, metal detectors, etc.)
June			Dispatch of JICA expert "communications network senior advisor (short term)"
July	Ratification of the Ottawa Treaty		
2000 January	Joining as a party to the Ottawa Treaty		
March			・Second project to provide equipment to CMAC (tents, cot beds, etc.) ・Dispatch of JICA expert "communications network senior advisor (long term)"
May			Dispatch JICA expert "vehicle maintenance and transportation technical advisor"

Source: The author

of areas of clearance. In addition, provision of equipment such as tents, cot beds, and feed water tanks allowed deminers to set up a camping site, which led to efficient demining activities, as exemplified by reduced time required for commuting to a demining site and lowered operating cost. Thus, Japan's provision of equipment was generally in alignment with its assistance policy and priorities, which aimed at comprehensive assistance to addressing anti-personnel landmine issues. In addition, subsequent efficient mine clearance may signify that the objectives of these programs have been met to a considerable extent.

＜Technical guidance (dispatch of expert)＞

The dispatch of an information system expert to CMAC greatly contributed to efficient and smooth operations of the organization, with an internal information processing system in place to manage data on demining, inventory and human resources, and accounting. In addition, the dispatch of an expert specialized in vehicle maintenance and transportation helped the organization establish a maintenance and management system through guidance on vehicles and equipment operations and inventory management, thus contributing to efficient and sustainable operations and maintenance of equipment. Therefore, in Cambodia, which faced a pressing need for capacity development, dispatches of those experts to CMAC were well aligned with Japan's economic cooperation, and were effective in achieving the goals.

In FY 2004, the Ministry of Foreign Affairs of Japan had the "Evaluation of Japan's Anti-Personnel Mine Action Assistance Policy" conducted by a third party, which covered Japanese ODA assistance in the sector of mine action all over the world. The evaluation report pointed out the effectiveness of Japan's assistance to anti-personnel landmine action in Cambodia, saying that "Focusing on strengthening the functions of the Cambodia Mine Action Center (CMAC), which is responsible for mine operations in Cambodia, Japan has made donations to the CMAC trust fund managed by the UN, dispatched experts and provided assistance through the Grass-Roots Human Security Grant Aid. The CMAC has been improving its functions as a mine action organization and achieving steady outcomes in mine clearance and awareness activities while donors are recovering their confidence in this organization. In view of this, it is appropriate to conclude that Japan's assistance in this area has been effective." The report also wrote on landmine clearance that "[t]hese organizations supported by Japan have been steadily promoting mine clearance activities in Cambodia in efforts to increase the land area that is usable and these can be considered outcomes of assistance provided by donors including Japan." With regards to the impacts of the assistance, the report summarized that "the economy of Cambodia as a whole and by sector has been growing steadily for the past 10 years, and the impacts of landmine action on this economic growth may not be insignificant. However, it was difficult to quantitatively assess such impacts without an established method to do so."

Column 2

Assistance to CMAC in its early days

Norio Matsuda
(The former chief representative of JICA Cambodia Office)

The author (left) is explained about how to dispose small UXO by countermining at CMAC's training center in Kampong Chhnang. Professor Tsuneo Sugishita, Ibaragi University (currently President of Foundation of Advanced Studies on International Development (FASID)), second from left; Mr. Ratana, (then) Deputy Director General of CMAC, right. Photograph by Yukihiro Koizumi.

I started to work as the chief representative of JICA Cambodia Office in January 1999. Around that time, Cambodia had seen political stability to a certain extent, and development partners including JICA could start discussing the economy with the government. In those days, as often emphasized by Prime Minister Hun Sen, Cambodia was in an extremely serious condition with socioeconomic infrastructure, including roads, bridges, harbors, ports, hospitals, and schools, completely devastated by the civil war that started in the 1970s and lasted over 20 years, and government services, such as education, health, and safe drinking water, extremely insufficient. Cambodia was a shattered country, and the international community had been discussing reconstructing the country. Against this background, the Japanese government and JICA also started increasing Japan's assistance for the reconstruction and rehabilitation of Cambodia. Detection and clearance of a large number of landmines buried during the civil war and UXO left over from the Vietnam War became one of the assistance priorities. JICA started to reinforce its assistance for CMAC, which was established in 1992 and had been conducting its demining activities.

When I took my post in Cambodia, Japan's grant aid cooperation was being conducted for the Project for Rehabilitation of the National Roads Route 6 and 7 running north from Phnom Penh for Kampong Cham. Mr. Tanabe, Obayashi Corporation's site manager for the project, told me his terrifying experiences in the project: 10 bombs of 500 kg, 10 bombs of 250 kg, as well as many landmines and artillery shells were found while they were treating about 70 km of the road, and local residents who had not been employed in the work got angry and concealed landmines in the compound of the project office. His stories made me realize that landmines and UXO pose great risks to those who work in development cooperation projects, such as infrastructure rehabilitation.

Back then, conventional weapons including pistols and machine guns, landmines, and hand grenades were freely bought and sold in Cambodian markets, and anyone could buy them at a relatively cheap price (about a few hundreds of yens for a cheap grenade). There was an incident that a farmer had buried landmines around his farmlands in the evening to protect preharvest crops against thieves, and he lost his limbs to the landmine he had concealed himself in the following morning, while re-collecting the landmines. With renewed awareness of landmine risks,

I thought that mine action requires not only mine clearance, but also measures to prevent people from using them anymore.

In anti-personnel mine clearance, in addition to metal detectors, mine detection dogs were used, as they were trained to detect plastic or wooden landmines by smelling explosive agents. The detection dogs used in Cambodia were mainly large dogs trained in Northern Europe, and the training cost was about JPY3 million per dog. Comparing it with the bodily injury liability insurance on my car that I bought in Cambodia whose maximum coverage for death was about JPY600,000, you can see how expensive a detection dog was. I heard from CMAC staff members that, luckily, no mine detection dogs were hurt by landmines.

Anyway, Japan prioritized assistance for CMAC, which had already been conducting demining activities with funds from international organizations and international community, and started providing assistance for CMAC actively, including a dispatch of experts (including the first long-term dispatch of former members of Self-Defense Forces) in technical cooperation for helping CMAC clear landmines and UXO and the procurement of brush cutters (grant aid). In addition, Japan also provided comprehensive assistance for CMAC as follows: procurement of medical equipment for hospitals as support for landmine victims who lost or injured their limbs (grant aid), production of artificial limbs through NGOs, support for rehabilitation centers, a dispatch of social welfare administration advisor to support social rehabilitation/job training, a dispatch of Japan Overseas Cooperation Volunteers (primary school teachers) to orphanages, and support for former soldiers.

I worked at JICA Cambodia Office until May 2002. The biggest challenge faced by CMAC was its financial crisis from 1999 to 2000, entailing the announcement in October 2000 of suspension of its demining operations and dismissal of about two-thirds of its employees. What worried me the most was whether or not Mr. Ratana, who was Deputy Director General of CMAC and a young and able leader of CMAC, would leave the job. I met with the Director General of CMAC in person, and asked him not to let him go as he was a key person for CMAC. Although I do not know if my request was met, now Mr. Ratana is the Director General of CMAC with a great reputation. I am also pleased to see that CMAC is now a world-class demining organization that supports mine clearance in Afghanistan and Angola beyond Cambodia. I wish CMAC every success in the future and do hope that CMAC will continue its persistent efforts towards creating a world without landmines and UXO.

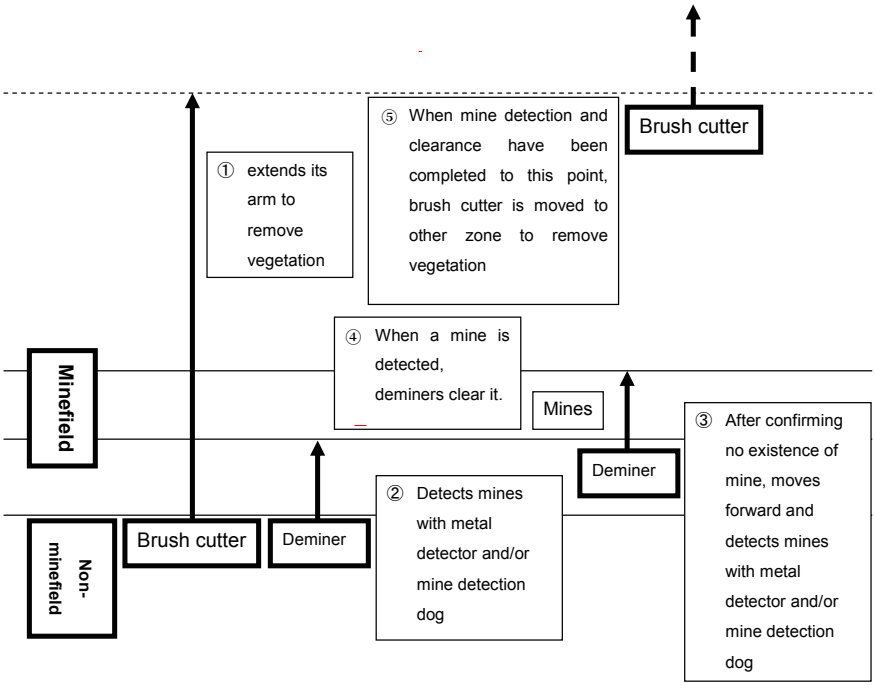
Introduction of brush cutters

The evaluation report concluded that the provision of four Japanese brush cutters to CMAC in the project in FY 1998 contributed to improved productivity and efficiency in CMAC's mine clearance.

Prior to the provision of Japanese brush cutters to CMAC, Finland funded the testing and development of a demining machine called Flail around 1995, and Germany also conducted the field testing of Rhino in Cambodia around 1999. According to Mr. Kanith Roath, who had been responsible for the introduction and operations of equipment as chief of planning at CMAC since February 1999, both flails and Rhino were the so-called push-type remote-controlled vehicle-mounted devices that moved through a minefield to detonate landmines. However, both devices had weak points and could not be used effectively; a Flail produced tremendous cloud of dust during dry season. Its rotating iron chain tosses landmines around when the ground is soft, particularly during rainy season. The major obstacle in demining using a flail system (rotating iron chain) is heavy vegetation and tree stumps. Rhino worked well in hard, dry ground in dry season and it experienced difficulties during transportation and in soft ground. It could not cross a small bridge leading to a minefield, or got stuck in the mud and had difficulties in being freed due to its heavy weight. As the minefields in Cambodia were neither sandy soil nor desert, but covered by trees and grasses like a jungle, approximately 70% of the demining time and labor was used for removing bushes. To improve the situation, the introduction of brush cutters was requested.

Mr. Roath also commented that since push-type mine clearance devices made way through minefields, they were exposed to risks of stepping onto a landmine. In June 1999, CMAC in collaboration with JICA conducted performance and survivability test of Japanese-made brush cutters that were built by Komatsu and Hitachi using an excavator platform. The excavator type in particular was effective in the following aspects: vegetation clearance was possible by extending its arm from outside a minefield; it had low risk of stepping onto an antitank mine, as it moved forward after probing land cleared of bushes; and it could free itself out of a muddy road by using its digger. When its attachment (arm or digger) touched a landmine, the attachment was destroyed, but the operator was safe. So the deminers had a sense of security. Seeing the advantage of these excellent machines, additional brush cutters were donated by Japanese government to CMAC in the early 2000s, which led to a drastic increase of demined land in 2005. In late 2006, CMAC in collaboration with JICA conducted performance, survivability, and acceptability tests of Japanese-made demining machines produced by Hitachi and Komatsu (a third Japanese company also joined but later withdrew due to technical problems). These newly developed machines were built by taking into consideration the current status of demining field and infrastructure conditions in Cambodia.

Figure 13: Demining procedures using a brush cutter



Source: The author

Column 3

The introduction of brush cutters

Toru Kubo
(Vice President of Japan International Cooperation System)

Brush cutter provided by Japan

When the Japanese government first assisted Cambodia in its mine clearance in 1999, Japanese-made brush cutters were introduced as a contribution utilizing Japanese technology.

Why was it that brush cutters were selected, and not demining machines?

There were several reasons to it.

More than a few years had passed since the end of the civil war in Cambodia, and minefields had been covered with tropical plants. Therefore, CMAC's deminers had to spend about 70%–80% of their time removing weeds and plants at demining sites. Just imagine that you cut down dense weeds and plants little by little with manual hedge shears or a saw under a burning sun, and you are not allowed to put your hand on the ground, because a landmine might have been buried there.

Therefore, it was urgently needed to introduce machines that would enable CMAC deminers to remove thick vegetation at demining sites safely and efficiently.

A demining machine is a device that directly destroys or explodes landmines. Therefore, a demining machine needs to be designed to withstand explosions and to protect the operator.

On the other hand, a brush cutter is a device that basically removes vegetation on the ground and is not designed to actively explode landmines. Of course, it is operated in minefields and it is necessary to ensure the safety of the operator and the machine itself in case of accidental explosions of landmines. But a brush cutter is not necessarily required to resist damages from a series of explosions. These are the differences between a demining machine and a brush cutter.

Cambodia had used foreign-made demining equipment on a trial basis, but only with failure, due to several reasons: the maintenance of these special machines was difficult, mine clearance rate was about 80%, and the machines could not travel easily from one place to another on bad roads. On the other hand, HALO Trust, an NGO, integrated specialized attachments onto farm tractor class host vehicles to make brush cutters and used them in minefields. It was confirmed that removing vegetation helps mine clearance.

Against this backdrop, it was decided to export brush cutters made in Japan to Cambodia as Japan's first assistance in mine clearance.

Back then, the anti-personnel mine issue was attracting international attention, and construction machine manufacturers were interested in developing demining equipment. However, Japanese manufacturers had no experience in developing armored machines to resist the effects of explosive events. Only two manufacturers, which had already spent a few years for research and development by then, succeeded in developing test machines.

There were several obstacles to the introduction of Japanese brush cutters.

The first was safety. CMAC required a demining machine to be able to protect the operator and the device against the explosion of M18, or the most powerful anti-personnel mines to be encountered in Cambodia that fire steel balls out. However, in Japan, it was impossible to test demining devices with real anti-personnel mines. So, CMAC was to test Japanese demining machines in Cambodia.

The other obstacle was Japan's arms export ban. Demining-related equipment and machines were regarded as weapons and were banned from being exported. However, Japanese government decided to exempt demining equipment and machines to be used for humanitarian demining from the arms export ban. Nevertheless, the export of these machines was a first case, and both the companies and related authorities had to discuss actual procedures over a long period of time.

Both manufacturers made researches, completed test machines, acquired export permits for them, and finally, in the summer of 1999, these machines were tested by CMAC in Cambodia.

More specifically, these machines were tested on their capacity to remove vegetation and safety (blast test). In the blast test, M18 mines were detonated in close vicinity of the machines, and the machines got scratches and minor dents all over. However, thanks to armor protection, both types of machines successfully protected the control room and major equipment, and passed the test.

In spring 2000, each of the two manufacturers exported two brush cutters to Cambodia. After few more months of trials, these machines that met the CMAC's requirements had started to be used in demining sites.

The brush cutters improved CMAC's demining speed drastically. CMAC introduced a total of over 20 brush cutters by 2005, and these brush cutters have greatly contributed to improved demining efficiency; for example, the area of land being cleared per annum has doubled.

Based on their experience with the brush cutters, both the companies developed demining machines, and exported them to mine-affected countries, including Cambodia, Afghanistan, and Angola. These demining machines are contributing to efficient mine clearance in these countries as well.

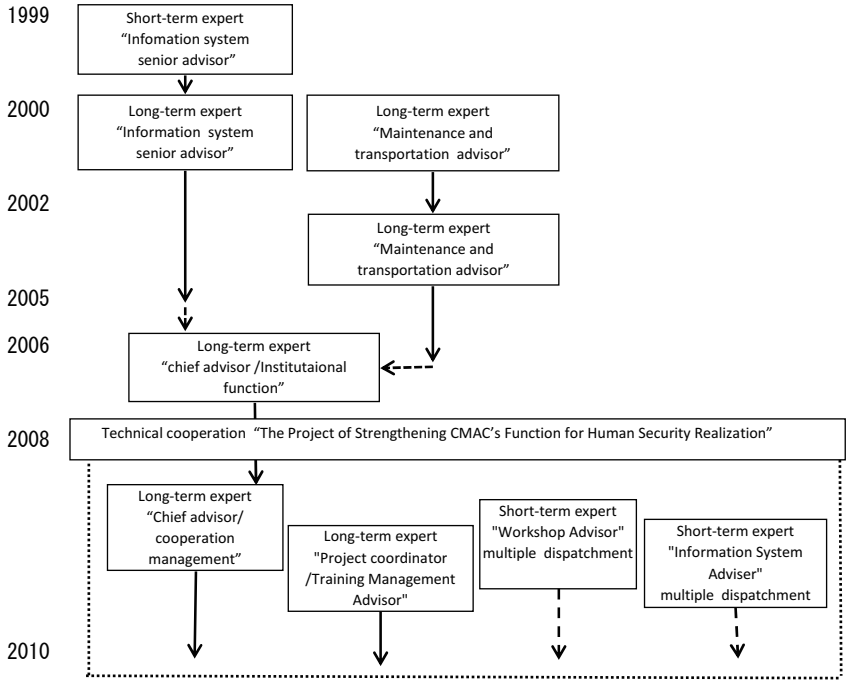
Since Japanese brush cutters and demining machines are built based on construction machines, they have several advantages compared to foreign specialized military device-based demining machines, including easy operation and fixing, repair parts being more easily available, and high operation rate being maintained.

I am proud of myself that Japanese demining machines are helping many mine-affected countries address anti-personnel mine issues and I could be of any help to them as a consultant to CMAC at the start of such changes.

Dispatch of JICA experts and technical cooperation project "The Project of Strengthening CMAC's Function for Human Security Realization"

Since CMAC was established during UNTAC, many foreign experts had been working at various departments of the organization. No precise chronological data are available about the number of foreign experts dispatched to CMAC. However, former managers and long-term staff members of CMAC commented that "the number of foreign experts peaked around 1995–1996" and "I believe there was a time when about 100 foreign experts were working at CMAC." In summary, it seems that foreign experts played a significant role at CMAC until around 1998. The foreign experts dispatched in the early days of the organization were mostly military experts. Many military advisors dispatched to the UN PKOs, such as UNAMIC and UNTAC, from various countries, continued working as foreign experts at CMAC in the areas of mine clearance, survey, and training even after the withdrawal of UNTAC.

Figure 14: Sequence of the experts dispatched and the technical cooperation project



Source: The author

On the other hand, JICA started dispatching civilian experts when foreign experts from other countries started leaving the country. JICA focused its efforts not on the demining operation itself, but on capacity-building, including logistic support and back office. Starting with the dispatch of "communications network senior advisor" in 1999, JICA continued to dispatch experts in information systems and equipment management, and in 2006, an expert on "organizational management chief advisor" was dispatched to advise CMAC on its operations and management. Although experts had been dispatched separately until then, in 2008, JICA started a technical cooperation project titled "The Project of Strengthening CMAC's Function for Human Security Realization" to assist CMAC in enhancing its demining function, with which a group of four experts were dispatched together, namely a chief advisor and three experts specialized in training management, information system, and management of maintenance facility.

"The Project of Strengthening CMAC's Function for Human Security Realization" was a two-and-half-year-long project starting in April 2008. Prior to the completion of the project, in June 2010, a terminal evaluation was conducted. The terminal evaluation concluded that the project purpose was likely to be met and recognized concrete outputs in three areas: 1) more efficient information systems were established at CMAC through the development of database on landmines, equipment management system, and human resources management system, which had been operated almost properly within/by the headquarters and branch offices; 2) improved capacity of maintenance and management for equipment clarified the conditions and problems of equipment; and 3) 46 standard training course curricula and training management manuals were formulated, and instructors' skills were improved as exemplified by the preparation of teaching materials using audiovisual equipment, which facilitated the learning and understanding of trainees including illiterates.

