



東京大学
THE UNIVERSITY OF TOKYO



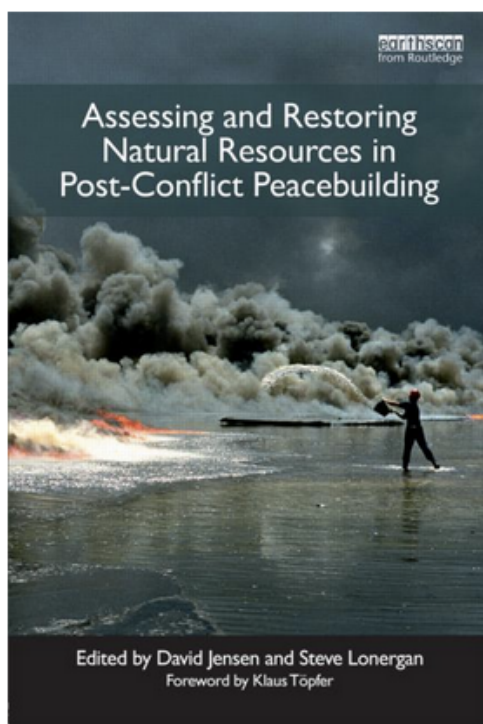
McGill



PRIO

This chapter first appeared in *Assessing and Restoring Natural Resources in Post-Conflict Peacebuilding*, edited by D. Jensen and S. Lonergan. It is one of 6 edited books on Post-Conflict Peacebuilding and Natural Resource Management (for more information, see www.environmentalpeacebuilding.org). The full book can be ordered from Routledge at <http://www.routledge.com/books/details/9781849712347/>.

© 2012. Environmental Law Institute and United Nations Environment Programme.



Linking demining to post-conflict peacebuilding: A case study of Cambodia

Nao Shimoyachi-Yuzawa^a

^a *Japan Institute of International Affairs (JIIA)*

Online publication date: May 2013

Suggested citation: N. Shimoyachi-Yuzawa. 2012. Linking demining to post-conflict peacebuilding: A case study of Cambodia. In *Assessing and Restoring Natural Resources in Post-Conflict Peacebuilding*, ed. D. Jensen and S. Lonergan. London: Earthscan.

Terms of use: This chapter may be used free of charge for educational and non-commercial purposes. The views expressed herein are those of the author(s) only, and do not necessarily represent those of the sponsoring organizations.

Linking demining to post-conflict peacebuilding: A case study of Cambodia

Nao Shimoyachi-Yuzawa

Landmines are one of the most significant obstacles to post-conflict peacebuilding and development. Long after a battle has ended and peace agreements are signed, landmines remain underground, where they explode to kill and maim people above. Mines delay the return and resettlement of refugees and internally displaced persons (IDPs) and block access to vital resources and social services, including farmland, water, roads, schools, and health clinics. Furthermore the costs of mine removal and victim assistance weigh heavily on countries struggling to recover from conflict and rebuild their societies.

Mine clearance progresses slowly. Although more efficient demining tools, such as mine detection dogs and machines, are used widely, manual metal detectors remain the primary technique for attaining humanitarian mine clearance, or ridding an area of all mines. The Mine Ban Treaty,¹ which was signed in 1997 and entered into force in 1999 as a result of a unique partnership between nongovernmental organizations (NGOs) and states, obliges states' parties to clear all antipersonnel mines in their territories within ten years of becoming party to the treaty and to prohibit the use, stockpiling, production, and transfer of anti-personnel mines. Approximately two-thirds of the sixteen states failed to meet their 2009 deadlines and requested extensions (ICBL 2009). As of August 2009, the International Campaign to Ban Landmines (ICBL), a coalition of more than one thousand NGOs around the world, believed that more than seventy countries were still affected by mines and that the total mined area was less than 3,000 square kilometers (km²). The ICBL also stated that at least 1,100 km² of mined areas were cleared from 1999 to 2008, including 158 km² in 2008 (ICBL 2009). At the current rate, the world would be free of mines in twenty years.

Nao Shimoyachi-Yuzawa is a research fellow at the Japan Institute of International Affairs. This chapter was developed with support from the Center for Global Partnership of the Japan Foundation.

¹ The treaty's official name is the Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on their Destruction. For more information, see www.un.org/Depts/mine/UNDocs/ban_trty.htm.

Landmines must be removed to protect populations and put mine-affected countries on the path to recovery and development with post-clearance land use plans. Scholars and policy makers in international organizations have advocated linking demining to peacebuilding and development, but only a handful of countries has actually succeeded in doing so (Harpviken and Skåra 2003; Harpviken and Isaksen 2004; GICHD 2009).

This chapter examines the demining strategy and operations of Cambodia, one of the most heavily mine-affected countries in the world, and attempts to draw lessons for connecting mine clearance to peacebuilding. Although the United Nations initiated improvement of demining operations after the Mine Ban Treaty, ensuring effective use of mine-cleared land—a qualitative aspect of demining—remains a challenge for many countries. While absorbing many new trends in international mine action,² Cambodia is developing a decentralized mechanism to set priorities and prepare land use plans for minefields. The chapter first provides an overview of Cambodia's landmine problem and then examines its demining strategy and operations with regard to land management and peacebuilding. A focus is placed on a bottom-up approach that engages local communities affected by mines. The chapter then explores international assistance, especially that of Japan, one of the largest donors in the field, and concludes by presenting lessons from the case of Cambodia.

