Ex-Post Project Evaluation 2015：

Package I-3
（Asia and Pacific, Mongolia）

September 2016

JAPAN INTERNATIONAL COOPERATION AGENCY

TEKIZAITEKISHO LLC

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Disclaimer

37 Countries in Asia-Pacific Region

FY 2015 Ex-Post Evaluation of Technical Cooperation Project

"Asia-Pacific Development Center on Disability Project (Phases 1 and Phase 2)"

External Evaluator: Ayako Namura, Ai Ishitobi, Tekizaitekisho LLC

0.   Summary

The Projects were implemented with the aim of promoting the realization of social participation and the equality of persons with disabilities through the empowerment[1] of persons with disabilities in the Asia-Pacific region. These region-wide technical projects were implemented during the ten-year period from 2002 to 2012 targeting 37 countries[2] in the Asia-Pacific region. The Ministry of Social Development and Human Security of Thailand and the Asia-Pacific Center on Disability (hereinafter referred to as "APCD"), established in Bangkok, Thailand, were the implementing agencies for the Projects.

The relevance of the Projects is high. The components of the Projects were greatly aligned with (i) regional policies on disability; (ii) government policies on social protection in countries in the region; (iii) the needs of persons with disabilities and disability-related organizations in the region; and (iv) Japanese development cooperation policy. The effectiveness and impact are high. The Projects contributed to the capacity enhancement of APCD's service provision on networking, information support, human resource development to governmental agencies, and persons with disabilities and disabled people's organizations (DPOs) in the Asia Pacific region. The Projects also helped the APCD attain its position as the regional center for disabilities and development. In this respect, the project effectiveness is high. The Projects accelerated activities promoting the empowerment of persons with disabilities and a barrier-free society and resulted in an increase in the number of projects implemented by disability-related organizations. Furthermore, the Projects had an impact on the development of policies, legislation and programs aimed at assisting persons with disabilities in many countries in the region. The efficiency is assessed as fair. The project period was within the plan, but the project costs exceeded the plan. The sustainability of the project effects is high since no major problems have been observed in the policy background nor in any organizational, technical and financial aspects of the implementing agency.

In light of the above, the Projects are evaluated to be highly satisfactory.

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[1] Empowerment means that individuals or groups build their own capacities in order to become the main actor in their own lives so that they can take initiative and make decisions to control their daily lives and environments.（Homepage of Disability Information System http://www.dinf.ne.jp/doc/japanese/glossary/Empowerment.html, accessed June 2016）

[2] ＜East/South East Asia＞Cambodia, China, East Timor, Indonesia, Lao PDR, Malaysia, Mongolia, Myanmar, the Philippines, Singapore, Thailand, Vietnam, Brunei, ＜Southwest Asia＞Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, Sri Lanka, ＜Pacific＞Cook Islands, Fiji, Kiribati, Micronesia, Nauru, Niue, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Vanuatu, <Central Asia> Kazakhstan, Kyrgyz Republic, Tajikistan and Uzbekistan.

1. Project Description
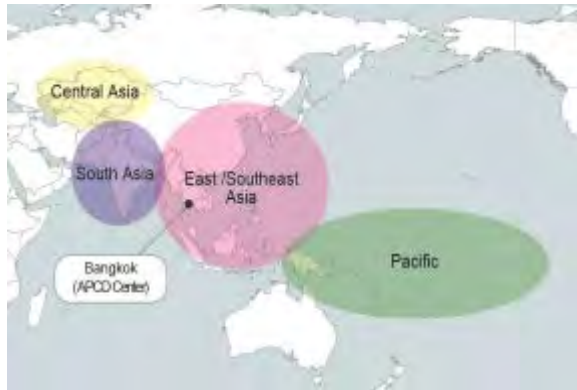
Project Locations

60 Plus+ Bakery & Café (the joint project of APCD and Thai Yamazaki contributing to the employment of persons with autism)

1.1 Background

The WHO estimated that there were over 300 million persons with disabilities (one out of ten) living in the Asia-Pacific region[3]. Many of them lacked access to education, employment, and other social and economic opportunities and it was estimated that necessary services did not reach them. To mitigate these conditions, "the Asian and Pacific Decade of Disabled Persons 1993-2002" was implemented at the initiative of the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP). UNESCAP also adopted "the Agenda for Action"[4] and Japan, as a co-sponsor country, was expected to take a leading role in international cooperation on disability and development.

Under these circumstances, during the five-year period from August 2002 to July 2007, the Government of Thailand and Japan implemented a region-wide project, "the Asia-Pacific Development Center on Disability Project", to promote the realization of the social participation and equality of persons with disabilities by empowering them in the Asia-Pacific region. The Terminal Evaluation conducted in September 2006 identified the achievement of almost all expected outcomes; however, it pointed out that the sustainability of the APCD needed to be improved. Due to this, "Phase 2 of the

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[3] Disabled Persons International (DPI). *The Asia Pacific Decade of Disabled Persons on NGO Perspective, 2001*.

[4] The Agenda for Action identified 12 areas for action: (i) the establishment of a national coordination committee on disability matters; (ii) enactment of legislation for persons with disabilities; (iii) the collection and analysis of data on the disability situation, and facilitation of access to information; (iv) public awareness building; (v) guarantee of access to develop environments and communication tools; (vi) guarantee of integrated education for children with disabilities; (vii) vocational training and the employment of persons with disabilities; (viii) prevention of causes of disability; (ix) expansion and improvement of rehabilitation services; (x) production and supply of assistive devices; (xi) promotion of self-help organizations for persons with disabilities; and (xii) regional cooperation through networking.

Asia-Pacific Development Center on Disability Project" was implemented from August 2007 to July 2012.

1.2 Project Outline

		Phase 1	Phase 2
Overall Goal		Empowerment of persons with disabilities and a barrier-free society will be strongly promoted in developing countries in the Asia-Pacific region.	In order to promote an inclusive, barrier-free and rights-based society and empowerment of persons with disabilities in the Asia-Pacific region, organizations of/for persons with disabilities are strengthened through APCD's activities.
Project Purpose		APCD will be established to promote empowerment of persons with disabilities and a barrier-free society in developing countries in the Asia-Pacific region.	APCD is able to function as a regional center to facilitate networking and collaboration among organizations of/for persons with disabilities towards an inclusive, barrier-free and rights-based society and empowerment of persons with disabilities in the Asia-Pacific region.
Outputs	Output 1	Networking and collaboration among focal points/associate organizations will be facilitated by the APCD.	More effective and sustainable networking and collaboration are developed among the APCD, Focal Point Organization (FPs), Associate Organizations (AOs) and other relevant organizations.
	Output 2	Accessible information support will be provided by the APCD for focal points/associate organizations, relevant organizations and people concerning disability issues.	The managerial and administrative capacity of the APCD to sustain the internationalized activities is strengthened.
	Output 3	Disability-related human resource development for focal points/associate organizations will be promoted by the APCD.	-
	Output 4	Operation and management system for the APCD will be developed.	-
Total cost (Japanese Side)		670 million yen	349 million yen
Period of Cooperation		August 2002 – July 2007	August 2007 – July 2012
Implementing Agency		Asia-Pacific Development Center on Disability National Office for Empowerment of Persons with Disabilities, Ministry of Social Development and Human Security, Thailand[5]	

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[5] The name of the office was "the Office of Welfare Promotion, Protection and Empowerment of Vulnerable Groups" in Phase 1, but was changed later due to a change in the organization.

	Phase 1	Phase 2
Other Relevant Agencies / Organizations	Social welfare-related departments in the Asia-Pacific countries as Focal Point Organizations Organizations for persons with disabilities and their supporters in the Asia-Pacific region as Associate Organizations	
Supporting Agency/Organization in Japan	• Ministry of Health, Labor and Welfare • Asia Disability Institute • National Rehabilitation Centre for Persons with Disabilities	• Ministry of Health, Labor and Welfare • Domestic support committees for persons with disabilities • NGOs in the field of disability, and others
Related Projects	＜Grant Aid Project＞ The Project for the Construction of the Asia-Pacific Development Center on Disability（June 2003 – December 2004）	

1.3 Outline of the Terminal Evaluation

1.3.1 Achievement Status of Project Purpose as of the Terminal Evaluation

The Terminal Evaluation of Phase 1 was confirmed that the Project Purpose would be achieved as the APCD had the organizational management capacity needed to function as the regional center on disability and development in order to promote the empowerment of persons with disabilities and a barrier-free society. However, the issue whether the APCD would legally become a public organization until the Project was completed remained undecided. It was determined that the Project Purpose of Phase 2 would likely be achieved as the APCD was equipped with enough capacity to provide various services as the regional center on disabilities and development, including the organization of high-quality seminars or workshops.

1.3.2 Achievement Status of Overall Goal as of the Terminal Evaluation (including other impacts)

Phase 1 had significant impact, as indicated by the establishment of laws, legislation and programs related to the empowerment of persons with disabilities and a barrier-free society and the implementation of related activities in Thailand and other neighboring countries. Therefore, it was evaluated that the Overall Goals would be achieved by 2012 if the APCD's activities were continued at the same level as of the Terminal Evaluation. Phase 2 also had impact in that new activities were initiated by the Focal Point[6] (hereinafter referred to as "FP") and the Associate

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[6] FP is a collaborating government ministry/agency that exchanged a MOU with the APCD regarding the FP's roles during the Projects.

Organizations[7] (hereinafter referred to as "AO")[8] that utilized newly learned skills and knowledge through participation in the project activities. Therefore, the Terminal Evaluation of Phase 2 determined that the Overall Goal of Phase 2 was likely to be achieved.

1.3.3 Recommendations as of the Terminal Evaluation (including other impacts)

The Terminal Evaluation of Phase 1 recommended 1) maintaining the comprehensive approach to networking, information support, and human resource development, and continuing activities based on the concept of "centered on persons with disabilities" after the project completion, 2) attempting to establish a sub-regional focal point and/or partnership to expand/strengthen the established network by the Project, 3) developing a roadmap to convert the APCD (center)[9] to an international organization via a public organization and encouraging the active participation of persons with disabilities and governmental agencies in the Asia-Pacific region, in addition to Japan and Thailand, 4) considering the specific needs of respective disability areas in addition to the common needs held in many disability areas, and 5) considering the possible involvement of important stakeholders such as family members, advocates and other important actors in comprehensive and effective community support.

The Terminal Evaluation of Phase 2 recommended 1) further strengthening the international collaboration with FPs and AOs which was established through the projects in partnership with UNESCAP under the framework of "the Third Asian and Pacific Decade of Persons with Disabilities, 2013 – 2022", 2) promoting Community-based Inclusive Development (hereinafter referred to as "CBID"), 3) promoting a partnership with Thai stakeholders regarding APCD's activities, 4) fully utilizing the APCD's facilities, and 5) focusing more on persons with mental disabilities and to provide opportunities for different persons with disabilities to participate in APCD's activities and eventually to play active roles in developing community partnerships in the region or sub-region.

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[7] AO is a collaborating organization that exchanged a MOU with the APCD regarding the AO's roles during the Projects.

[8] Different terms such as "Focal point" or "a government coordinating agency" are used in project documents; however, those terms both refer to FP. In the same manner, "a collaborating organization" is identical to "AO". During the Projects, the terms "FP" and "AO" were used, but are no longer used at APCD since the completion of the Projects. Therefore, this document standardized those terms to "government-related agencies" and "disability-related organizations" when being referred to after the Projects.

[9] APCD is described as APCD (center) only when differentiating it from the APCD Foundation.

2.   Outline of the Evaluation Study

2.1 External Evaluator

Ayako Namura and Ai Ishitobi, Tekizaitekisho LLC

2.2 Duration of Evaluation Study

Duration of the Study: August 2015 to September 2016

Duration of the Field Study: November 1 to November 7, 2015, November 21 to December 12, 2015, December 30, 2015 to January 1, 2016, January 11 to January 16, 2016, May 8 to May 14, 2016

2.3 Constraints during the Evaluation Study

The Projects targeted 37 countries in the Asia-Pacific region as of the completion of Phase 2. This number is quite large, so 15[10] out of 37 countries were selected for discussion in this ex-post evaluation. The questionnaire forms were sent to governmental agencies in 15 countries, and an interview survey of related organizations was conducted in 11[11] out of 15 countries. The questionnaire forms were also sent to disability-related organizations. While this ex-post evaluation conducted a sample survey, the data collected from the questionnaire survey was not statistically processed. Therefore, it should be noted that this evaluation does not reflect the voices of all disability-related organizations in the Asia-Pacific region.

3.   Results of the Evaluation (Overall Rating: A[12])

3.1 Relevance (Rating: ③[13])

The relevance is high as the Projects were aligned with the development plan of the Asia-Pacific region, the development plan of countries in the region and the Government of Thailand, and the Japan's ODA policy.

3.1.1 Relevance to the Development Plan

The direction of the Projects was in line with regional policies on disabilities as of the planning stage of Phase 1 in 2002 and Phase 2 in 2007 and at the time of the completion

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[10] The selection criteria for the 15 countries are 1) 12 countries with FP listed for Phase 2 (Kyrgyz Republic, Tajikistan, the Philippines, Bhutan, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Pakistan, Vietnam, Brunei), 2) two countries with many AOs (Bangladesh and Thailand) and 3) a country where another ex-post evaluation ("The Project for Improvement of Primary Education Facilities (Phase IV) in Mongolia") was conducted at the same time (Mongolia).

[11] The 11 countries include Bangladesh, Cambodia, Indonesia, Lao PDR, Malaysia, Mongolia, Myanmar, Pakistan, the Philippines, Thailand, and Vietnam.

[12] A: Highly satisfactory, B: Satisfactory, C: Partially satisfactory, D: Unsatisfactory

[13] ③: High, ② Fair, ① Low

of Phase 2 in 2012.

2002, when Phase 1 started, was the last year of the Asian and Pacific Decade of Disabled Persons, 1993–2002, adopted by UNESCAP. The 12 Agenda for Action were adopted in the resolution of the Decade to improve the quality of life for persons with disabilities. The United Nations Convention on the Rights of Persons with Disabilities (hereinafter "UNCRPD") adopted by the UN General Assembly in December 2006 introduced a comprehensive framework regulating the rights and the protection of dignity of persons with disabilities. Since then, countries in Asia Pacific regions have initiated activities to ratify and implement the UNCRPD.

2007, when Phase 2 commenced, saw the implementation of "the Second Asian and Pacific Decade of Disabled Persons, 2003-2012" aiming at the "realization of full participation and equality of persons with disabilities in the region". "The Biwako Millennium Framework", the action plan of the Second Asian and Pacific Decade of Disabled Persons, promoted "action towards an inclusive, barrier-free and rights-based society for persons with disabilities in Asia and the Pacific. The policy document clearly stated that "Governments, NGOs, private sectors, and UN related organizations should cooperate with the APCD, which will be established towards 2004." In 2007, "Biwako Plus Five: Further Efforts Towards an Inclusive, Barrier-Free and Rights- Based Society for Persons with Disabilities in Asia and the Pacific" (hereinafter, "Biwako Plus Five") was adopted as a result of the Midterm Review of "the Asian and Pacific Decade of Disabled Persons, 2003-2012"[14]. This regional policy aimed at enhancing activities "to promote the construction of a society based on the inclusive and barrier-free rights of all people" in the last five years (2008 to 2012) of the aforementioned Second Asian and Pacific Decade of Disabled Persons. These policies and action plans in the region were being implemented at the start of Phase 2 in 2007 and the completion of Phase 2 in 2012; therefore, the direction of Phase 2 greatly promoted the implementation of these in the region.

In most of the 15 countries[15] targeted in the ex-post evaluation, the priority areas for disability support were mentioned in national development plans or policies and action plans on social protection when the Projects were planned or completed. Furthermore, all 15 countries signed the UNCRPD between the start of Phase 1 in 2002 and the completion of Phase 2 in 2012, and most countries, except for Bhutan, Brunei and Kazakhstan, ratified the UNCRPD. As just described, countries in the Asia Pacific region continuously made efforts to ratify or implement the UNCRPD even at the time of the

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[14] This was adopted at the high-level intergovernmental meeting during the midterm review of the Second Asia Pacific Decade of Disabled Persons on September 21, 2007, as a strategic document in order to more actively implement the framework.

[15] It was difficult to examine the relevance of the Project at the planning stage in Myanmar, Mongolia, Kyrgyz Republic, Tajikistan and Brunei as policy documents in these countries could not be obtained.

completion of Phase 2, and it can be said that the direction on disability of countries in the region and the Projects were aligned.

In Thailand, where the APCD was established, one of the priority areas of "the 9th National Economic and Social Development Plan 2001-2005" was to promote independence among persons with disabilities by providing them with social protection. The emphasis was on promoting the availability of social services and equal access to social services among persons with disabilities. Afterward, "the 3rd Development Plan to Improve the Lives of Persons with Disabilities 2007-2011" was formulated and its subsequent plan, "the 4th National Plan of the Empowerment of Persons with Disabilities 2012–2016" was developed at the time of the completion of Phase 2. These policy documents aimed at the construction of an inclusive society and the empowerment of persons with disabilities as an important mission. Therefore, the Projects were in line with the policies of the Government of Thailand.

3.1.2 Relevance to the Development Needs

The Projects was consistent with the development needs for disabilities and development in the Asia-Pacific Region as of the planning period in 2002, as of the completion of Phase 1 and as of the start in 2007, and as of the completion of Phase 2 in 2012.