The terminal evaluation confirmed that the "area of land cleared by CMAC," an indicator directly linked to CMAC's function, clearly showed an increasing trend and the number of mine victims was on a decrease. The project reinforced the organizational functions of CMAC, contributing to bringing a positive impact to a certain extent on increase in areas of land cleared by CMAC, and decrease in the number of mine victims. On the other hand, fund-raising was pointed out as the biggest challenge for CMAC, as more than 90% of its budget was relying on external resources by donors.


Development of data system on mines/UXO

The effectiveness of "The Project of Strengthening CMAC's Function for Human Security Realization" was confirmed, and

the driving factors were as follows: 1) the commitment of CMAC as an organization, its counterparts, and Japanese experts to the project and their devoted work; 2) good relations and mutual understanding between Japan and CMAC through long-term cooperation; and 3) Japan's other assistance, especially equipment and machinery provided under grant aid, led to improved maintenance and management of machinery and equipment as mentioned in above Output 2), and they were used at demining sites, thus causing a virtuous circle.

Heavy vehicle for demining operations provided by the Government of Japan (at the Central Workshop)

Mr. Ratana, Director General of CMAC, commented on JICA's experts that "compared to western experts, Japanese were culturally closer to Cambodians and were less political, and most of them had high technical expertise. Their commitment to their duties, hardworking, result-orientated attitude, keeping workspace tidy and clean, strong work ethic, punctuality and attention to details exerted favorable influence on Cambodian staff at CMAC." Mr. Oum Phumro, the current Deputy Director General of CMAC, who was the director of support and human resources development department at that time, worked together with JICA experts in information system and vehicle maintenance and transportation around 2001. He commented that "together with JICA experts, we used new equipment, established information systems, maintained equipment and re-established database. These duties contributed to improvement in management of CMAC."

2 CMAC's reforms and growth and the commencement of Japan's assistance

Column 4

My memories of CMAC

Ryoji Yaginuma
(Japan International Cooperation System)

It was mid-January 2007.

In the evening, there were few people left in the office. I heard a knock on the door, and standing there was Mr. Ratana looking pale. It was the first time I saw him with a disappointed expression, as he always talked to his colleagues and staff members with a smile on his face. He informed me that a big explosion had occurred at a demining site near the Thai border and the accident had killed seven deminers. The news left me speechless.

In those days, Mr. Ratana was the Deputy Director General of CMAC (currently Director General of CMAC), responsible for the safety of about 2,000 employees' lives, including demining staff, who put their lives at risk every day in Cambodia. On that day, I realized again how much responsibility he had taken on.

There must be no one engaged in mine action in Japan who does not know the names of CMAC and Mr. Ratana, and it is not an exaggeration to say that he has always been with CMAC.

In April 2006, I was dispatched to CMAC as a JICA expert. First, I was taught on how much budget the organization had and what activities it conducted. Every year, CMAC had a budget of approximately JPY1 billion for its operations, the majority of which were funded by international organizations and donor countries, and there was no guarantee for the funds to be provided for the next few years. I knew that the organization was operating on a shoestring.

Therefore, Mr. Ratana had spoken inside and outside the country that there were still many landmine victims and we should clear landmines and return safe land to the local community.

Discussing CMAC's situation and needs with the staff of JICA office, I helped CMAC use Japan's assistance effectively. During the process, I started to think that it would be nice if Japanese people should be more informed of CMAC's activities. So I asked Mr. Sato, a JICA expert for Cambodian TV, to create a DVD showing CMAC's activities. Mr. Sato, with TV crews, made a short film showing the current mine contamination status, landmine victims, demining methods, and land release in an easy-to-understand manner, through interviews with people at the headquarters of CMAC and at demining sites and with local people.

The DVD helped viewers understand clearly the whole picture of CMAC's activities, which its annual report and various leaflets cannot explicitly describe.

In addition, although Japan is the largest support donor for CMAC, no booklet in Japanese was available. So I had been looking for an opportunity to allow me to make a Japanese booklet. Then, I met Mr. Uda, a senior volunteer specialized in designing. He agreed with my idea and promised me to design a booklet. After over half a year, the first version was completed in September 2007. I asked responsible staff members many times to explain what I had questions about or had not been able to understand, and I asked for the details of demining activities in particular. Thanks to the support from CMAC staff members, I could manage to prepare a revised version in June 2009, or just before I was scheduled to go back to Japan.

Mine clearance being a dangerous task and requiring persistent effort, we had seldom heard good news of mine clearance in daily operations. In 2008, mine detection dogs were introduced, and that was good news for CMAC after a long while.

Around that time, CMAC had used about 80 mine detection dogs at its demining sites. All were German Shepherd dogs born in Bosnia, trained there as mine detection dogs when they were young, and brought to Cambodia. With cooperation from an international NGO, Cambodia tried to breed its own detection dogs. When I touched 10 newborn puppies, I thought that they would sniff explosive agents under the burning sun one day, and hoped that they would grow to be good mine detection dogs.

Five years have passed since I left CMAC. I am still concerned if CMAC manages to operate and conduct demining activities with the budget provided, as they did five years ago.

The number of mine victims may be in a decreasing trend, compared with the 2007 level, but a wide area is still contaminated by landmines, and many people lose their life or limbs to landmines every day.

For the last few years, Cambodia has seen development primarily in Phnom Penh. I pray that people living in rural areas may live safely and produce crops in mine-free farmlands.

(Mr. Yaginuma was dispatched to CMAC as JICA expert "chief advisor/organizational management" from April 2006 to March 2008, and as "senior advisor/cooperation management" to JICA technical cooperation project from April 2008 to June 2009.)

Enhancement of mine action toolbox—survey, equipment, and dogs

As shown in Figure 7 in Chapter 1, CMAC put its focus on "emergency response" in the period of 1992–1998, and shifted its focus to "risk reduction/reconstruction" in the period of 1998–2003, and subsequently to "risk reduction/contribution to economic growth and poverty reduction" in the period of 2003–2010. In line with these phase shifts, since 1998, CMAC had focused its efforts on enhancing demining tools towards efficient demining.

Currently, CMAC has 17 activity-specific "SOPs" in place (e.g., survey and specific demining tools). The first versions of them were documented between 2003 and 2009 and they have since been revised as needed. According to Mr. Ratana, Director General of CMAC, CMAC had operating procedures even before 2003. However, the old ones had various problems: different languages were used (some procedures were written in English, while others in French); they were incomplete (available not as electronic data but only on paper basis, and only a few pages available out of a long text); there were inconsistent procedures (brought in by foreign experts from various countries, the manuals contained procedures used in their respective countries, NGOs, and the UN); and they were not adjusted to suit the situations in Cambodia. In addition, since many deminers could not read and write English, SOPs in Khmer as well as training on the SOPs for deminers were needed.

Along with the preparation of SOPs and the training, new demining tools were introduced and used in earnest in the period transitioning from the emergency response phase to the reconstruction phase.

Until then, a unit of platoons was responsible for both marking mine suspected spots and clearance. However, since a platoon was too large for efficient demining, it was further divided into small-scale community marking teams. Each team consisted of five to six personnel who had been trained on explosive ordnance disposal, survey, marking, and clearance, conducted surveys on villages suspected to be mined, and marked them, thus finding landmines more efficiently than before.

Mine detection dogs were also introduced at the same time. The minefields in Cambodia were roughly categorized into three types: 1) minefields intended to protect the bases of armed groups (landmines were relatively easily found), 2) abandoned minefields (landmines were difficult to be found until an accident happened), and 3) strategic minefields (near borders). Especially, the use of mine detection dogs was examined for a search for explosives and clearance in the minefields as categorized in 2) above, since such activities were difficult in these minefields.

First, experts from the Swedish armed forces and CMAC's staff members selected candidate dogs in Cambodia, and sent them to Sweden for one-year mine detection dog training. Cambodian staff members were also dispatched to Sweden for six months to participate in training to become detection dog handlers. The handlers successfully

acquired techniques required for detection dog trainers. On the other hand, these dogs from Cambodia turned out to be inappropriate for detection dogs. According to Mr. Mao Vanna, who was responsible for introducing mine detection dogs in CMAC, Cambodian dogs could sniff out explosives, but had several major problems—they were unable to follow instructions (e.g. they chased a lizard during training); they sat when people were moving around; they could not concentrate on searching for explosives during a breeding season. Due to these problems, it was finally decided that no Cambodian dogs were to be used, and dogs were imported from Sweden. Starting in 1998, 12 dogs including Shepherds were imported from Sweden to Cambodia and were made accustomed to the local environment. After several trials with detection dogs, in early 1999, mine detection dog operations started with six dogs out of the 12 dogs imported from Sweden.

Introduction of mine detection dog (provided by Sam Onn)

Breeding of mine detection dogs

Mine detection dogs continue to be used to this day as an effective mine action tool, and are often used together with brush cutters. Although no Cambodian dogs are still used, CMAC's training center breeds Swedish dogs, and provides detection dog training and training for handlers.

The brush cutters introduced with Japan's assistance also have greatly speeded up CMAC's demining processes. Four Japanese brush cutters were delivered to CMAC in 2000, eight in 2003, and 15 in 2005. (The delivery years differ from the fiscal years in which projects were approved.) The findings of the terminal evaluation of "The Project of Strengthening CMAC's Function for Human Security Realization" indicated that the areas of land cleared by CMAC, which averaged 10 square kilometers per annum until 2004, increased by twofold in 2005 and then to 27.7 square kilometers in 2008, and then further increased to 35.5 square kilometers in 2009. Mr. Phumro, the current Deputy Director General of CMAC and the then Director of Department of Support and Human Resources, was directly involved in the Japan's grant aid project "The Project for Improvement of Equipment for Demining Activities (Phase 4)," through which 15 brush cutters were

provided in 2005. He recalled that "brush cutters supplied by Japan greatly contributed to the enhancement of CMAC's demining efficiency, and became a turning point for mine clearance in Cambodia." A brush cutter SOP was prepared in February 2004 and is revised where necessary. Machine and equipment alone cannot make big difference. Combined with knowledge on how to use brush cutters effectively, which CMAC accumulated through years of effort, the use of machines and equipment increased areas of clearance.

Note that the Japanese government provided equipment and machinery through grant aid schemes six times between 1999 and 2014, and also conducted two grant aid projects for research, and one grant aid project for conflict prevention and peace building. Through these grant aid schemes, a total of 35 brush cutters and eight demining machines were provided in addition to vehicles including pickup trucks, station wagons, and trailers, mine detectors, safety protection for deminers, and equipment for information management technologies including computers.

Column 5

Time-consuming task

Nobuaki Miyata
(JICA expert,
"Advisor to Savannakhet University for Development of Industrial Human Resource")

Tomoko Shimada
(JICA staff)

There are many stories of time-consuming tasks in the world. We remember a TV program on "my secret" in which guests were talking of their experiences like "I made a model five-storied pagoda with old cigarette boxes as a child" or "I built a model Kintai Bridge with matchsticks." These were merely small, about 1:50 scale models, and it would take one to two years to complete. But how long would it take, if they were real?

Mine clearance hugely relies on manpower; what is needed to ensure first and foremost is the deminers' safety. Demining takes a long time: as the highest level of caution is required in demining, the demining speed is naturally slow. In addition, as it is extremely difficult to identify locations of the landmines buried, it takes a few decades to clear all landmines. Well, this probably should not be called a time-consuming task, but a ludicrously far-fetched task. Established as a demining organization, CMAC also clears UXO in Cambodia, where UXO casualties have been rising recently. According to UXO Lao, the UXO national clearance operator in Laos, which is one of Cambodia's neighboring countries and is challenged by serious UXO problems, a few decades are not long enough to completely clear UXO in the country, and it is estimated to take 100 years or more. To clear a negative legacy takes hard work, time, and money.

Mine clearance starts by selecting and identifying the locations of minefields, followed by technical survey, detection of landmines, and actual removal and destruction of landmines/UXO. Prior to a technical survey, preparation is necessary, that is, cutting down thick vegetation that has grown since the landmines were buried. This preparatory work takes up 80% of the whole mine clearance, and is time consuming and troublesome. Mine clearance is conducted in response to requests for land development. So, if mine clearance takes an extremely long time, it will delay the development and adversely impact the development effectiveness. Therefore, how to speed up demining operations is an issue. With JICA's assistance, the development and introduction of brush cutters was regarded as a possible solution to the issue. Enhancing the efficiency of preparatory work, which accounted for 80% of the demining operations, led to the speeding up of the whole operation

Brush cutter

and a drastic reduction in development speed, contributing to today's economic growth. The development of brush cutters had been full of problems, since they were to be used in dangerous situations and, if not perfect, would expose operators' lives to risks. We heard that the development took huge amounts of trial and error. It is not difficult to imagine that designing brush cutters differed from designing construction machines in many aspects, for example, the thickness of the glass of the control room, the strength of mine cutting shear, and the strength of the parts to protect the main body against mine explosions. With regard to brush cutters, please refer to the section written by the specialists.

The introduction of brush cutters (in 2000, 2003, and 2005) enhanced the mine clearance speed, as shown in the above figure regarding the area being cleared of mines over the years.

Brush cutters significantly contributed to the speeding up of demining activities. However, in order to facilitate development of the country, whole demining operation should be further speeded up. In addition to brush cutters, there are a lot more factors that may speed up mine clearance. Probe equipment needs to be operated manually due to expertise required for reading indicators. Nevertheless, if the equipment is improved and robotized, that will lead to safe, efficient operations, ensuring the safety of operators and the speeding up of operations. We do hope that Japanese technologies will contribute to achieving this goal.

Up to 30% of the bomblets do not explode. A product that can meet its intended goal at a rate

Figure 1: Changes in areas cleared of landmines and number of people killed and injured by mines/UXO in Cambodia

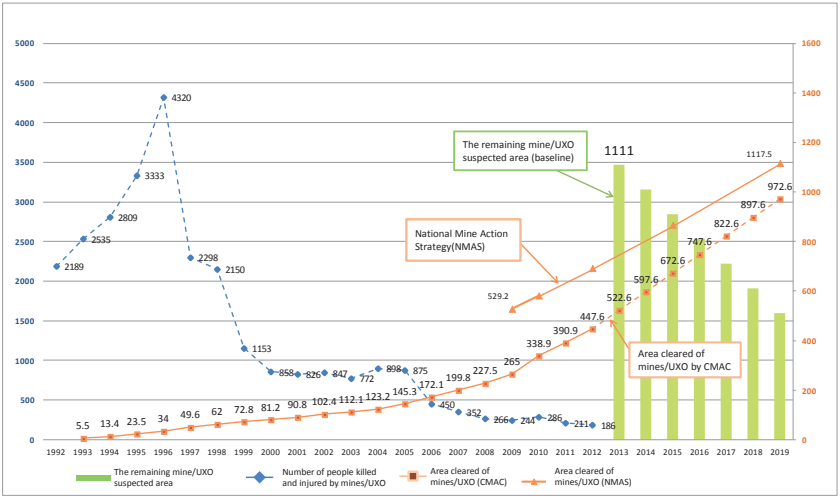
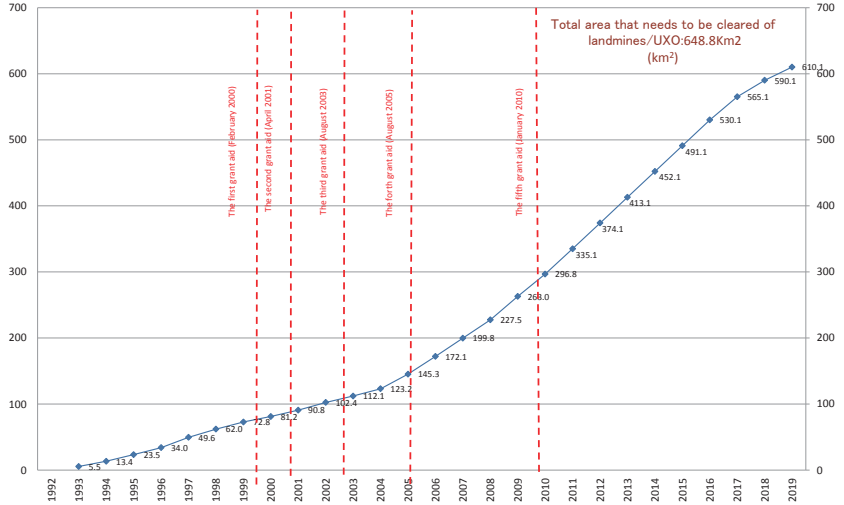


Figure 2: Japanese grant aid projects and changes in areas cleared of landmines in Cambodia



of 70% may signify a low degree of perfection, if a cluster bomb were viewed as an industrial product. If all bomblets contained within a cluster bomb exploded, the backward-looking task of postwar UXO clearance would not be needed. If all bomblets contained within a cluster bomb did not explode, that would bring peace to many countries (as an industrial product, it would be nonproductive labor to produce defective products that do not work at all, though). One way or the other, in order not to cause the backward-looking task of UXO clearance, the best solution is not to cause a conflict and not to produce any weapons. We guess that everyone would agree to it.

Although this section deals with anti-personnel mine clearance, problems left over from a conflict and/or a civil war include clearance of antitank mines and UXO, which are major hindrances to development in developing countries. UXO removal still continues not only in developing countries but also in Japan, where occasionally there is a news report on the clearance of large-scale UXO found at a construction site, etc., while the local residents were evacuated and roads were blocked. In Okinawa, UXO left over from World War II has been investigated and cleared in land development since the return of the US base to Japan. Due to our ignorance, we did not know about this fact until recently, but having an opportunity to work with Cambodia's CMAC and Laos' UXO Lao, which are governmental organizations that conduct mine/UXO clearance in respective countries, we came to know the Okinawan issue—even 70 years after the war, Japan is also faced by the urgent needs for UXO clearance.

Comparing this with the stories mentioned at the beginning of this text, mine/UXO clearance is like repeating small efforts of building a skyscraper with matchboxes and is a time-consuming task. Thinking about this just reminds us that the best solution to avoiding a backward-looking task is not to cause any conflicts.

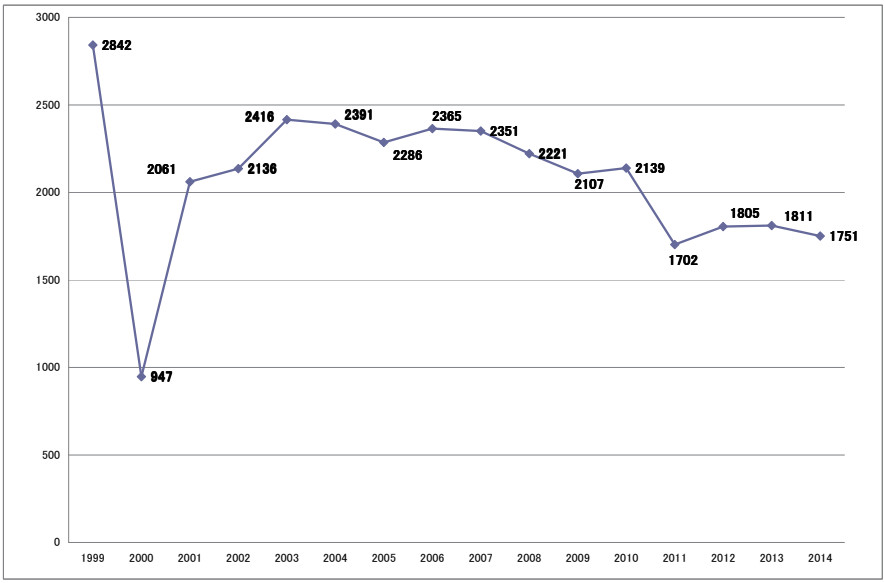
Chapter 3 Internationalization of the organization and South-South cooperation

The current model of CMAC —application of a land release approach

CMAC, established in 1992 under UNTAC and engaged in demining to facilitate the safe return and resettlement of refugees and internally displaced persons in the emergency response phase, rebuilt the organization from a crisis in which its operations were suspended, and has since been developing demining tools and its organizational capacity to meet the needs for the reconstruction and development of Cambodia.