THE LANDMINE PROBLEM IN CAMBODIA

Cambodia's landmine problem resulted from a nearly three-decade-long civil war that started in 1970 during the Cold War. Internal factions, backed by the United States, the Soviet Union, China, and Viet Nam, competed for power and left the country contaminated by landmines and explosive remnants of war. Landmines were used as a key weapon in the 1980s in the battle between the socialist government, which was supported by Viet Nam and the Soviet Union, and the communist, China-backed Khmer Rouge, whose reign (1975–1979) left an estimated 1.7 million people dead from overwork, malnutrition, and execution.³ As the government army pushed the Khmer Rouge guerrillas toward the border with Thailand, the northwestern provinces, notably Battambang and Banteay Meanchey, became the most densely mined areas in Cambodia (see figure 1). Reflecting the nature of the conflict, some thirty different varieties of antipersonnel mines, manufactured mostly in the Soviet Union, China, and Viet Nam, were planted in Cambodia (CMAC and JICA 2007). The peace process began in October 1991 with the

² *Mine action* means more than removing landmines from the ground. According to the UN Mine Action Service (UNMAS), the five pillars of mine action are clearance of mines and explosive remnants of war, mine risk education, victim assistance, advocacy of a mine-free world, and destruction of mine stockpiles. See E-MINE (2010).

³ The exact death toll is debated. The Yale Cambodian Genocide Program at Yale University gives an estimate of 1.7 million, and political scientist R. J. Rummel offers the figure of 2 million (Yale University 2010; Rummel 1994). See also ICRC (1996).



Paris Peace Accord, which brought together four factions to form the Supreme National Council. The Khmer Rouge soon withdrew from the agreement to continue waging guerrilla war in the northwestern mountains. The conflict did not truly end until 1998 when Pol Pot, the Khmer Rouge leader, died.

The first national survey of minefields in Cambodia (the Level 1 Survey), completed in 2002 with the support of the Canadian government, ascertained that the number of villages affected by mines was 6,422, or 46 percent of the total number of villages, and stated that the contamination put more than 5 million people, or about 45 percent of the population, at risk (CIDA and CMAC 2002). Because both the government army and Khmer Rouge militias used mines heavily as offensive weapons, antipersonnel and antitank mines were mixed randomly, and more than one layer of mines was created. The Khmer Rouge laid landmines not only in battlegrounds but also in civilian communities to terrorize and extend social and economic control over the population (Davies and Dunlop 1994). Few records were kept about the location of the mines, making mine removal extremely difficult (ICRC 1996).⁴ Under the Mine Ban Treaty, which the Cambodian government signed in December 1997 and to which it became a state party in January 2000, Cambodia was required to clear all antipersonnel

⁴ Protocol II to the 1980 Convention on Certain Conventional Weapons requires that records be kept of the locations of pre-planned minefields. Parties to a conflict should also endeavor to keep records of the locations of other minefields laid during hostilities.

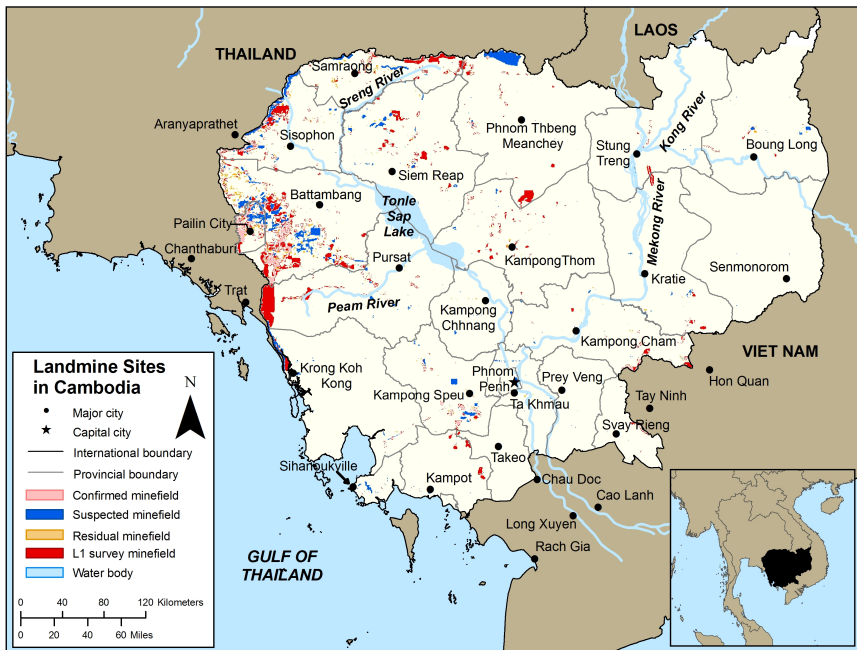


Figure 1. Landmine sites in Cambodia

Source: CMAC (2008).

mines no later than January 1, 2010. But in 2009, the country estimated that 649 km² still required demining and applied for a ten-year extension at a projected cost of US\$330 million (ICBL 2009).⁵

According to Cambodia Mine/UXO Victim Information System, there were 7,300 reported casualties from landmines and unexploded ordnance (UXO)—approximately 92 percent of them civilian—between the end of hostilities in 1998 and May 2009 (ICBL 2009).⁶ Casualties occurred primarily when villagers were farming or tampering with mines or pieces of UXO (RGOC 2005). Agriculture, which is the major means of making a living in Cambodia, accounts for 34 percent of gross domestic product and employs 70 percent of the population (NIS 2008a, 2008b). The overwhelming majority of minefields are located in the once-prosperous northwestern agricultural provinces of Battambang and Banteay Meanchey. When the peace agreement was signed in 1991, the Cambodian government announced plans for the return of refugees and IDPs, but some

⁵ According to ICBL, Cambodia demined 373.53 km² of land in the previous decade (ICBL 2009). The country's efficiency increased year by year; 63.36 km² of land was cleared in 2008.

