終了時評価調査結果要約表（英文）

I. Outline of the Project		
Country: Cambodia		**Project title:** The Project of Strengthening of CMAC's Function for Human Security Realization
Issue/Sector: Peace-building/ Planning-Government		**Cooperation scheme:** Technical Cooperation
Division in charge: JICA Cambodia Office		**Total cost:** 260 million yen (as of the terminal evaluation)
Period of Cooperation	4 April 2008 - 30 September 2010 R/D: 27 December 2007	**Partner Country's Implementing Organization:** Cambodian Mine Action Centre (CMAC)

1-1 Background of the Project

Landmines and Explosive Remnants of War (ERW) remain in Cambodia as a lethal legacy of the three decades of the war and civil conflict lasting until as late as 1998. More than 40% of all Cambodian villages are said to be affected by landmines and Unexploded Ordinance (UXO) and more than 5 million people are said to face threat of them today. This has had a severe socio-economic impact on Cambodia.

Demining Activities in Cambodia is mainly handled by Cambodian Mine Action Centre (CMAC) which is a governmental organization as well as Royal Cambodian Army Force (RCAF) and NGOs and around 15 % of mine contaminated areas are said to have been cleared to date.

Japan has been supporting CMAC since 1998 through provision of equipment (mine detectors, demining machines and vehicles etc.), financial support to demining activities through international organization or grass-roots grant aid scheme, dispatching of JICA experts in maintenance of equipment and information management etc. All these supports had been implemented separately which made it difficult to see how these assistances contributed for streamlining of management ability of CMAC, promotion of demining activities with safety.

In order to see more visible and tangible effect, JICA and CMAC started a Technical Cooperation Project, "The Project of Strengthening CMAC's Function for Human Security Realization" in April 2008, aiming at realization of CMAC Five-Year Strategic Plan2010-2014. This project focuses on three main components, namely 1) establishment of Information System, 2) Maintenance of Machinery and Equipment, and 3) Training Management.

1-2 Project Overview

(1) Overall Goal

To realize the target of "CMAC Five-Year Strategic Plan 2010-2014"

(2) Project Purpose

Strengthening the function of CMAC and technical transfer system for demining operation

(3) Outputs

Output1: Data management and communication within/between HQ and branch offices becomes effective and efficient through improvement of information systems.

Output 2: Maintenance and management systems of machinery and equipment are improved.

Output 3: Function and capability of Training Centre are improved.

(4) Inputs

Japanese side:

Dispatch of Experts: 2 Long-term experts (Chief Advisor/Cooperation Management and Training Management Advisor/Project Coordinator) and 2 short-term experts (Information System Advisor and Workshop Management Advisor).

Equipment: network devices, computers, machines and tools for maintenance, AV devices etc.

Training in Japan: 3 C/Ps (February-March 2010) participated and the same training planned in August 2010

Third Country Training: 4 C/Ps participated in Kenya (HPSS) and 3 C/Ps participated in Colombia (PAICMA)

Cambodian side:

Appointment of Counterparts: A total of 24 persons

Project Office and Facilities: office space and facilities provided (HQs, Central Workshop, Training Centre)

II. Evaluation Team			
Member	(1) Leader: *Mr. Yukiharu KOBAYASHI* (Senior Representative, JICA Cambodia Office) (2) Peacebuilding: *Ms. Eri KOMUKAI* (JICA Senior Advisor) (3) Cooperation Planning: *Ms. Naoko KAMEI* (Representative, JICA Cambodia Office) (4) Evaluation Analysis: *Ms. Yuko OGINO* (KRI International Corp.)		
Period of Evaluation	27 June to 9 July 2010	Type of Evaluation	Terminal Evaluation

III. Results of Evaluation

3-1 Performance of the Project

(1) Achievement of Outputs

1) Output-1 (Information Management System):

All the 3 systems (Operation Database System, Fixed Asset Trucking System, and Human Resource System) have been developed/improved and now in operation almost properly in HQs, DUs, and Training Centre, Central Warehouse and Central Workshop where appropriate, except for just 1 module (Land Release) which came up as a new additional to Operation Database System.

Double data entry and double data management have been considerably improved between DUs and HQs, and within HQs as well. With the Project inputs, almost all the DUs and HQs are now using database system instead of EXCEL, and using electronic data of export files instead of paper-based data either by e-mail or using USB. As a result, accuracy and security of data have been enormously improved, leading greater efficiency in information management in CMAC.