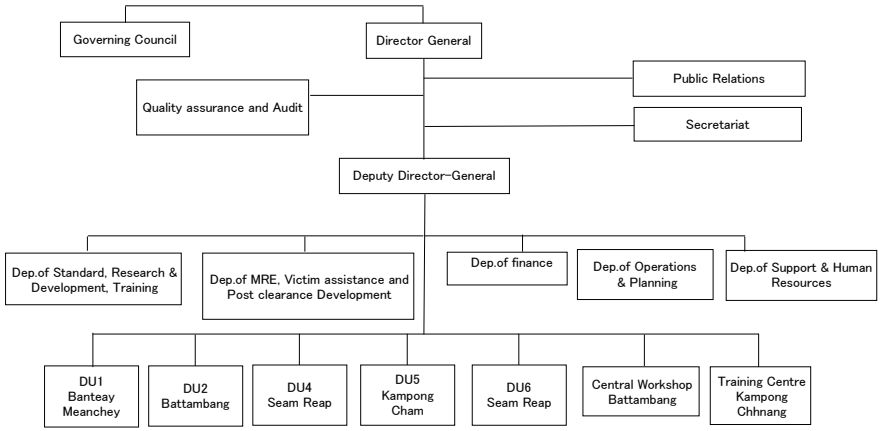
Prior to the suspension of its operations, CMAC rapidly increased the number of staff members, especially from 1996 to 1999. The number of employees dropped to 947 in 2000 from 2,842 in the pre-crisis period of 1999. The organization maintained staffing levels at approximately 2,000 employees after 2001, and has kept the number of employees at about 1,800 since 2011.

Figure 15: Changes in the number of employees at CMAC from 1999 to 2014



Source: The author based on data provided by CMAC

Figure 16: CMAC's organization chart (as of November 2014)



Source: CMAC

Figure 17: CMAC's facilities and their respective action zones

Source: CMAC

Since 2011, CMAC maintains approximately 1,400 field staff members and about 400 office staff members responsible for logistics and management at the headquarters and training center. Figure 16 presents CMAC's organization chart as of November 2014.

Demining operations are conducted by Demining Units 1, 2, 4, and 6 and the headquarters within their respective demining zones, and Demining Unit 5 is mainly responsible for UXO clearance. Figure 17 presents the locations of these facilities and their action zones.

Although the number of CMAC's employees remained on a similar level from 2001 to 2014, with slight decreasing trends since 2011, CMAC's achievements in mine/UXO clearance from 2000 to 2012 showed significant improvement.

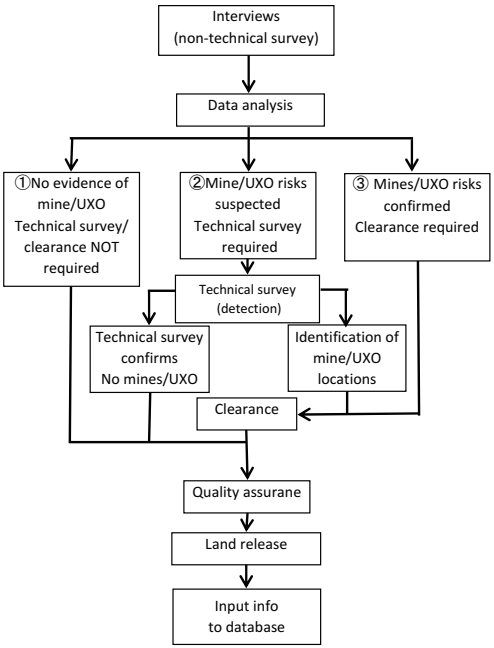
As shown in Table 9, areas of land being cleared of mines and UXO doubled between 2004 and 2005, and, furthermore, significant increases in cleared areas are observed from 2008 to 2010. The increase in 2005 was mainly due to the provision of many brush cutters and subsequent development of effective demining tools as explained in Chapter 2. The increases from 2008 to 2010 were primarily due to the application of "land release." Land release is the process in which, using more accurate and reliable information gathered in interviews, target areas to implement demining action are divided into three categories

Table 9: CMAC's achievements in mine/UXO clearance, 2000–2012

Year	Area of land cleared (m^2)	No. of mines/UXO found/destroyed		
		Anti-personnel mines	Antitank mines	UXO
2000	8,369,635	15,733	628	45,379
2001	9,637,455	16,916	465	77,034
2002	11,582,239	32,688	493	61,840
2003	9,708,686	22,160	504	76,671
2004	11,157,336	43,635	936	106,360
2005	22,086,486	74,165	851	128,865
2006	26,772,625	35,745	1,000	113,296
2007	27,666,058	32,245	587	114,755
2008	27,653,389	25,543	497	114,101
2009	37,632,749	18,696	542	133,167
2010	73,862,681	18,159	402	135,176
2011	51,954,513	14,573	406	83,673
2012	76,699,069	16,106	558	96,439

Source: "20 Years: CMAC's Achievements in Mine Action"

Figure 18: Land release procedures



Source: The author based on information provided by CMAC

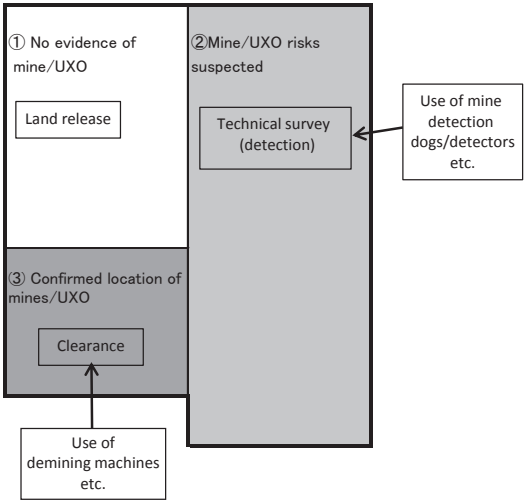
of areas—1) areas requiring no technical survey and demining due to no mine/UXO risks, 2) areas requiring a technical survey due to suspected locations of mines/UXO, and 3) areas requiring mine/UXO clearance due to confirmation of the presence of mines/UXO—and activities adapted to the respective areas are conducted to speed up the release of mine-/UXO-contaminated areas. CMAC started taking the land release approach in 2008 and applying it in earnest in 2011.

CMAC uses a nontechnical survey (interview) format for land release, consisting of a series of inquiries, including the following: For how many years have you been using this land? What is this land used for? Have any mine/UXO accidents happened here? Have you ever lost livestock to mines/UXO? The surveyor fills out the form during/after an interview and sends the results to the database for analysis. Based on the analysis results, areas for land release are automatically classified into the three areas mentioned above.

As a result of a nontechnical survey, a minefield can be classified into different types of status. In such case, according to the classifications made, different actions, that is, technical survey, clearance, or land release, are taken, as shown in Figure 19, and a team equipped with necessary machines and tools is sent.

CMAC's demining process has been speeded up by focusing its demining efforts on areas identified as having mine/UXO risks, while releasing land identified as having no mine/UXO risks without conducting a technical survey. This has allowed CMAC to effectively send a demining team and inject necessary equipment, leading to the speed up of release of land suspected to be contaminated by mines/UXO. However, if land users express their anxiety over risks of mines/UXO at a site despite interview findings indicating otherwise, CMAC responds to their request for a survey to confirm that there are no risks of mines/UXO.

Figure 19: Different actions in a minefield



Source: The author based on information provided by CMAC

Launch of South-South cooperation —the Presidential Program for Comprehensive Mine Action (Programa Presidencial para la Acción Integral contra Minas Antipersonal, PAICMA)

By around 2010, CMAC had developed into what it is now. One of the evidences that shows CMAC's development by that time is that Mr. Ratana, the Director General of CMAC, had become a member of the board of Geneva International Centre for Humanitarian Demining (GICHD), an organization that discusses and examines international criteria and methods for mine action. Mr. Ratana is the only board member of GICHD from a governmental organization of countries contaminated by mines.

As shown in Figure 5 in Chapter 1, CMAC has been giving priority to "risk reduction/ Contribution to economic growth and poverty reduction" since 2010. While continuing to improve demining tools and enhance the organization's operations, CMAC has started sharing its knowledge with other countries contaminated by mines/UXO in earnest.

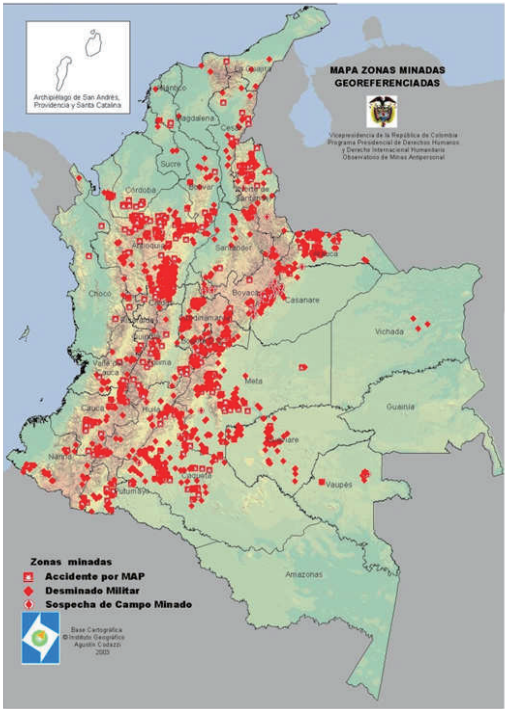
Although CMAC had accepted delegates from various mine-contaminated countries in Asia and Africa before 2010, these study visits were on an ad hoc basis and short term.

JICA started a "programme for supporting conflict victims, coexistence and reconciliation (2008–2013)" in Colombia in South America, in FY 2008, in order to provide assistance to internally displaced persons and mine victims. Colombia has been suffering from internal conflict since 50 years and is heavily contaminated by mines. The number of mine victims

in the country peaked at 1,284 persons in 2006, and has since been in a decreasing trend. Nevertheless, as of 2012, Colombia ranked second in the annual casualty rate of mine victims in the world.

The Government of Colombia issued a presidential decree in 2007 to launch the Presidential Programme for Comprehensive Mine Action (Programa Presidencial para la Acción Integral contra Minas Antipersonal, PAICMA). Although the institutional framework was in the process of setting up, PAICMA had not still started demining in earnest. The Government of Colombia requested the Japanese government for support for strengthening the capacity of PAICMA. Responding to the request, the Government of Japan suggested that providing training in cooperation with CMAC would be appropriate, given Japan's assistance provided to CMAC to date and the organization's more than decades of experience in mine action. In June 2009, JICA sent a preliminary mission together with three staff members of PAICMA to CMAC. The survey findings indicated a high probability of effectiveness and that CMAC would be able to meet the needs of PICMA. Thus, it was decided to provide training on mine action to 15 staff members of PAICMA three times (a total of 45 persons) in the two years of FY 2010 and FY 2011 in the form of South-South cooperation between CMAC and PAICMA.

Figure 20: Map on mine accidents, demining activities, and suspected contaminated areas (Columbia)



Source: PAICMA

In those days, JICA's technical cooperation project "The Project of Strengthening CMAC's Function for Human Security Realization" was ongoing, and this project included assistance for strengthening the department of training management. After the decision was made on the implementation of South-South cooperation between CMAC and PAICMA, in September 2009, a CMAC mission was dispatched to Colombia, consisting of Mr. Oum Samg Onn, the then Director of Department of Operations and Planning at CMAC, Mr. Roath

Kanith, who was the Director of Department of Training, Research and Development, and Ms. Minami, the JICA expert responsible for reinforcing CMAC's training management capacity in JICA's technical cooperation projects. The mission also visited PICMA, hospitals receiving mine victims, and NGOs working for mine action, in Bogotá, the capital of Colombia, and Medellín, the second largest city in Colombia, to collect information needed to prepare South-South cooperation training programs.

Flags of Cambodia, Japan, and Colombia when CMAC provided training for PAICMA officials

The first training of CMAC-PAICMA South-South cooperation was provided in June 2010. CMAC prepared and proposed a structure for two-week programs and curriculum, which were finalized with requests from PAICMA reflected. CMAC also prepared training materials, and JICA assisted in translating all of programs, curriculum, and teaching materials from English to Spanish. The training programs were comprehensive with four modules, consisting of 1) Mine Action Policy and Management; 2) Integrated Mine Action Approach (demining tools, mine awareness, assistance for mine victims, etc.); 3) Survey and Clearance Management; and 4) Information and Database Management. The training was a mixture of lectures at the headquarters and field visits to the training center and demining units.

An agreement had been signed to offer the same training programs to different groups of PAICMA's officials. Following the first training, the same training program was offered to 15 officials in the second group and third group each in October 2010 and June 2011, respectively, as planned. As a result, 45 out of 55 officials of PAICMA participated in a two-week training at CMAC. After the South-South cooperation was conducted three times, responding to a request from PAICMA, CMAC again dispatched a mission to Colombia in February 2012 to follow up on the cooperation. The mission visited Bogotá, Medellín, and Cartagena, and CMAC made presentation about civilian humanitarian demining to PAICMA's management/staff members and the local government officials of Cambodia. Prior to departing from Colombia, they had an opportunity to meet the Vice President of Colombia in Bogotá. Mr. Sam Onn, who led the mission, commented that "Having met with the vice president of the Colombia, we were pleased to know that the South-South cooperation has been highly regarded by the Government of Columbia." Mr. Ratana, the Director General of CMAC, said that although relations between Cambodia and Colombia had been tenuous prior to the South-South cooperation, the South-South cooperation helped strengthen bilateral relations.

Participants from PAICMA with certificates of training through South-South cooperation

The review of JICA's program on "supporting conflict victims, coexistence and reconciliation" was conducted in July 2012, and the review team identified the following four points as the outcomes of the South-South cooperation between CMAC and PAICMA: 1) knowledge gained through the training allowed PAICMA to make comprehensive efforts toward smooth implementation of the government's mine action policy and field activities, growing out of old customs, such as lack of interorganizational coordination of the mine action among organizations; 2) policies were adopted for mine action, assistance for mine victims, and information management improvement; 3) demining and survey technologies gained through the training at CMAC were reflected in the action plan, PAICMA's annual action plan, and mid-term action; and 4) procedures for a "survey on socio-economic impacts of landmines" were changed to a more effective method (land release) as learned at CMAC. With these outcomes, it was confirmed that the cooperation has contributed to the establishment of a consistent framework in which to connect the government's policies with local authorities' activities and enhanced effectiveness of PAICMA's mine action planning.

At a workshop held in Cambodia in November 2014, a representative of NPA, an international NGO that conducts activities in both Cambodia and Colombia, commented that "we heard that Columbia started civilian demining in earnest, possibly influenced by the South-South cooperation with CMAC." In Colombia, PAICMA was promoted to DAICMA, as the government's mine action program was upgraded from "program" to "department." However, many staff members trained at CMAC reportedly left the organization during the organizational change from PAICMA to DAICMA. In humanitarian demining that is expected to be commenced in earnest in Colombia, it is important to call for cooperation from all related parties to effectively use the knowledge shared by CMAC.

Also, CMAC enhanced its ability to prepare training programs and implement them through South-South cooperation with PAICMA. In addition, despite Colombia's economic indicators far exceeding Cambodia's, CMAC's experience in "sharing its knowledge" of mine action with Colombia through the cooperation led to the organization's high self-esteem.

Column 6

South-South cooperation

H.E. Oum Phumro
(Deputy Director General of CMAC)

The second INAD-CMAC South-South cooperation workshop

Since its inception, the Cambodian Mine Action Centre (CMAC) has been an institution valued and respected for the quality of its work as a result of standardized training system and adoption of best management practices in place. This culture has been well noted by donors, partners, and experts from other mine action institutions globally. As the result of its operational expertise and capability, CMAC has attracted and hosted many study visits from other mine action programs. Noticing the value of CMAC's contributions to the mine action sector and recognizing CMAC's potential to share its learning and experience in implementing mine action program over more than past two decades, JICA initiated a technical assistance project in 2008 called "Strengthening CMAC's Function for Human Security Realization" to further enhance CMAC's ability to share its know-how widely by further enhancing the capacity of CMAC's training team. This project was in line with one of CMAC's strategic goals "to make CMAC's Training Centre (TC) a Centre of Excellence for Mine Action by 2014," making the center and other related facilities accessible as venues for delivering mine action training for both national and international clients. The strategic objective of CMAC in realizing this goal would be to promote and strengthen international cooperation through its policy and technical exchange programs to encourage cooperation among mine-affected countries to share experience and expertise.

On June 17, 2009, assisted by JICA, the first official South-South cooperation scheme was realized. A signing ceremony for the Memorandum of Understanding (MOU) on Cooperation between CMAC, the Presidential Program for Comprehensive Action against Anti-Personnel Landmine (PAICMA), and JICA marked the start of a tripartite arrangement for a "Third Country Training on Strengthening PAICMA," whereby CMAC would provide a training program by sharing its knowledge and learning experience with PAICMA staff. Three successful training courses were implemented during JFY 2010–2011 involving 15 participants from Colombia in each of the three courses, which were delivered in four modules—each of which was for a period of two weeks in Cambodia. The last of the three courses took place in June 2011.

CMAC

Built on this first successful South-South cooperation model, a second similar arrangement was initiated with the support of JICA on cooperation between CMAC and UXO Lao, signed for an implementation period of 3 years. This has set the stage for an expected fruitful cooperation to be followed by six technical workshops with a total number of participants of over 110 coming from both UXO Lao and CMAC, the first of which was held in Cambodia in July 2012, and the sixth

workshop being recently held, concluding on November 25–26, 2014, in Siem Reap, Cambodia, setting the stage for a possible Phase Two implementation under similar framework.

With the successful implementation of South-South cooperation model between CMAC and PAICMA, and between CMAC and UXO Lao, a third similar arraignment was concretized between CMAC and INAD Angola on October 26, 2012, setting a stage for another series of exchange workshops to be held from June 2014 to March 2015 between CMAC and INAD in order to develop human resources, and strengthen institutional capacity of both agencies.

There is no denying that the South-South cooperation model has in some ways contributed to new learning and enrichment of experiences. The following benefits as a result of this South-South cooperation scheme have generally agreed based on the numerous participants who have been involved with the scheme:

- Serves as a forum for exchange of experience, skills, and best practices, resulting in a deeper understanding of issues and challenges faced by each participant country
- Facilitates reflection on strengths and weaknesses and looking for solutions for improvements
- Improves participants' motivation to perform their work and make changes after the training
- Improves organizational and employees' attitude and behaviors (through comparisons and lessons learned)
- Promotes positive impacts on organizational and operational management
- Promotes organizational and personal networking
- Provides an opportunity to build personal relationships and cultural exchange

CMAC's action was motivated by the Anti-Personnel Mine Ban Convention's (APMBC) Article 6 in respect to the States Parties' international cooperation and assistance in assisting other States Parties, and the Cartagena Action Plan (2010–2014) on "Ending the Suffering caused by Anti-personnel mines," particularly Action #36, which sets out to promote technical cooperation, information exchange on good practices, and other forms of mutual assistance with other affected States Parties to take advantage of the knowledge and expertise acquired in the course of fulfilling their obligations; Action #44, which sets out to develop and promote regional cooperation in sharing and effectively using national experiences and good practices, resources, technology, and expertise in stockpile destruction and mine clearance, to implement the convention and to engage the cooperation of regional organizations; Action #46, which sets out to develop and promote regional and bilateral cooperation in sharing and effectively using national experiences, good practices, resources, technology, and expertise in addressing the rights and needs of mine victims and other persons with disabilities, to implement the convention and to engage the cooperation of regional organizations; and Action #47, which sets out to strengthen the partnerships between affected and non-affected States Parties and among affected States Parties to identify and mobilize new technical, material, and financial sources of support for activities to implement the convention.