⁶ People involved in demining activities in Cambodia say there are, by far, more unreported than reported casualties.

heavily mine-affected districts of these provinces had to call off the plans owing to high casualty rates. Even people who forced their way back found that up to 80 percent of the arable land had been lost to landmines (Davies and Dunlop 1994). Recognizing the extent of the problem, Cambodia listed mine clearance in its 2006–2010 National Strategic Development Plan (NSDP) as one of the key strategies for enhancing the agricultural sector (RGO 2006).

NATIONAL DEMINING STRATEGY

Cambodia is one of a few countries that has incorporated demining programs into their national poverty-reduction and development strategies. A study by the International Peace Research Institute, Oslo and the United Nations Development Programme, *Reclaiming the Fields of War*, surveyed eleven mine-affected countries and found that only two countries—Cambodia and Laos—had clearly linked mine action to their poverty reduction strategy papers (PRSPs). The study stated that “Cambodia’s PRSP is the one that comes closest to having mainstreamed mine action” (Harpviken and Isaksen 2004, 65).

International mine action has become increasingly systematic and professional since the Mine Ban Treaty. Driven by the UN Mine Action Service (UNMAS), international mine-action policy has promoted the use of modern technologies to map and measure the extent of the global landmine crisis (Mather 2002). Mine-affected countries are encouraged to conduct national surveys, known as level one surveys, to measure the extent of their landmine problems. The results are stored in a standardized data management system (the Information Management System for Mine Action), which was developed by the Geneva International Centre for Humanitarian Demining (GICHD). To ensure safety and improve efficiency in mine action, GICHD has also developed demining guidelines, which have been updated periodically. Although landmines have long been considered an issue of safety and security, the UN has begun emphasizing integration of mine clearance in broader national programs for reconstruction and development (UNGA 2004; Harpviken and Isaksen 2004; GICHD 2009). Still in most mine-affected countries, mine clearance is largely conducted apart from peacebuilding and development because it is considered a highly technical sector, whose practitioners often have military backgrounds (Kjellman et al. 2003; Harpviken and Isaksen 2004).⁷

Cambodia completed a nationwide survey of minefields in 2002 and appended a demining objective to the eight Millennium Development Goals (MDGs) shared by all developing nations. In 2005, the country incorporated the MDGs into its new NSDP. According to the NSDP, “de-mining operations are not only humanitarian

⁷ The ICBL also stated, “efforts continue to mainstream mine action into development. Yet, despite references to demining in many development plans or poverty reduction strategy papers and the existence of an online network for practitioners, the extent of mainstreaming on the ground still appears limited” (ICBL 2008, 28).

and security related but have significant social and economic implications, particularly on land distribution and the security of poor farming households in remote areas. They open up avenues for rural development” (RGOC 2006, 60).

Cambodia’s primary demining agencies are the Cambodian Mine Action Center (CMAC), the national operator, and the Cambodian Mine Action and Victim Assistance Authority (CMAA), the national regulatory body. CMAC was originally established in June 1992 as part of the UN Transitional Authority in Cambodia (UNTAC), which ran from 1992–1993 and was tasked with implementing the peace accord. Although mine clearing assistance was included in its mandate, UNTAC busied itself with ensuring a successful election and helping to write a new constitution, which it regarded as its primary missions. Driven by necessity, the UN undertook demining indirectly through training, but the organization and its member states were reluctant to allow their mine specialists stationed at UNTAC’s Mine Clearance Training Unit to work in dangerous minefields and, instead, decided to train Cambodian deminers. As UNTAC force commander Lt. General John Sanderson put it, demining was dismissed as “a Cambodian problem” (Davies and Dunlop 1994). The international community considered CMAC a Cambodian institution for tackling the mine problem over the long term. Ironically CMAC became one of the most effective government institutions (Davies and Dunlop 1994).

In July 1993, just after the first election, CMAC became a Cambodian national institution by absorbing UNTAC’s Mine Clearance Training Unit. Under the direct control of the prime minister, CMAC is responsible for mine/UXO clearance, training, minefield surveys, and risk education. With a staff of 2,300, it has an annual budget of approximately US\$10 million, of which more than 90 percent comes from foreign donors (CMAC 2008; Sang Onn 2009). The other demining agencies include international NGOs, such as the Mine Advisory Group and the Halo Trust, and the Royal Cambodian Armed Forces (see figure 2).

In 2000, the CMAA was set up to regulate and coordinate all demining activities, a responsibility previously assigned to CMAC. Often described mockingly as “a father born from his children,” CMAA has had difficulty overseeing all the demining operations because of a lack of capacity and funding (Rotha 2009).

MINES AND LAND MANAGEMENT

Coordination between mine clearance and land registration is indispensable to ensure fair distribution of land. In Cambodia, where large-scale land acquisitions (often referred to as land grabbing) by people with power and authority is rampant, there are reports of poor people who laid mines to protect their land or built their houses deliberately on minefields to prevent arbitrary confiscation (JCBL 2003). The problem is exacerbated by the fact that Cambodia’s land tenure remains unclear largely because private ownership of all property, including land, was abolished during the Khmer Rouge regime (1975–1979). Just prior to the