System down time has been reduced through upgraded server-based network system which has made the system technically more solid. In addition, deployment of full-time MIS staff at each and every DU

to respond to problems timely, setting up UPSs for stabilizing electric supply and developing technical capacity of concerned staff through various trainings have benefited the system management a lot to become more efficient and has contributed to the reduction of system down time.

2) Output-2 (Maintenance Management System):

Knowledge and skills of all the mechanics in Central Workshop are estimated to be improved considerably through constant and responsive advice, OJT and a set of trainings both in-country (7 subjects for theoretical foundation) and in Japan. The Project also introduced an important practice to use manuals, to refer to guidelines and catalogues to ensure the quality standard of maintenance. It is also noted that the accident rates at Central Workshop have been zero during the Project period while there were some cases before the Project. Overall, C/Ps and the Japanese expert share the same opinion that Central Workshop technical level is estimated to be improved to a great extent.

The time (days) required for maintenance is estimated to be reduced and consequently increased availability rates of machineries and equipment. The Project has introduced the system of recoding data constantly and precisely on maintenance time for each item, but at the time of Terminal Evaluation, it is too premature to compile the data and analyze them. Instead, through looking at the process of technical inputs by the Project as well as the interviews/questionnaires from Central Workshop and UNDP, it can be assumed that Central Workshop has demonstrated better situation in reducing the required time for repairing and increasing the availability rates. In addition, a List of CMAC Main Equipment 2008, 2009 and 2010 shows that most of the items are in-service. For those un-service/broken (eg. Brush Cutters, Metal Detectors, Radios) are mainly due to life-time expiry, and retired and/or replaced by new models.

It should be noted that the Project was originally supposed to cover Central Workshop, HQs and DUs. However, through initial situation analysis, it was decided to concentrate on the capacity development of Central Workshop as a priority and assistance to HQs and DUs is therefore limited.

3) Output-3 (Training Management System):

Training Management Cycle has been introduced to Training Centre of CMAC for the first time in a systematic manner by the Project. The achievements in this regard include 1) Training Management Committee and Training Support Unit organized, 2) Training Needs Assessment conducted, 3) A total of forty-six (46) Standard Training Course Curriculum organized and documented, and 4) Training Management Manual prepared. For training materials, in addition to the above curriculums, there are for example handouts, an exhibition room (decorating by panels of various types of landmines and models) and training tools for EOD.

Training Centre has been upgraded with supplies of various AV training equipment and computers necessary for conducting effective trainings. Instructors' presentation skills have also been improved through trainings on AV teaching aids and teaching methods, which the instructors highly appreciate. Lessons using AV materials (pictures, photos, figures, video films etc.) are assumed to greatly enhance training efficacy compared to the paper-based trainings previously done, for all the training participants in general and for non-literate participants of many deminers in particular.

Regarding networking, rather than building wider partnerships with similar organizations as many as

possible, the Project envisaged Kenya and Colombia as most feasible countries for South-South cooperation and focused on strengthening relationship with them. As part of the third country training, C/Ps and Training Management Advisor visited the two countries. CMAC also hosted training programme for PAICMA, Colombia June 2010, and planned to have another 2 programmes (October 2010, June 2011). The experience of such has helped CMAC to prepare training resources and to gain know-how and experiences that made CMAC become more confident for moving forward to work for South- South Cooperation.

(2) Achievement of Project Purpose

The Project Purpose has been and is likely to be achieved in light with the objectively verifiable indicators (indictor 1-3 corresponding with each Output).

1) Indicator 1 (Output 1) : High

Database systems (Operation Database System, Fixed Asset Trucking System, and Human Resource System) have been developed and used almost properly at HQs, DUs and so forth. In addition, upgrading network and computer-related devices, posting full-time MIS staff in all DUs, and training of MIS staff have made CMAC information management capacity more systemized and efficient. CMAC has reorganized to upgrade database section to database branch where all the operation data is centralized. More accurate and efficient data management on demining together with databases for equipment and human resources has made CMAC work more effectively and efficiently. It is also noted that CMAC is responsible for a largest portion of Baseline Survey currently conducted under the CMAA's coordination and therefore has an important role to provide accurate BLS data for estimating the demining needs of Cambodia as a whole.