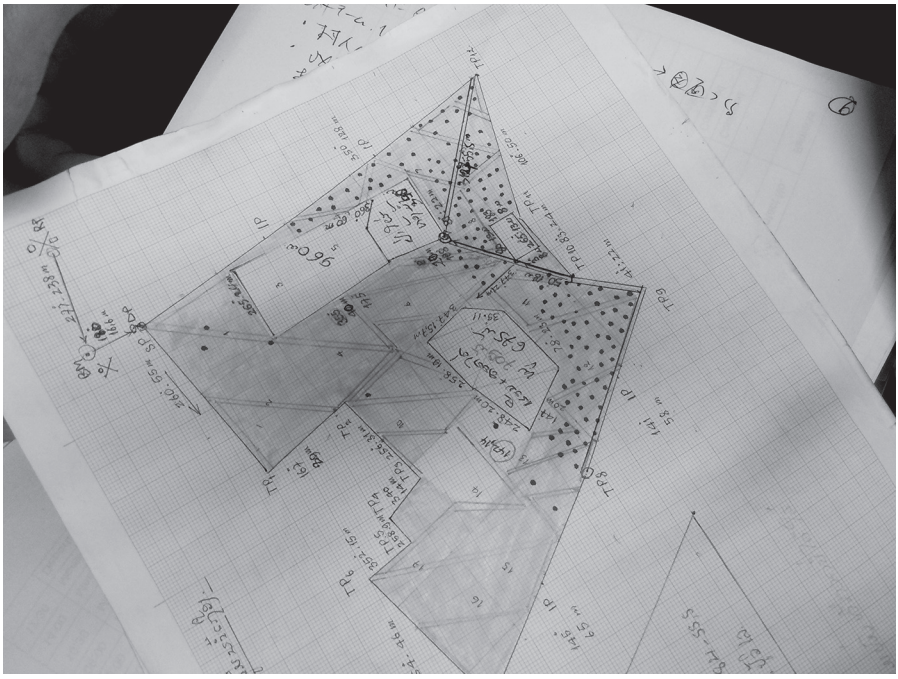
Sharing knowledge within the region —Lao National Unexploded Ordnance Programme (UXO Lao)

As CMAC was enhancing its training capacity through the South-South cooperation with PAICMA of Colombia, momentum had arisen for UXO action in the Lao People's Democratic Republic (Laos), a neighboring country of Cambodia. From the 1950s to the 1970s, the US dropped over 2 million tons of bombs on Laos during the Indochina War and the Vietnam War, and Laos is the most heavily bombed country on earth per capita, exceeding Vietnam. It is estimated that approximately 80 million cluster submunitions failed to detonate, remaining lethal after the end of the wars. From 1973 to 2012, about 12,000 UXO incidents were reported in Laos, and an average of about 300 UXO incidents per year was reported as of 2012. In Xiangkhouang province, one of the most heavily UXO-contaminated provinces in Laos, 280 unexploded bombs (of which 267 cluster submunitions) were found only in 16 square kilometers of farmland during UXO clearance conducted upon a request, with more than 600 unexploded bombs in a schoolyard.

UXO-contaminated areas in Laos: bags indicate the locations UXO was found. It shows heavy contamination.

Although Japan is the largest bilateral donor to Laos and has been providing development assistance in various fields since the 1960s, Japan did not provide its cooperation in UXO action until recently. However, Japanese government started examining to commence cooperation in UXO action in earnest, given the Laos government's policy being in place and its strengthened efforts toward reducing UXO, as seen by the preparation of national strategy of UXO action in 2010, its announcement of MDG9 on the reduction of UXO impact by 2020, and heightened interests in UXO action in Laos among the international community resulting from the first meeting of States Parties to the convention on cluster munitions held in Vientiane in November 2010.

In January 2011, JICA dispatched a survey team to collect information regarding UXO in Laos to identify UXO problems and the Laos government and NGOs' efforts to address the issue and to establish a basic approach to assistance in UXO action based on the findings. In the survey, a proposal was made to conduct South-South cooperation through CMAC, in addition to the direct assistance by the Japanese government to UXO Lao.



Map of UXO contamination: dots indicate the locations UXO was found (farming land). This map also confirms a high density of contamination.

Responding to the proposal, two months later, in March 2011, the first preliminary meeting was held for CMAC and the Lao National Unexploded Ordnance Programme (UXO Lao) to discuss possible South-South cooperation in mine/UXO action, inviting Mr. Ratana, the Director General of CMAC, to Vientiane, the capital of Laos, with facilitation by JICA. The meeting was only one day long but was worthwhile, as both parties' strong intentions to realize the South-South cooperation were confirmed, and priorities and themes to be shared between the two parties were identified. During discussions, CMAC proposed to adopt a knowledge-sharing approach rather than one-way teaching (by CMAC) approach, while UXO Lao was very willing to absorb knowledge and expertise that CMAC had accumulated to date.

Following the first preliminary meeting in Vientiane, a second preliminary meeting was held in Phnom Penh, Cambodia, in July 2011. To this meeting, Mr. Bounphone, the then Director of UXO Lao, who could not attend the first preliminary meeting in Vientiane in March, was also invited from Laos. At the meeting, CMAC, UXO Lao, and JICA agreed on practical matters such as specific themes of the South-South cooperation to be started in FY 2012, the number of workshops to be conducted, the number of participants, etc. After the meeting in Phnom Penh, participants from UXO Lao also visited CMAC's training center in Kampong Chhnang, the Central Workshop in Battambang, and also the minefields being cleared by CMAC and communities where mine awareness activities were conducted.

In March 2012, in Okinawa, where approximately 800 unexploded bombs are still found every year, a third preliminary meeting was held to discuss and agree on the details of the cooperation, that is, the overall implementation framework for the South-South cooperation for three years starting in FY 2012 and the responsibilities and undertakings of CMAC, UXO Lao, and JICA. CMAC had already had experience in third-country training for PAICMA of Colombia with support from JICA. A framework for the South-South cooperation with Laos was established by adjusting the cooperation framework for PAICMA in the context of Laos and Cambodia to meet the needs. Both countries are next to each other, transportation expenses do not cost much, and it does not take long to move from one country to the other. Given such advantages, the South-South cooperation signed between UXO Lao and

The UXO Lao delegation headed by the Director General visited the training center of CMAC

Table 10: Achievements in workshops held under CMAC-UXO Lao South-South cooperation

	Theme	Period	Place
1	Demining tools, demining methods, technology, and survey	July 2012 (2 weeks)	Cambodia
2	Training programs	December 2012 (1 week)	Cambodia
3	National standard, SOP	June 2013 (1 week)	Laos
4	Mine awareness, assistance for mine victims, information system and database	November 2013 (1 week)	Cambodia
5	Senior/middle management, mine clearance and development	June 2014 (1 week)	Laos
6	Reviews on the first to fifth workshops, lessons learnt	November 2014 (3 days)	Cambodia

Source: The author

CMAC was intended to hold six workshops in three years, increased from three workshops in two years in the cooperation with PAICMA. Unlike the cooperation with PAICMA in which the same contents of comprehensive programs were provided to different groups of officials, different subjects and themes were selected for the six workshops, in which staff members working in the field closely related to specific theme and subject of each workshop were to participate. Moreover, in order to "learn from each other," it was agreed to hold not only the CMAC-hosted workshops in Cambodia but also UXO Lao-hosted workshops in Laos, in which young staff members of CMAC were to participate. Khmer and Lao interpreters were hired to enhance understanding of technical staff members who were not so good at English, and all training materials were translated into Khmer and Lao.

Column 7

How JICA's assistance for UXO Lao was commenced —collaboration with CMAC

Dr. Masato Togawa
(The former Chief Representative of JICA Laos Office)

In February 2010, I took up a new post at JICA Laos Office. This was the second time I worked in Indochina after my three years in Vietnam. A few months after I started working in Laos, I knew that "The First Meeting of States Parties to the Convention on Cluster Munitions" was scheduled to be held in Vientiane, Laos, in November 2010. To be frank, UXO-related projects were rather too political, and I had not thought that JICA, being a development aid provider, would be directly involved in such projects. However, Mr. Kenzo Oshima, the (then) Senior Vice President of JICA, visited Laos and Cambodia on business, and I was informed that he intended to attend the meeting even for a short time during his stay in Laos. So I started collecting information on UXO. As a result, I came to know that Laos is one of the world's most heavily UXO-contaminated countries. The fact was really shocking to me, and, at the same time, I was ashamed of my ignorance.

Having found that, I started examining seriously, "is there anything JICA can do?" and "what can JICA do?" In considering possible assistance, what served me as guiding principles was that UXO is a hindrance to development, and JICA should address UXO issues as an aid provider. In Laos, UXO is regarded as one of the main sources of poverty. Some parts of communities affected by UXO are the poorest areas in Laos. Fifty percent of the farmlands remain contaminated with UXO, and UXO contamination prevents access to farmlands and agricultural production, leading to food shortage. In addition, many of the poor and vulnerable members in rural communities in remote areas are forced either to continue farming or foraging for wild mushrooms, etc., in UXO-affected areas despite UXO risks, or to continue living in poverty.

The third preliminary meeting in Okinawa
The author, front row left; Mr. Bounpone Sayasenh, the former National Programme Director of the UXO Lao, second from left; Mr. Ratana, Director General of CMAC, third from left; Mr. Yasujiro Suzuki, the former Chief Representative of JICA Cambodia Office, front right; and Mr. Hayashi, second row left)

Back then, UNDP and many international aid donors were providing assistance in UXO clearance in Laos, and the Government of Japan also provided funds to Japan Mine Action Service (JMAS), and their main objective of the cooperation was to implement UXO clearance in Laos. Being an aid provider and a newcomer in the field, JICA decided that it should provide assistance for the capacity development of UXO Lao and poverty reduction.

JICA judged that commencing its UXO clearance cooperation to Laos by itself would be difficult due to its budgetary constraints as well. Since the Senior Vice President of JICA, Mr. Oshima, considered that JICA should cooperate with Cambodia's CMAC, I called Mr. Yasujiro Suzuki, Chief Representative, JICA

Cambodia Office, to inform of it. Mr. Suzuki told me immediately that he would consider the proposal positively as it would create win-win situations. We have been close friends since I joined JICA at the same time as Mr. Suzuki. Japan had provided a considerable amount of cooperation to CMAC including grant aid and technical cooperation. Cambodia's CMAC had strived to become an "assistance provider," growing out of an "assistance recipient." Assistance provided by Cambodia to Laos would be difficult for Laos to accept. However, Japan's involvement as a mediator would enable them to "learn together." Cambodia could share its know-how and experience with Laos as a neighboring country, which would lead to higher recognition of Cambodia. Thus, it was possible to create a win-win situation. A cooperation like this should be implemented as soon as possible. However, the JICA Laos Office did not have expertise in UXO clearance. After consultation with the responsible department at the JICA headquarters, it was decided that Ms. Eri Komukai, Senior Advisor on Peacebuilding, who had knowledge of mine action in Cambodia, should make a business trip in November 2011.

At first, Mr. Bounpone Sayasenh, the then National Programme Director of UXO Lao, had expressed his expectations for JICA's cooperation. However, when the first mission members visited him, he was rather reluctant to accept the plan, saying that the direction of JICA's cooperation was unclear (was it to increase demining efficiency or to develop organizational capacity?). On the last day of our visit, we drank Japanese sake (wine) at a Japanese restaurant. JICA explained that as an aid provider, JICA's focus would be on organizational capacity development and poverty reduction, and he agreed to cooperate with JICA. After that, he continued to be very cooperative to JICA. Based on the survey findings and using JICA's operating budget for the experts already dispatched, a first preliminary meeting was held in Vientiane in February 2011.

In May 2011, an additional survey was conducted, and Mr. Akihito Hayashi, who currently works as an expert for UXO Lao, accompanied Ms. Komukai. Mr. Hayashi had been appointed as a JICA trainee under contract with the Japan NGO Center for International Cooperation (JANIC) and had visited Laos once before in his work of some technical cooperation for grassroots projects. It was when I was accompanying Ms. Komukai in this trip that I came to know that Mr. Hayashi was specialized in peacebuilding. I felt a curious turn of fate, and I knew from my experience that fate would be a driver for implementing good cooperation.

In July 2011, a second preliminary meeting was held in Cambodia, and a third preliminary meeting was held in Okinawa, with Mr. Tsuyoshi Kitazawa, JICA official supporter, invited.

JICA usually takes more than one year from the receipt of a request for a project to the implementation of the project. However, this time, by utilizing operating budget for the experts already dispatched, JICA could develop substantial cooperation before the project was officially adopted. This swift cooperation resulted from extremely efficient decision-making by the Japanese side, including the Embassy of Japan and all stakeholders in Laos and Cambodia.

Since it was decided that organizational capacity development should focus on the improvement of administrative capacity of UXO Lao staff members, with support from JICA's IT project, IT training was provided. In the IT project, it was necessary to have "students," and in collaboration with UXO Lao training program projects, "students" were employed. For JICA, this "JICA-JICA cooperation" (cooperation among JICA projects) was very cost-effective as it allowed JICA budget

flexibility. Probably because of the swift cooperation realized, subsequent grant aid project for provision of equipment was also realized, increasing Japan's presence. Nevertheless, the goals are to make a development plan after UXO clearance and implement the cooperation to put the plan into action. So, I do hope that Japan's cooperation in this field will continue.

Unlike Colombia and the Republic of Angola (Angola), with which Cambodia was to conduct the South-South cooperation following Laos, Laos and Cambodia's South-South cooperation was also a regional cooperation among ASEAN States. Both countries were influenced by the Vietnam War and have cultural similarities. After the agreement made at the ASEAN Summit in November 2012 on the establishment of an ASEAN Regional Mine Action Centre (ARMAC) in Cambodia, both CMAC and UXO Lao started having intentions to strengthen the cooperation between Cambodia and Laos in related areas and exchange information and explore the possibility of new South-South cooperation with countries known to be contaminated by mines and UXO, such as Thailand, Vietnam, and Myanmar.

With this movement, the sixth workshop, held in Siem Reap, Cambodia, in November 2014, or the last in the period of three years, was arranged as follows: Day 1: A closed meeting among the three parties−CMAC, UXO Lao, and JICA−reviewed the five workshops held to date and discussed shaping the future approach to the cooperation. Day 2: An open seminar to share the outcomes and lessons learnt from CMAC-UXO Lao South-South cooperation with regional and international stakeholders in mine/UXO action. Participants were the Director General of the Thai Mine Action Center (TMAC) and Assistant to Director General of the Vietnam National Mine Action Center (VNMAC), international NGOs engaged in demining in Cambodia, and representatives from the Embassy of Japan in Cambodia, in addition to CMAC, UXO LAO, and JICA. Finally, Day 3: A field visit to a demining site in Banteay Meanchey, one-hour drive away from Siem Reap, together with the Director General of TMAC and Assistant to Director General of VNMAC.

At the closed meeting on Day 1, it was announced that participants in the first to fifth CMAC-UXO Lao workshops totaled 109 persons (63 from UXO Lao and 46 from CMAC, excluding lecturers). It was confirmed that these workshops provided an opportunity for both organizations to exchange their respective experiences and knowledge to enhance the participants' expertise and contributed to the establishment of a relation between both organizations. In addition, participants' comments included the participation of management levels of both the organizations throughout the workshops, which signified their commitment to the

The sixth UXO Lao-CMAC South-South cooperation

South-South cooperation; technical staff members were willing to learn and there were practical outcomes, such as the integration of what they had learnt at the workshops into their workplaces; office clerks' coordination skills for holding a workshop and in program management were enhanced. Due to geographical and cultural similarities between Cambodia and Laos, participants from both countries used the word "brother" to call each other and established a friendly relationship, which was expected to develop further in the future. From what JICA heard from CMAC and UXO Lao, it was confirmed that following the three-year South-South cooperation, there is a need for South-South cooperation in a different style, aimed to deal with more specific subjects for smaller groups of people.

The open seminar at Day 2 opened with opening statements by Mr. Izaki Hiroshi, Chief Representative of the JICA Cambodia Office, and Mr. Ratana, the Director General of CMAC, followed by presentations by Mr. Phumro, the Deputy Director General of CMAC, and Mr. Thipasone, the Director General of UXO Lao, who talked respectively on issues of mine/UXO contamination in Cambodia and Laos, their respective organizations' outlines and efforts, and the outcomes and meanings of the South-South cooperation. Ms. Eri Komukai of JICA (the author) made a presentation on JICA's support framework for anti-personnel mine/UXO actions, a summary of JICA's assistance for CMAC and UXO Lao, and the South-South cooperation. In the session of questions and comments for the South-South cooperation, not only UXO Lao and CMAC but representatives of international NGOs participating in the open seminar also commented that the South-South cooperation in mine/UXO action was effective in improving managers' and staff's attitudes toward their work and expanding the organizations' and their staff's networks, while expecting from JICA further assistance for it. Thus, the South-South cooperation had been highly regarded. Later in the open seminar, the Director General of TMAC and Assistant to Director General of VNMAC made presentations, respectively, on mine/UXO contaminations in Thailand and Vietnam, their respective organizations' outlines and efforts, followed by presentations by the participating organizations on their demining activities in Cambodia.

The open seminar concluded that regional workshops in the mine/UXO action like this workshop were effective in 1) collecting and sharing information effectively, 2) forming networks, and 3) sharing and acquiring knowledge. Participants from inside and outside Cambodia expressed their gratitude to CMAC and JICA for hosting the seminar. Many participants also requested that the workshop be held once a year.

Column 8

UXO Lao-CMAC South-South cooperation workshop

Akihito Hayashi
(JICA expert in UXO)

CMAC-UXO Lao South-South cooperation workshop in Cambodia

Compared to Cambodia, Laos was more isolated in terms of landmine/UXO clearance. In Cambodia, in the former half of the 1990s, CMAC was established during UNTAC, and the country ratified the Ottawa Treaty relatively early. These movements highlighted Cambodia as one of the most landmine-contaminated countries in the world, drawing international attention and prompting donors to provide assistance to the country. On the other hand, in Laos, UXO Lao was established to launch demining efforts in the mid-1990s. Nevertheless, the country's UXO issue did not draw international attention until 2010, when the Convention on Cluster Munitions entered into force.

As Laos started drawing global attention, JICA started its efforts to help share expertise and experience between Laos and Cambodia through the South-South cooperation. In addition, the South-South cooperation has had substantial meaning. While the Convention on Cluster Munitions provided an opportunity for high-level officials of the Government of Laos to attend international meetings, the South-South cooperation is providing opportunities for local staff members to visit foreign countries. In terms of impacts on local staff, the South-South cooperation is unprecedented.

Since I started working in Laos as an expert, together with the staff of UXO Lao and CMAC, I have held the so-called "workshop" twice a year so that knowledge and experience can be shared between them. The workshop has been scheduled to be held six times for three years from 2012 to 2015. Each session is one to two weeks long, hosted by either Cambodia or Laos. About 10–15 staff members from both the organizations participate in the workshop to exchange their knowledge through presentations, discussions, and on-site visits.