As of the start of Phase 1 in 2002, the WHO's statistics estimated that 600 million people out of the world's population (6.2 billion) had some form of disability, and 300 million of these 600 million lived in the Asia-Pacific region (one in every 10 persons in Asia and the Pacific [16]). Persons with disabilities had limited access to social participation such as education and employment opportunities and did not obtain necessary services. In 2007, it was estimated that the number of persons with disabilities was increasing and that there were over 400 million persons with disabilities in the Asia-Pacific region. Biwako Plus Five stated that many governments and stakeholders reported that a lack of financial resources, human resources, technical knowledge and capacities hindered the implementation of the Biwako Millennium Framework. The governments' development plans also reported that they needed to improve the social participation of vulnerable groups and access to services.

As of the completion of Phase 2,650 million persons with disabilities lived in Asia and the Pacific region, according to "the Incheon Strategy to "Make the Right Real" for Persons with Disabilities in Asia and the Pacific" (2012) (hereinafter, "Incheon Strategy"). The number of persons with disabilities was still high in the region. The

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[16] The total population in the Asia-Pacific region in 2000 was about 3.4 billion. (UNDP "Human Development Report 2004")

Incheon Strategy identified the following as important areas in the next 10 years; to incorporate disability perspectives at national, regional and sub-regional levels, to further develop disability statistics, to enhance activities related to disabilities at the community level, to strengthen collaboration and partnership among governmental agencies and among stakeholders, to collect and share good practices, and to promote regional cooperation to acquire technical specialties in the Asia-Pacific region. Based on what was confirmed above, the Projects were in line with the regional policies and development needs of countries in the region.

The APCD was established in Bangkok, the capital of Thailand. The location of the APCD was also assessed as appropriate. The location was optimal because i) the headquarters of UNESCAP, a leading agency on disability policy development in the Asia and Pacific region, was located in Bangkok, and ii) Thailand (Bangkok) functioned as a hub with good access to other countries in the region, iii) the Government of Thailand took advanced efforts of addressing disability-related issues among countries in the region as it put priority on improving the lives of persons with disabilities as an important issue for social protection policy in 2000. Therefore, it can be said that Thailand was suitable as the location of the implementation agency for the Projects.

3.1.3 Relevance to Japan's ODA Policy

The Projects were aligned with the direction of disability support in Japan.

The Government of Japan announced "the Seven-year Government Action Plan for Persons with Disabilities: Plan for Disability Normalization" in 1995. This plan proposed that Japan take an initiative in international cooperation, especially cooperation in the Asia-Pacific region, to promote the transfer of know-how on disability support to countries in the Asia Pacific region. In this sense, the Projects were in line with the context of this plan. Also, Japan was one of the countries that suggested "the Asia and Pacific Decade of Disabled Persons", 2003-2012[17].

This project was highly relevant to the regional development plan, the countries' development plans in the region, the development plan of the Government of Thailand, development needs in the Asia-Pacific region and countries from the region, as well as Japan's ODA policy. Therefore, its relevance is high.

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[17] For the Asia Pacific Decade of Disabled Persons, in addition to the General Assembly resolution, "the Proclamation on the Full Participation and Equality of People with Disabilities in the Asian and Pacific Region" was issued and 43 of the UNESCAP member countries signed the proclamation. This shows that many of the member countries supported the policies of the proclamation.

3.2 Effectiveness and Impact[18] (Rating: ③)

3.2.1 Effectiveness

3.2.1.1 Achievement of Project Purpose

（1）Phase 1

The major focus of Phase 1 was the establishment of the APCD, strengthening the APCD's operating base and services, identifying its roles and functions as 1) networking, 2) information support and 3) human resource development. In addition, Phase 1 included the strengthening of the organizational capacity of the APCD in the project scope.

The achievement level of Phase 1 at the time of completion is shown in Table 1. All indicators of the Project Purpose set for Phase 1 were satisfied.

Table 1   Achievement of the Project Purpose （Phase 1）

Project Purpose : APCD will be established to promote the empowerment of persons with disabilities and a barrier-free society in developing countries in the Asia-Pacific region.	
Indicator	Result
1. APCD is able to operate and manage international cooperative activities involving persons with disabilities	• At the time of completion, the APCD conducted 27 training courses and 33 domestic/international workshops and seminars. For networking activities, the APCD supported AOs in developing collaboration with international organizations. -> This shows that the APCD enhanced capacities and know-how concerning the operation and management of international cooperation activities for persons with disabilities.
2. APCD's network connects 120 FPs and AOs in 30 countries in the Asia-Pacific region	• 37 organizations from 33 countries signed MOUs as FP by September 2006. 140 organizations from 26 countries signed MOUs as AO. -> The network was developed in 33 countries.
3. 30 resource persons including ex-participants in the Asia-Pacific region will be engaged in the APCD's activities	• There were 156 resource persons at the time of completion [19]. More than 90 resource persons participated in the APCD training, the establishment of networking, and seminars in countries jointly organized by the APCD and the FPs or former training participants.

Source : Prepared by the evaluators based on project documents such as the Terminal Evaluation Report Phase 1.

（2）Phase 2

Phase 2 focused on ensuring that "the APCD functions as the regional center" by further improving the services/functions developed in Phase 1 and continuing to strengthen organizational capacity. One of the indicators to measure the achievement of the Project Purpose was "recognition level of the APCD" at a regional and national level in the Asia-Pacific region. As indicated in Table 2, the APCD was recognized to some extent at the regional and national level as of the completion of Phase 2.

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[18] The sub-rating for Effectiveness takes Impact into consideration.
[19] Based on APCD Phase I: Summary Report on December 2007, which was jointly developed by APCD and the Ministry of Social Development and Human Security as the completion report for Phase 1.

Table 2　Achievement of the Project Purpose (Phase 2)

APCD is able to function as a regional center to facilitate networking and collaboration among organizations of/for persons with disabilities towards an inclusive, barrier-free and rights-based society and empowerment of persons with disabilities in the Asia-Pacific region.	
Indicators	Results
1. The number of salient documents/declarations on disabilities that recognize APCD as a functional regional center	The APCD was globally recognized by the international community/organizations as indicated by the following facts. • By the completion of the project, the APCD was mentioned in 14 official documents such as "Asia-Pacific Community-based Rehabilitation (hereinafter, CBR) Convention Kuala Lumpur Declaration" [20] and The Second Asia-Pacific CBR Congress: Manila Declaration on CBR.[21] • The APCD was featured as one of the six best practices in the World Bank (WB) document, "Best Practices of South-South Cooperation" (2010). The APCD was also featured as a best practice in the Asia-Pacific region in the OECD document "Best Practices 110 of South-South Cooperation"[22].
2. The number of organizations of/for persons with disabilities (including grass-roots organizations) that recognize APCD as a functional regional center	• According to the interview survey conducted in the Terminal Evaluation, five out of 18 respondents answered that the APCD was recognized by more than 80% of DPOs/organizations supporting persons with disabilities in the countries of the respondents. • The APCD was widely recognized to some extent: 62 out of 75 disability-related organizations (83% [23]) that responded to the questionnaires[24] conducted during the ex-post evaluation, recognized the APCD between 2002 and 2012. The recognition level of the APCD after 2012 is described in "3.2.2.1 The Situation leading to Achievement of the Overall Goal after the Completion of the Projects".

Source : Prepared by the evaluators based on project documents such as the report of the terminal evaluation of the Phase 2.

In order to examine the attainment of the Project Purpose, "APCD is able to

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[20] The Convention was held in November 2010 in Malaysia. A total of 533 people participated from 32 countries. See http://www.apcdfoundation.org/?q=system/files/Kuala Lupur Declaration.pdf (Accessed on April 10, 2016)

[21] The Congress was held in December 2011 in the Philippines. A total of 268 people participated from 65 countries and WHO.
See http://www.apcdfoundation.org/?q=system/files/Kuala%20Lupur%20Declaration.pdf (Accessed on April 10, 2016)

[22] See http://www.oecd.org/dac/effectiveness/taskteamonsouth-southco-operation.htm, http://www.southsouthcases.info/casosasia/caso_27.php (Accessed on September 10, 2015)

[23] Note: Some disability-related organizations did not agree to answer the questionnaires during the ex-post evaluation as they did not have a substantial relationship with the APCD. Therefore, as regards the real visibility of the APCD, the figure (83%) could be lower.

[24] 11 governmental agencies and 75 disability-related organizations from 11 out of 15 countries (Bangladesh, Cambodia, Indonesia, Lao PDR, Malaysia, Mongolia, Myanmar, Pakistan, the Philippines, Thailand, Vietnam) responded to the questionnaires during this ex-post evaluation. The list of 102 disability-related organizations was created based on the information obtained before the ex-post evaluation. During the field visit, further information about disability-related organizations was provided by central governmental agencies and the questionnaire was sent to 109 organizations in total (the questionnaire response rate is 69% for 109 organizations).

function as a regional center to facilitate networking and collaboration among organizations of/for persons with disabilities towards an inclusive, barrier-free and rights-based society and empowerment of persons with disabilities in the Asia-Pacific region", it is necessary to examine whether the APCD's roles and services were provided to FP and AO in the Asia-Pacific region, in addition to verifying the achievement level of the indicators set for the Project Purpose. The section below shows the achievement level of three APCD's roles/services: 1) networking, 2) information support, 3) human resource development and 4) APCD's management organizational structure.

（3）APCD's performance (roles/services)

The APCD's three services/functions were strengthened mostly as planned at the time of completion of Phase 1 and further strengthened during Phase 2. The specific achievements are as follows:

1）Networking

During Phase 1, the APCD established networks and collaborations with FPs and AOs in 37 countries. During Phase 2, the APCD established four new regional networks: i) CBR-Asia Pacific Network, ii) ASEAN Autism Network, iii) South Asia Disability Forum, iv) Asia-Pacific Federation of Hard of Hearing and Deafened (APFHD) (see Appendix 1 for more information). This led not only to an exchange of opinions between governmental agencies as policy makers and persons with disabilities/disability-related organizations, but also helped create opportunities that encouraged them to work together[25]. This resulted in a channel able to deliver messages on persons with disabilities and reflect their voices in policies. The Projects, moreover, conducted regional workshops and training sessions to strengthen regional networks. The outputs were documented and widely disseminated through the APCD's homepage, which created synergistic effects with other APCD services.

2）Information support

Newsletters, DVDs and reports were developed as information dissemination tool during Phases 1 and 2. The APCD provided as many persons with disabilities as possible with easy access to information, such as uploading reports in formats that

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[25] To be more specific, "Capacity Building for Self-help Organization of People with Disabilities" (hereafter, CBSHOD) is a workshop with a focus on the process. In this process, during the one year for preparation, governments and NGOs jointly prepare the workshop and the APCD monitors the process and provides technical support. There have been cases in which the workshop led to the development of policy recommendations (the Terminal Evaluation Report Phase 1).

enabled access by screen readers to the homepage. The publications, including good practices and model activities, were utilized by former training participants and AOs which referred to those publications to learn similar and model cases and to use in their training or activities in their countries (the Terminal Evaluation Report Phase 2). As of the ex-post evaluation, it was observed that the APCD's information support provided opportunities for persons with disabilities and disability-related organizations to learn about the rights of persons with disabilities.

3）Human resource development

The APCD conducted 79 training sessions throughout Phases 1 and 2, with 2,102 participants such as government officials, persons with disabilities and persons supporting disability activities[26]. According to the Terminal Evaluation Report of both phases, the satisfaction rate with those training sessions among former training participants reached more than 85%. This shows that training sessions provided by the APCD were effective. Also, training participants were more likely to transfer what they had learned in their own countries and initiate new activities. In this regard, the APCD directly built the capacities of persons with disabilities and disability-related organizations, which resulted in their empowerment.

(4) APCD's management organizational structure

As of the completion of Phase 1, the APCD's legal status had not been decided in the Government of Thailand. The activities related to strengthening APCD's organizational structure[27] were carried over to Phase 2. In 2009, during the implementation of Phase 2, the APCD became a foundation. Accordingly, the APCD's staff were relocated and the APCD's decision-making and management style were officially established. Through the project activities, the APCD accumulated know-how in providing its services and playing their roles. As for financial perspective, as reported in the Terminal Evaluation (Phase 2), the APCD ensured it had the financial resources needed to implement their activities by receiving grant

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[26] 33 countries participated in the training in Phase 1, according to the Terminal Evaluation Report Phase 1, while the number of participating countries in the training in Phase 2 is unknown. We can assume, however, that as many countries as in Phase 1 participated in the training because training sessions were conducted as the regional network was established and strengthened.

[27] During Phase 1, the organization of APCD had not been officially decided by the Government of Thailand, and thus some activities such as the development of APCD's roadmap could not be achieved. It is concluded that this has not affected effectiveness as these activities were taken over to Phase 2, and the necessary documents were developed after the Government of Thailand decided that APCD is a foundation in Thailand. Refer to Appendix 2 for the details on the level of achievements.

funding for two projects from the Nippon Foundation in 2011[28]. Regarding the financial situation in 2012, income was 46.22 million baht, and expenditure totaled 22.64 million baht[29].

These results contributed effectively to the APCD's efforts to function as the regional center on disability and development, which led to the achievement of the Project Purpose, "APCD is established as a regional center to promote the empowerment of persons with disabilities and a barrier-free society in developing countries from the Asia-Pacific region".

3.2.2 Impact
3.2.2.1 The Situation leading to Achievement of the Overall Goal after the Completion of the Projects

The following impacts have been found in terms of the sustainability of the project effects (at the level of the Project Outputs and the Project Purpose) from the completion of Phase 2 through the ex-post evaluation.

（1）Recognition of the APCD at international level (mentioned in salient documents and declarations on disabilities: Indicator 1 of the Project Purpose of Phase 2)

The APCD was mentioned in international documents officially adopted in the Asia-Pacific region after the completion of the Projects[30].

Table 3 Policies/Declarations in which the APCD was mentioned (After August 2012)

Title of Policies/Declarations	Year issued
Incheon Strategy to "Make the Right Real" for Persons with Disabilities in Asia and the Pacific	2012
Agra Declaration (The 1st CBR World Congress, 1,200 participants from 85 countries)	2012
Tokyo Declaration on Community-based Inclusive Development (The 3rd Asia-Pacific CBR Congress, 553 participants from 46 countries)	2015

Source: Responses to the questionnaire survey given to the APCD.

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[28] The projects funded by the Nippon Foundation are "The research on the agricultural business model for disabled people and its promotion" (adopted in 2011 and implemented in 2012, with a project cost of 15 million yen) and "Promotion of inclusive business for persons with disabilities in Asia " (adopted in 2011 and implemented in 2012 with a project cost of 79 million yen).

[29] This is based on the exchange rate as of March 2012. (https://www.oanda.com/lang/ja/currency/converter/) When 1 Thai baht was equal to 2.78 Japanese yen, the income was 128.5 million yen, and the expenditure was 62.95 million yen.

[30] The APCD contributed to development of the documents shown in Table 3.

（2）Recognition of the APCD as the regional center on Disability and Development

(Indicator 2 of the Project Purpose of Phase 2)

The questionnaire forms were sent to governmental agencies and disability-related organizations for the ex-post evaluation. One of the questions asked was "to what extent is the APCD recognized as the regional center in your country", and 48 organizations (56％) out of 86 organizations responded[31] answered that "the APCD was recognized".

Figure 1　　Recognition of APCD

Source: Reponses to the questionnaire given to governmental agencies and disability-related organizations.
Note: The number of respondents is 86.

The figure itself is not very high; however, an approximately 60% recognition level still seems good when considering that the APCD is the regional center in the region and it is difficult to gain recognition from the many small disability-related organizations in the region.
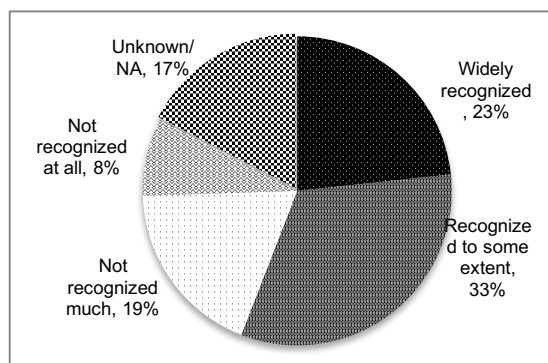
(3) Evaluation of the APCD's role as the regional center on disabilities and development (supplemental indicator)

The ex-post evaluation posed the question "to what extent does the APCD play a role as the regional center" to the governmental agencies and disability-related organizations in the questionnaire and 81 organizations responded. 36% of the respondents answered "think so strongly", and 69% of the total respondents think that the APCD plays a role as the regional center, when aggregating the answers of "thinks so

Figure 2 Evaluation of APCD's role

Source: Reponses to the questionnaire given to governmental agencies and disability-related organizations.
Note: The number of respondents is 81.

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[31] The ex-post evaluation conducted a questionnaire survey to persons with disabilities. 88 persons with disabilities responded; however, the number of countries is limited. The results are shown here just for reference information. 31 persons with disabilities (39％) responded "know well" "know to some extent" to the question "to what extent do you know the APCD" 34 persons with disabilities (43％) responded "widely recognized" or "recognized to some extent" to the question "to what extent is APCD recognized by domestic disability-related organizations". There was no target value for recognition and it is difficult to obtain the benchmark; therefore, it is difficult to judge this result as satisfactory. On the other hand, the figure is not that low considering that the APCD is recognized as the regional center by individual persons with disabilities.

strongly" and "think so to some extent". Also, UNESCAP assessed that the APCD plays a role as the regional center according to the interview survey.