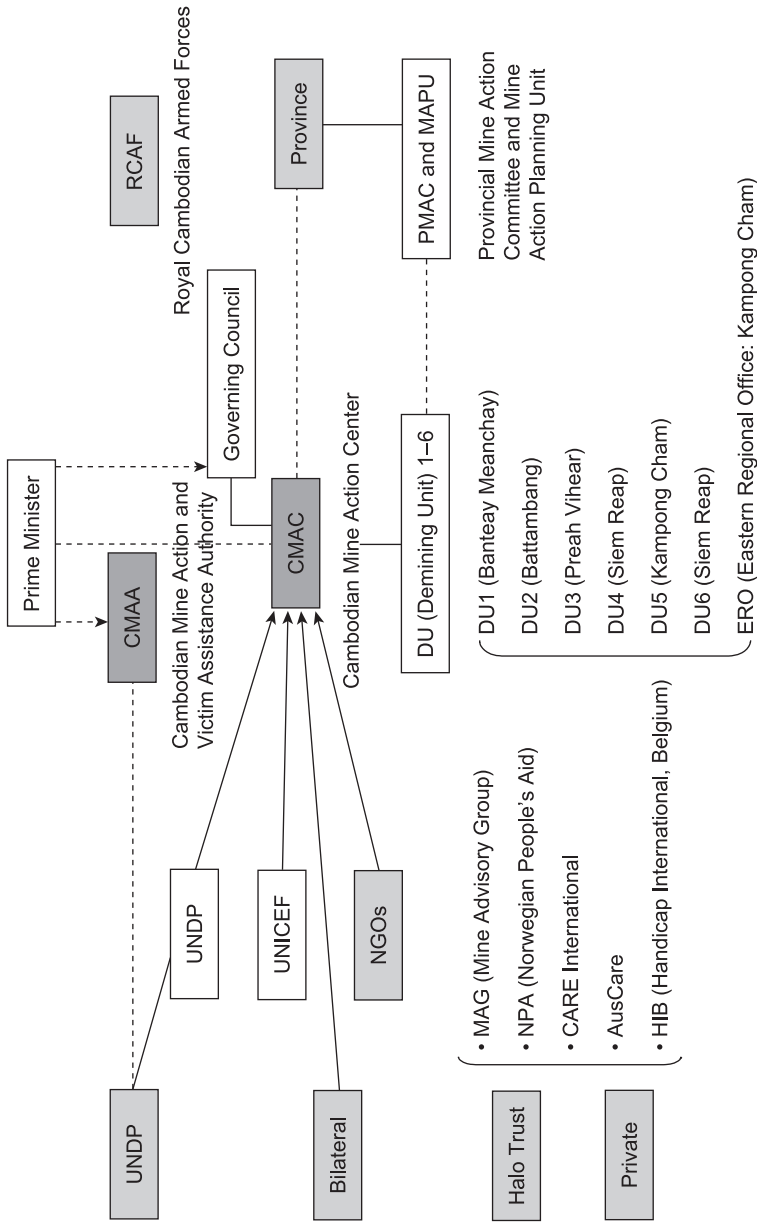


Figure 2. Cambodian mine action organization chart

Source: Yaginuma (2009).

Vietnamese withdrawal in 1989, the Cambodian government introduced laws that allowed farmers to pass land titles to their children and permitted householders to buy and sell real estate (Chandler 2008). Nevertheless vast tracts remain classified as state land. All provinces have conducted land registration activities, but only some have carried out systematic registration. Most landowners still do not hold legal title to their property (Vanna 2007).

Determining land ownership

A year after the Level 1 Survey was completed in 2002, the Cambodian government conducted a pilot project to address land ownership in mine-affected areas. With the support of the government and private sector of Canada, the Land Administration in Mine Affected Areas (LAMAA) project designed a program for distribution of mine-cleared land in the Svay Chek District of Banteay Meanchey Province.

The first step was to provide the local population with information on topics such as the obligations of landowners, so they could successfully claim land titles. This was accomplished during meetings at easily accessible places, such as pagodas. The second step—the demarcation of parcels and adjudication—was based on the Level 1 Survey but involved more extensive field investigations and interviews with landowners and their neighbors concerning the history of the land and its owners, information on mines, household occupations and incomes, and the village's development priorities. It also utilized high-resolution satellite data. The information collected was put into a database. The third step was a thirty-day public exhibit of the results of the investigations for the landowners and other concerned people. Again held at an accessible location, the public display was the last chance for local people to lay and modify claims to land. LAMAA officials were available to explain and answer questions. The final step was the issuance of land titles, which were given out by the General Department of Cadastre and Geography in Phnom Penh and the provincial director or local manager, and were presented to locals at a public ceremony (Vibol 2009).

The project eventually awarded 3,578 titles in January 2004 in four villages in Svay Chek Commune and one village in Treas Commune in Svay Chek District. Along the way, there were nineteen disputes: six cases concerned boundary clarification at the time of demarcation; three involved misunderstandings over family inheritances or gifts; two related to compensation for improvements made by nonowner occupants; two were caused by a misinterpretation of land law; two occurred on borrowed land, which the borrower mistakenly thought he owned or was at least entitled to compensation for improvements; one arose over the lack of a fence on a property boundary; one dealt with an excombatant who claimed land on returning from service; one concerned the construction of a village road; and one had to do with the alleged abandonment of land by a poor farmer. LAMAA personnel resolved all but one dispute with assistance from the village chief, family members, and the participants (Vibol 2009).