The sessions were conducted through trial and error. What I found most difficult was how to let participants talk and exchange their views and opinions. Just like the Japanese, Lao people did not have a culture to openly and actively express their opinions. In addition, they tended to be quieter when their superiors were present. To address this, I created a framework in which to select eager participants and prepared the environment to facilitate communication. After several sessions, probably because staff members who had participated in the sessions several times got accustomed to the atmosphere, participants seemed to have become increasingly active.

However, what exerted the most significant impact on UXO Lao staff members was probably their direct interaction with CMAC staff members. Very few of UXO Lao staff members had been to a foreign country. They had limited knowledge of Cambodia, and many of the staff members appeared to think Cambodia's demining skills were on a similar level to those in Laos. In

fact, both countries' social indicators do not differ much. However, CMAC's skills in mine/UXO clearance are remarkable, and CMAC has a significant presence in the world in terms of demining techniques, organizational management, equipment, and the scale of facilities. Directly seeing CMAC's activities and exchanging opinions with staff members have provided the participants from UXO Lao with a high-quality experience that cannot be obtained through usual training and meetings. In fact, after they returned to their country, some staff members of UXO Lao are trying to improve operations at the individual level, based on CMAC's activities. In daily operations, staff members of UXO Lao refer to CMAC nowadays. UXO Lao's staff members have started to regard CMAC as a role model to follow.

The present method to implement the workshop needs to be improved to further impact UXO Lao. Currently, a workshop covers a wide range of subjects, and discussions tend to cover a wide range of subjects, without going deeply into one subject. In addition, there are many participants and the number of days for workshop is limited. The workshop is effective for participants to gain a whole picture of each other's organization but is not sufficient for participants to exchange information on specific demining techniques. The workshop still cannot exert impacts at the organizational level. The three-year effort should be regarded as the first step, and we need to seek a new framework to produce substantial results in the second step.

The South-South cooperation can be a useful tool to assist other developing countries with similar problems in solving their respective issues. Donors including Japan may have more experienced technical experts and better workshop management methods than Cambodia and Laos. However, in case of the South-South cooperation, since both the countries have social problems behind mine/UXO issue in common. Therefore, when they discuss the mine/UXO issue, it is easy for them to understand and share various social restrictions behind the mine/UXO issue. That is to say, to a certain extent, you can omit a question that donor countries often have to ask: "what is a suitable technology for a recipient country?" Especially, this is significant for Laos and Cambodia, the two neighboring countries. This is one of the strengths that the South-South cooperation has.

We should turn our attention to why and how the cooperation was made possible. CMAC became what it is now through CMAC's efforts and long-term assistance from Japan and many other donors since UNTAC. What CMAC has gained is now passed on to other countries in the South-South cooperation. When CMAC was established, few people could imagine CMAC cooperating with other demining organizations in the world through the South-South cooperation. It is important to remember that the implementation of the South-South cooperation is the embodiment of efforts made by CMAC and those who were involved in assistance to CMAC over many years.

A remarkable event in Cambodia —the 11th Meeting of States Parties to the Ottawa Treaty

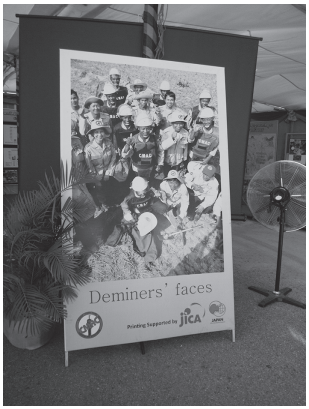
In January 2000, Cambodia became a member of the Ottawa Treaty (officially known as the Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on Their Destruction). The treaty required Cambodia to have cleared all of its mined areas within ten years after ratifying the treaty, that is, by January 2010. Nevertheless, unlike destruction of stockpiles, Cambodia had to start its mine clearance/destruction by determining mine locations, and it was not an easy task for Cambodia, where vast areas are suspected to remain contaminated. Having compared the demining speed by then with the remaining contaminated areas, Cambodia's government officials concluded that it was virtually impossible to complete mine clearance/destruction by January 2010. Accordingly, in May 2009, the Government of Cambodia submitted a request for an extension of the deadline for completing the destruction of anti-personnel mines for a period of 10 years, as stipulated in Article 5 of the Ottawa Treaty, "Destruction of anti-personnel mines in mined area." The request was approved in November 2010, with the new deadline being January 2020.

The signing and ratification of the Ottawa Treaty are just the beginning. Recognizing the needs to monitor States Parties' implementation status, to work on increase the number of signatory nations, and to discuss country-specific anti-personnel mines issues, States Parties to the Ottawa Treaty annually meet at the Meeting of States Parties to the Ottawa Treaty, while taking turns to host the meeting, in and since March 1999, when the treaty entered into force.

The 11th Meeting of States Parties to the Ottawa Treaty was held in Phnom Penh, the capital of Cambodia, for one week in November 2011. More than a half of the meetings of States Parties to the Ottawa Treaty had taken place in Geneva, Switzerland, by then. Of the developing countries, Cambodia was the sixth country to host the meeting, following Mozambique, Nicaragua, Thailand, Croatia, and Jordan. (The host countries to the review conference, which is held every five years, were Kenya for the first review conference, Colombia for the second review conference, and Mozambique for the third review conference.)

The 11th States Parties meeting to the Ottawa Treaty

The 11th Meeting of State Parties to the Ottawa Treaty was chaired by Minister Attached to the Prime Minister of Cambodia and Vice President of the Cambodian Mine Action Authority Prak Sokhonn, and



CMAC presentations at the exhibition space

Cambodian Prime Minister Hun Sen officially announced the start of the meeting. The meeting was a big event like the United Nations General Assembly, with attendance of representatives from mine-contaminated countries in Asia, Africa, the Middle East, and Eastern Europe, representatives of anti-personnel mine action donors. (In addition to States Parties to the Ottawa Treaty, States not parties to this convention, such as China, attended the meeting as observers.) Furthermore, the meeting was attended by international organizations and NGOs taking mine actions, including the UN, International Campaign to Ban Landmines (ICBL), and International Committee of the Red Cross (ICRC), and many groups/organizations of mine victims. From the Government of Japan, Mr. Mari Amano, the then ambassador of Japan to the Conference on Disarmament, attended the meeting, who, in his statement, referred to Japan's assistance to 142 countries with the total amount of USD448 million to address anti-personnel mine issues since 1998 (of which USD116 million was spent for Cambodia).

During this meeting, the Ministry of Foreign Affairs of Japan, JICA, and CMAC co-chaired a side event "Could the South-South Cooperation Be the Panacea for the Reduction of Aid Resources?" Following Mr. Amano's address at the start of the side event, Ms. Eri Komukai of JICA (the author) presented JICA's efforts on mine/UXO action in the South-South cooperation; Mr. Ratana, the Director General of CMAC, presented the organization's experience in its South-South cooperation with Colombia and Laos; and, finally, Mr. Camacho, the Director of PAICMA, explained the contents and features of CMAC-PAICMA third-country training.

The side event was attended by about 70 persons, and, from the floor, other organizations' South-South cooperation programs to assist mine victims were introduced. While some pointed out the effectiveness of the South-South cooperation, others argued that the South-South cooperation was an option among aid measures, and medium- to long-term capacity development of each organization would also be necessary in addition to the South-South cooperation. There were some voices from the floor, requesting JICA's assistance in implementing the South-South

Japanese brush cutter at the exhibition space

cooperation for mine action. The side event highlighted that what was needed to implement the South-South cooperation would be close communication to identify needs among three parties (i.e., two parties with expertise, such as CMAC and PAICMA, and a supporter like JICA) and a proper preparation process, such as survey and coordination. It was also confirmed that conducting third-country training was not the end of the cooperation, and reviews and follow-up would lead to enhancement of organizational capacity. Prince Mired Bin Raad Al-Hussein of Jordan concluded the side event with a presentation on the country's efforts in the said area of assistance.

The exhibit was held opposite to the main meeting's venue across the road, the was held, displaying the brush cutters and demining machines provided to CMAC by Japanese government, the various detectors used by CMAC, along with leaflets and posters, and providing an opportunity to disseminate CMAC's activities to the public. The exhibit presented JICA's cooperation in Cambodia, including its assistance to CMAC. Many people visited JICA's booth during the period of the Meeting of States Parties to the Ottawa Treaty.

Column 9

Impact of the 11th States Parties meeting to the Ottawa Treaty

Shoko Kanazawa
(JICA staff)

Prime Minister Hun Sen visiting the Japan booth, and JICA Cambodia Office local staff members

From November 28, 2011, to December 2, 2011, the 11th Meeting of States Parties to the Mine Ban Treaty (11MSP) was held in Phnom Penh, Cambodia. A meeting of States Parties has been held every year since 1999, when the treaty entered into force, to discuss progress in the implementation of the 1997 Mine Ban Treaty and identify challenges concerning anti-personnel mines, and it was held in Cambodia for the first time. For Cambodia, which is one of the most mine-affected countries and is the country where the movement to ban anti-personnel landmines started 20 years ago, hosting the meeting meant a lot. Some anxiety and excitement existed simultaneously among the related parties, including CMAC, international organizations, and NGOs, even when they were preparing for the meeting. I remember one of the CMAC staff members I had worked together with saying that "this is an opportunity for us to show our efforts and achievements," and that comment left a deep impression on me, that he had been very proud of himself and his organization. We, JICA staff members, were busy in preparing for the side event to be co-held by the Japanese government and JICA, and the booth in the lobby at the meeting venue to present JICA's cooperation activities. As the opening of the meeting neared, I was increasingly filled with expectations for the meeting.

In the night before the meeting, everything was in place. With Cambodian staff, I was waiting for the arrival of Prime Minister Hun Sen, who was scheduled to visit every booth. After several hours of waiting, he visited our booth, and when one of our Cambodian staff members tried to explain JICA's cooperation to him, the Prime Minister stopped him and said, "I know more about Japanese cooperation than everyone else does." Smiling, he expressed his gratitude to us for the cooperation provided to date, shook hands with us, and left the booth. No words were needed, and that was the moment I realized that the Japanese cooperation had been well recognized by the Cambodian Prime Minister as well.

At last, the meeting started. There were 158 States Parties to the Ottawa Treaty (as of November 2011), and the 2011 meeting was attended by approximately 1,000 persons, including States not party to the Ottawa Treaty, NGOs, and mine victims. The meeting took place at Peace Palace, a meeting room in the Office of the Prime Minister. At the time of general exchange of views, several high-level delegates expressed their views: the Republic of Finland (Finland) announced that the country's parliament would vote on ratifying the Ottawa Treaty and become a State Party to the treaty within a few months; the Republic of Burundi (Burundi) and the Federal Republic of

Nigeria (Nigeria) declared themselves mine-free; and the Republic of South Sudan (South Sudan) and Tuvalu gave their first statements as States Parties. All these delegates received a round of applause for their efforts.

In addition, various side events were also held. JICA and the Japanese government cohosted a side event titled "Could the South-South Cooperation Be the Panacea for the Reduction of Aid Resources?" The technical expertise and organizational capacity that Cambodia has accumulated through its mine clearance operations can also be beneficial for other countries affected by landmines and UXO like Cambodia. JICA has supported the South-South cooperation between Cambodia and Colombia and between Cambodia and Laos. The opening statement by Prime Minister Hun Sen and the welcome statement by the President of the 11MSP at the reception in the night before the 11MSP referred to the importance of the South-South cooperation. Prime Minister Hun Sen said in his speech that "we intend to carry on … in further promoting the international cooperation and assistance particularly south-south cooperation among States and key stakeholders, as we believe this will be best model of cooperation …" So our side event also attracted attention, and the meeting room was full. At the side event, CMAC and JICA presented the technical cooperation with Colombia and Laos, and the event helped the attendees gain a better understanding of the South-South cooperation, and we heard from the Mexican government officials that they would like to introduce it in Mexico as well.

Cambodia needs to make further efforts to meet the Ottawa Treaty deadline of destroying all anti-personnel mines in the country. Nevertheless, Cambodia hosted the 11MSP in 2011, which is a milestone year for Cambodia as the 20th year after the commencement of the first main ban campaign. This provided a good opportunity for Cambodia to disseminate the country's demining efforts, including the South-South cooperation, for global recognition and to promote its mince action.

Attitudinal changes resulting from the cooperation —the National Demining Institute of Angola (INAD)

Cambodia's hosting the 11th Meeting of States Parties to the Ottawa Treaty increased CMAC's international recognition as a demining organization. CMAC came to recognize the importance of sharing its demining expertise and experiences with other mine-contaminated countries through the South-South cooperation between Cambodia and Colombia's PAICMA and Cambodia and Laos' UXO Lao, while utilizing them in its operations. The recognition was also shared by the Government of Cambodia, as seen in Minister Sokhonn's address at the meeting, which referred to the South-South cooperation.

Figure 21 presents CMAC's achievements in the South-South cooperation and related items.

In its third South-South cooperation, CMAC shared its demining expertise with the National Demining Institute (INAD) of the Republic of Angola (Angola). In November 2011, JICA dispatched an expert to INAD to strengthen the institutional capacity of INAD. But it was difficult to address the issue of a rigid organizational structure and its inability to operate abundant equipment and tools efficiently. Therefore, a proposal was made that in addition to the continuation of dispatches of JICA experts, INAD managers/employees should be dispatched to Cambodia to gain an insight into CMAC's organizational structure and activities. Responding to the proposal, in October 2012, 10 INAD employees led by the Deputy Technical Director, Mr. Chalissala, together with a JICA expert dispatched to INAD visited CMAC's headquarters, the training center, the Central Workshop, and demining sites in Cambodia. JICA worked as a facilitator for the visit. CMAC and INAD discussed the possible South-South cooperation and both organizations agreed on several workshops to be held, as CMAC did for Colombia's PAICMA and Laos' UXO Lao, moving forward from a single visit like this one.

For about two weeks in February 2014, two CMAC employees, together with JICA staff members, visited the headquarters of INAD and its demining sites to identify needs for training and understand the current situations of INAD. Angola being the third country where CMAC conducted a preliminary survey for the South-South cooperation, CMAC had been conducting the survey properly in the following aspects: information collection before the visit, prior notification to INAD of necessary information and items, inquiries during the visit and collection of documents, and the provision of technical information including CMAC's demining methods. Based on the survey findings, at the end of the local survey, in Luanda, the capital of Angola, INAD, CMAC, and JICA signed an agreement on the South-South cooperation on removal of mines and on the provision of training on mine action to a total of 30 INAD employees on three occasions in May and October 2014 and March 2015 (i.e., 10 employees on each occasion). The training programs would be

Figure 21: CMAC's South-South cooperation calendar

Year	Columbia	Laos	Angola	Other related items
2009	☆ June PAICMA visits Cambodia ☆ September CMAC visits Columbia			
2010	★ June The first training ★ October The second training			● November The extension of the Ottawa Treaty deadline is approved (to December 2019)
2011	★ June The third training	☆ March The first Preliminary meeting @Laos ☆ July The second preliminary meeting @Cambodia		● November The 11th Meeting of States Parities to the Ottawa Treaty @Cambodia
2012	☆ February Follow-up activities in Columbia	☆ March The third preliminary meeting @Okinawa ★ July The first workshop @Cambodia ★ December The second workshop @Cambodia	☆ October INAD visits Cambodia	● November ASEAN Summit agrees to establish ARMAC
2013		★ June The third workshop @Laos ★ November The forth workshop @Cambodia		● October Ceremony of the 9th JICA Recognition Award
2014		★ June The fifth workshop @Laos ★ November The sixth workshop @Cambodia	☆ February CMAC visits Angola ★ May The first training ★ October The second training	● June The 3rd Review Conference of the Ottawa Treaty - Side event "Advancing Mine Action through Triangular Cooperation: Angola, Cambodia and Japan"
2015			★ March The Third training	

Source: The author

comprehensive, combining three priorities: 1) mine action planning and implementation, 2) application of demining technologies, 3) training and information management. As in the training for PICMA, the same training was to be repeated three times: the first training for heads of the office, etc.; the second for heads of demining units; and the third for department chiefs of the headquarters and for management. It was also agreed that after the third training in Cambodia, INAD's managers, together with CMAC's managers, would visit Japan to review the South-South cooperation and to share outcomes with JICA. Like the South-South cooperation with PAICMA and UXO Lao, CMAC was responsible for creating programs and curriculum and preparing teaching materials. These documents were to be translated from English to Portuguese, and English-Portuguese interpreters were to be accompanied from Angola.

Although the findings of CMAC's local survey in Angola had indicated that INAD had needed some improvements in its operations at the headquarters and branches, for example, failures to effectively accumulate and use accurate information, INAD managed to provide almost all information and documents in response to requests from JICA's group of researchers and CMAC's employees. According to JICA's Angola field office, impressed by CMAC's wonderful ways of receiving 10 INAD staff members visiting CMAC in October 2012, INAD, from the Director General to staff members, made combined efforts to prepare for receiving CMAC and JICA. INAD made a schedule for a one-week local tour and provided vehicles and drivers. There was no problem in these arrangements, that is, no schedule delay, and the visit was very well managed. On the meeting and signing day in Luanda, the capital of Angola, INAD's management including its Deputy Director General and employees went to the headquarters at 6 o'clock in the morning to prepare for the meeting/signing. In addition, INAD made arrangements to have the news on this survey reported widely several times on TV, newspapers, and websites, and this also signified INAD's proactive efforts. It was noteworthy that improvements were observed in INAD's management and employees' willingness and attitudes towards their work, even prior to the implementation of INAD-CMAC South-South cooperation in earnest.

Signing the minutes of discussions among INAD, CMAC, and JICA at INAD headquarters, Luanda, Angola

The first INAD-CMAC South-South cooperation workshop was held for two weeks in May 2014.

The workshop was attended by 10 staff members of INAD (eight heads of provincial offices and two department chiefs at the headquarters). The training participants first received a lecture on the framework of demining; the process of selecting demining locations; the effective combination of demining tools (such as equipment, mine detection dogs, and manual means); survey methods; and the management of information systems and data, at the headquarters of CMAC in the capital city of Phnom Penh. After that, they visited a training center of CMAC in Kampong Chhnang, and the Central Workshop that handles maintenance and management of equipment in Battambang, close to the border with Thailand, as well as observing activities in CMAC provincial branches and actual demining locations.

"INAD and CMAC have a common objective to clear all landmines in each country. Sharing CMAC's long experiences and information accumulated since 1992 is extremely beneficial for us at INAD who started demining activities later (Angolan civil war ended in 2002)," said Mr. Manuel Dodo, Director of Department of Operations, a leader of the INAD team in the first South-South cooperation between CMAC and INAD. "I only knew its history from books, but in our first visit I found the people to be warm-hearted and they showed us respect," he added, giving his impression of Cambodia. To prepare for the review session to share lessons learnt scheduled for the last day of the workshop, participants from INAD worked at the hotel until about 8 o'clock of the preceding night. In the last session, participants from INAD suggested that the methods and skills they acquired through the training and they wanted to introduce were "methods of land release," "recycling gunpowder from UXO," "linking demining and development," and "skills for underwater mine/UXO clearance." Also, the participants from INAD were inspired by the facts that CMAC staff members at the deminer level have multiple skills including IT, and that the offices they visited in different provinces were operated based on standardized information from the headquarters.