(4) Evaluation on the services provided by APCD (supplemental indicator)

The ex-post evaluation posed a question to assess each of three services/roles and the entire service provided by the APCD to governmental agencies and disability-related organizations. The individual evaluation of each service received 70% or more positive feedbacks. Among the three services/roles, the human resource development (training) and information support were highly evaluated. 72% of respondents[32] responded "good" for the overall evaluation on the APCD's entire service. Thus, the services/roles of APCD are highly valued.
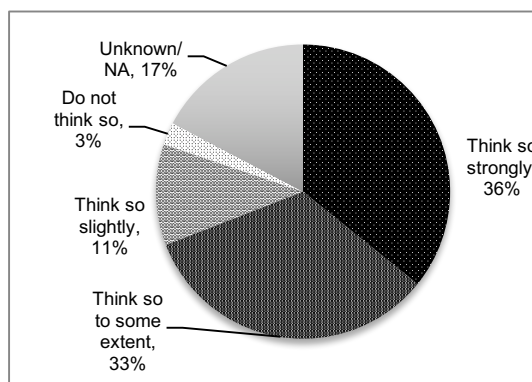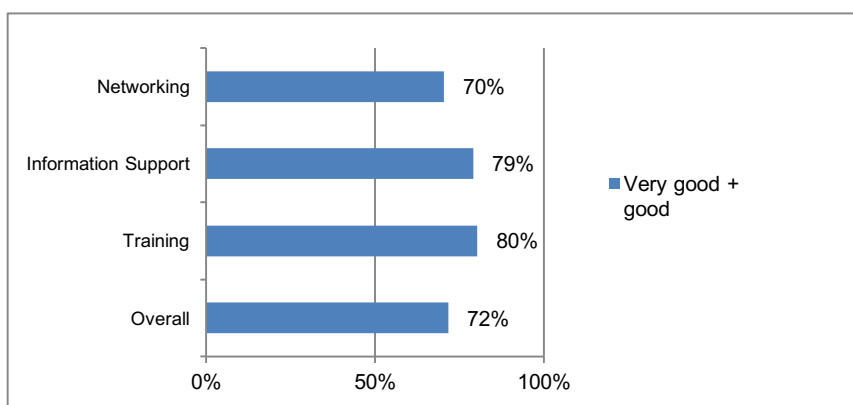

Figure 3   Evaluation of APCD's services

Source: Reponses to the questionnaire given to governmental agencies and disability-related
         organizations.
Note: The number of respondents is 81.
* "Good" is the total of "very good" and "good" responses when assessed using four levels.

(5) Sustainability of the effects of services/functions

1) Development and Enhancement of Network

The APCD maintained the relationship with FPs and AOs that was developed during the Projects[33] after the completion of the Projects as well and continuously implemented joint

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[32]   The reason why the general evaluation is a little lower than the average of the individual evaluation is that respondents who know only one or two services/roles out of the three answered "Don't know" to the question of the general evaluation. For example, some respondents answered "Very good" to the question on the networking and answered "Don't know" to the questions on the other two services/roles.

[33]   The APCD explained that MOUs were signed with FPs and AOs to maintain the relationship during the project implementation; however, this was not necessary after Phase 2 was completed since the APCD had already established a good partnership with them.

projects with them[34]. A challenge, according to the APCD, is that it is difficult to sustain close communication in some countries due to the frequent transfers of responsible persons in governmental agencies. After the completion of the Projects, two regional networks and two domestic networks were newly established[35] with the support of the APCD.

2）Information Support

As of the ex-post evaluation, the APCD continuously provides information by sharing reports and learning materials on their homepage, and sending out newsletters and information using social media such as Facebook and Twitter. The newsletters are disseminated in two different formats, namely, weekly and monthly newsletters. The number of subscribers was increased from 646 (in 2012, when Phase 2 was completed) to 828 (in 2015). Every year, 10 to 25 publications are provided on the APCD's homepage or in hard copy.

3) Human resource development

The APCD has conducted training sessions after the Projects. A total of 105 training sessions were conducted from the start of Phase 2 to November 2015 in which about 3,000 participants attended. The training programs were non-handicapped environment (hereinafter, NHE), CBID, leadership training, skill training, and workshops on specific disability. Some training received high marks from participants[36]. This indicates that training conducted by the APCD met the participants' needs. Furthermore, the APCD makes continuous efforts to provide optimal training that meets the needs of persons with disabilities by conducting follow-up meetings after training sessions to review the utilization of obtained skills and the knowledge of participants, as well as conducting needs assessments.

The interaction of the APCD's three services - (i) networking, (ii) information support and (iii) human resource development - produces synergistic effects. For example, there are some cases in which former training participants have developed a network and

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[34] The APCD actively encourages private-sector engagement that promotes employment opportunities among persons with disabilities and the participation of persons with disabilities in business. For example, in the Philippines, in collaboration with the municipality of Makati city, an online caption service was initiated, and in Thailand, the APCD officially launched a bakery project in collaboration with Thai Yamazaki Co, Ltd., in December 2015 which provides employment opportunities to persons with autism and intellectual disabilities.

[35] The newly established networks are CBR Global Network, United Intellectual Disability Network Greater Mekong Sub-Region, Vietnam Autism Network, and Cambodia Intellectual Disability and Autism Network (See Appendix 1 for details).

[36] According to the questionnaires conducted in 2014 and 2015 regarding the third-country training, the satisfaction level of participants was high, at 91% (2014) and 89% (2015). However, not all of the results of the questionnaires on training could be obtained.

implemented activities using the skills and knowledge obtained through training. In other cases, they have utilized the information that the APCD provided to continue their activities. The three services are well operated so that they support the promotion of the empowerment of persons with disabilities and an inclusive society.

3.2.2.2 Achievement of Overall Goal

Phases 1 and 2 share commonalities in the overall goals, which are "to promote the empowerment of persons with disabilities and a barrier-free society in the Asia-Pacific region" and "to do so, activities of disability-related organizations are to be enhanced". In order to examine the outcomes of these goals, two indicators were added to the existing indicators for both Phases 1 and 2. The additional two indicators are as follows:

- The number and cases of training sessions and workshops conducted in countries in the region based on APCD's training.
- The number and cases of utilization of information that APCD provided by governmental agencies and disability-related organizations.

(1) Phase 1

As shown in Table 4, policies, legislation and programs to promote the empowerment of persons with disabilities and a barrier-free society were developed by 2012 in countries in the region. Also, the related activities have been actively implemented. In this respect, the Overall Goal of Phase 1 has been achieved.

Table 4   Achievement of Overall Goal (Phase 1)

Empowerment of persons with disabilities and a barrier-free society will be strongly promoted in developing countries in the Asia-Pacific region	
Indicator	Result
1. In 15 of 30 developing countries with the Center's focal point organizations in the Asia-Pacific region, policies, legislations, and programs concerning empowerment of persons with disabilities and/or a barrier-free society will be initiated by 2012.	• By 2012, policies, legislations and programs that promote the empowerment of persons with disabilities and a barrier-free society were actively developed and revised. Out of the 15 countries targeted for this evaluation, Cambodia, Malaysia, Mongolia, Pakistan, the Philippines, Thailand, Vietnam, Bhutan, Brunei and Tajikistan had enacted laws related to persons with disabilities by 2012[37]. • Regarding policies and programs related to the support for persons with disabilities, out of the 15 countries targeted for the evaluation, 13 countries, where the information on policies and programs is available, have relevant policies and programs as listed in Appendix 3.

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[37] In Bangladesh, Indonesia, Lao PDR and Myanmar, disability-related laws were enacted after 2012.

Indicator	Result
	• After the UNCRPD came into effect in 2006, many countries in the Asia-Pacific region enacted legislations and policies related to persons with disabilities in order to sign or ratify the UNCRPD. This demonstrates that the empowerment of persons with disabilities and activities to promote a barrier-free society had been promoted by 2012.
2. The number of activities concerning empowerment of persons with disabilities and a barrier-free society conducted by the Center's associate organizations will increase to 50 by 2012.	• Between 2007 and 2012, AO developed 31 action plans in collaboration with the APCD, and 98% of the plans were implemented according to the Terminal Evaluation Report Phase 2. This indicates that a certain number of activities concerning the empowerment of persons with disabilities and a barrier-free society was conducted. The reason that the target value (50 AOs) was not achieved was unclear as it was not explained in the Terminal Evaluation Report.
3. The number of activities concerning empowerment of persons with disabilities and a barrier-free society initiated by ex-participants of the Center will increase to 60 by 2012[38].	• Achievement level cannot be examined[39]. • However, according to the results of the questionnaire given during the ex-post evaluation to disability-related organizations, 39 organizations (66% of 59 organizations) responded that ex-participants utilized the training outcomes "very much" or "to some extent". This shows that the training outcomes have been utilized to some extent.

Source : Prepared by the evaluators based on the results of the questionnaire and interviews of the APCD, governmental agencies and disability-related-organizations.

（2）Phase 2

During Phase 2, the APCD's activities introduced and promoted the mechanism of regional network or regional collaboration by governmental agencies or disability-related organizations. They also helped governmental agencies and disability-related organization develop or implement action plans promoting the empowerment of persons with disabilities and a barrier-free society. These facts show that the Overall Goal has been achieved (see Table 5).

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[38] The indicator is almost the same as indicator 1-10 of the Output 1 in Phase 2, "70% of ex-participants share their learning and initiate or strengthen their activities". Therefore, the relevant part of the result was quoted.

[39] As reported in the Terminal Evaluation Phase 2, it is difficult to identify all the activities conducted by ex-participants and FPs/AOs as there are too many relevant stakeholders (2,000 training participants, and more than 200 FPs and AOs).

Table 5 Achievement of Overall Goal (Phase 2)

In the Asia-Pacific region, the following points are strengthened by the support of the APCD project:

1) Empowerment of persons with disabilities

2) Promotion of an inclusive, barrier-free and rights-based society

Indicator	Result
1. Regional networks and collaboration mechanisms are initiated/strengthened by organizations of/for persons with disabilities.	• The CBID Network Pakistan[40], consisting of 29 disability-related organizations and CBO, was established in October 2011. • In Cambodia, there were cases in which collaboration was strengthened. For example, CBOs working in the field of disability actively participated not only in the events related to disability, such as the National Day of Impaired Hearing, World Sight Day, International Day of Persons with Disabilities, but also in the development of a national development plan for persons with disabilities. In Lao PDR, there were cases in which NGOs and governmental agencies convened a stakeholder meeting of disability-related organizations to exchange opinions and information, in which they served jointly as chairman. • See 3.2.2.1 "The Situation leading to Achievement of the Overall Goal after the Completion of the Projects" for more information on the networks that were developed and/or strengthened with the support of the APCD after the Projects.
2. Activities to promote an inclusive, barrier-free and rights-based society and empowerment of persons with disabilities are initiated and conducted by FPs/AOs.	• This will be assessed by looking at the overall status of achievement of other and additional indicators.
3. The number of action plans with FPs/AOs is increased.	• In all 11 countries in which field surveys were conducted, national action plans on disabilities or annual activity plans were developed. The government of Cambodia and Lao PDR developed a strategy and plan on disability with the support of APCD. • Disability-related organizations were asked in the questionnaire if they have action plans (July 2012 onwards) to promote the empowerment of persons with disabilities and a barrier-free society. 36 (59%) out of 61 organizations responded that they had developed activity plans[41].

Source: Prepared by the evaluators based on the results of the questionnaire and interviews of the APCD, governmental agencies and disability-related organizations.

Case studies of activities implemented by governmental agencies, persons with disabilities and disability-related organizations are as follows:

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[40] http://www.cbid.org.pk/?page_id=1636（Accessed on 25 October 2015). This is a network that aims to promote, support and facilitate implementation of CBID in Pakistan at the local, community and national level.

[41] There was a case in which one organization had several plan of actions so that more than 36 plans of actions were developed by 36 organizations. It is difficult to rigorously examine the increase in the number of action plans that were developed, but the number is slightly higher when compared to the 30 action plans that were developed in the Phase 2. When the criteria is limited to the number of action plans that were developed with the support of the APCD, the number of action plans is slightly lower. This evaluation report has determined that the development of action plans contributes to the empowerment of persons with disabilities and a barrier-free society. From this point of view, it was considered that the indicator was mostly achieved.

- According to the survey conducted during the ex-post evaluation, there were some cases in which persons with disabilities or disability-related organizations empowered by the APCD are active as leaders. For example, the organization of persons who are hard of hearing has built capacity through APCD's training and supported not only awareness-raising activities for the hard of hearing, but also the development of a network of the hard of hearing in the Asia-Pacific region or in the Philippines.

- In Cambodia, the organization that the APCD provided with technical support has developed a network of youth with intellectual disabilities. In addition, several disability-related organizations conducted training targeting self-help group, local governments and persons with disabilities, regarding CBR, CBID, and the UNCRPD.

Column: Significance of Networks

After 2006, signing, ratifying and implementing the UNCRPD were a priority for governments. Given this situation, information on the ratification and activities promoting the implementation of the UNCRPD was very useful for countries in Asia-Pacific region. For example, the Ministry of Social Welfare in Indonesia learned how to make public spaces accessible for persons with disabilities and necessary programs to create an inclusive society by participating in the event in Vietnam "Make the Right Real Event In Vietnam: Ratification of the UNCRPD[42]". With APCD activities, the Government of Cambodia also enhanced collaboration with other ASEAN countries and improved implementation skills (especially the capacity of government staff) and knowledge of CBR, CBID, the UNCRPD and NHE, and received financial support (support for the implementation of the Incheon Strategy). The Government of Mongolia highly appreciates the APCD's role. With the support of the APCD, the Government of Mongolia formulated a framework for international development, increased knowledge on international trends on disability and enhanced international cooperation[43].

（3）The number/cases of training sessions and workshops conducted in countries based on the APCD's training (additional indicator)

The following cases were observed in the questionnaire given to governmental agencies:

- In Indonesia, officials of the Ministry of Social Welfare participated in APCD's training in 2012 and established a skills training center in 2014 by making use of the knowledge it had acquired. This center, at the time of the

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[42] This event was supported by UNESCAP, UNICEF, JICA, APCD and JAIF and held by the Vietnamese government.
[43] Based on responses to a questionnaire given to government agencies.

ex-post evaluation, still implements activities, such as organizing a workshop in April 2015 to develop CBR Guidelines for persons with intellectual disabilities.

- At the South Asia Disability Forum (SADF) in Pakistan, training on peer-counseling and a self-reliant life was conducted in 2013 and another training for women with disabilities was conducted in 2015.

- The Ministry of Population Development and Social Protection in Mongolia implemented training on disability-inclusive regional development in 2014.

- In Malaysia, the Department of Social Welfare, Ministry of Women, Family and Community Development led the implementation of the Malaysia CBR Convention and the Asia-Pacific Supported Employment and Job Coach Seminar in 2014.

- In the Philippines, the National Council on Disability Affairs implemented leadership training for women with disabilities, a conference on CBR, and training on accessibility (disability equality training) in 2013.

- In Cambodia, the Disability Action Council and district governments cooperated in holding meetings in order to share knowledge and experience after training sessions from 2012 to 2015.

A questionnaire survey given to disability-related organizations asked "whether they initiated any training programs (or workshop/seminars) in their own countries by learning from the training programs the APCD provided". Out of the 60 organizations that responded to the question, 34 organizations (57%) learned the methods of the training the APCD provided and initiated their own training.

In this way, based on the experience of participating in the training provided by the APCD, there were a number of cases in which training sessions and workshops were held in their own countries, and activities to promote the empowerment of persons with disabilities and a barrier-free society were conducted by utilizing the outcomes led by the project.

(4) The number of cases and examples in which governmental agencies and disability-related organizations utilize the information provided by the APCD (additional indicator)

Regarding the question on the utilization of the information provided by the APCD in the questionnaire survey, six out of 11 governmental agencies and 35 out of 64 disability-related organizations (55%) responded that they had utilized the information. This shows that more than 50% of the agencies and organizations

targeted in this evaluation utilized the information provided by the APCD. This percentage itself is not high, but given that the official language of the APCD is English[44], the percentage of the utilization of the information provided by the APCD is relatively high.

Examples of the utilization include i) information sharing within organizations or with other organizations such as the council or local governments, persons with disabilities and parents with disabled children, ii) daily activities, iii) training plans, iv) seminars, v) workshops, and vi) information materials or vii) references for planning disability-related policies or projects.

In this way, as well as in terms of information support, the Projects supported the empowerment of persons with disabilities and the promotion of a barrier-free society.

These findings indicate that while the number of action plans developed and implemented did not reach the target of the indicator of the Overall Goal, a certain number of activities aimed at promoting the empowerment of persons with disabilities and a barrier-free society were implemented by governmental agencies and disability-related organizations in the countries targeted for this evaluation. Therefore, it can be concluded that not achieving the target for this indicator did not adversely affect the realization of the expected impacts by the Projects. As of the ex-post evaluation, evidence of the "empowerment of persons with disabilities and a barrier-free society are strongly promoted in developing countries in the Asia-Pacific region", which is the Overall Goal of the Projects, could be observed in i) the formulation of the Incheon Strategy by UNESCAP, ii) the efforts to implement the Incheon Strategy by each member country, iii) the ratification of the UNCRPD and related activities aimed at developing relevant laws and policies followed by the ratification in countries. The enhancement of the services and functions of the APCD that were established by the Project ultimately supported the implementation of these policies and activities. Therefore, the Projects contributed to the achievement of the Overall Goals, and the Overall Goals of the Projects have been achieved.

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[44] While some government agencies and disability-related organizations have requested that the APCD share information in their own languages since the implementation of the Projects, this evaluation takes the fact into account when making an assessment because English is stipulated as the official language of APCD.

3.2.2.3. Other Impacts

The United Nations Economic and Social Council (hereinafter, "ECOSOC") granted Special Consultative Status to APCD in 2014[45]. With this status, the APCD was able to officially participate in events, conferences and activities of the United Nations and obtain more opportunities to get involved in policy development in the field of disabilities.