Bottom-up priority setting

The Cambodian government also considered establishing an institutional process to prioritize minefields and guarantee effective use of mine-cleared land. In 1998, CMAC organized a workshop in Battambang that resulted in placing the province at the center of the process. In the following year, CMAC established a land use planning unit (LUPU) under the Provincial Rural Development Committee of Battambang Province. LUPUs were later introduced in four other provinces (AVI and CMAA 2008).⁸ But CMAC failed to consult land authorities and the regulatory agency of mine action (CMAA) and left unclear the responsibilities of the Ministry of Land Management, Urban Planning, and Construction and the CMAA. The project also lacked sustainable funding; three LUPUs eventually lost support in November 2003.⁹

Learning from their failure, CMAA drafted in August 2003 a sub-decree designed to establish a bottom-up land use–planning process that involved all concerned agencies, including provincial authorities, demining operators, relevant ministries, and international donors. Sub-decree 70, Socioeconomic Management of Mine Clearance Operations, was adopted in September 2004.

The key agencies in this process were the Provincial Mine Action Committee (PMAC) and the Mine Action Planning Unit (MAPU). PMAC is an impermanent committee chaired by a vice governor and is composed of provincial representatives, officials from relevant ministries, demining operators, and donors. The committee approves the annual Provincial Mine Clearance Work Plan, which prioritizes minefields for clearance in the next year in line with national and provincial development plans. MAPU is a permanent technical unit of PMAC, tasked with coordinating mine-affected communities and demining and development agencies (Sang Onn 2009).

Planning for mine clearance runs on an annual cycle. It begins in January or February with a commune meeting where village chiefs and commune council members discuss and propose priority areas for demining, based on information ascertained through the Level 1 Survey that included village sketches, aerial photos, and village and minefield profile data. Proposals must be backed by good reasons, such as the frequency of mine accidents; a lack of schools, roads, health centers, and other infrastructure; and poor access to resources, such as agricultural land and water. The areas are ranked, and by March, the commune council finalizes the demining plan for the next year. The plan is then sent to the district where the District Working Group (DWG)—consisting of representatives of the district, NGOs, MAPU, and CMAC—selects minefields to clear in light of villagers’ needs and donors’ plans. The DWG meeting is usually held by August. In September and October, MAPU and CMAC conduct field investigations to verify

⁸ The four provinces were Banteay Meanchey, Oddar Meanchey, Pailin, and Preah Vihear.

⁹ Information was obtained from the CMAA during research for this chapter, and is on file with the author.

190 Assessing and restoring natural resources in post-conflict peacebuilding

that areas selected for demining comply with criteria for intended land use, beneficiary selection, land ownership, and so on. Usually by the end of November, the PMAC determines priority minefields in line with the national mine-action plan, which reflects the needs of national and local development and poverty-reduction programs. National priority is currently given to residential land, agricultural land, infrastructure development, and safety. The final plan is submitted to CMAA (Sang Onn 2009; Vibol 2009; Vanna 2007).

Mine clearance is conducted according to the plan, and mine-cleared land is then distributed to local people, following the procedure set out by the pilot project for managing mine-affected land. The process was first introduced in the five provinces of Banteay Meanchey, Battambang, Oddar Meanchey, Pailin, and Preah Vihear with the support of Australian Volunteers International and Canada's GeoSpatial International Inc. and was later expanded to include three additional provinces—Siem Reap, Kampong Thom, and Pursat. Thus eight out of Cambodia's twenty-three provinces now have in place the community-based, bottom-up mechanism to clear landmines.

Senior CMAC and CMAA officials in Phnom Penh suggested that the annual planning process was working fairly well, but CMAA admitted that funding did not yet allow sufficient monitoring for full analysis.¹⁰ According to CMAA, of the land cleared in 2006 (35.4 km²), roughly 60 percent was allocated for agriculture and resettlement (including dual-purpose land) followed by roads and other infrastructure (see figure 3) (MOFA 2008). Overall the result was consistent with the priorities set nationally. Battambang Province reported that rice fields increased by 8,000 hectares between 2005 and 2006 because of mine clearance and cultivation of abandoned land. With the average rice yield estimated to be 2.2 tons per hectare, mine clearance led to production of up to 17,600 tons of additional rice (BDA n.d.).

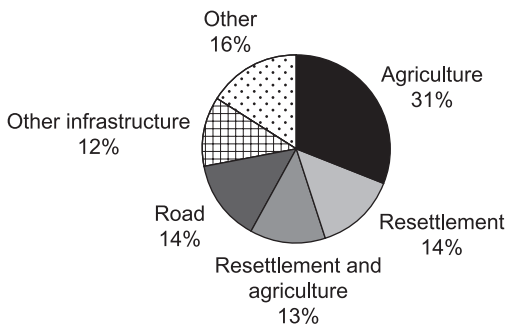


Figure 3. Land use after landmine removal in Cambodia, 2006

Source: MOFA (2008).

¹⁰ The author interviewed senior officials, including Oum Sang Onn, the director of planning and operations at CMAC, and Chan Rotha, the deputy secretary-general of CMAA, on February 25, 2009, in Phnom Penh, Cambodia.

INTERNATIONAL ASSISTANCE

Despite its initial dismissal by the international community as a “Cambodian problem,” the removal of landmines from Cambodia attracts international, bilateral, and nongovernmental donors, thanks largely to awareness raised by the international campaign that led to the Mine Ban Treaty. But the nature of the international assistance points to challenges that Cambodia faces in promoting ownership of mine action and linking mine clearance to peacebuilding.

Heavy dependence on foreign aid

In 2007, thirteen countries and the European Commission reportedly provided US\$30.8 million to mine action in Cambodia, and Cambodia’s national government supplied US\$1.15 million. According to the Five-Year Mine Action Plan for 2005–2009, approximately US\$170 million was needed for the full term—or US\$34 million per year—to address all aspects of mine action. As noted by the UNMAS, insufficient funding is a primary factor impeding mine action in Cambodia (ICBL 2008).