"When I first heard about the South-South cooperation with Angola, to be honest I was a little concerned about whether it would go well. However, when it actually happened, the participants from INAD were very proactive and we were able to carry on more fruitful discussions than expected. We at CMAC are not trained as educators, so we would

Field visit during the first training of INAD-CMAC South-South cooperation

like to share our experience with them not as teachers, but as a country that has the same problems of mines and UXOs," said Oum Phmuro, Deputy Director General of CMAC, who visited Angola as the head of the CMAC delegation in preparation for this South-South cooperation. Mr. Ung Raksmey, chief of international relations of CMAC, who has worked as a coordinator for all CMAC South-South cooperation with Colombia, Laos, and now Angola, also felt that the response was good. "Compared to the first two countries, Columbia and Laos, INAD was proactive and many technical questions and comments were raised," he said. "Because JICA acted as a facilitator, we were able to connect with countries worldwide that suffer from landmines and UXOs. We are happy to share our experiences with those countries that have similar challenges. Every time we accept a new country, there is some bewilderment coming from cultural differences, but this kind of cooperation is also beneficial for CMAC," he added.

The second workshop was held for two weeks in October 2014, with attendance of nine chiefs of provincial brigades from INAD and one manager from the headquarters. As in the first workshop, the participants from INAD were very serious and punctual and concentrated on the lectures. Although they were from different countries, they were all engaged in mine clearance, and many of them were former military men. At sessions, they asked many technical questions and made comments on demining technologies and techniques; thus, the discussions were very active.

JICA observed changes in INAD before and after the INAD-CMAC South-South cooperation. These changes may be because the fact that Cambodia could offer its expertise and skills on mine action, despite the country being a small country in Asia and not even a developed country, stimulated Angola, which is more advanced than Cambodia in terms of economy. Needless to say, CMAC's demining expertise and excellent survey ability were a basis for success in the South-South cooperation. Another factor that facilitated changes in INAD was experts with similar backgrounds, who had "common language" in the technical context and similar behavioral patterns.

Side event at the third review conference to the Ottawa Treaty

INAD requested CMAC to conduct theme-specific training in addition to the three South-South cooperation workshops scheduled, and dispatching INAD employees to CMAC with funds from the Government of Angola is now

being examined.

During the third review conference to the Ottawa Treaty in Maputo, Mozambique, in June 2014, Japan hosted a side event titled "Advancing Mine Action through Triangular Cooperation: Angola, Cambodia and Japan." Mr. Yasushi Noguchi, Director, Arms Control and Disarmament Division, Ministry of Foreign Affairs of Japan; Mr. Oum Phumro, Deputy Director General of CMAC; Mr. Leonardo Severino Sapalo, Director General of INAD; and Ms. Eri Komukai of JICA (the author) made presentations from their perspectives on each country's cooperation in anti-personnel mine action and the related South-South cooperation, to disseminate the INAD-CMAC South-South cooperation. The presentations were well received by the participants.

In addition, at a high-level session of the third review conference, Parliamentary Vice-Minister Hirotaka Ishihara delivered his statement, presenting Japan's new approach to landmine action with three pillars: 1) continuous assistance for demining activities in countries seriously contaminated by landmines and UXO; 2) promotion of regional cooperation/South-South cooperation; and 3) comprehensive assistance for mine/UXO victims. Note that the "Maputo Action Plan" stated that all States Parties "will (…) promote bilateral, regional and international cooperation, including through South-South cooperation," under the provision "International Cooperation and Assistance."

Column 10

The INAD-CMAC South-South cooperation

Kayo Omachi
(The former Project Formulation Advisor, JICA Angola Field Office)

Tomoko Yasunaga
(The former Junior Expert, JICA)

INAD staff members visiting a demining site in Cambodia

As a legacy of a 30-year civil war that ended with the signing of the peace accords in 2002, Angola has an estimated 10 million landmines still buried, which are a major hindrance to infrastructure development, agricultural development, and development of mineral resources. An estimated 1,250 square kilometers of land at about 2,000 sites in 18 provinces is believed to be contaminated with landmines in the country, and approximately 2,400 thousand people (about 15% of the population) face risks to their life from the landmines. Twelve years after the end of the civil war, the landmines still continue to pose risks to people's everyday lives.

Responding to such serious situations, the Government of Angola established the National Demining Institute (INAD), a mine action operator in 2001, and ratified the Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on Their Destruction (the Ottawa Treaty) in July 2002. Angola has been reinforcing its demining efforts to meet Angola's Article 5 deadline set for 1 January 2018.

One of the key activities of the Government of Angola is the INAD-Cambodian Mine Action Centre (CMAC) South-South cooperation. To prompt economic development through infrastructure development hindered by large numbers of landmines hidden in the country, the Government of Angola has been promoting mechanized demining operations in recent years. During the process, the need for capacity development of INAD, including equipment/machine maintenance management, was identified. Responding to a request from the Government of Angola, JICA dispatched individual experts to help improve INAD's organizational capacity and, simultaneously, has been serving as a bridge between INAD and CMAC, which has a long history of achievements in demining operations, to enhance INAD's demining capacity.

Technical assistance by CMAC in particular is a major pillar to support the Government of Angola's mine clearance activities. With regard to the INAD-CMAC South-South cooperation, INAD, CMAC, and JICA signed an agreement on the implementation of third-country training for INAD in Cambodia in February 2014, in Luanda, Angola's capital. This was a comprehensive program including the following curricula: 1) demining planning and implementation, 2) demining of technical application, and 3) training and information management. The training was planned to be held in three sessions for three groups of branch heads, heads of provincial demining units, and directors at the headquarters and senior officials, respectively.

[Sustaining the people's lives]

In May 2014, under the leadership of CMAC, the first South-South cooperation training took place in Cambodia. The training was structured with a combination of lectures and fieldwork at demining sites. Participants from INAD attended every session, intending to share their experience and knowledge of demining operations with CMAC, rather than simply being passive, while participants from CMAC exchanged views and opinions, paying respect to INAD participants as demining technicians.

A glance at the ongoing development in Luanda does not remind me of the fact that the country was plagued by a disastrous civil war until it ended 12 years ago. However, in Angola, the civil war is within living memory, and at demining sites, another "war" still continues.

When it was nearing the end of the training, I got comments from INAD participants, including "I would like to have intensive training on more specialized topics" and "since CMAC has knowledge, technologies and management methods that we do not have, I can learn a lot from them." Through the South-South cooperation with CMAC, INAD could identify and quite humbly admit its weaknesses in technologies, operations, and management frameworks. This was a good outcome, and the training provided an opportunity for them to identify and specifically consider what was needed for themselves.

Mr. Leonardo Sapalo, the Director General of INAD, talked to his staff members with a smile on his face.

"Angola established its first demining group in May 1991. Moxico province, where fierce fighting took place during the civil war, was the first to be cleared of landmines. I was the head of the demining technology department, and arrived in Luena, Moxico province, with my team. We could not travel by land, and air transport was the only form of transportation available for us. Under such conditions, we continued to clear landmines one day after another for one year, as if in an open prison. Mine risk is still high in Moxico province. However, now people can live in the towns. They can walk down the street and chat with their neighbours. Our mine clearance is not a beautiful job like planting flowers and growing crops. But our work is closely related to the protection of human dignity, such as 'people's freedom' and 'sustain[ing] life.' I served as the head of the demining technology department, and then as Deputy Director General and became Director General of INAD in 2004. However, we were not raised to be somebody ranked above others. As the INAD staff, we are proud of ourselves to be engaged in demining that sustain[s] lives of the people in Angola, and as long as the Government of Angola needs us, we would like to do our best to be part of actors who reconstruct our country."

Impressed by the INAD staff members' changing attitudes towards work and improved skills as a result of the South-South cooperation, the Government of Angola has high expectations from the South-South cooperation. Angola and Cambodia—These two countries are far away from each other and have different languages and cultures. One thing they have in common is a painful past of long-lasting conflicts that people in both the countries went through. Toward achieving "Zero Landmine," the tie that has connected both the countries will be developed.

ASEAN Regional Mine Action Centre (ARMAC)

The 21st ASEAN Summit held in Phnom Penh, Cambodia, in November 2012, agreed to establish ASEAN Regional Mine Action Centre (ARMAC) in Cambodia. Two years later, in November 2014, a seminar to mark the establishment of ARMAC was held in Siem Reap, Cambodia. The Government of Cambodia has been examining exact functions of the ARMAC as in 2014. According to what the Director General of CMAC said, reasons behind the decision on the establishment of ARMAC in Cambodia included achievements in Cambodia's South-South cooperation supported by JICA.

At the open seminar held at the sixth CMAC-UXO Lao workshop with the executives of TMAC and VNMAC invited, discussion took place to confirm that landmines and UXO continue to be a hindrance to the development of ASEAN member States and many landmines remain buried in the border regions. Cooperation within the ASEAN region is expected to deepen by utilizing CMAC's expertise in mine/UXO action and achievements in the South-South cooperation.

Column 11

The 9th JICA President Commendation

Hiroshi Izaki
(The former Chief Representative of the JICA Cambodia Office)

The 9th JICA President Commendation ceremony

In the 9th JICA President Commendation (2013), 10 individuals and seven groups were awarded the JICA Recognition Award. CMAC was selected as one of the seven group recipients, for the following reason: "being the only governmental demining organization in Cambodia, CMAC conducts its demining operations utilizing the technical cooperation and grant aid schemes. CMAC destroyed about 70% of all landmines/UXO destroyed to date and cleared about 50% of all areas of land being cleared to date. CMAC is a central figure in mine action within ASEAN region, and conducts the South-South cooperation."

The JICA Recognition Award ceremony was held at the Ministry of Foreign Affairs and International Cooperation in Cambodia on October 30, 2013. Prior to the award ceremony, the Exchange of Notes (E/N) for the "Programme for Integrated Mine Clearance and Landmine Victim Assistance (Phase II)" (grant aid for conflict prevention and peacebuilding) was signed between H.E. Mr. Hor Namhong, Deputy Prime Minister and Minister of Foreign Affairs and International Cooperation, and Mr. Yuji Kumamaru, Ambassador Extraordinary and Plenipotentiary of Japan to the Kingdom of Cambodia. The signing ceremony was followed by the award ceremony, with the attendance of Mr. Namhong and Mr. Kumamaru at the same venue. On behalf of Mr. Akihiko Tanaka, President of JICA, Mr. Hiroshi Izaki, the Chief Representative of JICA Cambodia Office, made a speech of congratulations for winning the JICA Recognition Award and presented a letter of appreciation to CMAC.

In his congratulatory address, Mr. Izaki said that since 1999, JICA and CMAC have been working together to implement a series of grant aid assistance and technical cooperation projects to assist Cambodia's efforts to achieve the targets stated in the "National Mine Action Strategy (2010–2019)." CMAC has made a steady progress in clearing landmines/UXO in the country through landmine/UXO clearance, training, research, and mine awareness, and these efforts have led to a drastic decrease in mine victims and have contributed to the local farmers for making cleared land available for agriculture.

CMAC's demining capacity has greatly contributed to Cambodia's landmine/UXO clearance and to JICA's projects. For instance, when large numbers of UXO had been found during a project for constructing Neak Loeung Bridge over Mekong River in the Southern Economic Corridor, CMAC conducted a research and UXO clearance and the construction has resumed safely. In addition, as a result of staff and organizational capacity development, CMAC is now one of the

world's leading landmine/UXO clearance organizations, and with its skills and expertise, CMAC can and does conduct third-country training.

JICA has high regard for CMAC's "on-site capabilities." CMAC uses various demining equipment and machines at minefields, trains mine detection dogs and works with them at demining sites, and conducts mine awareness education for local residents near their demining sites. Cambodian people trust in CMAC more than they do in the national forces.

The ceremony with a solemn atmosphere was attended by CMAC staff and representatives of related ministries, people from the Embassy of Japan, and JICA staff. Although Prime Minister Hun Sen's attendance had been examined, as it turned out, the ceremony was held with the attendance of the Deputy Prime Minister. Cambodia still needs to make efforts toward meeting the 2019 deadline as required under the Ottawa Convention, and CMAC is highly expected to be successful in landmine/UXO clearance.

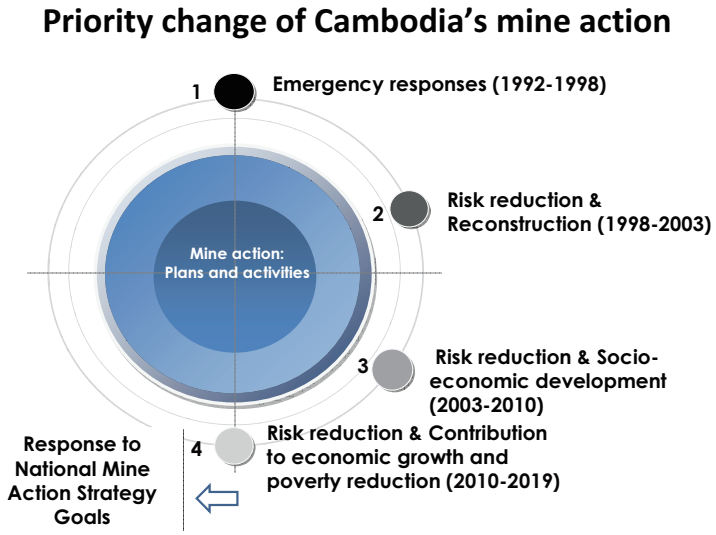
Chapter 4 What should we learn from CMAC's organizational transitions and our assistance to CMAC?

22 years of CMAC—organizational growth and internalization

Let us look at Figure 22 (Figure 5) again (which first appeared in Chapter 1), presenting CMAC's mine action priorities in Cambodia from 1992 to 2019.

Immediately after the Paris Peace Agreements, UNTAC was established. At that point, landmines had been already regarded as a hindrance to the safe return and resettlement of refugees and internally displaced persons. In June 1992, CMAC was established at the initiative of UNTAC. In November 1993 after the withdrawal of UNTAC, CMAC was re-formed into a governmental organization. Since 1993, CMAC has been supported by many donors in terms of funds and human resources, and engaged in mine clearance, mine awareness, survey, and training. However, until 1998, when the Khmer Rouge collapsed and the first general elections after the withdrawal of UNTAC were conducted, peace was not brought to Cambodia in any real sense. Until 1998, there had been restrictions on demining and surveys: that is, no such activities were allowed in some areas, etc. On the other hand,

Figure 22 (Figure 7): Landmine issues in Cambodia and phase transition



Source: The author based on information provided by CMAC

it was necessary to emergently detect and clear mines in the areas of land where refugees were expected to repatriate to or resettle in. In the years leading up to 1998, the number of mine victims always exceeded 2,000 persons per year, peaking at 4,320 persons in 1996. (Roughly calculated, it implies that more than 12 people per day, or one person every two hours, were/was killed or injured by mines and UXO in Cambodia.)

As shown in Figure 22, the period from 1992 to 1998 was considered as the "emergency response" phase, the process of the transition from conflicts to reconstruction and complete peace in Cambodia, requiring emergency mine action to reduce the number of mine victims during the repatriation and resettlement of refugees. Simultaneously, the term "emergency response" implies the absence of medium- to long-term plan and strategy, but the existence of an ad hoc approach to operations. It was impossible to grasp the whole picture of mine/UXO contamination in the country, because of the presence of inaccessible areas due to fighting against the Khmer Rouge, and CMAC's priority given to promoting emergency activities and not to preparing medium- to long-term plans and strategies or to developing institutions and organizational framework. Because of these factors, the seven years from 1992 to 1998 are considered as the emergency response period for CMAC. In addition, soon after its establishment in 1992, CMAC was largely dependent on funds and human resources from the international community as if it were a part of the UN organizations. In 1993, CMAC became independent as a governmental body. The few years after the establishment was the period in which CMAC tried to prevent the international community from withdrawing its funds and human resources along with UNTAC's withdrawal, while also trying to make a firm foundation as a governmental body.

From 1998 to 1999, opportunities came along for CMAC. Cambodia saw drastic changes—the end of conflict following the collapse of the Khmer Rouge, and general elections in 1998 after the armed confrontation between the Cambodian People's Party and FUNCINPEC Party in 1997. As a result of the general elections, a parliamentary system with one prime minister was introduced, and Hun Sen was appointed Prime Minister, thus bringing about changes to the political balance maintained since 1993.

The impacts of these changes on CMAC included access to restricted areas and information made available after the end of fighting against the Khmer Rouge, and the commencement of the return and resettlement of refugees and internally displaced persons to the former Khmer Rouge-controlled areas. That is to say, needs arose for clearing landmines in the former Khmer Rouge-controlled areas without delay, and it was now possible to conduct surveys on mine contamination across the country including the former Khmer Rouge-controlled areas. The latter, in particular, signified that important prerequisites for examining medium- to long-term plans and strategies for mine action had been met eight years after the Paris Peace Agreements.

In addition to the impact of changes in Cambodia's political and security situations on CMAC, the circumstances of CMAC themselves also changed. In 1999, due to mismanagement and financial problems of CMAC, the organization was forced to suspend its operations. Problems concerning CMAC management and post-clearance land were pointed out. As mentioned in Chapter 1, Mr. Ratana, the Director General of CMAC, cited rapid expansion of the organization without reforms as a structural factor of the suspension of the organization's operations in 1999. As the period leading up to 1998 was considered as the "emergency response" phase, CMAC had not carried out organizational reforms as it grew bigger and did not have prepared systems and frameworks to suit the scale of the organization. Nevertheless, CMAC, without organizational reforms, had expanded its activities to meet the needs for mine action. As a result, problems, such as its mismanagement, financial problems, and failure to ensure the quality of its activities, came to surface at once. CMAC that had been forced into suspended operations were challenged by various issues to address, and immediately commenced organizational reforms in earnest, specifically downsizing of CMAC, introduction of external audit, establishment of the Land Use Planning Unit (LUPU) system at the provincial and district level, and separation of some functions of CMAC to make an independent body, that is, the establishment of CMAA. Although donors resumed their support after a relatively short period of time, taking CMAC's swift action on reforms into consideration, CMAC continued to make efforts toward reestablishing the organization.

As the country gradually was transitioning from the "emergency response" phase to "reconstruction" and "development" in around 1999 following the end of Cambodian conflict in 1998, mine clearance was also considered in connection with reconstruction and development, instead of independent operations. Priorities in the period of 1998-2003 were "risk reduction/Reconstruction" (see Figure 22). Furthermore, the Ottawa Treaty became effective in 2001, setting a deadline for Cambodia, specifically that it should have cleared all of its mined areas within 10 years after ratifying the treaty. Under these circumstances, CMAC had been faced by challenges since 1999, including reforms in its operations and management, capacity development of field staff in place of foreign experts, and efficient mine clearance.

In the general elections in 2003, the Cambodian People's Party won the majority of seats, making the ruling party's position rock solid. Economic indicators continued to show steady growth. In the CMAC's original document on which Figure 22 was based, the period up to 2003 was considered as the "risk reduction and reconstruction" phase, and the period of 2003–2010 as "risk reduction/Socio-economic development"; thus, the phases changed before and after 2003. CMAC's roles and directions remained basically unchanged till 2010 since its reestablishment following its suspended operations in 1999. The factors contributing to improved efficiency in its demining activities included enhancement of

demining tools, such as the introduction of brush cutters, and their effective applications (brush cutters were introduced in 2000, and the effects started manifesting in 2005), and the introduction (in 2008) and application of land release.

Since 2010, CMAC has prioritized "contribution to risk mitigation and poverty reduction." When looking back in the history of CMAC, a phase change before and after 2010 was marked with the introduction of land release, with which the areas cleared by CMAC almost doubled in 2010 relative to 2009 and have remained almost at the same level since 2013. This suggests that CMAC came to take shape as it is now by 2010. Since 2010, CMAC has been sharing its expertise not only within itself but with other organizations outside the country, leading to the recognition of CMAC around the world.