The APCD encouraged Cambodia and Vietnam to sign and ratify the UNCRPD by holding workshops for government officials and persons with disabilities in the two countries in order to enhance understanding of the content of the UNCRPD. Furthermore, in Mongolia, the APCD held a workshop on the Incheon Strategy, explained the significance and content of the UNCRPD and promoted its ratification. In Lao PDR and Bangladesh, the APCD supported the production of pamphlets on the laws about the rights of persons with disabilities and promoted understanding of these laws developed by the governments[46]. In this way, the APCD's activities directly and indirectly supported the Asia-Pacific countries in signing, ratifying and implementing the UNCRPD and the dissemination of understanding of the laws related to persons with disabilities.

The Project Purposes of Phases 1 and 2 were achieved as the organizational footing of the APCD was established in Phase 1, and based on the outcomes of Phase 1, the services and functions of the APCD were strengthened in Phase 2. While it was difficult to examine some of the indicators for the overall goals, the evaluation results show that "in order to promote an inclusive, barrier-free and rights-based society and empower persons with disabilities in the Asia-Pacific region, organizations of/for persons with disabilities are strengthened" after the implementation of the Projects, and that there are examples of the promotion of the empowerment of persons with disabilities and a barrier-free society. Therefore, since the expected impacts were observed, the effectiveness and impact of the Projects are high.

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[45] http://apcdfoundation.org/?q=content/apcd-empowerment-volume-61 and the list of non-governmental organizations in consultative status with the ECOSOC as of 1 September 2014 (ECOSOC, E/2014/INF/5, issued in December 2014, Accessed on 9 September 2015). Special Consultative Status is a status granted to organizations that specialize in certain fields that ECOSOC have jurisdiction over. In addition, General Consultative Status is granted to organizations that implement relevant activities in most of the fields the ECOSOC have jurisdiction over and make constant and sustainable contributions in many of these fields. As of September 2014, there are 142 organizations with General Consultative Status and 2,926 organizations with Special Consultative Status. In the field of disabilities, Special Consultative Status was granted to organizations such as the Pacific Disability Forum, European Disability Forum, Disabled Peoples International and the China Disabled Persons Federation.

[46] In addition to these activities, APCD supported the implementation of "the UNCRPD Advocacy for Government Action Program – Cambodia, Lao PDR and Thailand" implemented by Handicap International in 2014.

3.3 Efficiency (Rating: ②)

3.3.1 Inputs

The following tables show the comparison of the planned and actual inputs of the Projects.

Table 6 Planned and actual inputs in Phase 1

Inputs	Plan	Actual
(1) Experts	About 4 Long-Term About 50 Short-Term	4 Long-Term 35 Short-Term
(2) Trainees received	About 20 trainees	24 trainees (counterpart training in Japan)
(3) Equipment	About 10 million yen (a van with lift, motorized wheelchairs, computers for training etc.)	19 million yen (a van with lift, 3 motorized wheelchairs, digital cameras, computers etc.)
(4) Operational Expenses	No information on the budget (for workshops, braille translation of training materials)	79 million baht（Cooperation with South Africa: 0.4％, South-south cooperation (development of APCD network : 4％, travel costs : 22％, other activities : 35％, training costs : 39％）
(5) Japanese Side Total Project Cost	About 500 million yen	670 million yen
(6) Thailand Side Operational Expenses	About 25 million baht (75 million yen) for the five years	26 million baht (Salaries for Thai government permanent Staff: 25％, Salaries for Thai government part-time staff：10％, Salaries for Japanese assistant:9％, Costs for operation and management: 28％, Training: 8％, Facilities: 8％, Equipment and maintenance: 12％)

Source: Information provided by JICA, the Terminal Evaluation Report Phase 1.

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Table 7 Planned and actual inputs in Phase 2

Inputs	Plan	Actual
(1) Experts	Long-Term: (4 posts) Short-Term: About 40 experts	Long-Term: 9 experts Short-Term: 17 experts
(2) Trainees received	About 15-25 trainees	18 trainees (counterpart training in Japan)
(3) Equipment	Software for blind people, minor equipment as needed	None
(4) Operational Expenses	No information on the budget (part of the expenditures necessary for the project implementation)	39 million baht (Airfare: 30%, Travel costs (except for airfare): 22%, Honorarium remuneration (except for staff): 15%, Meeting expenses: 3%, General business expenses: 30%)
(5) Japanese Side Total Project Cost	About 480 million yen	349 million yen
(6) Thailand Side Operational Expenses	Annual budget: 197,000 US dollars for the total amount of part of the costs to implement the Project	1,400 thousand US dollars[47] (Salaries: 31%, Facilities: 9%, Clearing: 4%, Security: 5%, Salaries for Japanese assistant: 3%, Costs for operation and management: 37%, Equipment and maintenance: 11%)

Source: Information provided by JICA, the Terminal Evaluation Report Phase 2.

3.3.1.1 Elements of Inputs

Various aspects of Phase 1 and Phase 2 inputs are analyzed together because there were no major differences between them.

Elements of inputs were mostly appropriate for producing the outputs of the projects. The amount, quality and timing of the inputs provided were appropriate, although the number of short-term experts assigned in Phase 1 and Phase 2 was lower than planned. They were fully engaged in the project activities in Phase 1 (according to the Terminal Evaluation Report Phase 1). The project was managed efficiently in Phase 2 by assigning the short-term experts to the prioritized activities and by monitoring the daily project activities and conducting follow-ups by the long-term experts (according to the Terminal

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[47] Approximately 43 million baht based on the exchange rate of 1 USD=31.07 THB as of January 31, 2012. (https://www.oanda.com/lang/ja/currency/converter/)

Evaluation Report Phase 2).

The cost of equipment provided in Phase 1 amounted to 19 million yen, a 90% increase over the planned costs. The reason for this cannot be examined since detailed information on equipment provided for Phase 1 and Phase 2 was not available at the ex-post evaluation[48]. No equipment was provided in Phase 2.

These projects attempted to increase project efficiency through maximum utilization of the existing resource persons; however, it is not easy to verify efficiency in light of how economically the project inputs were converted to outputs through comparison to similar projects since there are no similar types of region-wide projects focused on disability and development.

3.3.1.2 Project Cost

The planned cost for Phase 1 was approximately 500 million yen against the actual cost of 670 million yen (34% higher over plan), meaning that the actual cost was higher than planned. It seems difficult to clearly identify the reasons for the discrepancy because the planned cost breakdown was not available at the ex-post evaluation; however, there is a high possibility that 79 million baht (equivalent to approximately 300 million yen[49]) allocated for operational expense in five years would be a major cause for an increase in the project cost for Phase 1. On the other hand, the project cost for Phase 2 was lower than planned: the planned cost for Phase 2 was approximately 480 million yen against the actual cost of 349 million yen (73% of the planned costs). In sum, the project costs for Phases 1 and 2 were slightly higher than planned: the planned cost was 890 million yen in total against actual costs of 1,019 million yen (4% higher than the planned costs).

3.3.1.3 Period of Cooperation

The period of cooperation for Phase 1 was five years from August 2002 to July 2007 and for Phase 2 was five years from August 2007 to July 2012. The periods were all as planned.

Although the project period was within the plan, the project costs exceeded the plan. Therefore, the efficiency of the project is fair.

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[48] According to the JICA long-term expert assigned in Phase 1, the project activities were carried out earlier than the original plan. Accordingly, some of the equipment initially to be provided by the Grant Aid Project was provided by this Project (such as the additional van with lift and software assisting persons with disabilities).

[49] The exchange rate by OANDA (http://www.oanda.com/lang/ja/currency/converter/) as of June 30, 2007: 1 THB = 3.85 JPY.

3.4 Sustainability (Rating: ③)

3.4.1 Related Policy and Institutional Aspects for the Sustainability of Project Effects

"The Third Asian and Pacific Decade of Persons with Disabilities, 2013-2022" and its action plan of the Incheon Strategy to "Make the Right Real" for Persons with Disabilities in Asia and the Pacific were developed by UNESCAP after July 2012 when the Phase 2 was completed. These documents builds on "the First and the Second Asian and Pacific Decades of Persons with Disabilities", "the Biwako Millennium Framework for Action" and "Biwako Plus Five", aiming to realize an inclusive, barrier-free and rights-based society for persons with disabilities in Asia and the Pacific. The Incheon Strategy recognizes the APCD as an important actor in effectively implementing "the Asian and Pacific Decade of Persons with Disabilities, 2013-2022" at the regional level and expects that the APCD will enhance the capacity of persons with disabilities and continue to take a role in building a multi-sectoral collaboration[50]. In this regard, the policy background to support the APCD's activities is ensured.

3.4.2 Organizational Aspects of the Implementing Agency for the Sustainability of Project Effects

The APCD has maintained the same organizational structure and system that were established during the project implementation. Specifically, the communication between the APCD Foundation and the APCD (center) is facilitated through the Executive Board[51] established under the Foundation Committee[52]. This structure has led to effective organizational management at the APCD. The General Director is the person at the top of the APCD and the General Manager supervises the daily work. The APCD has kept approximately 40 staff members[53] consistently since 2012, although several staff resign every year.

As of the ex-post evaluation, the APCD has prioritized 1) activities in the areas of disabilities which have not been given as much attention, such as autism, 2) strengthening of support to countries in the Mekong region and 3) implementation of the Inchon Strategies. APCD has carried out activities aligned with these priorities.

On the other hand, the APCD has faced difficulties in establishing and maintaining a long-term partnership with the governmental agencies since Phase 2 was implemented.

[50] The Incheon Strategy states the expected APCD's role as paying special attention to disability-inclusive business that promotes disability-friendly products, services, employment opportunities and entrepreneurship development.
[51] The Executive Board meeting is held every other month, during which discussion are held and decisions are made for the APCD's (center) management or daily operation.
[52] The Foundation Committee meets quarterly, during which discussions are held or decisions are made on overall matters concerning the Foundation or APCD's (center) important issues.
[53] The nationalities of the APCD staff members are Canadian, Japanese, the Philippines, Cambodian, Laotian, Myanmar, Vietnamese, Pakistani, and Thai. More than half of the staff members are persons with disabilities.

This is mainly due to the frequent personnel relocations in the partner countries, organizational reform or inappropriate handover of the established relationship with the APCD to the successors. The APCD has consciously made efforts to maintain the partnership with the governmental agencies in countries in the Asia-Pacific region, taking various opportunities to exchange information or opinions at international meetings, national meetings or training sessions when the related personnel of governmental agencies meet together, or during courtesy calls when the APCD visits their countries.

3.4.3   Technical Aspects of the Implementing Agency for the Sustainability of Project Effects

On-the-job-training (OJT) is the major tool employed for staff training at the APCD. Teams are usually formed to pursue the work, share the knowledge, skills and know-how and support one another among the team members. After the completion of the projects, the APCD has provided training for the resource persons, meaning that the APCD continues to enhance the human resource of the APCD.

Moreover, the APCD manages projects that receive grant funding from various institutions after the completion of the projects. This suggests that the APCD is capable of implementing and managing projects related to disabilities and development. To date, the APCD implements projects on CBID funded by the Japan-ASEAN Integration Fund (hereinafter, "JAIF") or by CIAI (Centro Italiano Aiuti all'infanzia), an Italian NGO.

3.4.4   Financial Aspects of the Implementing Agency for the Sustainability of Project Effects

Since the completion of the projects, the APCD has managed activities with an annual budget amounting to around 30 to 40 million baht[54]. As shown in Table , the major reason that the amount of income and expenditure has fluctuated considerably every year is that the grant funding disbursed to the APCD in a year is spent the next year. However, the financial status is well balanced over the past four years. The Government of Thailand provides the 800 million baht to the APCD annually after the completion of the projects, which are allocated for the APCD's activities and the maintenance of facilities. The Thai government states that the same amount of funds will be allocated for the APCD in the future.

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[54] Based on the exchange rate of 1 THB = 3.34 JPY as of March 31, 2015. (https://www.oanda.com/lang/ja/currency/converter/), the income of the APCD would be from 100.2 million JPY to 133.6 million JPY.

The APCD prepares the business portfolio and manages the activities examining the status of business plan and income/expenditures. In this respect, the APCD has established a sound financial management approach.

Table 8   Balance of income and expenditure of the APCD   (Unit: Thousand baht)

Item	2012	2013	2014	2015
Income	46,223	30,209	34,206	35,375
Expenditure	22,644	52,266	29,655	40,267

Source: Information provided by the APCD.

No major problems have been observed in the policy background and the organizational, technical, financial aspects of the implementing agency. Therefore, the sustainability of the project effects is high.

4. Conclusion, Lessons Learned and Recommendations

4.1 Conclusion

The Projects were implemented with the aim of promoting the realization of social participation and equality of persons with disabilities through the empowerment of persons with disabilities in Asia-Pacific region. They were region-wide technical cooperation projects implemented during the ten years from 2002 to 2012, targeting 37 countries in the Asia-Pacific Region. The Ministry of Social Development and Human Security of Thailand and APCD, established in Bangkok, Thailand, were the implementing agencies for the Projects.

The relevance of the Projects is high. The components of the Projects were greatly aligned with (i) regional policies on disability; (ii) government policies on social protection in countries in the region; and (iii) the needs of persons with disabilities and disability-related organizations in the region. The effectiveness and impact are high. The Projects contributed to the capacity enhancement of APCD's service provision on networking, information support, and human resource development to governmental agencies, and persons with disabilities and DPOs in the Asia Pacific region. The Projects also helped the APCD attain its position as the regional center for disability and development. In this respect, the project effectiveness is high. The Projects accelerated activities promoting the empowerment of persons with disabilities and a barrier-free society and resulted in an increase in the number of projects implemented by disability-related organizations. Furthermore, the Projects had an impact on the development of policies, legislation and programs aimed at assisting persons with disabilities in many countries in the Region. The efficiency is assessed as fair. The

project period was within the plan, but the project cost exceeded the plan. The sustainability of the project effects is high since no major problems have been observed in the policy background nor in any organizational, technical and financial aspects of the implementing agency.

In light of the above, the Projects are evaluated to be highly satisfactory.

4.2 Recommendations

4.2.1 Recommendations to the Implementing Agency

The APCD already implements activities in line with its own strategy and it effectively allocates human resources to widely cover disability issues in the region with a limited number of staff. Therefore, there are not any specific recommendations from the ex-post evaluation that need to be addressed immediately. The ex-post evaluation identified different needs of disability-related organizations. Considering the current APCD's strategy and resource constraints, it would be very difficult to respond to these needs. When the time comes for the APCD to review its strategy or action plans in the future, the following points can be considered to further enhance the APCD's services and functions:

- To highlight outputs or outcomes rather than activities themselves in its web contents on training or in the reports on training/workshops by further featuring the training outcomes and effective approaches taken for the training/workshops. This would be very useful for governmental agencies and disability-related organizations in organizing training/workshops on their own.

- To expand opportunities for local governments to participate in the APCD's projects as actual activities on disability are implemented at a local or community level. [55] This will also help to raise awareness and promote disability-related activities at the local government level.

- To provide information by theme or provide weekly and monthly newsletters with several specific theme for each issue. There are some cases in which the information provided by the APCD is excessive for disability-related organizations, especially those that focus on specific disability area, since the APCD covers information on disabilities with an all-inclusive approach.

4.2.2 Recommendations to JICA

The APCD conducts the third-country training in collaboration with JICA and actively promotes follow-up activities by former participants. Since the APCD is a specialized

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[55] To be more precise, it can be promoted for local government officers to participate in APCD's training or to participate in activities for networking.

institute on disability and development in the Asia-Pacific region, JICA should tie up with the APCD more often in conducting training on disability and development in other countries and utilize the APCD's resources further.

4.3 Lessons Learned

<u>Selection of an approach in formulating projects on disability</u>

The Projects were made up of three components, namely (i) networking, (ii) information support and (iii) human resource development (training). The activities in those components empowered persons with disabilities and disability-related organizations to achieve the goal of "the promotion of the empowerment of persons with disabilities and a barrier-free society". As a result, persons with disabilities and disability-related organizations enhanced their knowledge and skills through training and learned good practices on disabilities from other countries. On return to their countries, there were cases in which they developed a network with APCD's support. As seen in these cases, the effectiveness of the Project's aim to provide empowerment in the field of disability can be enhanced with the combination of several components augmenting each other, not just conducting training. In particular, networking activities promote the exchange of information among persons with disabilities and the networks established are good means of disseminating the voices of persons with disabilities as a group. Therefore, the combination of several components will certainly help to promote the empowerment of persons with disabilities and an inclusive society.

<u>Establishment of funds for implementing projects on disability</u>

In many cases, disability-related organizations lack financial resources in general. In the APCD Project case, the APCD was established with financial support under the patronage of Her Royal Highness Princess Maha Chakri Sirindhorn. The Government of Thailand also provided continuous funds to support APCD's operation. Therefore, the establishment of funds donated by charity organizations, individuals, or the private sector (especially enterprises which are focused on CSR activities) may be integrated in the plan of the project. This would lead to support for an established organization in terms of finance and operation.