CMAC receives the largest part of the international assistance. In 2007, the Cambodian national demining agency collected US\$9.4 million in aid, which accounts for some 30 percent of the money donated to Cambodia’s mine action and 95 percent of the annual budget of CMAC. But most of the assistance is provided through one-year contracts, making the agency’s financial foundations weak (Yaginuma 2009).

CMAA regularly calls coordination committee meetings, which are attended by international donors and development partners. Heavy dependence on foreign aid means that donors tend to drive the actual demining, depriving CMAA of oversight and coordination. Furthermore the involvement of many donors, without coordination, leads to inefficiency at CMAC and CMAA because they have to prepare different versions of reports for each donor—one of the structural problems of international aid administration.

Official development assistance (ODA)

In 2007, Japan was the largest donor to mine action in Cambodia; it provided US\$5.9 million (697 million yen).¹¹ Japan regards Cambodia as one of its most important recipients of foreign aid; the Japanese government sent its first peace-keeping forces to the country in 1992 and began providing development assistance. Japan’s assistance to Cambodian mine action began in 1999 as part of the Zero Victim Campaign that the Japanese government announced on its signing of the Mine Ban Treaty in 1997. The campaign provided US\$8.5 million (10 billion

¹¹ In 2008, Japan was overtaken by Australia in the amount of financial assistance provided to Cambodia’s mine action efforts. See ICBL (2009).

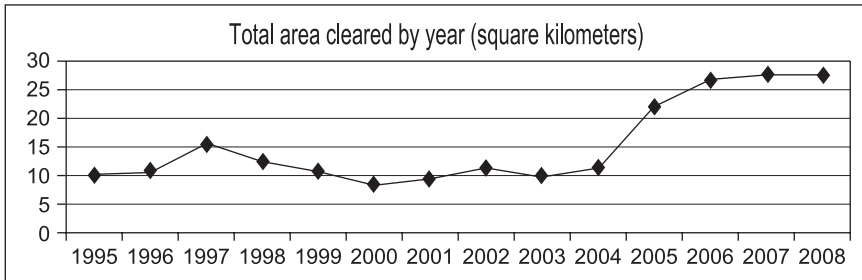


Figure 4. Land area cleared by Cambodian Mine Action Center, 1995–2008

Source: CMAC (2009).

yen) in aid to more than thirty countries between 1998 and 2002. In 2003, the government listed demining assistance as a peacebuilding priority in its revised Official Development Aid (ODA) Charter. The government regards CMAC as its ODA partner in Cambodia and, in 2007, provided US\$5.9 million (697 million yen) to assist the country's mine action.

Characteristic of Japan's ODA for Cambodia's mine action is its heavy focus on efficiency. Of the assistance provided in 2007, about US\$4 million (480 million yen), or 69 percent, went to research and development of demining machines. Brush cutters are key; they are used to remove vegetation before clearing mines. In tropical Cambodia, fast-growing trees and ground cover pose significant obstacles to demining, especially during the rainy season. Put into full operation in 2005, the machines are credited with almost doubling mine clearance: the land cleared in 2005 was more than twice that in 2004 (see figure 4). Of the twenty-seven operational brush cutters in 2007, all but one was supplied by Japan.

However, demining machines have shortcomings. First, not only do they miss mines but they also can only be used where there are no antitank mines because antitank mines can destroy the machines when exploded. Because many of Cambodia's minefields contain a mixture of antipersonnel and antitank mines, most mine clearance (63 percent) is still conducted manually using metal detectors (see figure 5) (CMAC 2008). Second, researchers have argued that, by removing all vegetation, the machines can severely undermine soil structure and texture. Such damage, whether caused by inherent flaws in equipment design, improper use, or lack of skill, can often be irreversible (Morin 2008). These limitations and concerns suggest the need for taking into account local needs and situations, in addition to seeking efficiency in mine clearance.

NGO assistance

Because demining tasks are dangerous, they are usually left to specialists. But in poor, rural areas of Cambodia, untrained villagers have demined their land because there is no economic alternative to farming minefields. The high casualty

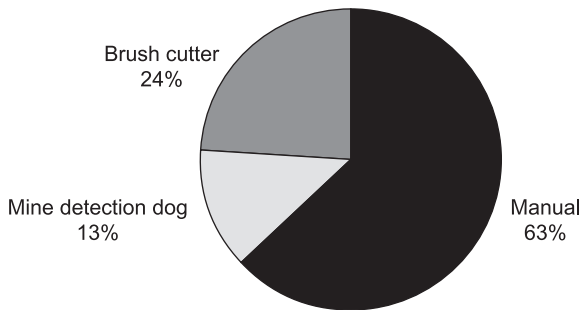


Figure 5. Landmine clearance methods in Cambodia, 2007

Source: CMAC (2008).

rate in rural Cambodia is often attributed to the practice. Community-based demining (CBD), introduced by CMAC, is designed to pay villagers to learn proper mine clearance in order to prevent accidents.¹² As of 2007, five CBD platoons, each consisting of thirty-three people, had been positioned in Battambang, Banteay Meanchey, and Preah Vihear provinces. Of the five platoons, three have been deployed since 2006 in Battambang, where Japan Mine Action Service (JMAS), a Japanese NGO, has assisted them in cooperation with CMAC. They receive annual financial support of US\$0.6 million (75 million yen) from the Japanese government.

The CBD site in Tasen Commune in Kamrieng District of Battambang Province, sits on the border with Thailand, where fierce battles were fought between the government army and Pol Pot's forces in the 1980s. Most of the residents of the commune, which consists of six villages, are former Pol Pot guerrillas, who returned from Thailand to make their living by clearing jungles. The average annual household income is somewhere between US\$700 and US\$800. Ninety-nine percent of the villagers are peasants, and many of them have no other means of livelihood than cultivating mined land. Thus of the fifty-eight mine accidents that occurred between 1998 and 2007, some 60 percent injured or killed farmers (Takayama 2009).

