

Internal Ex-Post Evaluation for Grant Aid Project

conducted by Cambodia Office: December, 2013

Country Name	The Project for Improvement of Equipment for Demining Activities (Phase V)
Kingdom of Cambodia	

I. Project Outline

Background	<p>It was estimated that 4 to 6 million mines still remain buried in Cambodia and it was expected to take a hundred years to complete the demining and clearing process. Consequently, securing the safety of people through demining, encouraging their return and resettlement, and providing mine victim assistance were recognized to be urgent issues in the nation's socio-economic development</p> <p>With respect to areas contaminated with mines and unexploded ordinances (UXO), 4,466km² was a commonly recognized area. In total, approximately 412km² of Cambodia had been cleared of mines (1992 to 2007), of which approximately 200km² was completed by the Cambodia Mine Action Centre (CMAC).</p> <p>As the equipment of CMAC became severely damaged due to intensive use and its deterioration, work efficiency would certainly drop under the present situation.</p>		
Objectives of the Project	To promote demining activities of CMAC by procuring demining equipment such as mine and Unexploded Ordnance (UXO) detectors		
Outputs of the Project	<ol style="list-style-type: none"> 1. Project Site: Banteay Meanchery Province, Battambang Province, Pursat Province, Pailin Province, Siem Reap Province, Oddar Meanchey Province, Kampong Thom Province, Preah Vihear Province, Kampong Cham Province, and Kratie Province 2. Japanese side <ul style="list-style-type: none"> - Mine Detectors (2 types): 388 and 100 sets - Mine/UXO Detectors (3 types): 27, 14 and 3 sets - Spare parts (Parts for rotary cutters and suspension of brush cutters, and parts for existing mine detectors and mine/UXO detectors): 1 set - Mobile Workshop: 1 - Loaded Tools for Vehicle Repair (for vehicle): 1 - Consumables for Periodic Maintenance (for the newly procured equipment): 1 sets 3. Cambodia side: <ul style="list-style-type: none"> - n.a. 		
E/N Date	18 March, 2009	Completion Date	17 February, 2010
Project Cost	E/N Grant Limit: 548 million yen, Contract Amount: 512 million yen		
Implementing Agency	Cambodian Mine Action Centre (CMAC)		
Contracted Agencies	Ingerosec Corporation, ITOCHU Corporation and Marubeni Corporation		
Related Studies	Basic Design Study: July, 2008 – February, 2009, Detailed Design Study: April 2009 – June 2009		
Related Projects (if any)	<p>Japan's Cooperation:</p> <ul style="list-style-type: none"> - Strengthening of CMAC Function for Human Security Realization (Technical Cooperation, 2008-2010) - Advisors (Dispatch of Experts, 1999-2008) - Project for Improvement of Equipment for Demining Activities Phase 1-4&6 (Grant Aid, 1998-2012) - Grant Aid for Research the project for Research and Development of Mine Clearances Related Equipment (Phase 1 and 2) (2005, 2007) <p>Other Donors' Cooperation:</p> <ul style="list-style-type: none"> - UNDP, UNICEF, USA, Germany and others 		

II. Result of the Evaluation

1 Relevance
<p>This project has been highly consistent with Cambodia's development policy, such as "to free Cambodia from the threat of anti-personal mines and Explosive Remnant of War (ERW)/UXO" as set in National Mine Action Strategy (2003) and National Mine Action Strategy (2010-2019) at the time of both ex-ante and ex-post evaluation. Also it has met development needs of clearing land contaminated with mines and UXO/ERW, as well as Japan's ODA policy (Country Assistance Program for Cambodia formulated in 2002) for prioritizing demining for realization of sustainable growth and stable society, at the time of both ex-ante and ex-post evaluation.</p> <p>Therefore, relevance of this project is high.</p>
2 Effectiveness/Impact
<p>The project has largely achieved its objectives, "to promote demining activities of CMAC by procuring demining equipment such as mine and UXO detectors". According to the database of CMAC, the equipment procured under the project has been active and fully used for all demining projects implemented by CMAC. The procured equipment has replaced the existing deteriorated equipment items which reached an end of the service life. The spare parts procured under the project contributed to prolong the life of the existing equipment. The brush cutters make demining operation more efficient after CMAC has changed the operation system. Previously, the brush cutter cleared everything on the ground including the grass and trees,</p>