End

Appendix 1: Regional and national networks established with the support of the APCD

	The name of the network	Activities
Existing networks	CBR-Asia Pacific Network	Established in 2009. The number of member countries was 24 when established (2009) and had increased to 37 countries as of the ex-post evaluation (2015).
	ASEAN Autism Network(AAN)	Established in 2010. The member organizations are those that support people with autism in nine Southeast Asian countries (Brunei, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, the Philippines, Thailand, and Vietnam). The network established the executive committee. The second AAN Conference was held in Brunei in 2013 and the third AAN Conference was held in the Philippines in January 2016.
	Empowerment Café	Continued as a tool to share information.
	South Asia Disability Forum	Established in 2010. The Forum consists of disabled peoples' organizations and disability-related organizations in seven South Asian countries. Although information on the number of member organizations is unavailable, training for as many as 400 people was conducted. The Forum organized a workshop on strategy planning in 2013 and the regional training for the empowerment of women with disabilities in 2014. The Forum also developed a leadership training manual for women with disabilities.
	Asia-Pacific Federation of Hard of Hearing and Deafened (APFHD)	Established in March 2012. APFHD held a biannual meeting in 2014 and developed a publicity CD on the hard of hearing and deafened in collaboration with the APCD. The standing members are 12 organizations from 12 countries (Bangladesh, Cambodia, Indonesia, Japan, Mongolia, Myanmar, Nepal, New Zealand, Pakistan, the Philippines, Papua New Guinea, and Vietnam).
New networks	CBR Global Network	Established at the first CBR World Congress in India in November 2012. The first executive committee was held at the APCD in 2013.
	United Intellectual Disability Network Greater Mekong Sub-Region	This is the network for self-advocacy[56] of persons with intellectual disabilities in the Greater Mekong sub-region. Established in 2013.
	Vietnam Autism Network	Established in 2013. The network aims to promote the rights of children with autism in Vietnam.
	Cambodia Intellectual Disability and Autism Network	The network was established to promote the rights of persons with intellectual disabilities and autism in Cambodia. Together with the establishment of the above network in Vietnam, the momentum to establish such a network in Cambodia as well grew and this led to the network's establishment in 2015. The member organizations also participated in the third country training provided by the APCD.

Source : Prepared by the evaluators based on the results of the questionnaire to the APCD and the document review.

Existing networks: The networks established during the implementation of the Projects (July 2002-July 2012).
New networks: The networks established after the Project completion (after August 2012).

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[56] Activities to assist persons with disabilities in taking legal and real life responsibilities by themselves, without depending on others, and in enabling them to speak up for themselves to make themselves understood. http://eowp.alc.co.jp/search?q=self+advocacy （Accessed on December 2015）.

Appendix 2: The level of achievement of outputs

The following tables show the levels of achievement of outputs in Phases 1 and 2.

(1) Phase 1

Outputs	Level of achievement
Output 1: Networking and collaboration among focal points/associate organizations will be facilitated by the APCD.	• Achieved. The Centre established a network with government agencies and disability-related organizations in 33 countries, and promoted collaboration in various ways, including the support of workshops organized by former trainees who returned to their countries.
Output 2: The accessible information support will be provided by the APCD for focal points/associate organizations, relevant organizations and people concerning disability issues.	• Achieved. The Center issued a newsletter, developed country profiles of 19 countries, publicized it on the homepage, developed the list of organizations relevant to FP and AO, and developed and updated the database with the list of documents/reports that the APCD collected.
Output 3: Disability-related human resource development for focal points/associate organizations will be promoted by the APCD.	• Achieved. By the time the Projects were completed, training had been conducted as planned and 662 persons from 33 countries had participated in it. The level of satisfaction of the training participants was high, and over 90% of the training participants who could be tracked after the training utilized what they learned by reporting or sharing the knowledge and experience in their countries[57].
Output 4: Operation and management system of the APCD will be developed.	• Partially achieved. The legal status of the APCD (center) had been continuously discussed by the Government of Thailand and had not been decided even at the time of the completion of the Project. While the operation and management system of the APCD (center) was almost developed, Output 4 was not achieved since the roadmap, the operation strategy and the legal status of the APCD (center) needed to be officially decided. This partial achievement did not largely affect the effectiveness of the Project since some activities, including the development of the master plan, were taken over by Phase 2.

Source: Prepared by the evaluators based on the results of the Terminal Evaluation Report Phase 2, the questionnaire given to the APCD and a review of documents related to the Project.

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[57] According to the questionnaire to the ex-training participants, 85% of them were satisfied with the training, and 98% of 297 participants who were able to be tracked after the training reported that they had reported on or shared what they learned at the training after they returned to their home country.

（1）　Phase 2

Output	Level of achievement
Output 1: More effective and sustainable networking and collaboration are developed among APCD, Focal Point Organization (FPs), Associate Organizations (AOs) and other relevant organizations.	1）Networking • In Phase 2, the APCD further expanded its network. 12 FPs and 40 AOs signed the memorandum of understanding on the roles of FPs and AOs. During the implementation period of the Project, 30 action plans were developed, and 98% of them were implemented (as of the Terminal Evaluation). Four regional networks, which are CBR-Asia Pacific Network, ASEAN Autism Network, South Asia Disability Forum and Asia-Pacific Federation of Hard of Hearing and Deafened (APFHD), were established. Workshops and conferences for developing and strengthening the networks were held. Through these opportunities, the mechanism for persons with disabilities or disability-related organizations to collaborate across borders was established. This result is reported on the homepage of the APCD. 2）Information support • By the time the Project was completed, 60 DVDs and booklets on role model activities were developed and published. They were shared with FPs, AOs and international organizations such as UNESCAP. • The APCD staff members, based on what they learned at the trainings, provided easy access to information for persons with disabilities, such as uploading reports in formats allowing screen readers to access the homepage. According to the interviews conducted by the terminal evaluation, 87% of 15 respondents answered that the information provided by the APCD was accessible. 3）Human resource development • The Terminal Evaluation reported the results of questionnaire surveys that the Project conducted with participants in 17 training sessions/seminars, and it found that 94% of participants were satisfied with the training and seminars. This result can be considered as the overall evaluation of the training conducted during Phase 2. The level of satisfaction of the training participants exceeded the target of 80%. Therefore, it can be concluded that the participants' satisfaction with the training was high.
Output 2: The managerial and administrative capacity of APCD to sustain the internationalized activities is strengthened.	• It was officially decided that the APCD (center) would be managed under the APCD Foundation by the Cabinet decision of the Government of Thailand in August 2007. After the decision, the roadmap of the APCD (center), which became a foundation, was developed and approved by the Foundation Committee in May 2011. • The master plan included strategies, action plans and financial plans for five years. The Project strengthened the APCD's operational foundation until the completion of the Project.

Source: Prepared by the evaluators based on the results of the Terminal Evaluation Report Phase 2, the
　　　　questionnaire given to the APCD and a review of documents related to the Project.

Appendix 3 : Policies and programs on social protection and support for persons with disabilities, and the status of developed laws after the completion of the Projects (after August 2012) in countries

	National development plan	Medium- to long-term plan on social protection and support for persons with disabilities	Laws
Bangladesh	Sixth Five-Year Plan 2011-2015: While a plan for the support of the vulnerable group includes support for persons with disabilities, the plan does not focus much on support for persons with disabilities.	National Sustainable Development Strategy 2010-2021	Persons with Disability Rights and Protection 2013 Neuro-Developmental Disabled Protection Trust Act 2013 Regulations on the Rights and Protection of Persons with Disabilities 2015 Regulations on the Protection of Persons with Neuro-Developmental Disabilities 2015
Cambodia	National Strategic Development Plan Update 2009-2013: The plan advocates support for persons with disabilities in terms of social protection, education, employment, health and gender considerations. "Persons with disability" include children with disabilities, discharged soldiers with disabilities and women with disabilities. National Strategic Development Plan 2014-2018: The plan emphasizes the welfare and rehabilitation of persons with disabilities, support for the primary education of children with disabilities, support for former soldiers with disabilities and land provision, vocational training, social protection, and gender considerations.	National Social Protection Strategy (NSPS) for the Poor and Vulnerable 2011-2015 National Disability Strategic Action Plan 2014-2018*	Law on the Protection and Promotion of the Rights of Persons with Disabilities 2009
Indonesia	National Long-Term Development Plan 2005-2025 National Medium-Term Development Plan 2015-2019: The plan includes social support for persons with disabilities, implementation of inclusive education policy to strengthen capacities of persons with disabilities, and voter education for persons with disabilities.	National Action Plan on Human Rights 2015-2019 (RANHAM)	Law on People with Disabilities (in preparation and to be enacted in 2016)

	National development plan	Medium- to long-term plan on social protection and support for persons with disabilities	Laws
Lao PDR	National Socioeconomic Development Plan 2011-2015: Disability issues are referred to very little in the plan, and only in terms of the spread of education and social welfare. The spread of education: To establish an environment in which poor children, girls, ethnic minorities and children with disabilities have access to education. Social welfare: To provide accommodation for all persons with disabilities.	Policy on Persons with Disabilities 2015* National Strategy and Plan of Action on Inclusive Education 2011-2015	Decree on Persons with Disabilities 2014*
Malaysia	Tenth Malaysia Plan 2011-2015: To promote an innovative and inclusive society.	Policy on Persons with Disabilities Person with Disabilities Action Plan 2 Persons with Disabilities Action Plan 2015-2022 (in preparation)	Persons with Disabilities Act 2008
Mongolia	Millennium Development Goal-based Comprehensive National Development Strategy 2008-2021: The strategy advocates the amendment of policies and laws to protect human rights and the social involvement of person with disabilities, as well as special considerations for the protection of human rights of persons with disabilities.	Resolution No. 281: the General Action Plan for 2013-2016 to implement the UNCRPD	The Mongolian Social Security Law for People with Disabilities (Amended in 1995 and 1998)
Myanmar	Framework for Economic and Social Reforms 2012-2015: The rights of workers and social protection are promoted in the fields of society, environment and culture, and in this context, the framework states that the social protection system needs to be established based on the needs of the socially vulnerable and persons with disabilities.	Myanmar National Plan of Action for Persons with Disabilities 2010-2012 Myanmar National Social Protection Strategic Plan 2014	Right of the Persons with Disabilities Law 2015
Pakistan	11th Five-Year Plan 2010-2015: Promoting the society to include vulnerable groups is included as a priority area. It aims to create a society that includes vulnerable groups in order to realize a fair and equal society. With regard to persons with disabilities, it states that only "sports activities by persons with disabilities are promoted."	National Policy for Persons with Disability 2002	The Disabled Persons (Employment and Rehabilitation) Ordinance 1981

	National development plan	Medium- to long-term plan on social protection and support for persons with disabilities	Laws
Philippines	Philippine Development Plan 2011-2016: Realization of inclusive society	Proclamation No. 688: Declaring the period of 2013-2022 as the Philippine Decade of "Make The Right Real" for persons with disabilities in support of the 3rd Asian and Pacific Decade of Persons with Disabilities	Magna Carta for Persons with Disabilities (RA 7277, 9442) 2008, amended in 1993 Batas Pambansa 344 （Accessibility Law）1983
Thailand	11th National Economic and Social Development Plan 2012-2016: For the first time, the participation of persons with disabilities in national policies was included, as well as the promotion of labor force participation for women, the elderly, and persons with disabilities.	The 4th National Plan on the Empowerment of Persons with Disabilities	Empowerment of Persons with Disabilities Act 2007 and its Amendment 2013
Vietnam	Socio-economic development plan for 2011-2015: No reference to support for persons with disabilities	National Action Plan to Support People with Disabilities 2012-2020	National Law on Persons with Disabilities 2010
Bhutan	11th Five-Year Plan 2013-2018: It introduces an insurance scheme for workers who have been disabled.	National Social Protection Policy for Workers in Bhutan 2013: The policy aims at providing social insurance for the disabled as the priority area of industrial accident compensation insurance.	The Constitution of Bhutan Article 9 (enacted in 2008): In Article 9 of the Constitution ("the principles of state policy"), the Royal Government of Bhutan stipulates that the State shall endeavor to provide legal aid to secure justice, which shall not be denied to any person by reason of economic or other disabilities.
Brunei	Brunei Vision 2035 (launched in 2008) Social protection strategy as one of eight priority strategies: All citizens need to be properly cared for.	Plan of Actions for Older Persons and People with Disabilities 2011	Old Age Pension and Disabled Act 1954 Brunei Disability Order (Draft as of 2013)
Kyrgyz Republic	National Sustainable Development Strategy 2013-2017: Improvement in the effects of social protection and the coverage of pension: There is a need to establish a comprehensive system connecting the society with the economy in order to provide multifaceted care for persons with disabilities, the elderly, children with disabilities, people with low income and families with disabled children.	National Social Protection Development Strategy and Action Plan 2012–2014（formulated in 2011): The strategy lays down measures to strengthen the social safety net, reform the system for social care, step up child protection, and improve social security for the elderly. It is seemingly a policy to prioritize the elderly and there is little reference to persons with disabilities.	Constitution Articles 27: The state provides social protection for the elderly, the diseased and persons who cannot work.

	National development plan	Medium- to long-term plan on social protection and support for persons with disabilities	Laws
Tajikistan	National Development Strategy of the republic of Tajikistan for the period to 2015 (formulated in 2007): To improve social support for disabled children in the improvement of education system; To improve the performance of the preschool education centers including the improvement of economic-support facilities to provide care for children with disabilities.	Information unavailable	Constitution Articles 34: Government protects orphans and persons with disabilities, and provides care on nurturing or education. Law No. 459 on Social Protection of the Disabled in the Republic of Tajikistan 199158 Law No. 797 on Pensions for the Republic of Tajikistan Citizens 1993

Source: Prepared by the evaluators based on the results of the questionnaires given to the governmental agencies and the review of documents or information obtained from the Internet.
* Denotes strategies whose development APCD directly supported

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58 Country Profile on Disability, JICA, 2002

10 member states of ASEAN[1]

FY 2015 Ex-Post Evaluation of Technical Cooperation Project

"ASEAN University Network/Southeast Asia Engineering Education Development Network

(Phase I & Phase II)"

External Evaluator: Kaneyasu Ida, Tekizaitekisho LLC

0. Summary

The Project aimed to strengthen the capacity of education and research of Member Institutions (MIs) in the Association of Southeast Asian Nations (ASEAN) through the formation of a network of higher education institutions specializing in engineering education. The Project's relevance is high because the Project's objectives were consistent with the policies of ASEAN and the member countries and the needs of the MIs throughout the project duration, and were also in line with the Official Development Assistance (ODA) policies of the Japanese Government at the time of project planning.

Regarding the Project's effectiveness, the teaching staff's academic qualifications have significantly improved, particularly in the case of MIs in Cambodia, Laos, Myanmar and Vietnam (CLMV countries). For example, the alumni members of the ASEAN University Network/Southeast Asia Engineering Education Development Network (AUN/SEED-Net) account for more than 30% of the teaching staff in the MIs in Laos and Cambodia. In addition, the Project has had positive effects: (a) Field-specific Regional Conferences have been organized; (b) joint research has been extensively conducted by MIs; (c)AUN/SEED-Net's academic journal, the *ASEAN Engineering Journal*, has been periodically published. Through these achievements, AUN/SEED-Net has earned high recognition. The Project also promoted stronger partnership among MIs. By the time of ex-post evaluation, each MI formed an official agreement with ten other MIs on average. However, less progress was made in the institutional promotion of such mobility programs[2] as joint degree and double degree programs among MIs. The Project also laid a foundation for financial sustainability to some extent through increasing contributions from MIs.

The Project has had a wide-ranging impact. In MIs in CLMV countries, the ratio of alumni members has been increased to the total number of academic staff, and they have extensively conducted joint research. In addition, the alumni members and the lecturers from Host Institutions (HIs) have jointly helped develop and upgrade MIs' educational programs. As a result, quite a number of new courses have been introduced in MIs and the increasing number

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[1] Republic of Indonesia, Kingdom of Cambodia, Kingdom of Thailand, Republic of the Philippines, Brunei Darussalam, Socialist Republic of Viet Nam, Malaysia, Republic of the Union of Myanmar, Lao People's Democratic Republic, Republic of Singapore
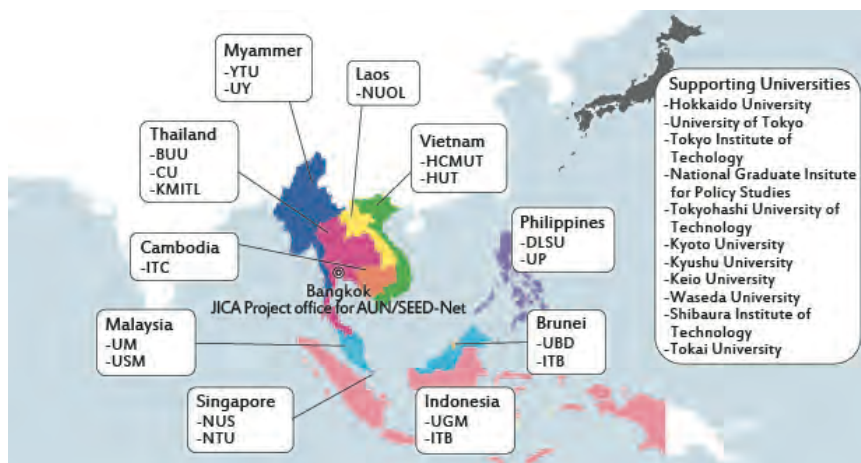
[2] Formal arrangements between universities for such activities as staff exchange, student exchange, credit transfer, double-degree and joint degree programs. In a double-degree program, two degrees can be obtained from two different universities. A joint degree can be issued by two or more universities participating in a single study program.

of teaching staff required. This has helped the MIs increase the number of graduate students and academic staff in MIs. Furthermore, the Project indirectly contributed to the development of highly skilled human resources because a large number of MI graduates joined the private sector. Other impacts include the contribution made by alumni members to Japanese Supporting Universities (JSUs) in terms of providing competitive students, the nurturing of leaders for the implementation of international development projects, their support of local universities to improve curriculums and their contribution to local industry through joint research activities. Therefore, the Project's effectiveness and impact are high.