In recruiting deminers, the Japanese NGO gives priority—in order of importance—to mine victims from poor families, widows or widowers from poor families, and members of landless poor families (CMAC 2008). As a result, in July 2008, forty-five of the ninety-nine deminers in Tasen Commune were women (JMAS 2008). Recruited villagers are sent to a training center run by CMAC in Kampong Chhnang for a six-week technical training program before undertaking demining tasks. The monthly salary is US\$105 (Takayama 2009).¹³

¹² Mine-action practitioners debate whether villagers should be trained in demining techniques. See, for example, Bottomley (2003).

¹³ The net monthly salary is US\$72, of which CMAC deducts US\$30 for retirement and US\$3 for mutual aid money (Takayama 2009).

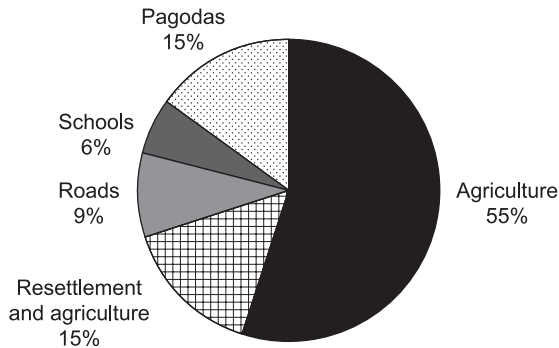


Figure 6. Land use after 2007–2008 landmine removal in Tasen Commune, Battambang, Cambodia

Source: JMAS (2008).

Priority setting for minefields and planning for community building follows the PMAC/MAPU process. Between June 2007 and June 2008, the three CBD platoons deployed in Tasen Commune cleared a total of 0.625 km², of which more than half was subsequently used for farmland (see figure 6).

When compared with the 2006 national statistics in figure 3—although the periods covered are not exactly the same—the findings suggest that CBD reflects the needs of local people. Though resettlement figured highly in national statistics, more priority was given to agriculture in Tasen, where people returned to the land before the mines were cleared and nearly all the residents were engaged in farming, virtually the sole source of income. By giving local people priority-setting and decision-making authority, the community-based approach enhanced their sense of ownership in the rehabilitation and development of the community. Because opportunities for education were limited in Tasen, the villagers decided to build two primary schools and one junior high school on the mine-cleared land, as well as a two-kilometer-long road leading to the junior high school. They also installed fifty-nine tubewells to improve the community's sanitary and health conditions (Takayama 2009).¹⁴ The CBD project assisted by JMAS is much smaller in scale than the Japanese ODA in terms of budget and areas covered. Nevertheless the case suggests that coping with landmines in post-conflict situations means more than just removing mines: cleared land must benefit vulnerable people.

CONCLUSION

Given the limited resources and time-consuming nature of demining, minefields must be prioritized and efficiency in clearing them must be improved. Furthermore,

¹⁴ Previously villagers used pond water, which often led to malaria and other infectious diseases (Takayama 2009).

prioritization should be consistent with broader post-conflict reconstruction and development plans. In this sense, mine-action programs must be integrated into national poverty-reduction and development strategies, as advocated by the UN in recent years.

Cambodia's experience indicates that land management is key to linking mine clearance to peacebuilding. Land is closely associated with rebuilding life after conflict, which includes the return and resettlement of refugees and IDPs and access to vital resources and social services, such as farmland, water, health care, and education. Yet if mismanaged, mine-cleared land can be grabbed by the elite and become a source of tension and grievance, thereby undermining peace at the local level. Therefore mine clearance must go hand in hand with land registration and titling.

This case study also suggests the efficacy of a decentralized, bottom-up approach. Involving local communities in prioritizing areas for demining and developing land use plans ensures that mine-free land benefits vulnerable people and contributes to community development. In designing a community-based mechanism, Cambodia's history shows that demining agencies must coordinate with other ministries and donors, including authorities in charge of land management and rural development.

Enhancing mine clearance productivity and efficiency, the chief objective of the UNMAS and GICHD, is still critical. Efforts must continue given the still-slow pace of demining. Demining programs and the international community need to pay more attention to local needs and situations in order to link mine clearance to post-conflict reconstruction and peacebuilding.

REFERENCES

- AVI (Australian Volunteers International) and CMAA (Cambodian Mine Action and Victim Assistance Authority). 2008. Mine action planning units and the mine action planning process. Phnom Penh, Cambodia. CD-ROM.
- BDA (Battambang District Administration, Royal Government of Cambodia). n.d. Economy. www.battambang-town.gov.kh/city_info/anzeige/redaktionssystem/main/show.cfm?region_id=27&lang_id=3&id=252&modul_id=5.
- Bottomley, R. 2003. Balancing risk: Village demining in Cambodia. *Third World Quarterly* 24 (5): 823–837.
- Chandler, D. 2008. *A history of Cambodia*. 4th ed. Boulder, CO: Westview Press.
- CIDA (Canadian International Development Agency) and CMAC (Cambodia Mine Action Centre). 2002. Cambodia National Level 1 Survey: Executive summary. www.sac-na.org/pdf_text/cambodia/executive%20summary.htm.
- CMAC (Cambodian Mine Action Center). 2008. *Annual report 2007*. Phnom Penh. <http://cmac.gov.kh/userfiles/file/ar2007.pdf>.
- . 2009. *Annual report 2008*. Phnom Penh. www.cmac.gov.kh/userfiles/file/annual2008.pdf.
- CMAC (Cambodian Mine Action Center) and JICA (Japan International Cooperation Agency). 2007. *What is Cambodian Mine Action Centre?* Phnom Penh. www.jica.go.jp/project/cambodia/0701732/pdf/cmac.pdf.