while brush cutters currently only cut bushes and big trees and people cut grasses instead¹. This enabled brush cutters operate for less hours, and therefore, the brush cutters could be long lasting. According to CMAC, with the combination of operation of demining detectors, dog team, brush cutters and others, as well as the introduction of one-man one-lane operation system, the demining activities have become more efficient and productive². As a result, the annual cleared land areas have expanded at a pace exceeding the CMAC's action plan after the completion of the project, and the equipment procured under the project have played a central role. In addition, with the renewed equipment available, the demining operators feel safe during the demining activities, according to a field manager of CMAC.

As for impact, the trend of death and injuries due to the mines/UXO have been decreasing. The data reported by Cambodian Mine/ERW Victims Information System showed that the number of victim has decreased from 352 victims in 2007 to 186 victims in 2012. The re-use of land areas after the demining has increased, which have been used for resettlement and agriculture. Furthermore, CMAC's experiences has contributed to many infrastructure development projects of the country, for instance, the Project for the Construction of Neak Loeng Bridge which is one of the biggest grant aid projects of JICA, CMAC has done a great job by removing many UXOs left over.

Therefore, effectiveness/impact of this project is high.

Quantitative Effects

Indicator	Year 2007 (before the project) Actual value	Year 2011 (Target year) Target value	Year 2011 (Target year) Actual value	Year 2012 (full fiscal year at the time of ex-post evaluation) Actual value
Indicator 1: Annual cleared area (km ²) by CMAC	27	54	52	76.7
Indicator 2: Accumulated cleared area (km ²) by CMAC	200	n.a	na	469.5
Indicator 3: The number of total detectors of CMAC, and the number of operational detectors among them (mine detectors and mine/UXO detectors)	Mine detectors Total: 2,570 Operational: 1,815 Usable*1: 1,562 Mine /UXO detectors Total: 115 Operational: 112	n.a.	Mine detectors Total: 2,740*2 Operational: 1,275 Mine /UXO detectors Total: 202 Operational: 137	Mine detectors Total: 3,127*3 Operational: 1,543 Mine /UXO detectors Total: 265 Operational: 216
Indicator 4 Operation hours of existing brush cutters	Average 1,600 hours/year	n.a	1,388h/year	1,443h/year

Source: CMAC

*1 1,815 includes 253 detectors under repair, which means the number of usable detectors at the time of BD was 1,562. Among usable 1,562 detectors, 795 were within the service life, and the rest (767) reached/almost reached the end of service life.

*2 During 2007 to 2011, some of the equipment were written-off, therefore, the stock-take in 2011 has figured 2,740 sets of mine detectors.

*3 This figure include the equipment procured under the Japanese Grant Aid "Project for Improvement of Equipment for Demining Activities" (Phase VI).

Note: The above indicators are set at the time of ex-post evaluation to measure the effect of the project.

3 Efficiency

The outputs of the project were produced as planned, and both the project cost and the project period were within the plan (ratio against the plan: 93%, 69%). Therefore, efficiency of this project is high.

4 Sustainability

The operation and maintenance of the equipment procured by the project have been carried out by CMAC. CMAC has been continuing its activities as a government institution which directly reports to the Prime Minister. The Government of Cambodia has made use of CMAC to fulfill its mandate to clear mines. CMAC's operation is carried out based on a 5 year strategic plan. The number of personnel of CMAC including field operators is 1,749, which is sufficient to operate under CMAC's 5 year strategic plan (2014-2018). CMAC has total 32 maintenance staff, which is also sufficient for the maintenance activities.