  The Project's efficiency is also high because the cost borne by the Japanese side and the project duration were within the plan as project activities were further expanded thanks to the financial contributions made by the MIs and other external support.

  Although the policy and institutional sustainability is high, technical support from JSUs is still necessary. As for financial sustainability, the MIs have made their best efforts to establish a financial foundation to sustain scholarship programs; however, it is still difficult for AUN/SEED-Net to maintain its current activities with only the resources provided by MIs. Without Japanese input, it is possible for AUN/SEED-Net to maintain some activities, yet the level and the scope of such activities would be significantly reduced. Therefore, the Project's sustainability is judged to be low. In light of the above, this project is evaluated as satisfactory.

1. Project Description

Project Locations

Orientation for young lecturers on University-Industry Linkage

1.1 Background

  The concept of AUN/SEED-Net evolved from a 1997 initiative proposed by then-Prime Minister of Japan Ryutaro Hashimoto aimed at tackling the financial crisis in ASEAN through human resources development in higher education. Prior to the financial crisis, Japan actively supported the strengthening of engineering education in ASEAN. In this connection, it was recognized that transfer of Japan's experience and know-how in research and education to higher education institutions in ASEAN in the field of engineering would be effective to develop human resources in response to globalization within ASEAN. To put this concept into action, AUN/SEED-Net was established as a sub-network of the ASEAN University Network (AUN) and the inception project was implemented for two years (2001 – 2003). Phase I of the Project was then officially launched in March 2003 for a five-year period (2003 – 2008). Phase I was implemented to build the foundation for networks among MIs and improve the qualifications of academic staff. Phase II was implemented in March 2008 for a five-year period (2008 – 2013) to further strengthen the foundation of the Project and expand the scope of project activities, as well as continue scholarship programs to upgrade the qualifications of academic staff. Throughout both phases, nineteen universities in ASEAN and eleven universities in Japan participated in the Project.

1.2 Project Outline

	Phase I	Phase II
Overall Goal	Human resources in the engineering field are trained to revitalize the industrial sector and the long-term economic sustainable development of ASEAN countries is ensured.	The human resources in the engineering field, essential for the social and economic development of ASEAN, are sustainably produced.
Project Purpose	Educational and research capacities of MIs are improved through the active exchange of resources between them and a collaborative relationship with JSU consortium.	The foundation for a framework to sustainably train human resources in the engineering field, which aims to contribute to social and economic development of the region, is established in ASEAN.
Output(s)	Faculty qualifications are upgraded through acquisition of graduate degrees (Output 1) Graduate programs are enhanced in Host Institutions (Output 2).	Educational and research capacity of MIs is further enhanced (Output 1)
	Joint activities and human connections among MIs are strengthened (Output 3).	Regional academic societies that include not only MIs but also industry, community, existing academic networks and non-MIs are established (Output 2). Collaborative research activities, which contribute to solving common issues faced by industries and communities in ASEAN, are promoted (Output 3).

	Phase I	Phase II
	Information dissemination system, activity management system and communication network are established (Output 4).	The system and network established in the Phase I are strengthened to function as an engineering partnership university among ASEAN and Japan (Output 4).
Main activities	Scholarship programs in ASEAN (Master's and Ph.D.) and in Japan (Ph.D.), dispatch of academic staff, collaborative research programs, field-specific regional conferences and the publication of an academic journal	
Total cost (Japanese Side)	2,132 million yen	2,271 million yen
Period of Cooperation	March 2003 - March 2008	March 2008 – March 2013
Implementing Agency (Member Institutions)	Chulalongkorn University (CU), King Mongkut's Institute of Technology Ladkrabang (KMITL), Burapha University (BUU), Hanoi University of Science and Technology (HUST), Ho Chi Minh City University of Technology (HCMUT), Institut Teknologi Bandung (ITB-INA), Universitas Gadjah Mada (UGM), Institute of Technology of Cambodia (ITC), National University of Laos (NUOL), University of Malaya (UM), Universiti Sains Malaysia (USM), University of the Philippines-Diliman (UP), De La Salle University (DLSU), University of Yangon (UY), Yangon Technological University (YTU), National University of Singapore (NUS), Nanyang Technological University (NTU), Universiti Teknologi Brunei (ITB), Universiti Brunei Darussalam (UBD)	
Other Relevant Agencies / Organizations	Authorities in charge of higher education in ten countries	
Supporting Agency/Organization in Japan (Japanese Supporting Universities)	Hokkaido University, Keio University, Kyoto University, Kyushu University, National Graduate Institute for Policy Studies, Shibaura Institute of Technology, Tokai University, Tokyo Institute of Technology, Toyohashi University of Technology, The University of Tokyo, Waseda University	

	Phase I	Phase II
Related Projects	The Project for Human Resource Development in IT Service Industry at NUOL (December 2008 – November 2012) The Project for Capacity Building of Ho Chi Minh City University of Technology to Strengthen University-Community Linkage （Phase2） (March 2009 – September 2012) The Project for the Improvement of Educational Equipment of the Department of Geo-Resources and Geotechnical Engineering of the Institute of Technology of Cambodia (August 2011 – June 2014) The Project for Educational Capacity Development of Institute of Technology of Cambodia (October 2011 – October 2015) The Development Project of the Institute of Technology in Bandung (January 2009 – September 2015) The Project for Enhancement of Engineering Higher Education in Myanmar (October 2013 – October 2018) The Project for Enhancing Technological Universities in Myanmar (August 2014 – June 2017)	

1.3 Outline of the Terminal Evaluation

1.3.1 Achievement Status of Project Purpose at the Time of the Terminal Evaluation

Phase I: Through active networking among MIs and collaborative work with JSUs, the educational and research capacities of the MIs were expected to be well enhanced by the end of the project duration. However, there was still room and need for further enhancement of educational and research capacities, and utilization of developed human resources for strengthening the networks, especially in CLMV countries. The foundation of AUN/SEED-Net was established, but further effort was required to build the systems that would enable the MIs to develop AUN/SEED-Net in a self-sustainable manner.

Phase II: The educational and research capacities of MIs have been steadily enhanced. Collaborative research activities that continue to solve the common issues of industries and communities were promoted and there was progress in the cost-sharing of MIs. As a result, the foundation for a sustainable framework for AUN/SEED-Net was strengthened. Progress

was made in collaboration among MIs towards the realization of a partnership university[3]. However, there was less progress in building the organizations and systems needed for the mobility programs that would realize a partnership university. For the sustainable development of the AUN/SEED-Net, the financial contributions made by MIs had not reached the initial target as set forth by the Project. As a result, the effectiveness of the Project was judged to be medium.

1.3.2 Achievement Status of Overall Goal at the Time of the Terminal Evaluation
(including other impacts)

Phase I: As of the evaluation, it was deemed too early to judge the prospects for achieving the overall goal of human resources development in engineering that revitalizes the industrial sector and ensures sustainable development of ASEAN countries. Yet, such impacts as an increase in joint research between MI researchers and industry and academic exchanges among MIs had begun to be recognized. Other recognized impacts included enhanced research activities of MIs that aimed to solve the region's common issues, increased activities for the university management of MIs and active collaboration among MIs and with other universities outside AUN/SEED-Net.

Phase II: Positive changes for human resource development in engineering in ASEAN were observed in terms of the number of the academic staff in MIs, the ratio of alumni members to that of all the academic staff in each MI and the number of undergraduates in engineering and the number of graduates who worked in industry. There were also many cases in which joint research activities were conducted by utilizing the networks established through the Project, resulting in stronger ties among MIs. Therefore, the prospect of the Project's impact would be high.

1.3.3 Recommendations at the Time of the Terminal Evaluation

Phase I: The main recommendations were that (1) relevant organizations such as MIs, higher education authorities in ASEAN countries, the AUN/SEED-Net secretariat office and JICA should promote the achievements, values and comparative advantages of its scholarship programs to respective governments and the public in order to maintain the influence of AUN/SEED-Net, (2) the financial contributions made by MIs should be increased and financial support from external sources sought, (3) some of the functions of the

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[3] Partnership university is a concept that was proposed in Phase II of the Project. It was intended to establish a consortium for joint degree programs among MIs. Discussions were held on the standardization of curriculums and the introduction of double degree and joint degree programs applicable to all MIs.

AUN/SEED-Net secretariat office[4] should be transferred from Chulalongkorn University, which takes on many managerial responsibilities, to other MIs, (4) the dispatch of JSU researchers to MIs should be increased and their duration of stay in MIs should be longer to further strengthen researchers' networks, (5) measures to support alumni members should be devised so that they can continue their research after they return to their universities, (6) the appropriateness of selected topics for joint research should be improved by increased communication among researchers, (7) field-specific seminars tailored to the circumstances of each field should be organized, (8) the number of foreign students from CLMV countries should be maintained by increasing financial contribution from HIs and seeking external support and (9) the number of MIs in AUN/SEED-Net should be increased.

Phase II: The main recommendations were (1) that a tracer survey should be conducted to determine the whereabouts of the alumni members and grasp the ratio of alumni members who returned to SIs , (2) data on the number of research papers, the number of academic staff by degree and information on the graduates in each MI should be collected, (3) the current selection criteria of scholarship programs should be reviewed to introduce stricter application requirements (e.g., requiring higher English language proficiency), (4) measures should be taken to increase the number of applicants for scholarship programs, (5) a plan for the establishment of academic societies should be developed based on the needs of specific fields and possibility of establishing such societies, (6) the concept of "Partnership University" should be translated into a concrete plan, (7) MIs should be made familiar with the Project's objectives, indicators and framework, (8) higher education authorities in member countries should have greater involvement in the Project, (9) more JSUs should be actively involved in the Project and (10) financial contribution by MIs should increase.

2.   Outline of the Evaluation Study

2.1 External Evaluator

Kaneyasu Ida, Tekizaitekisho LLC

2.2 Duration of Evaluation Study

Duration of the Study: August 2015 – September 2016

Duration of the Field Study: October 18 – November 13, 2015 (Laos, Thailand and Malaysia), December 1 – 12, 2015 (the Philippines and Vietnam), February 7– March 6, 2016 (Myanmar,

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[4] The functions of the AUN/SEED-Net secretariat office include overall management, coordination among MIs, management of scholarship programs (announcement and promotion, screening of candidates, follow-up on and support of students, etc.), management of collaborative research activities, financial management and accounting and support for various meetings and seminars such as regional conferences, the steering committee meeting and the working group meeting.

Indonesia and Cambodia) and May 8 – 17, 2016 (Thailand)

2.3 Constraints during the Evaluation Study

After the completion of Phase II of the Project in March 2013, the Phase III began in March 2013 for a five-year duration and the number of MIs was increased from 19 to 26.[5] Therefore, inevitably some of the impacts and the financial and institutional sustainability discussed in this report were affected by Phase III, but the evaluator limited the scope of the evaluation of Phases I and II to accurately assess relevance, effectiveness and efficiency.

3.   Results of the Evaluation (Overall Rating: B[6])

3.1 Relevance (Rating: ③[7])

3.1.1 Relevance to the Development Plan of the Region and Member Countries

The Project was planned as a sub-network of the AUN in line with the concept of developing human resources for industry via networking among engineering universities in the region, advocated at the third Japan–ASEAN summit meeting in 1997. In this regard, the Project was aligned with the intention of ASEAN countries at the time of planning. In the latter half of Phase I (2007), the ASEAN Plus Three[8] (APT) Cooperation Work Plan (2007 – 2017) was adopted and aimed to promote higher education cooperation, increase affiliations between universities through the AUN, encourage credit transfers between universities in APT countries and support research activities and exchanges of APT scholars. These aims further endorsed the Project's objective of developing the capacity of higher education institutions through networks of APT researchers. As of the completion, the APT Plan of Action on Education 2010-2016 stated the specific supports through AUN, emphasizing "cooperation, networking and research activities among universities and higher education authorities", and "further enhancing collaboration among universities, promoting credit transfers between APT universities and strengthening higher education through the AUN. Therefore, the Project's objectives were clearly aligned with the ASEAN's policies of enhancing higher education through the AUN from the planning stage to the completion of the Project.

The Project's objectives were also in line with the policies of the member countries. Government policies of the CLMV countries prioritized the development of human resources for the higher education sector and the upgrading of higher education institutions. The policy priorities of other member countries such as Thailand, Malaysia, the Philippines

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[5] 7 new MIs are; Kasetsart University (KU), Thammasat University (TU), Universiti Putra Malaysia (UPM), Universiti Teknologi Malaysia (UTM), Mindanao State University Iligan Institute of Technology (MSU) and Universitas Indonesia (UI).
[6] A: Highly satisfactory, B: Satisfactory, C: Partially satisfactory, D: Unsatisfactory
[7] ③: High, ② Fair, ① Low
[8] APT is a framework for regional cooperation among ASEAN, Japan, Korea and China.

and Indonesia included the enhanced competitiveness of universities and the strengthening of University–Industry Linkages (UIL). As such, the Project's objective to develop the capacity of higher education institutions through academic staff development and joint research was in line with the policies of the member countries. The policies of higher education authorities are shown in Annex 1.

3.1.2 Relevance to the Development Needs of Member Institutions

As of the completion of Phases I and II, the common issues of the MIs included (1) the upgrading of academic standards to the international level and vitalizing research in graduate programs, (2) the strengthening of linkage with industry and community, (3) capacity development through joint research and academic exchange. In addition, the MIs in CLMV countries emphasized (4) the importance of raising the qualifications of academic staff and (5) the introduction of new courses and the improvement of curriculums to upgrade insufficient undergraduate and graduate programs. Therefore, the Project's objectives and approaches responded to the needs of the MIs. Sufficient information was not available to identify their needs during the project planning stage for Phase I. The needs of MIs are shown in Annex 2.

3.1.3 Relevance to Japan's ODA Policy

The Project was formulated as one of the pillars of Japanese assistance to ASEAN after the financial crisis in 1997 following the proposal of the Hashimoto initiative (human resource development for sustainable economic growth) at the Japan–ASEAN summit meeting and the proposal of the Obuchi Plan (the materialization of AUN/SEED-Net to develop industrial human resources) at the APT summit meeting in 1999. The general framework for ODA in Japan aims to strengthen relationships with ASEAN and take measures to reduce disparities within ASEAN. This Project takes the approach of having forerunners among ASEAN countries support CLMV countries, which closely adheres to the general framework of Japanese ODA.

This project was highly relevant to the member countries' development plans and development needs, as well as Japan's ODA policy. Therefore, its relevance is high.

3.2 Effectiveness and Impact (Rating: ③)
 3.2.1 Effectiveness
  3.2.1.1 Achievement of Project Purpose
   Phase I of the Project aimed at developing the capacity of MIs by establishing a network of 19 universities in 10 countries and promoting scholarship programs and joint research

among MIs, utilizing the established framework for cooperation and developed human resources. Phase II of the Project was implemented utilizing the same approach, yet focusing more on outward-looking strategies such as UIL activities and the development of academic societies. In order to cope with common issues to alumni members from SIs (e.g., lack of the environment in SIs to continue their research and losing contact with HIs and JSUs after their graduation), the Project tried to institutionalize joint research to support the alumni members so that they could continue research as well as promote UIL and research activities to tackle common issues in ASEAN. The matrix below shows the main indicators and achievements.

Table 1. Achievement of Project Purpose

Project Purpose	The educational and research capacities of MIs are improved through active exchange of resources among them and collaborative relationship with JSU consortium (Phase I). The foundation for a sustainable framework of human resource development in the engineering field, which aims to contribute to social and economic development of the region, is established in ASEAN (Phase II).
Indicator	Actual
Number of alumni members who become teaching staff in home countries is increased.	The Project's effectiveness to upgrade academic qualifications is judged to be high. When alumni members from CLMV countries and Indonesia are counted, the number of alumni who had become teaching staff in the SIs at the time of the ex-post evaluation was 336, or 49.3% of the total number of the alumni members from the five countries. If the alumni members who are teaching at other universities in their home countries are included, 55.4% are teaching in their home countries. In Laos and Cambodia, alumni members account for more than 30% of all the teaching staff in SIs.
Function of AUN/SEED-Net as a partnership university is enhanced.	Networks among MIs have been strengthened through formal cooperation agreements and academic exchange and research collaboration. However, the mobility programs such as joint degree and double degree programs towards the establishment of a partnership university have not been satisfactorily developed.
Financial sustainability of AUN/SEED-Net is secured.	In the latter half of Phase I, a policy was introduced to lay the foundation for the financial sustainability of AUN/SEED-Net. Since then, MIs have made their best efforts to make financial contributions in such forms as waiver of tuition fees, provision of their own scholarships, financial support for students, covering the cost of dispatching lecturers, etc. Therefore, the financial foundation is deemed to have been prepared to some extent.