196 Assessing and restoring natural resources in post-conflict peacebuilding

- Davies, P., and N. Dunlop. 1994. *War of the mines: Cambodia, landmines and the impoverishment of a nation*. London: Pluto Press.
- E-MINE (Electronic Mine Action Information Network). 2010. What is mine action? www.mineaction.org/section.asp?s=what_is_mine_action.
- GICHD (Geneva International Centre for Humanitarian Demining). 2009. *Linking mine action and development: Guidelines for policy and programme development*. Geneva, Switzerland. www.gichd.org/publications/linking-mine-action-and-development-guidelines-for-policy-and-programme-development-en.
- Harpviken, K. B., and J. Isaksen. 2004. *Reclaiming the field of war: Mainstreaming mine action in development*. Oslo, Norway: International Peace Research Institute, Oslo / United Nations Development Programme. [www.prio.no/sptrans/-446551233/Harpviken%20Isaksen%20\(2004\)%20Reclaiming%20the%20Fields%20of%20War.pdf](http://www.prio.no/sptrans/-446551233/Harpviken%20Isaksen%20(2004)%20Reclaiming%20the%20Fields%20of%20War.pdf).
- Harpviken, K. B., and B. A. Skåra. 2003. Humanitarian mine action and peace building: Exploring the relationship. *Third World Quarterly* 24 (5): 809–822.
- ICBL (International Campaign to Ban Landmines). 2008. *Landmine monitor report 2008: Toward a mine-free world*. Ottawa: Mines Action Canada. www.the-monitor.org/lm/2008/translations/LMES_2008_07_withMaps.pdf.
- . 2009. *Landmine monitor report 2009: Toward a mine-free world*. Ottawa: Mines Action Canada. www.the-monitor.org/lm/2009/res/Landmines_Report_2009.pdf.
- ICRC (International Committee of the Red Cross). 1996. *Anti-personnel landmines: Friend or foe?; A study of the military use and effectiveness of anti-personnel mines*. Geneva, Switzerland. www.icrc.org/eng/assets/files/other/icrc_002_0654.pdf.
- JCBL (Japan Campaign to Ban Landmines). 2003. *Landmines and human beings [Jirai to Ningen]*. Tokyo: Iwanami.
- JMAS (Japan Mine Action Service). 2008. *Community-based demining annual report: 26 June 2007–25 June 2008*. <http://jmas-ngo.jp/ja/english/CBDCCompletionReport2008-6/CBDRep2008-1p.htm>.
- Kjellman, K. E., K. B. Harpviken, A. S. Millard, and A. Strand. 2003. Acting as one? Co-ordinating responses to the landmine problem. *Third World Quarterly* 24 (5): 855–871.
- Mather, C. 2002. Maps, measurements, and landmines: The global landmines crisis and the politics of development. *Environment and Planning* 34:239–250.
- MOFA (Ministry of Foreign Affairs of Japan). 2008. Project assessment report of grand aid project in Cambodia [Mushoshikin Kyoryoku ni Okeru Project Level Jigo Hyoka Chosa Cambodia].
- Morin, A. 2008. Demining and the environment: A primer. *Journal of Mine Action* 11 (2). <http://maic.jmu.edu/journal/11.2/feature/morin/morin.htm>.
- NIS (National Institute of Statistics, Royal Government of Cambodia). 2008a. Gross domestic product (GDP): Economic activity 2003–2007. www.nis.gov.kh/nis/NA/Summary.pdf.
- . 2008b. 2008 General population census of Cambodia. <http://celade.cepal.org/khmnis/census/khm2008>.
- RGOC (Royal Government of Cambodia). 2005. Cambodian strategy and 2005–2009 plan to implement article 5 of the Ottawa Convention. Paper presented to Nairobi Summit on Mine Free World First Review Conference. www.mineaction.org/downloads/Cambodia%20Plan%20.doc.
- . 2006. National strategic development plan 2006–2010. Phnom Penh. www.cdc-crdb.gov.kh/cdc/aid_management/nsdp.pdf.

- Rotha, C. 2009. Interview by author of the deputy secretary-general of Cambodian Mine Action and Victim Assistance Authority. February 25. Phnom Penh.
- Rummel, R. J. 1994. *Death by government*. New Brunswick, NJ: Transaction Publishers.
- Sang Onn, O. 2009. Interview by author of the director of planning and operations at Cambodian Mine Action Center. February 25. Phnom Penh.
- Takayama, R. 2009. Interview by author of chief technical advisor of Japan Mine Action Service. February 26–28. Tasen Commune, Battambang, Cambodia.
- UNGA (United Nations General Assembly). 2004. Resolution 58/127. A/RES/58/127 (2004). February 17.
- Vanna, M. 2007. Detail presentation on risk management/land release workshop on 20–21 June 2007, GICHD, Geneva, Switzerland. www.gichd.org/fileadmin/pdf/risk_management/workshop-june2007/DetailPresentation-LR-RM-Workshop-June2007.pdf.
- Vibol, K. 2009. Interview by author of Land Management and Administration Project representative. February 24. Phnom Penh, Cambodia.
- Yaginuma, R. 2009. Interview by author of Japan International Cooperation Agency expert and Cambodian Mine Action Center consultant. February 24. Phnom Penh, Cambodia.
- Yale University. 2010. Cambodian Genocide Program. www.yale.edu/cgp.