The first time when CMAC provided comprehensive training to another country apart from short visits was its training for Colombia's PAICMA. CMAC started preparing for the training in 2009, and the first training took place in 2010. In preparation of the training for PAICMA, CMAC supervised the whole of two-week training programs and prepared curricula, modules, and training materials. Although JICA experts assisted CMAC in doing so, basically, CMAC made all these arrangements by itself—accepted trainees from PAICMA, provided lectures at the class, and organized visits to the training center and demining sites. Thus, CMAC managed the training from the start to the end. Based on this experience, CMAC also provided the South-South cooperation to Laos' UXO Lao and Angola's INAD, which differed in organizational culture, capacity, and needs of each organization. CMAC's training programs were regarded as satisfactory by these two organizations. In 2011, the Government of Cambodia hosted the Meeting of States Parties to the Ottawa Treaty, and in the same year ASEAN leaders who gathered at the 21st ASEAN Summit, Phnom Penh, decided to establish the ASEAN Regional Mine Action Centre in Cambodia.

In summary, since 2010, CMAC has intended to share the expertise gained through its internal efforts on organizational reforms, capacity development, and improvement in demining activities with demining organizations in other mine-/UXO-contaminated countries. Such efforts from CMAC have produced good results.

Keys to the development of CMAC

CMAC is the first organization that was created by the UN organization and became a demining institution of the government. Without precedent, CMAC had to develop its organization by itself and by making its own decisions. Moreover, in those days, there were no international standards and regulations on mine clearance and surveys, and Geneva International Centre for Humanitarian Demining (GICHD) and United Nations Mine

Action Service (UNMAS) had not yet been established.

CMAC's methods of mine clearance, survey, and mine awareness were first built upon the expertise brought in by foreign experts who worked during the early years of the organization. Then, these methods were adapted to local situations and have been developed further to be more effective and efficient by Cambodians since around 2000. Despite the crisis of suspended operations in 1999, CMAC managed to reestablish the organization, and has grown to be able to provide training to other mine-contaminated countries, even to organizations in countries that are more economically developed than Cambodia, such as Colombia and Angola.

CMAC headquarters at present (provided by CMAC)

CMAC is expected to increase productivity in demining operations to meet the deadline extended to January 2020, to complete the destruction of anti-personnel mines as required by the Ottawa Treaty, as the current speed to release contaminated land by all demining operators in the country may not be fast enough. While CMAC still faces various challenges such as heavy dependence on external funds with limited funds from the government, nevertheless, CMAC has generally developed to be a capable organization.

A key factor that supported the development of CMAC to what it is now was its efforts in reforming the organization and improving activities implemented after the suspension of operations in 1999. Mr. Oum Phumro, the Deputy Director General of CMAC, was employed as Public Relations Manager at CMAC in April 2001. Mr. Phumro pointed out five improvements in CMAC made between 2001 and 2014 (2014) as follows: 1) improved system for operations through the formulation of policies, SOPs, and other procedures; 2) improved productivity in demining activities; 3) improved capacity of human resources; 4) enhanced capacity for project management; and 5) improved organizational management capacity.

1) Improved system for operations

Until around 1999, CMAC had used SOPs and methods for survey and clearance brought in by foreign experts. However, from around 2000, CMAC started collating and editing them to prepare its own SOPs, policies, and procedures in Khmer language. The SOPs currently in place were prepared around 2001 and have been updated as necessary.

2) Improved productivity in demining activities

Thanks to the introduction of 15 brush cutters with Japan's assistance and subsequent revisions on SOPs, CMAC's clearance productivity per annum improved from 10 square kilometers in years up to 2004 to 20 square kilometers since 2005. Land release was introduced in 2008, and the organization's mine clearance productivity has further improved to 80 square kilometers of land per annum since 2010. Combining various demining tools and methods has led to improvement in demining productivity.

3) Improved capacity of human resources

Good tools are useless in enhancing productivity without good human resources. After the introduction of brush cutters, staff members were trained on how to use them. Intensive training was conducted on demining staff and middle management between 2007 and 2008. Since some managers were ex-soldiers and were promoted to management positions over the years without necessary education, training was also provided to them.

4) Enhanced capacity for project management

From immediately after the establishment of CMAC to 1999, the majority of external funds were disbursed to CMAC through a UNDP Trust Fund, and what CMAC had to do was simply to report and write a proposal to UNDP. As external resources for CMAC have diversified since around 2000, CMAC has enhanced its capacity to manage budgets and various projects and to report and make proposals.

5) Improved organizational management capacity

Improvements since 2001 include a transparent recruitment process, abolishment of unnecessary positions, solving foreign expert-related problems, and establishment of database, manuals, and institutional systems concerning human resources and equipment management.

Thus, CMAC's reform efforts since 2000 have built a solid basis for the organization and achieved good results. One of the promoting factors for CMAC's continuous organizational improvements that Mr. Phumro cited was CMAC's dependence on external funds, which prompted CMAC to meet the demands from donors. It is ironic that being unable to self-finance and dependent on external aid was not a favorable situation, but such situation actually forced the organization to make improvements. In fact, a CMAC staff member who visited the INAD, a large part of whose budget was covered by its government, pointed out that self-funded expensive machines could be utilized more efficiently by changing their arrangements and applications. CMAC has an information system in place, enabling the management/staff to access necessary information in order to respond to donors' inquiries of outcomes of demining activities, productivity in the operations, and organizational management capacity.

Being exposed to external monitoring cannot be a major driving force to develop an organization to be a capable one. Mr. Phumro highlighted three internal factors for the

growth of CMAC, namely solid leadership, employees' motivation, and discipline. When Mr. Hayashi, a JICA expert dispatched to UXO Lao, visited the departments of information system, human resources, and equipment management at CMAC's headquarters, together with the management of UXO Lao, he was impressed by every one of CMAC staff at the departments, who explained their responsibilities with pride. CMAC has been developing the capacity of not only some managers but also many staff members of each department and demining units.

CMAC's high organizational capacity is maintained by highly motivated and capable human resources in each layer of the organization with discipline in the workplace under strong leadership.

Chronology of Japan's assistance for CMAC —how did it contribute to the development of CMAC?

Japan's support for CMAC dates back to 1998, when disbursement to the UNDP Trust Fund started. Japan started provision of equipment and machines in FY 1999 through a grant aid scheme, and a total of six grant aid projects were implemented by 2014. A total of five JCA experts were dispatched, starting with the first dispatch of a "communications network senior advisor" in 1999. These dispatches paved the way for the technical cooperation "Project of Strengthening CMAC's Function for Human Security Realization" in 2008. As for the South-South cooperation, the CMAC-PAICMA cooperation started in 2010, followed by CMAC-UXO Lao and CMAC-INAD cooperation, scheduled to be conducted by the end of 2015.

Figure 23 presents Japan's assistance to CMAC to date, in accordance with different phases of the mine action sector in Cambodia.

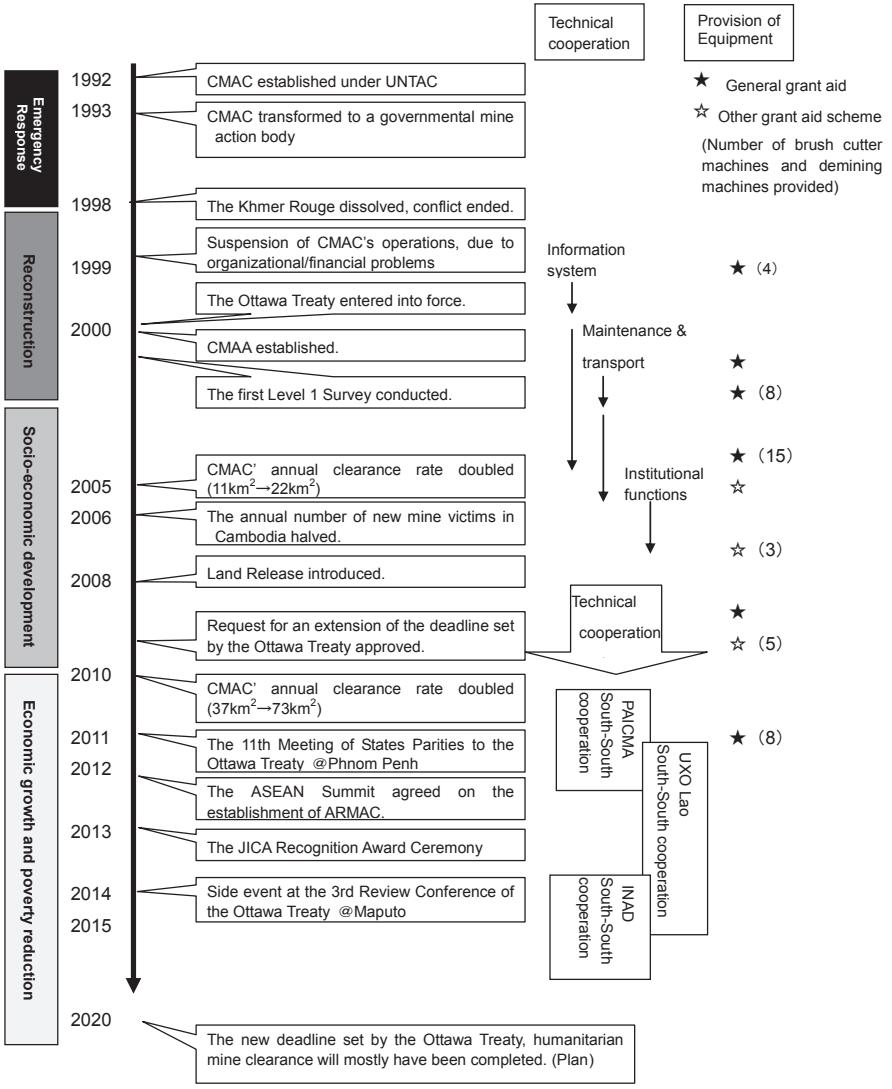
The terminal evaluation conducted in 2010 on the technical cooperation "Project of Strengthening CMAC's Function for Human Security Realization" highly concerned Japan's assistance for CMAC consisting of a combination of three forms, namely "funds," "equipment," and "human resources." While many donors provided financial support only, Japan's assistance was characterized by the provision of equipment and dispatch of experts through technical cooperation. Mr. Phumro commented that this led to enhanced incentives for the organization and individual staff members.

In an interview with Mr. Ratana in October 2014, he also stressed that Japan's assistance was a mixture of equipment, technical cooperation, and funds, and each of them contributed greatly to the development of CMAC.

Experts dispatched through technical cooperation focused on establishing information systems, enhancing equipment maintenance/management, and enhancing organizational management. The terminal evaluation report pointed out that these activities were

Figure 23: Chronology of Cambodia's mine action and Japanese assistance

∗ Funds have been disbursed in various schemes since 1998.



Source: The author

in alignment with CMAC's reforms in organizational management, these activities simultaneously contributed to the capacity development of the staff, and the ways how Japanese experts worked showed international standards of professionalism. Since 2008, Japan had helped strengthen CMAC's capacity through the technical cooperation projects, instead of individual dispatch of experts. The terminal evaluation on the technical projects identified the establishment of information systems, enhanced the capacity of the Central Workshop and training programs as outcomes. Note that building on the information systems improved through JICA's expert dispatches and technical cooperation projects, CMAC made its own efforts to improve the information systems to be what they are now after the completion of the JICA project. When a GICHD mission visited CMAC a little after the end of the JICA project, they commented that they were surprised to see more advanced information systems in a developing country than the Information Management System for Mine Action (INSMA), which is considered a global standard.

Mr. Ratana commented on the provision of equipment that "they are generally of high quality and are now essential in CMAC's demining activities. The equipment provided by Japan helped us develop demining expertise, techniques and SOP." There was another comment that a unique feature of Japanese brush cutters and demining equipment was that they were developed by the private sector for nonmilitary purposes, unlike those made in Europe and the US. CMAC analyzed that the drastic increase in areas of land cleared by CMAC in 2005 was attributable to the operations of many brush cutters provided by Japan, as mentioned in Chapters 2 and 3. This was because Japanese equipment was suitable to minefields in Cambodia in terms of the vegetation, etc., compared to other countries' equipment, and it was also easier for local staff to learn how to use the equipment; it was easier to reflect the procedures on SOPs; and the provision of equipment was not conducted by itself, but together with support for operations. Consideration to practicality of the equipment is indispensable for better use of it.

Japan continues to provide funds to CMAC through various schemes of the Ministry of Foreign Affairs of Japan. Also, the South-South cooperation has been highly regarded by CMAC's partner organizations, as mentioned in Chapter 3, and Mr. Phumro commented that the South-South cooperation has provided a good opportunity for CMAC to collate its knowledge and expertise, leading to high self-esteem for the organization.

In an interview with Mr. Ratana in October 2014, he commented that Japanese people's commitment to supporting mine action in Cambodia was an encouragement for CMAC, referring to involvement by various Japanese actors, such as Japanese NGOs, researchers, the private sector, and Peace Boat in supporting CMAC, in addition to the Japanese government's and JICA's comprehensive assistance. He also commented that "[i]f provision of equipment is included, Japan's assistance accounts for 40–50% of the assistance that CMAC currently receives. Thus, the relationship with Japan is very special."

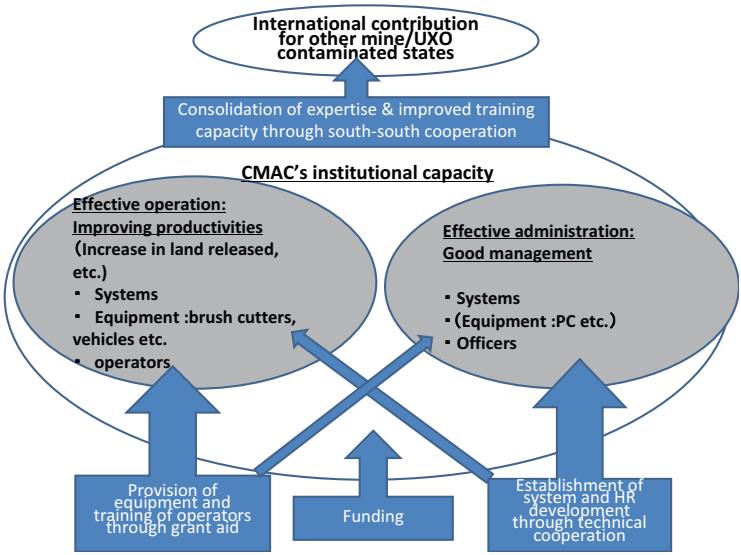
Continued multilayered assistance by various actors has led to high visibility of Japanese assistance in mine action in Cambodia.

Mr. Phumro listed five factors supporting CMAC's high organizational capacity:

1) improved system for operations, 2) improved productivity of demining, 3) improved capacity of human resources, 4) enhanced capacity for project management, and 5) improved organizational management capacity. These can be classified into operational aspects for improving productivities and administrative aspects for good management. The first two factors, 1) improved system for operations and 2) improved productivity of demining, fall under the classification of "operational aspects"; another two factors, 4) enhanced capacity for project management and 5) improved organizational management capacity, under "administrative aspects"; and the remaining factor, 3) improved capacity of human resources, under both "operational" and "administrative" aspects. For both operational and administrative aspects, quality systems, personnel who use them properly, and necessary equipment have to be in place.

As shown in Figure 24, Japan's assistance greatly contributed to heightened demining productivity at CMAC through the provision of equipment, and to the establishment of administrative systems and capacity development for good management through technical cooperation. Since some equipment such as computers was provided to administration

Figure 24: Input by Japan to strengthen CMAC's organizational capacity



Source: The author

departments, and systems for operations were also enhanced through technical cooperation, crossed arrows are drawn. Disbursed funds are used for both operational and administrational aspects. "Japanese assistance contributed to improvements in both operational productivity and management capacity. These two major improvements allowed CMAC to become a capable demining organization. Without assistance from Japan, CMAC would not be the organization as we are now," said Mr. Phumro.

Assistance in the landmine/UXO sector within a peacebuilding framework —do no harm, do maximum good

As summarized in the introduction, being a development assistance organization, JICA puts emphasis on linking mine/UXO clearance with the promotion of development and poverty reduction. If some politicians or the wealthy class interfere with and/or influence the prioritization process for demining and use of cleared land in a non-transparent way, mine/UXO clearance despite time and money spent on the efforts would not promote peace or development, but would increase destabilizing factors in the society.

In Cambodia, when CMAC was forced to suspend operations in 1999, there was criticism of the distribution of the land cleared by CMAC. To address the issue, a Land Use Planning Unit (LUPU) was created at the provincial level to provide a system to ensure transparency in prioritization of demining, to prevent cleared land from being exploited, and to hand over the cleared land to intended beneficiaries. Later, this system was developed into a Mine Action Planning Unit (MAPU) and a Provincial Mine Action Committee (PMAC). These frameworks are highly regarded as systems to improve the process of prioritization and to address problems surrounding the cleared land. Nevertheless, it is imperative to monitor whether or not they continue to function as intended. This is because failing to conduct demining activities to meet humanitarian purposes or achieve the goals of poverty reduction and facilitation of development will be meaningless or even impact adversely in terms of peacebuilding, no matter how efficiently landmines and UXO were cleared.

Although JICA provides direct assistance to neither LUPU nor MAPU, JICA has been cooperating with CMAC for long period in the area of capacity development in operation at the field as well as administration and management system at the office. Also, through placing JICA experts within the CMAC organization, they are able to observe how the system actually functions, and to improve it together with CMAC staff.

JICA, which promotes assistance for peacebuilding, should not regard mine/UXO clearance as something good without a critical eye, but should carefully consider assistance from two perspectives: one perspective is whether demining activities will not induce/deteriorate unstable situations ("do no harm"), and the other is whether mine/UXO

clearance will surely lead to peacebuilding from a humanitarian standpoint and through poverty reduction and development ("do maximum good"), based on observations of each country and region concerned.

Potentials and challenges for development assistance in the landmine/UXO sector

Support for mine/UXO action might remind you of people with military knowledge instructing mine/UXO clearance. Looking back to Japan's assistance for CMAC, brush cutters and demining equipment that improved CMAC's demining speed were originally developed as construction machines and later adapted for mine clearance by private companies. Also, technical cooperation by Japanese experts was not focused on mine/UXO clearance and survey activities, but for the establishment of information systems, maintenance and management of equipment/machines, enhancement of organizational management, capacity of the Central Workshop, and training programs. These were the areas JICA has assisted in, for conventional development cooperation, to date in developing countries, and, at the same time, these issues were the challenges that CMAC faced in those days, namely "improvement of systems for operations," "capacity development of human resources," and "improvement of organizational management." Thus, JICA can produce outcomes and impacts in supporting mine/UXO action by applying its expertise accumulated through usual development cooperation, if situations of the country and organization are carefully analyzed and identified.

The "Evaluation of Japan's Anti-Personnel Mine Action Assistance Policy" by the Ministry of Foreign Affairs of Japan in FY 2004 recommended that "[i]n the area of mine clearance, it is becoming more common to coordinate and combine mine clearance activities and development activities. To make its aid more effective and visible, it is desirable for Japan to be more active in providing assistance which coordinates and combines mine clearance and development activities." Since a focus is increasingly placed on development-orientated mine/UXO action in recent years, development agencies such as JICA have roles to play in mine/UXO action.

On the other hand, development assistance also focuses on "sustainability." If clearance of landmines and UXO could be completed within a short period of time, this would reduce the number of victims and speed up reconstruction and development. From this perspective, some may think that resources should be injected intensively, instead of considering the sustainability of demining activities and demining organizations. Cambodia could not meet its obligation to clear all anti-personnel landmines in the country within the deadline of 10 years as required in the Ottawa Treaty. Now, the deadline has been extended to January 2020. The Government of Cambodia intends to keep the deadline and to have cleared all

anti-personnel landmines by then.