(Sources: Results of questionnaire survey and interviews of MIs and the terminal evaluation report for Phase II)

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(1) Increase in alumni members who become teaching staff

The total number of scholarship grantees from 2001 to 2015 is 1,164, and 761 (65.4%) of them obtained degrees, 333 (28.6%) are studying and 70 (6.0%) were unable to obtain degrees (32 Master's students and 48 Ph.D. students) (See Figure 1.). As shown in Table 2,67.9% of the alumni members come from CLMV countries. Indonesia also accounts for 21.6%. The effect of the Project is particularly high in these countries.
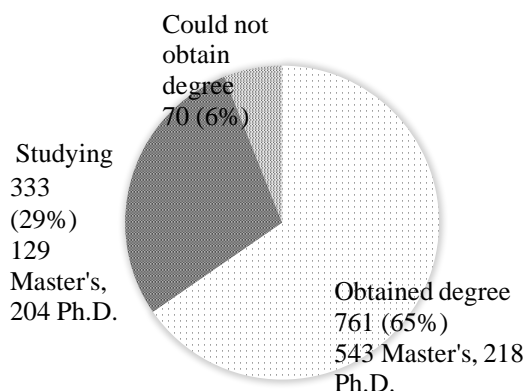
Figure 1 Breakdown of scholarship grantees
(Source: the list of scholarship grantees from the AUN/SEED-Net secretariat office as of September 2015)

Table 2. Breakdown of Scholarship Grantees   (Unit: person)

Country	Master's	Ph.D.	Total	Share
Laos	98	25	123	16.1%
Cambodia	104	20	124	16.3%
Myanmar	31	22	53	7.0%
Vietnam	141	76	217	28.5%
Indonesia	114	50	164	21.6%
Thailand	23	9	32	4.2%
Philippines	24	7	31	4.1%
Malaysia	8	9	17	2.2%
Total	543	218	761	100.0%

(Source: AUN/SEED-Net secretariat office) (as of October 2015)

The basic concept of the scholarship programs of AUN/SEED-Net is that SIs send their academic staff and students to HIs or JSUs, who would then resume working at SIs after earning graduate degrees. According to the questionnaire survey given to SIs in CLMV countries and Indonesia (Table 3), 46.0% (313 alumni members) are teaching at the SIs. This amounts to 55.4% (377 alumni members) when including those who teach at other universities. In Indonesia, Cambodia and Myanmar, 18.8% (64 out of 341) have become teaching staff at non-member universities. Adding such alumni members in Vietnam and Laos who are actually teaching but categorized as "Unknown", the total number of alumni members teaching at higher education institutions in ASEAN would be higher than 55.4%. In

the case of Ph.D. holders, 73.5% (186 out of 253 alumni members who obtained Ph.D. degrees in eight universities in CLMV countries and Indonesia) have become teaching staff. This indicates that Ph.D. holders are more likely to become teaching staff than Master's degree holders.

Table 3. Career Options for Alumni Members from SIs

(Unit: person)

Country	Target	Actual		
	Number of alumni members	Number of alumni members teaching at SIs	Number of alumni members teaching at other universities	Others (seeking higher degree, working in private sector, unknown)
Laos	123	102	(Unknown)	21
Cambodia	124	48	28	48
Vietnam	217	87	(Unknown)	130
Myanmar	53	17	35	1
Indonesia	164	59	1	104
Total	681	313	64	304

(Sources: Questionnaire survey given to NUOL, ITC, HUST, HCMUT, YU, YTU, GMU, ITB)

HIs require that graduate students give presentations at academic societies and contribute to academic journals before he/she obtains a degree. AUN/SEED-Net has provided opportunities for presentation and publication so that graduate students can obtain their degree in a relatively short period of time. Since 2002 the Project has organized the Regional Conference (RC)[9] in nine engineering fields (one more field was subsequently added) on an annual basis, which gives scholarship grantees the chance to present their research results. In addition, the Project has periodically published the *ASEAN Engineering Journal,*[10] which provides scholarship grantees and MI's academic staff with opportunities to publish their papers since July 2011. In this sense, the RCs and journal have been effective in establishing scholarship programs within the region.

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[9] At the beginning of Phase I, the participants were limited to researchers from MIs and JSUs. To date, researchers from other universities, government agencies and the private sector, as well as MIs and JSUs, also participate in RCs. The total number of participants exceeds 1,000 every year. Also, four RCs out of ten are now jointly organized with other international, regional or national academic societies.

[10] To date, 272 research papers have been submitted and 118 have been published in the journal. The journal has been registered with the Thai Scientific Index since 2015 and the ASEAN Scientific Index since 2016. The journal has been published semi-annually. Initially, two to four fields were compiled for each issue. Since 2015 all the fields have been covered in each issue.

(2) Enhanced functions as a partnership university

There are many academic alliances and consortiums in the world. The salient feature of the AUN/SEED-Net is that it uses scholarship programs to develop networks among MIs and alumni members. Originally, the Project envisaged the establishment of a partnership university that would offer joint graduate degrees. However, in the course of Phase II, the Project decided to use the established networks to facilitate the development of mobility programs (e.g., student exchange, credit transfer, double degree) among MIs due to different circumstances of MIs and also difficulties for MIs to make necessary institutional arrangements to recognize other MIs' credits. According to the results of a questionnaire survey given to MIs (16 responses), on average each member university has had cooperation agreements with nearly 10 other MIs. In regards to the development of mobility programs, some progress has been recognized. HUST and Shibaura Institute of Technology, ITB-INA and Kyushu University have respectively started a double degree program and CU and Hokkaido University plan to start a double degree program. The Project also facilitated the dispatch of lecturers and academic exchange through RCs among MIs and JSUs. This helped USM implement student exchange programs with other three MIs. KMITL has dispatched lecturers and provided training to NUOL based on their agreement. ITB-INA and HUST have jointly conducted research and curriculum development. These institutional arrangements were made possible through the mentoring relationships developed by the Project's scholarship programs, RCs and the dispatch of academic staff.

  The Project has also helped develop networks of researchers in ASEAN. For example, in the field of material engineering, the researchers in USM, KMITL, BUU and UGM have maintained strong mentoring relationships and continued to conduct joint research through the scholarship programs provided by the Project. Their strong relationships are partly because not so many MIs have a department specializing in material engineering. In Myanmar and Cambodia, alumni members in the field of geological engineering have developed a network of researchers in their respective countries. As explained earlier, various networks have been formed at the university, field and individual levels, and utilized for joint research and UIL activities.

(3) Preparation of managerial and financial foundation to operate AUN/SEED-Net

  MIs, the AUN/SEED-Net secretariat office, JICA and JSUs began discussing measures to secure the financial sustainability of AUN/SEED-Net in 2003. The position paper for financial sustainability was adopted by MIs in 2004. In response, NUS and NTU started to provide scholarships to Ph.D. students from MIs in 2005. This facilitated other HIs' active financial contributions in the forms of waivers of tuition fees, additional financial support to scholarship grantees as well as shouldering administrative costs, seminars, publications and

laboratory expenses. As a result, the financial contribution made by MIs accounted for 11.8%, whereas JICA provided 84.4% and other organizations provided 3.8% of the total operation cost of Phase II of the Project. MIs' financial contributions could not reach the target of 20%, according to the results of the questionnaire survey given to MIs, but each MI made their best efforts to provide financial support for the Project. At the end of Phase II, AUN/SEED-Net was able to establish its financial foundation to some extent.

In the light of the Project's achievements in the capacity development of academic staff, enhanced collaboration among MIs and financial foundation laid by the Project, it is judged that the project mostly achieved its purpose.

<u>Box 1 Evaluation of the quality of the AUN/SEED-Net's scholarship program</u>

Ensuring that students have access to quality graduate programs and research projects within ASEAN was one of the most important effects of the Project, even though it was not specified in the project framework. In this respect, scholarship grantees must be highly evaluated by supervisors in HIs and JSUs and also the AUN/SEED-Net scholarship programs must be popular among students in SIs.

According to the results of the questionnaire survey and interviews, the supervisors in HIs and JSUs feel that most of the AUN/SEED-Net scholarship grantees have the knowledge and technical capacity needed to complete graduate programs and also that they are willing and motivated, partly because the duration of scholarship is relatively short.

As for the popularity of AUN/SEED-Net scholarship program, the admission rates show some decline from Phase I to Phase II as shown in Table 4. Yet, it was confirmed with SIs through interviews that the AUN/SEED-Net scholarship programs are still popular among students to some extent. This can be seen in some SIs such as ITC, which have decided that only the students with the highest grades are eligible to apply for the AUN/SEED-Net scholarship programs.

On the other hand, it was found through interviews to scholarship grantees that for some students in SIs where many scholarship programs are offered from abroad or for some students who have high English proficiency, the AUN/SEED-Net scholarship programs are not necessarily the first choice. Therefore, the AUN/SEED-Net should further promote its scholarship programs in SIs and HIs should make further effort to improve the quality of their curriculum and research environment in order to increasingly attract competitive students.

Table 4. Admission rates of AUN/SEED-Net scholarship programs

Programs	Master's degree program in ASEAN	Sandwich Ph.D. Program in ASEAN*	Ph.D. program in Japan	Ph.D. program in Singapore
Phase I	2.49	2.30	3.57	3.77
Phase II	2.43	1.44	2.35	3.70

(Sources: Annual reports of AUN/SEED-Net (2001 – 2015))

*Sandwich Ph.D. program: One of the AUN/SEED-Net scholarship programs in which Ph.D. students in HIs conduct research for eight months in Japan under the supervision of researchers in JSUs.

Based on the results of the internet-based survey* given to scholarship grantees and alumni members, the following measures could be effective in attracting more and more competitive students to the AUN/SEED-Net scholarship programs:

Emphasis on the advantages of the AUN/SEED-Net's scholarship programs

Most of the alumni members interviewed by the evaluator agreed that the advantages of the AUN/SEED-Net's scholarship programs are (1) the provision of research funds to scholarship grantees, (2) access to funds for joint research exclusively for alumni members, and (3) long-lasting working and mentoring relationships with former supervisors in HIs and JSUs through joint research, RCs and academic staff exchange. However, many of the interviewees mentioned that they had not been aware of these advantages when they applied for an AUN/SEED-Net scholarship program. Therefore, AUN/SEED-Net should emphasize the advantages of its scholarship programs more extensively to prospective applicants who consider applying for other scholarship programs.

Earlier announcement of selection results to applicants

Generally, applicants for graduate programs want to get a scholarship as early as possible. According to the interviewees who took another scholarship program even though they were admitted to an AUN/SEED-Net scholarship program, they did so because they were informed of their admission to another program prior to the AUN/SEED-Net scholarship program. On the other hand, some interviewees took an AUN/SEED-Net scholarship program because AUN/SEED-Net was the first scholarship program that accepted them. This suggests that informing students of admission ahead of other scholarship programs may be an effective measure to attract students with high grades.

Provision of opportunities to study in Japan and the improvements to research environment in MIs

Many AUN/SEED-Net scholarship grantees and alumni members mentioned that they had applied for an AUN/SEED-Net scholarship program, expecting that they would have an opportunity to study in Japan through a Ph.D. sandwich program or a Ph.D. program in Japan. Most of those who completed a sandwich program or a Ph.D. program in Japan mentioned that studying in Japan was critically important to conducting research and producing academic papers in an intensive manner. Therefore, such opportunities are still necessary to maintain the popularity of the AUN/SEED-Net scholarship programs. At the same time, some alumni members of a Master's degree program in ASEAN or a sandwich program requested for improvements regarding shortage of laboratory equipment and rules/regulations of equipment management in HIs. Therefore, HIs should make further effort to provide an environment conducive to research activities and improve the equipment management systems in order to enhance the reputation of their graduate programs under AUN/SEED-Net.

*An Internet-based survey, targeting all AUN/SEED-Net scholarship grantees and alumni members was conducted over the five-month period from October 2015 to March 2016. The evaluator requested that the AUN/SEED-Net secretariat office and MIs encourage the scholarship grantees and alumni members to respond to the Internet-based survey. Out of 1,165 scholarship grantees/alumni members, 545 (242 incumbent students and 303 ex-students of them (46.8%) responded.

3.2.2 Impact

3.2.2.1 Achievement of Overall Goal

Because Phases I and II of the Project set very similar overall goals, they can be combined into one overall goal of the increase of teaching staff/researchers and graduates in the field of engineering in ASEAN. The table below shows the indicators and achievements set for both Phases.

Table 5. Achievement of Overall Goal

Overall Goal	Economic stability is enhanced through engineering human resource development as to reinvigorate the industrial sector of ASEAN countries. (Phase I) Human resources in engineering field, which is needed for social and economic development of ASEAN, is sustainably produced. (Phase II)
Indicator	Actual
Increase of academic staff in engineering department in MIs	Out of 761 scholarship grantees who obtained degrees, at least 331 of them have become academic staff. The number of academic staff in MIs increased from 4,141 in 2002 to 8,740 in 2013. The number of Master's holders increased from 3,719 to 8,005 and the number of Ph.D. holders increased from 422 to 735. In Laos and Cambodia, the ratio of alumni members is quite high relative to the total number of academic staff in MIs.
Increase of graduates of MIs	The total number of students who graduated with engineering-related degrees from 13 MIs[11] increased from 15,877 in 2002 to 25,629 in 2015. The number of graduates increased 1.5 times from 11,736 to 17,319 for bachelor degrees, 2 times from 3,719 to 7,525 for Master's degree and 1.9 times from 422 to 785 for Ph.D. respectively.
Increase of graduates who get engineering-related jobs	The relevant data were made available from six MIs.[12] According to the latest data, of 6,225 graduates with bachelor degrees in engineering, 79.5% of them were employed, 8.1% were seeking further education and 12.4% were not employed. There is little difference by MI in terms of employment rate. In other three MIs,[13] which provided the information by rate of employment, more than 80% of bachelor graduates found jobs. These data indicate that MIs are making good contributions to industry in terms of providing industrial human resources.

(Sources: Results of questionnaire surveys given to and interviews of MIs)

Out of 761 AUN/SEED-Net scholarship grantees who obtained degrees, at least 313 of them were working as academic staff at universities in ASEAN countries as of October 2015. The Project made a good contribution to the increase of academic staff in MIs. Alumni members accounted for 88.7% and 30.2% in NUOL and ITC, respectively. In MIs in Indonesia and Vietnam, the number of alumni members is large but the ratio is as low as 2–5%. In Myanmar,

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[11] YTU, YU, NUOL, HCMUT, HUST, ITC, ITB-INA, GMU, KMITL, BUU, CU, MU and UP.
[12] HCMUT, HUST, ITC, ITB-INA, UGM, KMITL
[13] BUU, UM and USM

the Project's contribution is recognized to some extent and the ratio is 4.2%. This is because academic staff are transferred to another national university periodically.

Table 6. Percentage of Alumni Members by Country

	Number of academic staff (2015)	Number of AUN/SEED-Net alumni members	Percentage of AUN/SEED-Net alumni members in MIs
Laos	115	102	88.7%
Cambodia	159	48	30.2%
Vietnam	1,783	87	4.9%
Myanmar	410	17	4.2%
Indonesia	3,062	59	1.9%
Total	5,529	313	5.7%

(Sources: Questionnaire surveys given to NUOL, ITC, HUST, HCMUT, YU, UTY, GMU, ITB-INA)

As shown above, the Project contributed to an increase in the number of academic staff and graduates in engineering, and graduates with engineering-related jobs. Therefore, the Project has achieved the overall goal of developing and sustainably producing human resources in the engineering field.

3.2.2.2 Other Impacts

(1) Development and improvement of educational programs of MIs

The Project supported the dispatch of lecturers from HIs and JSUs to SIs and academic staff training from SIs in HIs and JSUs. The academic staff who had returned their countries introduced new curriculums. As a result of such activities, a number of new courses and programs were established in 14 MIs during Phases I and II (33 new Ph.D. courses, 27 new Master's courses, four new undergraduate courses, seven new subjects, two joint programs). These have also contributed to the increase of academic staff and students of the new courses/programs in MIs. Furthermore, international programs have started in four HIs since they received international students under AUN/SEED-Net scholarship programs. [14] Therefore, the Project has also contributed to the internationalization of HIs.

(2) Contribution to Japanese universities

The Japanese universities involved in the Project have also benefitted because alumni members who studied in JSUs continue to conduct joint research with Japanese researchers

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[14] ITB-INA, UGM, KU and TU

after their graduation, utilizing the developed networks between MI and JSU researchers. According to a questionnaire survey given to supervisors in JSUs[15], 56 out of 61 students whom they supervised were judged to be above or about average in their academic performance when compared to other foreign students. The alumni members who obtained Ph.D. in Japan have also played important roles in conducting UIL and joint research. Furthermore, they have contributed to strengthening inter-organizational cooperation between their universities and their host universities in Japan, utilizing the networks developed through project activities. For example, Kyushu University has signed agreements to start a joint degree program with GMU and ITB-INA, and is scheduled to sign an agreement with CU. Nagoya University, a new member from Phase III, signed an agreement with ITS on academic exchanges through discussion at the RC. Another new member, Osaka University, also made agreements on academic exchanges with four MIs after its participation in the Project in 2013.

(3) Contribution to industry through UILs

  In ASEAN countries, the need for research to develop specific technology is limited. However, there is an increasing demand, particularly from foreign companies for development (e.g., commercialization and localization of foreign products, improvement of product quality and productivity) in the region. Between 2011 and 2015, 36 joint research projects under the Project were implemented between alumni members and industry, responding to such needs for development. Among MIs, alumni members in Indonesia and Vietnam have been particularly active in joint research with industry, and some projects such as the development and clinical trial of the synthesis of carbonate apatite composite bone graft, utilizing a material produced by a Japanese company, helped a local company commercialize a dentistry material in Indonesia. Other projects, such as the development of a robot for post-stroke patients' rehabilitation, the use of waste plastic to create fuel, and the development of solid fuel production from solid waste by employing a hydrothermal briquetting process, and prospecting for strategic rare earth elements are in the last stage of commercialization or waiting for social applications. Also, Japanese companies are to some extent benefitting from the Project because Japanese companies participated in five out of 36 research projects.