2) Indicator 2 (Output 2) : High

Maintaining the current availability rate of machineries during the Project period is assumed to be quite possible through upgrading mechanics' skills and knowledge, and providing necessary machineries and equipment to Central Workshop. It is envisaged that many of the CMAC demining machineries and equipment are expected to reach a stage of life-expiry in a few years time. Such problem facing CMAC has become clearer as a result of the Project efforts in developing maintenance management capacity.

3) Indicator 3 (Output 3) : Relatively High

All the 46 Standard Training Course Curriculum, Training Management Manual and equipment installed are used and expected to be used properly as they are all well perceived by C/Ps as essential resources to Training Centre. In addition, instructors' skills have been improved through using AV materials, such improvements benefitted the participants (including non-literates) for better learning and understanding. It should be noted that the Project does not cover the development/improvement of curriculums or training courses. Also, the manual is in the process of finalization and practicing of it is planned to be after the Project period.

4) Overall

The Project Purpose has been and is likely to be achieved by each indicator (Output). However, the attainment of "strengthening the function of CMAC and technical transfer system" at an integrated level of the 3 Outputs effects is not fully confirmed. The Indicators to measure it are not set in the PDM, but such viewpoint may have to be included in assessing the attainment of the overall Project Purpose.

(3) Achievement of Overall Goal

The effect of the Project on Overall Goal is positive by looking at the trends by indicator with most emphasis on Indicator 2 (operational clearance size by CMAC).

1) Indicator 1:

The number of landmine/ERW casualties in Cambodia is constantly showing downward trends since its peak in 1996. The recent drop by almost 50% in the number of casualties in 2006 (to 450 cases) followed by a continued decline every year until 2009 (244 cases) is indicating a positive sign for achieving zero victims in the future. As CMAC shares a largest responsibility of demining operation in Cambodia, strengthening CMAC capacity is imperative and the Project is contributing toward the realization of CMAC Strategic Plan. (Note: Overall reduction of casualties has other determinant factors beside from clearance.)

2) Indicator 2:

The recent trends of operational clearance size by CMAC are also positively increasing. Until 2004, the figures stayed 10 km² per year, but they doubled since 2005 and steadily increased to 27.7 km² (2008) and 35.5 km² (2009). (Note: An emphasis is placed on Indicator 2 since clearance size is directly related to CMAC's function.)

3) Indicator 3 (For Information):

The recent figures of number of Anti-personnel landmines and UXOs found and destroyed show mixed trends. In 2005, CMAC has destroyed 74,165 landmines as its peak in its history and the numbers are gradually declining. The number of UXOs yearly destroyed is more or less slightly increasing. (Note: Indicator 3 is not necessarily used for evaluating the productivity of mine action recently and therefore is referred here just for information.)

(4) Contributing Factors

Major contributing factors for enhancing the effects of the Project are as follows:

- Very strong commitment and support as well as sincerely hardworking efforts from CMAC, all the C/Ps as well as Japanese Experts.
- A good relationship already established through a long history of Japan-CMAC cooperation.
- The synergy effects with other Japanese assistances to CMAC in general, and Japan's General Grant Aid (machinery and equipment supply) in particular.

(5) Inhibiting Factors

The factors that may have inhibited for enhancing the effects of the Project are as follows:

- Delay in dispatching the Japanese Experts by about 3-6 months, except for Chief Advisor, and subsequently delayed the start of the Project in actual terms in the latter half of the JFY2008.
- Change of Chief Advisor in the middle of the Project affecting on the coherent project management as well as efficiency of the Project implementation.
- Six months delay in appointment as well as having two responsibilities as Training Management Advisor and Project Coordinator, together with the absence of Chief of Training as a C/P at HQ level until July 2009 affecting the smooth implementation of the Output 3 activities.
- Chronic shortage of manpower and personnel in Training and R& D department causing many vacancies and increasing more pressure on the completion of planned activities.

3-2 Summary of Evaluation Results

(1) Relevance: Very High

From the viewpoint of necessity, strengthening the function of CMAC is very much needed to achieve the demining goals of the government. Despite the positive progress in decline of the landmine/ERW casualties, the number remains still very high, and Cambodia is still ranked among most landmine affected countries worldwide. Considering experiences and past performances together with manpower, knowledge and skills, CMAC is expected to continue to perform as a core, governmental demining organization.

In terms of priority, mine action is one of such sectors of the Cambodian government as reflected in the Cambodian MDGs, National Strategic Development Plan (NSDP) 2006-2010, National Mine Action Strategy (NMAS) 2010-2019 and approved extension request of Ottawa Convention until January 2020. Japanese ODA policies and strategies as well as JICA's country policy and strategies for Cambodia also include peacebuilding and mine action as one of the priority areas.