There is no problem in technical aspect, as CMAC's staff has quite long experience of demining by using the same types of equipment procured under the project. Those experienced staff members transfer knowledge of operation and maintenance of the equipment to other members. In addition, the manufacturer provided training on how to use, maintain, and repair equipment upon delivering equipment to CMAC, and CMAC also carries out training for the use and maintenance of the equipment. Further, JICA has supported to strengthen CMAC's capacity by sending senior volunteers and by carrying out training courses under the technical cooperation project. CMAC's technical level is so high that CMAC transfers its technical knowledge of demining operation to other countries such as Columbia and Laos under the south-south cooperation of JICA. According to the interview at the CMAC's training center in Kampong Chhnang, Central Workshop and deminers, the manual of demining operation is very useful. The manual is in English and Central Work Shop has translated some manual in Khmer

¹ Those who cut grasses must wear Personal Protective equipment, and in addition, the machine is attached with safety device to protect fragments scatter during the running of machine. Thus, the safety of the activities is ensured.

² In addition, CMAC has introduced new methods of clearing mine into its operation including land release method –an efficient method for releasing suspected hazard area through non-technical survey, technical survey, and clearance.

which makes deminers who do not understand English feel easier to operate equipment.

Financially, CMAC has the limited funding from the government. Although the government has a mandate to clear land mines, and priority of government in demining field is high, allocation of the government's budget for this sector is not enough to cover all the activities. Instead, CMAC's budget including maintenance budget has been stably funded by donors. Most donors are funding CMAC for their operating cost, but no other donors than JICA has provided capital expenses (purchase of brush cutters, vehicles, mine detectors and others) while the deterioration of the equipment is relatively fast. Therefore, CMAC may face a problem of renewing equipment in future.

CMAC has no problem in the current status and practice of operation and maintenance. The equipment is maintained well by the Central Workshop (a department of CMAC). CMAC conducts stock-take twice a year for consumable items and once a year for equipment. During the stock-take, consumables and equipment are inspected, and if necessary repair and replacement of spare parts are conducted at the same time. The spare parts have been timely replaced.

As the project has some problems in financial aspect, sustainability of the effects of this project is fair.

5 Summary of the Evaluation

The project has largely achieved its objectives, "to promote demining activities of CMAC by procuring demining equipment such as mine and UXO detectors", as the accumulated cleared land areas has expanded with the efficient and effective use of the equipment procured under the project. Positive impacts have been identified in terms of decreasing trends of death and injuries due to the mines/UXO, and the re-use of cleared land.

As for sustainability, there is an issue of limited financial resources, however, there is no problem in the institutional setup of CMAC, and CMAC has high technical capacity. In addition, CMAC maintains the equipment well with appropriate procedures.

In light of the above, this project is evaluated to be highly satisfactory.

III. Recommendations & Lessons Learned

Recommendations to implementing agency:

It is recommended that CMAC try to secure own financial resource to purchase the spare parts as well as other demining equipment, because donors' support in providing the equipment and spare parts are becoming scarce. In order to sustain demining activities, CMAC is recommended to request the regular budget from Cambodian government or consider how to generate its own revenue in the future. For instance, CMAC could be the training providers to other countries by using high technical knowledge of demining as CMAC has already done under JICA's south-south cooperation. This might be one of the financial resources in the future. CMAC also could consider implementing commercial demining activities for some companies' land by charging fees.

Lessons learned for JICA:

The purchase/renewal of CMAC's equipment has been almost exclusively funded by Japan, and it is difficult to foresee how CMAC will procure equipment for demining activities if the Japanese government stops its grant aid for equipment and spare parts. In case a project in which sustainability is very much dependent on donors' funds, JICA could propose a pre-condition to a recipient government to secure budget for maintenance and renewal of equipment.



Brush Cutter cutting tree in a mine field in Banan district



Deep search activities at a Mine Field in Banan district