JICA Cambodia Office made an estimate as of 2013, based on the information provided by CMAA. According to the estimate, 1,111 square kilometers of landmine-contaminated areas in Cambodia needed to be cleared, and at an annual clearance rate of about 100 square kilometers, it would take about 11 years to complete, or mine clearance would be completed by 2024. Note that 60–140 square kilometers of minefield were cleared annually from 2009 to 2012. Assuming from the past achievements that CMAC would clear 50% of the total, a half of the remaining areas of 1,111 square kilometers, or 555.5 square kilometers of land, would fall on CMAC's shoulder. CMAC's five-year plan indicates that CMAC maintains a clearance rate of 75 square kilometers per annum. (Note: CMAC is revising its long-term strategy at the time of publication of this book.) If the plan is realized, it should take about 8.5 years (by 2021) to complete clearing 555.5 square kilometers of land. A challenge facing CMAC by 2020 is if the organization can contribute to achieving the goal to which the Government of Cambodia is committed, by clearing the remaining mine-suspected areas at a speed in accordance with the policy or at a faster pace. Another aspect to be considered is recent phenomena. Given that Cambodia's economy is showing upward trends, increasing number of people are bringing land into cultivation, and farmers who depended on man-powered farm implements have started shifting to mechanical agriculture. Due to these changes, the decreasing trend in the number of casualties has reversed recently, with the number of UXO casualties in particular increasing slightly. CMAC is also required to meet these new needs.

Whether or not Cambodia can meet the 2020 deadline as agreed under the Ottawa Treaty is beyond JICA. Nevertheless, problems of mines and UXO have two different characteristics: they are "hindrances to development" but "a time-bound issue to be addressed with the deadline." JICA should consider how JICA as a development organization should help address such unique issues taking a different approach from the one we take to other sectors of assistance. With regard to counterparts, ministries of health and education, hospitals, public health centers, and schools are the institutes in education and health sector that will continue to exist even after developmental phase progresses. However, once landmines and UXO are cleared, demining units will no longer be needed, so will a demining organization. As JICA's support for CMAC has demonstrated, capacity development of implementation agency in the partner country is effective in enhancing the efficiency of mine/UXO clearance across the country. However, JICA's assistance approach to capacity development of demining organizations should differ from the one to permanent entities in other sectors, given the nature of the organizations.

While CMAC has developed capacity of Cambodian staff members, growing out of its dependence on foreign exerts in terms of human resources, the organization is still dependent on external funds. Such situation is regarded as "financial aspect should be improved"

from the sustainability point of view in conventional development. Cambodia has gone through the post-conflict reconstruction phase, and its economy has grown. Nevertheless, the government's revenue is still insufficient, and Cambodia is still lagging behind its neighboring countries Thailand and Vietnam in economic development. Responding to donors' proposal to the Government of Cambodia to increase its budget allocation for CMAC and to reduce CMAC's dependence on external funds, the government has been increasing its budget allocation for CMAC gradually. However, CMAC's budget structure still remains dependent on external resources.

Landmines and UXO are post-conflict countries' particular issues in, and theoretically "time-limited." In the context of development and peacebuilding, it should be examined how to develop the capacity of a governmental body responsible for the "conflict-specific" and "time-limited" issue, from different perspectives.

Exit strategies for external assistance and the South-South cooperation

With regard to the effectiveness of the South-South cooperation in mine action, "Disarmament and Non-Proliferation Policy of Japan" (sixth edition), published by the Ministry of Foreign Affairs of Japan in 2013 (currently available only in Japanese), states that "the South-South cooperation is effective in sharing with other mine-contaminated countries the experience and expertise accumulated through JICA's assistance for CMAC's capacity development since the 1990s and in fostering ownership by partner countries" (translation). In addition, in the statement by Parliamentary Vice-Minister Ishihara at the high-level session of the third review conference of the Ottawa Treaty in Maputo, Mozambique, in June 2014, he expressed that Japan's approach to mine action would center on three pillars: 1) continuous assistance for demining activities in countries seriously contaminated by landmines and UXO; 2) promotion of regional cooperation/South-South cooperation; and 3) comprehensive assistance for mine/UXO victims. Note that the "Maputo Action Plan" adopted at the review conference also referred to the promotion of the South-South cooperation together with bilateral and international cooperation.

In examining exit strategies regarding assistance to demining organizations, CMAC's achievements in the South-South cooperation may give us a clue. JICA's technical cooperation directly provided to CMAC was completed. Nevertheless, the relations established between JICA and CMAC, and CMAC's enhanced capacity have become assets. Using these assets, JICA and CMAC continue to contribute to other mine-/UXO-contaminated countries through the South-South cooperation. If CMAC is more widely recognized globally as a demining organization, it can be a possible option for the organization to be more independent.

When JICA examined the possibility of CMAC-PAICMA South-South cooperation, JICA had not thought that far ahead. However, during the process in which CMAC was implementing the South-South cooperation with three organizations in three countries, the South-South cooperation in mine/UXO action was recognized in a new light—it was cost-effective and persuasive as information and expertise shared were utilized in practical ways and could be easily applied to policy-making and implementation. CMAC also had a new understating of the values added to the South-South cooperation that CMAC conducted, because advanced countries, or donors, usually do not have mine/UXO issues as the humanitarian and/or developmental problems in their own countries.

While ASEAN countries are planning for regional economic integration under the ASEAN Economic Community (AEC) by 2015, they decided to establish the ASEAN Regional Mine Action Centre (ARMAC) in Cambodia, recognizing the regional cooperation needs in mine/UXO action in Southeast Asia. It is a great pleasure for JICA, which has supported CMAC, to see that CMAC shares its demining expertise gained through trial and error with mine-/UXO-contaminated countries inside and outside the ASEAN region and contributes to the international community.

An advantage of a governmental body in a mine-contaminated country for mine clearance

The institutional setting for survey and clearance on landmines and UXO can be divided into two types: a country establishes a governmental body to conduct landmine survey and demining activities, such as CMAC, INAD and UXO Lao, apart from national armed forces, under the governmental agency responsible for national standards and authorization for landmine-/UXO-related policies, and those governmental organizations take on bigger tasks than international NGOs and private sector companies do, for example, in Cambodia, Angola, and Laos. The other institutional setting is the one that has a governmental agency that manages national standards and authorization but does not establish a civilian governmental body that conducts landmine survey and clearance, and lets national armed forces, international MGOs, and private companies do these activities, like Sri Lanka.

Both types have advantages and disadvantages. Given that mine clearance is a "time-limited" issue, some may think that it would be more efficient to make national military forces, international NGOs, and the private sector deal with the problem without establishing a governmental demining body.

On the other hand, many conflicts after the end of the Cold War are not the hostility between two countries, but internal conflicts, and national military forces are often one of the actors in the conflict. Usually, mine clearance is started after a conflict is over. Nevertheless, seeing troops in their uniforms working in former conflict-affected areas may

stir negative and painful feelings such as fear and repugnance among communities affected by the conflict. In some cases, foreign organizations may not be allowed to enter such conflict-sensitive areas to conduct a mine survey or clearance. Under such circumstances, a governmental demining body consisting of civilians, not military forces, may be a better alternative. In the case of Cambodia, in CMAC's early years, its demining unit members were former soldiers integrated from different armed groups, not from one specific group.

There is another point. Although landmine action is a "time-limited" issue, it still requires many years to complete mine clearance. In Cambodia, landmines still remain buried 23 years after the Paris Peace Agreements were signed. If mine action, which is directly connected to national security and is important in promoting reconstruction and development, is carried out in a country for such a long period of time, some may think that involvement of military forces, which usually do not have sufficient knowledge of humanitarian mine clearance, and development considerations to mine clearance may not be sufficient enough, and a governmental demining body, in addition to international NGOs and private sector, should be involved in the process to show the country's commitment and ownership to the mine action.

Conflicts vary in root causes, structures, ending situation, and direction of post-conflict state-building. The severity of mine/UXO contamination and who used mines/UXO also differ depending on countries. Therefore, it is difficult to determine a specific form of institutional setting for mine/UXO clearance. However, growing from an organization created in 1992 during the UN PKO to subsequent independence as a governmental body to be the first of its kind in the world, CMAC's 22 years of challenges, pains, success, and achievements will give us insights in considering mine/UXO action in conflict-affected areas.

Afterword

When asked by Mr. Ichiro Tambo, the then Chief Secretary to JICA President, in March 2014, "Would you like to write about CMAC's chronology?," this book was given birth.

CMAC was awarded the JICA Recognition Award of the "9th JICA President Commendation." JICA and CMAC have developed a good long-term cooperative relation, and CMAC, which used to be a recipient of assistance, is now sharing its expertise with other countries contaminated by landmines and UXO. Recalling these developments, I thought that writing a book on CMAC's history of challenges would be interesting.

I stepped into the office of CMAC in July 2000 for the first time. It was amidst drastic organizational reform undertaken by CMAC from the crisis of suspended operations to rebuilding the organization. CMAC's management was making every effort in building back the organization—commencing reforms at the headquarters, visiting branches and demining sites where employees' motivation was low and examining ways to continue its operations with on-site managers, and explaining the organization's current situations, reform plans, and the progress to donors that had suspended their funding or were planning to do so. I asked questions that may have been repeated many times by other donors: "What were the reasons and factors behind to lead the organization stuck?" "Have you already managed to improve the situation or get rid of the problems?" "What is your future plan for the organization? And what is your financing plan?" I remember Mr. Ratana in his younger days answering each of the questions until I was convinced.

Fortunately, I have had opportunities to visit CMAC on a regular basis on business trips even after 2000, and have witnessed with my own eyes how CMAC has progressed over time.

Fifteen years have passed since CMAC's organizational reforms started in 2000. CMAC's efforts have borne fruit, and the organization now has a capacity to offer training programs to other counties. In writing this book, I had opportunities to talk with many people working at CMAC, from the Director General of CMAC to demining staff members. Each one of them has his/her own history with CMAC. But they had one thing in common, their aspiration to "clear landmines in our country," which was the driving force behind their work at CMAC for many years.

An estimate in 2013 predicted that Cambodia would need another six years to clear the mines. However, it might take longer. It will need much longer to clear all landmines in the world. I do hope that CMAC's management and staff members will remain steadfast on

clearing the landmines in Cambodia and in other mine-contaminated countries.

I would like to express special thanks to Mr. Ratana, the Director General of CMAC, Mr. Oum Phumro, the Deputy Director General of CMAC, and Sam, currently the Project Manager of CMAA, for their kind hospitality, for taking time to answer my questions in interviews, and for helping me to collect information on the organization and its activities in the early days of the organization by introducing me to long-term CMAC staff members, Alan Beaver and Tony West who trained local staff as foreign experts of UNTAC. I would also like to thank the following: Mr. Tohru Kubo, Vice President of Japan International Cooperation System (JICS), for his interesting story of the provision of first brush cutters in Japan's grant aid scheme and related parties' efforts; and Professor Satoru Kurosawa, Kyoritsu Women's University, for providing information/materials on the Government of Japan's and JICA's cooperation in mine action in those days. I would also like to thank those who work at the JICA Cambodia Office and staff members at the JICA headquarters who are responsible for the cooperation with CMAC for their informal information. I would like to express my sincere gratitude to them all.

In publishing this book, the following persons contributed their articles: Mr. Tohru Kubo and Mr. Ryuji Yaginuma, of JICS; Mr. Norio Matsuda, Mr. Koji Sakane, and Ms. Shoko Kanazawa, of JICA Cambodia Office; Mr. Hiroshi Izaki, Chief Representative of JICA Cambodia Office; Mr. Nobuaki Miyata and Ms. Tomoko Shimada, who joined a survey in Cambodia; and Mr. Masato Togawa, Mr. Akihito Hayashi, Ms. Kayo Omachi, and Ms. Tomoko Yasunaga, who made efforts in the South-South cooperation. Their articles made this book vibrant and provided deeper insights into mine action and cooperation. I would also like to thank the editors at the publishing company for editing this book, and thank Mr. Ichiro Tambo for asking me to write this book, and everyone at the Infrastructure and Peacebuilding Department of JICA and the JICA Cambodia Office for all support to the publication of this book.

Twenty-two years have passed since CMAC was established and seventeen years since JICA launched cooperation with CMAC. In the process of making this book, I faced several occasions to get the resource persons or informative documents "just in time". If I started writing this book a bit later, I could have missed them. This book has luck in this sense. However, frankly speaking, it exceeded my capacity to compile such a long history of CMAC in a few months while I had other duties and missions in different conflict affected countries. It is my fault that you may find the contents of this book insufficient. Also, there are various aspects in 22 years' CMAC history so that there will be various approaches to analyze it. Among those aspects and approaches, this book tries to focus on organizational transition of CMAC and JICA's cooperation towards CMAC, which I have been personally involved in, hoping these topics can interest people who had touched with neither Cambodia nor landmines before.

What motivated me to write this book was my great respect and admiration for each one of CMAC's management, administration staff at the headquarters, and on-site staff at demining sites, who greatly contributed to the steady development of CMAC through reforms and devote themselves to good works, which I have seen with my own eyes over the last 15 years starting in 2000.

To everyone of CMAC, Akun cheraown!

The opinions expressed in this book are solely those of the author of this book, and do not represent my employer's views in any way.

January 2015
Eri Komukai

Profiles

Eri Komukai:
Senior Advisor on Peacebuilding, JICA. After graduating a university, she worked as a NGO staff member in humanitarian emergency aid. She holds a MA from the department of Peace and Conflict, Uppsala University, Sweden. From 1998, she was responsible for peacebuilding operations at JICA and holds the current position from 2008. She worked as JICA project formulation advisor on "Landmines and ex-combatants issues in Cambodia", and as JICA expert on "reintegration of ex-combatants with disabilities in Rwanda". She is the author of many books including: "A theory of Peacebuilding (in Japanese)" ("Stories of North Uganda ", The International Development Journal Co.,Ltd.) "Reintegration of ex-combatants in Rwanda (in Japanese)" ("Learning from Africa", Yuhikaku Publishing Co., Ltd.)

Heng Ratana
In 1998, he joined Cambodian Mine Action Center (CMAC) as Quality Assurance Manager, and later served as Chief of Cabinet, then as Deputy Director General and has been Director General of CMAC since 2008. He is a member of the Review Board of the International Mine Action Standards (IMAS) of the United Nation Mine Action Service (UNMAS) from 2006 to present. He was also a member of the Advisory Board for the Geneva International Centre for Humanitarian Demining (GICHD) from 2006 to 2008. He also served as Advisor to the Prime Minister of Cambodia from 2008 to 2013.

Koji Sakane:
Senior Advisor to the Director General as well as Assistant, Office of the President, JICA. Since joining JICA in 1991, he has served at various positions, including JICA Cambodia Office (1994-1996), JICA Indonesia Office (2006-2010), Director for Cambodia (2010-2011) and Director for Planning and ASEAN Partnerhsip (2011-2014) at Southeast Asia and Pacific Department, and secondment to Permanent Mission of Japan to the United Nations (2001-2003). Graduated from the Waseda University, majoring in political science and economics, he later earned a MA in conflict resolution from the University of Bradford, UK in 2000.

Norio Matsuda:
He was born in Fukui prefecture in 1953. He worked at JICA for 38 years starting in 1976, mainly in official development assistance (ODA) projects in Southeast Asian region and other region. He is specialized in agriculture, rural development and ODA administration. From 2014, he is a professor in the Department of International and Regional Studies, Hokkaido University of Education.

Toru Kubo:
He was born in 1957 and graduated from the science and technology department, Waseda university, in 1980.
He was engaged in groundwater development in Africa and oil development in the Middle East. Then, in 1989, he joined and works at Japan International Cooperation System (JICS). At JICS, he is engaged in mine clearance projects in Cambodia and Afghanistan.

Ryoji Yaginuma:
He was born in Fukushima, in 1958. He worked as a Japan Overseas Cooperation Volunteer from 1986 to 1988. In 1989, he joined Japan International Cooperation System (JICS). From 2006 to 2009, he worked for Cambodian Mine Action Center (CMAC) as JICA expert.

Nobuaki Miyata:
He is currently dispatched as JICA expert to Laos as "Advisor to Savannakhet University for Development of Industrial Human Resource". After working in an architectural design office and as a consultant, he joined Japan International Cooperation Agency (JICA) in January 1995. He worked in the Social Development Study Department and Grant Aid Management Department and served as visiting international cooperation expert. In March 2013, he retired from JICA. From January 2014, he holds the current post. He was the head of the preparatory survey group for the "Project for Improvement of Equipment for Demining Activities (Phase VI)" in Cambodia.

Tomoko Shimada:
She joined JICA in 2002. From 2006, she worked as researcher at the JICA Rwanda Office. Form 2010, she was responsible in peace building projects at the Economic Infrastructure Department, specifically, mine/UXO clearance in Cambodia and Laos. As of January 2015, she works at the Southeast Asia and Pacific Department of JICA and is responsible for peace building projects for Mindanao, the Philippines.

Shoko Kanazawa:
She joined JICA in 2006. After working at the JICA Malawi Office, Kyushu International Center and Rural Development Department, she was responsible for mine clearance projects at the JICA Cambodia Office from August 2011 to November 2013.
From November 2013, she is in charge of grant aid projects for health at the Financing Cooperation Implementation Department.

Oum Phumro
He is currently Deputy Director General of Cambodian Mine Action Center (CMAC). After graduating from the Royal University of Phnom Penh, he acquired a MA in education management from the University of New England in Australia. After working at the Royal University of Phnom Penh, he joined CMAC as PR manager in 2001. After serving as Director of Department of Support & Human Resources and as Director of Department of Operations& Planning, he holds the current position from 2009.

Masato Togawa:
He was born in 1961. He joined JICA in 1984. After working at Training Affairs Department, the JICA Pakistan Office, Personnel Department, the Social Development Study Department, Secretariat of Japan Overseas Cooperation Volunteer of JICA, the JICA Viet Nam Office and the Southeast Asia 2 Department, he served as Chief Representative of JICA Laos Office. While working at JICA Laos Office from February 2010 to February 2013, he was engaged in assistance for UXO Lao. From April 2013, he is Director General of the Department of Human Resources for International Cooperation.

Akihito (ONTOKU) Hayashi :
JICA expert (in UXO). From 2012, he belongs to UXO Lao (the government of Laos' UXO clearance organization). He is engaged in the CMAC-UXO LAO South-South cooperation and prompts mutual understanding between UXO Lao and CMAC in terms of operations and technologies, and helps build positive relationships among staff members of the both organizations.

Kayo Omachi:
She was born in Nishinomiya city, Hyogo, in 1980. She graduated from School of Sociology, Department of Social Work, Kwansei Gakuin University in 2006. After working as a NGO staff member in Cambodia and Mozambique and as a Japan Overseas Cooperation Volunteer, she worked as a Project Formulation Advisor at JICA Angola Field Office from January 2012 to January 2015.

Tomoko Yasunaga:
She was a Junior Expert of the Infrastructure and Peacebuilding Department of JICA. After working for the NGO at Palestinian refugee camp, and working at the Refugee Assistance Headquarters of the Foundation for the Welfare and Education of the Asian People and at Kakuma Refugee Camp of UNHCR, currently, she works as JICA expert in Mindanaoin, the Philippines. She holds a MA in Peace Studies from the University of Bradford.

Hiroshi Izaki:
He joined JICA in 1987. After working at the Social Development Cooperation Department, he worked at the JICA Myanmar Office. Then, he worked at Secretariat of Japan Overseas Cooperation Volunteer of JICA, the JICA Vietnam Office, Southeast Asia Department 2 and Financing Facilitation and Procurement Department. He is Chief Representative of the JICA Cambodia Office from Jan, 2013.

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