As for the appropriateness of means, 3 areas of information, maintenance and training are all essential and thus appropriate approach to CMAC's organizational capacity development. In addition, the Project is consistent and complementary with other Japan's assistances (particularly equipment supply through Grant Aid) as well as with other development partners' support to CMAC. The Project has utilized Japanese technical advantages and experiences as well.

(2) Effectiveness: Very High at Output Level

The Project Purpose has been and is likely to be met in terms of 3 objectively verifiable indicators which basically correspond with each Output. The development of database systems, upgrading network and computer-related devices, posting full-time MIS staff in all DUs, and training of MIS staff have allowed CMAC information management capacity more systemized and efficient. Maintaining the current availability rate of machineries is to be met through upgrading mechanics' skills and knowledge, and providing necessary machineries and equipment to the Central Workshop. All the Standard Training Course Curriculum, Training Management Manual and equipment installed are used and expected to be used properly. Instructors' skills have also been improved through various trainings

and using equipments provided.

However, the attainment of "strengthening the function of CMAC and technical transfer system" at an integrated level of all the 3 Outputs effects is not confirmed. Since the indicators to measure it are not set in the PDM, it may not be appropriate to evaluate such aspect. Still, more attention may have to be paid in assessing the overall Project Purpose as the Project aims to enhance the organizational capacity as a whole. Beyond the attainment of each Output and by integrating all, comprehensive management capacity of CMAC is expected to grow after the Project period and to prepare more concrete and detailed action plans including status of equipment, staffing and budgetary requirements.

(3) Efficiency: High with Some Attentions

Nearly all the Outputs have been produced as planned, and activities have been almost sufficient to produce Outputs with sufficient level of quantity and quality of inputs provided on mostly appropriate timing. Use of locally available resources, such as local consultants for programming and training as well as materials for repairing increased efficiency.

Factors that may have affected in efficiency are 1) delay in fielding Japanese Experts and consequently shortening the Project period, 2) delay in appointment of Chief of Training as a C/P personnel, 3) change of Chief Advisor during relatively short Project Period of 2.5 years. In spite of such factors, the Project has been implemented very efficiently when looking at the achievement of each Output. However, the Project actually has adjusted its scope by amending PDM and PO, and was made slightly difficult to carry out as one team for a technical cooperation project in a coherent manner. In addition, pursuing higher efficiency in such situation may have given over pressure on C/Ps. In sum, efficiency is judged to be high but there are some attentions.

(4) Impacts: Conditionally High subject to Funding and Further Management Capacity Development

Operational clearance size by CMAC (an indicator directly related to CMAC function) is steadily increasing and the number of landmine/ERW casualties shows declining trends. The Project has been contributing positively as the 3 areas of the project components are all directly related to strengthening CMAC's function as a core demining organization in Cambodia.

However, impact is subject to availability of funds. CMAC has been receiving funds from various development partners which share more than 90 % of the total budget. It is expected that CMAC will probably be assisted by development partners until 2020 for the extension period of Ottawa Convention, but the funding projection is not clear.

In addition, it is envisaged that mid to large scale maintenance work for equipment is expected to occur frequently due to life-time expiry of many of them. To resolve such problems, further strengthened maintenance management capacity is required as well as provision of necessary funding. Training management system introduced by the Project also needs to be developed further and necessary personnel to be appointed to fill out vacancies, which also relates to funding issues.

(5) Sustainability: Conditionally Potential

The sustainability of the Project is here discussed for the extended period of Ottawa Convention until 2020 as CMAC is a demining operator which is time-bound mission. Policy settings surrounding CMAC appear to be almost firm. First, mine action is a priority in the Cambodian government policies. Next, demining has to be accelerated for the next 10 years as Ottawa Convention extended. In such situation, CMAC will continue to be a core, governmental demining organization regarded in the country's policy and strategies as the largest in humanitarian demining governmental operator.

Human resources of CMAC including the ones developed by the Project are basically sufficient considering the experiences and past performances as well as size of employed personnel. CMAC has a strong ownership as well. For technical aspect, technical expertise enhanced by the Project is expected to mostly stay in CMAC.

The equipment provided by the Project will be properly maintained. However, many of the equipment that CMAC possesses will be obsolete and need to be replaced. CMAC will face the problem including procurement of spare parts for maintenance, which is an urgent issue for CMAC to take care.

As for a mechanism for disseminating the skills and knowledge, it is working within CMAC. For overseas, it has just started and has to continue to develop further.

The most serious and fundamental problem that may affect the Project effects is funding. For the next 10 years, the funding level is uncertain. Since CMAC is heavily dependent on external funding (more than 90 % of total budget) , sustainability is basically subject to funding prospects.

3-3 Conclusion

The implementation status of the activities and achievements by each Output is judged to be satisfactory. The evaluation based on the Five Evaluation Criteria shows that the results are high in terms of Relevance and Effectiveness and Efficiency, and conditionally positive and potential in terms of Impact and Sustainability. It is also noted that whether the effects continue/grow/sustain heavily depends on CMAC's financial sustainability as well as further efforts to develop managerial capacity based on the Project effects.

3-4 Recommendations

(1) Actions to be Taken by the End of the Project Period

- Output 1: CMAC, in consultation with the Project, needs to plan ahead to continue development of Land Release module of the Operation Data System and put it in place for proper operation both at HQ and DU levels after the end of the Project, which includes budgetary support to the technical personnel (programmer) presently hired by the Project.
- Output 2: In order to reinforce the knowledge and skills, refresher trainings are necessary to be provided before the Project ends. The recording practice of maintenance work and required days needs to continue and accumulate data for further effective maintenance management. It is also highly recommended to provide technical advice to HQ C/Ps to get them involved as much as possible for the remaining Project period.
- Output 3: For the training management cycle to be implemented, Training Management Manual

has to be finalized and completed.

(2) Actions to be Taken after the End of the Project and onward

- Output 1: CMAC is required not only to sustain the database systems developed by the Project but also to improve them as information needs change over the time. It is also recommended for CMAC to utilize information for developing more detailed plans (eg. Procurement and budgetary plans for equipment).
- Output 2: Since HQs is responsible for whole management of equipment in the organization including DUs, CMAC needs to expand its attention to the development of HQ and DU levels as well.
- Output 3: Training management cycle introduced by the Project needs to be actually implemented. The resources like curriculums and the Manual should be translated into Khmer for the benefit of users. CMAC is expected to update the resources according to the actual situation as well.

(3) Actions to be Taken by CMAC for more comprehensive Planning

By integrating the results of all the 3 Outputs, it is suggested that CMAC operational plan should be prepared including more concrete and detailed status of equipment, staffing, budgetary requirements. In order to do so, continuing efforts to further enhance the organizational capability is needed. Until 2020, need as well as the government's commitment for continuing demining is confirmed. The results of Baseline Survey Data will provide the basis for more accurate estimates. It should be noted that despite the fact that landmine/ERW casualties have been showing a declining trend, casualties may increase. This is due to economic development resulting in more needs arising for agricultural and other development purposes in the course of time. Demining will continue to be of importance in Cambodia for such reasons. In view of the above, it is suggested that CMAC is required to prepare the comprehensive plan for the next 10 years as the largest, humanitarian demining organization.

3-5 Lessons Learned

(1) Project Management

- Recruitment of all the Japanese Experts needs to be in time for Project commencement.
- It is desirable for one Chief Advisor to oversee the entire project period. If not possible, the role of Chief Advisor as well as approaches of the Project has to be confirmed more clearly at the time of change among JICA and a team of Japanese Experts first, and CMAC as well.
- In order to maximize the effects of the technical cooperation project, the Japanese Experts need to work more closely by sharing and exchanging information and opinions not only on formal meetings but informally and on daily basis.

(2) PDM and **Quantitative** Data

- PDM has been modified for the convenience of better Project implementation 2 times, but some points are logically not appropriate to use as framework for Terminal Evaluation. Since PDM is guiding the Project implementation and evaluation, it is recommended that PDM needs to be

amended properly.

- Availability of quantitative data is limited and the evaluation had to be done in many cases based on process indicators and/or other information. Necessary quantitative data need to be collected and analyzed from the earlier stage of the Project, where possible.

(3) Positioning of Project in A **Wider** Context

- Since the mine action sector in Cambodia as well as CMAC are all guided by sector policies/ strategies and closely related to other development partners' policies/strategies and supports, it is important that the Project confirms its position in the mine action sector in a wider context.
- It is recommended to collect sector information, and to communicate with other partners at Project implementation level. Sharing such information among the Project members is also desirable considering the nature of the Project.