(4) Contribution by MIs to non-member universities in their own countries

  The ex-post evaluation study found that alumni members had also contributed to educational development in non-member universities in their own countries. In Vietnam, a local network of engineering universities similar to AUN/SEED-Net was formed for

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[15] The questionnaire forms were given to 14 JSUs through email and eight responses were obtained.

educational improvement of engineering universities. For example, alumni members in HCMUT supported the establishment of a faculty of engineering in one university and the introduction of new curriculum in four universities. In Myanmar, there is a regulation that teaching staff must be transferred to another national university every three years. Therefore, many of the alumni members from YU and YTU helped improve curriculums and pedagogy in the universities to which they were transferred.

(5) Contribution to international development projects

One international development project was planned and implemented based on a developed network of researchers among JSUs and MIs. The Project for the Establishment of Environmental Conservation Platform of Tonle Sap Lake in Cambodia (2015 – 2019), Science and Technology Research Partnership for Sustainable Development (SATREPS) Project, originated in discussions between researchers from ITC and the Tokyo Institute of Technology at a regional conference. Currently, 20 ITC alumni participate in this project. Many of them played key roles in another JICA's technical cooperation project in ITC in Cambodia. Similarly, many alumni members played active roles in a technical cooperation project between JICA and NUOL.

(6) Retention of graduate students in ASEAN

One important intended effect of the Project is that academic human resources could be developed within the ASEAN region. According to an Internet-based survey of AUN/SEED-Net scholarship grantees (468 responses with multiple answers allowed), many of them also considered applying or actually applied for other programs outside the ASEAN region (21.8% in Europe, 13.0% in China, Taiwan or Korea, 21.8% in Japan, 7.9% in North America and 7.1% in Oceania).[16] Therefore, the AUN/SEED-Net scholarship programs were effective to some extent in retaining graduate students in ASEAN.

As a result of the Project, the foundation for academic human resource development, which was the project purpose of Phases I and II, was prepared, and the overall goal of expansion and upgrading of education and research of MIs were also achieved as expected. Therefore, the effectiveness and impact of the Project is judged to be high.

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[16] The total number of respondents was 468. Of these, 53.4% only applied for an AUN/SEED-Net scholarship program. The remaining 46.6% of them considered or actually applied for one or more than one program.

3.3 Efficiency (Rating: ③)

  3.3.1 Inputs

Table 7. List of planned and actual inputs

Phase	Phase I		Phase II	
Input	Plan	Actual	Plan	Actual
(1) Experts	Long-Term (five persons)	Long-Term (nine persons) Short-Term (two persons)	Long-Term (Not specified) Short-Term (Not specified)	Long-Term (eight persons) Short-Term (four persons)
(2) Dispatch of JSU lecturers	225 persons	293 persons	Not specified	349 persons
(3) Scholarships	450 persons	426 persons	400 persons	422 persons
(4) Operation cost	Research fund, management costs, scholarships, etc.	Research fund, management costs, scholarships, etc.	Research fund, management costs, scholarships, etc.	Research fund, management costs, scholarships, etc.
(5) Japanese Side Total Project Cost	2,400 million yen	2,132 million yen	2,170 million yen	2,271 million yen
(6) Thai Government	Salary of Thai management staff	Salary of Thai management staff	Salary of Thai management staff	Salary of Thai management staff
(7) Member Institutions	Scholarships, waiver of tuition fees, provision of dormitory, transportation costs, etc.	Scholarships, waiver of tuition fees, provision of dormitory, transportation costs, etc.	Scholarships, waiver of tuition fees, provision of dormitory, transportation costs, etc.	402 million yen for Scholarships, waiver of tuition fees, provision of dormitory, transportation costs, etc.

Phase	Phase I		Phase II	
Input	Plan	Actual	Plan	Actual
(8) Others	Japan – ASEAN Solidarity Fund[17]	35 million yen	ASEAN Fund	10 million yen

(Sources: Preliminary study reports for Phases I and II, terminal evaluation reports for Phases I and II)

3.3.1.1   Elements of Inputs

Prior to the commencement of Phase I, the inception project[17] was implemented at a project cost of 2,200 million yen. Therefore, the actual investment up to Phase II from the inception totaled 4,623 million yen. As for the planned investment, no data are available for the planned costs during the inception period. However, the main component of the inception project was the provision of scholarships whose quotas were somehow pre-determined; therefore, we can assume that there was little difference between the planned and actual costs for the inception project. Thus, the planned investment from the inception to the end of Phase II was estimated to be 4,790 million yen. The actual cost of the Japanese input was about 165 million yen less than the planned cost (96.5% of the planned cost).

For Phase II, MIs and the Japan–ASEAN Solidarity Fund and the ASEAN Fund[18] contributed 11.8% and 3.8% of the total project costs, respectively. This helped reduce Japanese input and expand such activities as organizing RCs. The framework of the inception project was officially approved by all the 19 MIs and relevant government agencies in March 2001. It takes two to three years for the first grantee to graduate and also it was necessary for MIs to make organizational arrangements to declare full participation in the Project. Therefore, it was appropriate for the Project to have implemented the inception project.

In terms of outputs, the number of scholarships provided was almost the same as planned. The number of Japanese experts was slightly higher than planned, but this was because the workload involved in coordinating with all of the MIs and the preparatory work were more than originally expected. In terms of efficiency of inputs, the largest component of the Project was the cost for scholarship programs, and the expenses such as living allowances and tuition fees were much lower than those of other programs in Europe or Japan.

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[17] The main components included scholarships to students in Master's programs, the provision of research grants and the organization of field-wise regional conferences.
[18] Japan–ASEAN Solidarity Fund was established in response to the announcement made in 1998 by Mr. Keizo Obuchi, a former Minister of Foreign Affairs, that 20 million US dollars would be provided for human resource development and poverty reduction in ASEAN. The fund was allocated through the ASEAN Fund.

Therefore, the input of the Project was regarded as cost-effective.[19]

The inputs from other partners were very effective. Thai side provided the costs for the AUN/SEED-Net office and the salary of director(s). NUS and NTU actively provide inputs for the Project, introducing scholarships. Staff members of the AUN/SEED-Net secretariat office were well experienced in and capable of handling project activities. The only shortcoming in terms of efficiency was that the actual financial contribution was 11.8% of the total project cost during Phase II, which did not reach the target of 20% (No numerical target was set during Phase I.).

3.3.1.2   Project Cost
The total project cost including the inception project, Phases I and II, was 4,623 million yen, which was lower than the planned cost of 4,790 million yen (96.5% of the planned cost).

3.3.1.3   Period of Cooperation
Phase I and the Phase II of the Project were planned for five years each and implemented as scheduled (100% of the planned schedule).

Both the project cost and project period were in line with plans. Therefore, the efficiency of the project is high.

3.4 Sustainability (Rating: ①)
After the end of Phase II, Phase III started in March 2013 for a five-year duration. Like Phases I and II, JICA has continued to support the provision of scholarships and research grants, and the management of the AUN/SEED-Net secretariat office. Therefore, the sustainability of the Project is affected by such inputs.

3.4.1 Related Policy and Institutional Aspects for the Sustainability of Project Effects
Recent policy documents of the ASEAN[20], as of the ex-post evaluation, promote the strengthening of university networks through the framework of the AUN and recognize AUN/SEED-Net as an important, active sub-network of the AUN. Therefore, the Project   is in line with the policy in ASEAN.

The relevant government authorities such as the Ministry of Education or Higher

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[19] When compared to the monthly allowance provided to a Master's student, the AUN/SEED-Net provides approximately 500 US dollars while Japanese Government's scholarship and Erasmus Mundus provide approximately 1,300 US dollars and 1,000 US dollars, respectively.
[20] "ASEAN Plus Three (APT) Plan of Action on Education 2010-2017", "ASEAN Plus Three (APT) Cooperation Work Plan (2007 - 2017)", "ASEAN Socio-economic Community Blueprint 2025".

Education in the member countries prioritize such agendas as industrial human resource development, UILs and the improved competitiveness of universities in the global market. These priority agendas are directly supported by the Project as shown in Annex 3. Also, there is still a strong need among the MIs in Cambodia, Laos and Myanmar to upgrade the academic qualifications of their academic staff, and the Project responds to the policies of these MIs to further enhance the capacity of academic staff. Other MIs focus on such agendas as internationalization of their universities and UILs (The needs of MIs are shown in Annex 4.) and this is also consistent with the direction of the Project. Therefore, the Project's sustainability on the policy level is high.

3.4.2 Organizational Aspects of the Implementing Agency for the Sustainability of Project Effects

The AUN/SEED-Net secretariat office is staffed by a total of 14 staff members, including the Executive Director, Assistant Executive Director, 11 program officers and two secretaries. In addition, the Chief Advisor is periodically dispatched to Thailand from Japan and the Deputy Chief Advisor and three Unit Chiefs/Project Coordinators are stationed in Thailand. The program officers are responsible for their assigned counties or MIs. MIs also assign coordinators (teaching staff) at their universities and conduct activities in close contact with the program officers of AUN/SEED-Net secretariat. Also, each JSU appoints one of its academic staff as a coordinator and they support project activities as focal persons. Many of the AUN/SEED-Net staff are well experienced as they have been with the Project since an earlier phase. Work flows and procedures are also set to systematically conduct activities. Therefore, the institutional and organizational sustainability is high. However, the Phase III is still ongoing and Japanese experts play key roles in managerial activities and coordination with MIs. AUN/SEED-Net needs to secure and foster staff members who can act as managers after Phase III. According to a questionnaire survey given and interviews conducted to MIs, out of 22 MIs who responded, 15 MIs expressed their interest in participating in the management of AUN/SEED-Net. It is necessary to transfer some of the functions of the AUN/SEED-Net to other MIs.

3.4.3 Technical Aspects of the Implementing Agency for the Sustainability of Project Effects

Through the networks formulated by the Project, organizational arrangements in such forms as memorandum of understanding and/or agreement have been made among MIs and JSUs to continue the technical exchange and joint research. In Thailand, Malaysia, the Philippines, Indonesia and Vietnam, the ratio of Ph.D. holders is very high to academic staff in MIs. The ratio of Ph.D. holders in MIs in Cambodia, Laos and Myanmar have been

greatly increased. This suggests that their research capacity has been further improved to continue their research work and the technical sustainability of the Project could be ensured to some extent after the end of Phase III. That said, there are still some issues that must be addressed. These issues include the maintenance of the quality of the Sandwich Program, the level of field-wise regional conferences and the standard of the *ASEAN Engineering Journal*. According to the interviews with incumbent scholarship grantees, many of them favored the Sandwich Program because of the opportunity it provides to conduct research in Japan. The MIs' support capacity for research and research environment for researchers should be further improved to make the program more attractive. Also, the RC should be recognized as the top regional academic conference for ASEAN researchers and the *ASEAN Engineering Journal* should be also recognized as an international journal by registering with international scientific indexes. These are critically important in sustaining the scholarship programs. For the purpose, it is necessary for researchers in MIs to actively participate in joint research and contribute to international journals.

3.4.4 Financial Aspects of the Implementing Agency for the Sustainability of Project
Effects

AUN/SEED-Net's financial records of 2014 and 2015 indicates that support of MIs for the scholarship programs have expanded; the number of students whose tuition fees are waived by HIs has increased and the HIs that newly joined MIs after the start of Phase III have offered the waiver of tuition fees. When converting such contributions into monetary value, the contributions made by MIs greatly increased from the annual average amount of 0.73 million US dollars during Phase II to 1.26 million US dollars in 2014. Currently, approximately 885 million yen (790 million yen from JICA and 95 million yen from MIs) (7.35 million US dollars)[21] is required annually to maintain project activities. After Phase III, the budget size would be reduced to 95 million yen without JICA's financial support. Because NUS and NTU provide scholarships and other MIs also support scholarships in the form of the waiver of tuition fees, provision of accommodation, subsidies for transportation and dispatch of lecturers, the AUN/SEED-Net may be able to continue scholarship programs on a much smaller scale. However, it would be very difficult to sustain collaborative research programs, RCs and the dispatch of lecturers. According to a questionnaire survey given to 22 MIs, 13 MIs expressed their intention or willingness to expand or increase their financial support. However, their supports are mostly for RCs, dispatch of academic staff and waiver of tuition fees. It is difficult for MIs to secure a sufficient fund to maintain the scholarship programs; therefore, it is necessary to seek financial support from other organizations such as higher education authorities and science and technology agencies in

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[21] 1 US dollar = 120.36 Japanese yen as of January 1, 2016

MIs and the ASEAN.

As shown above, the Project's sustainability on the policy level is high. Yet, the technical sustainability and the institutional sustainability have some issues. Also, problems have been observed in terms of financial aspects. Therefore, the sustainability of the project effects is low.

4. Conclusion, Lessons Learned and Recommendations

4.1 Conclusions

The Project aimed to strengthen the capacity of education and research of MIs in ASEAN through the formation of a network of higher education institutions specializing in engineering education. The Project's relevance is high because the Project's objectives were consistent with the policies of ASEAN and the member countries and the needs of the MIs throughout the project duration, and were also in line with the ODA policies of the Japanese Government at the time of project planning.

Regarding the Project's effectiveness, the teaching staff's academic qualifications have significantly improved, particularly in the case of MIs in CLMV countries. For example, the alumni members of AUN/SEED-Net account for more than 30% of the teaching staff in the MIs in Laos and Cambodia. In addition, the Project has had positive effects: (a) Field-specific Regional Conferences have been organized; (b) joint research has been extensively conducted by MIs; (c)AUN/SEED-Net's academic journal, the *ASEAN Engineering Journal*, has been periodically published. Through these achievements, AUN/SEED-Net has earned high recognition. The Project also promoted stronger partnership among MIs. By the time of ex-post evaluation, each MI formed an official agreement with ten other MIs on average. However, less progress was made in the institutional promotion of such mobility programs as joint degree and double degree programs among MIs. The Project also laid a foundation for financial sustainability to some extent through increasing contributions from MIs.

The Project has had a wide-ranging impact. In MIs in CLMV countries, the ratio of alumni members has been increased to the total number of academic staff, and they have extensively conducted joint research. In addition, the alumni members and the lecturers from HIs have jointly helped develop and upgrade MIs' educational programs. As a result, quite a number of new courses have been introduced in MIs and the increasing number of teaching staff required. This has helped the MIs increase the number of graduate students and academic staff in MIs. Furthermore, the Project indirectly contributed to the development of highly skilled human resources because a large number of MI graduates joined the private sector. Other impacts include the contribution made by alumni members to JSUs in terms of providing competitive students, the nurturing of leaders for the implementation of international development

projects, their support of local universities to improve curriculums and their contribution to local industry through joint research activities. Therefore, the Project's effectiveness and impact are high.

The Project's efficiency is also high because the cost borne by the Japanese side and the project duration were within the plan as project activities were further expanded thanks to the financial contributions made by the MIs and other external support.

Although the policy and institutional sustainability is high, technical support from JSUs is still necessary. As for financial sustainability, the MIs have made their best efforts to establish a financial foundation to sustain scholarship programs; however, it is still difficult for AUN/SEED-Net to maintain its current activities with only the resources provided by MIs. Without Japanese input, it is possible for AUN/SEED-Net to maintain some activities, yet the level and the scope of such activities would be significantly reduced. Therefore, the Project's sustainability is judged to be low. In light of the above, this project is evaluated as satisfactory.

4.2 Recommendations
4.2.1 Recommendations for the Implementing Agency
<u>Review of priorities and introduction of measures to further improve scholarship programs</u>

At an earlier stage of project implementation, the prime objective of many MIs was to upgrade the academic qualifications of their teaching staff. However, as of the ex-post evaluation, the main focus had shifted to other agendas such as joint research contributing to internationalization of their universities, UILs and promotion of mobility programs. Therefore, the priority of allocation of resources for the Project should be shifted accordingly and the current scholarship programs should be reviewed to operate them on a smaller scale and make them effectively serve the objectives of the Project. As shown earlier, there is still a need to upgrade the academic qualifications of teaching staff in Cambodia, Laos and Myanmar. Therefore, AUN/SEED-Net should limit the target to these countries. Currently the largest scholarship program is Master's program under AUN/SEED-Net. But, the target should not be Master's programs in compliance with the prime objective of the scholarship programs. The target should be limited to Ph.D. programs given the fact that Ph.D. holders are more likely to become teaching staff when they go back to their home countries. Another way to make the scholarship programs more effective would be to allow AUN/SEED-Net to accept application from non-member universities to attract highly competitive students and those who aim to be academic staff, and introduce a bond system, under which alumni members must teach in their home countries for a certain period of time after having obtained their degrees.

Measures to ensure sustainability

   Although discussions have been held regarding sustainability after Phase III and the future vision of AUN/SEED-Net, concrete strategies for selection and concentration should be devised before the fifth year of Phase III based on the facts and relevant data and decide the sustainable size and scope of the Project. The higher education authorities in Thailand, Malaysia and Indonesia have expanded their scholarship programs for studying abroad. Science and technology agencies in these countries have also expanded their competitive research funds for joint research. In order to maintain the current level of activities with available financial sources, the AUN/SEED-Net and MIs should seek the possibility of forming affiliations with relevant organizations (e.g., ASEAN, ministries of education and science and technology agencies) during the remaining period of Phase III. As of the ex-post evaluation, the functions of the AUN/SEED-Net secretariat office are also supported by JICA's input. MIs and the higher education authorities of the member countries should hold discussions and build consensus about cost sharing for the management of AUN/SEED-Net in the near future. Also, further transfer of managerial functions to MIs is necessary to ensure sustainability after Phase III although such functions as organizing RCs have been transferred to MIs. For example, each MI will be assigned to one field and would organize the field-specific RC, oversee joint research in the field and support the scholarship grantees who major in the field.

Public relations for AUN/SEED-Net scholarship programs

   The advantages of AUN/SEED-Net scholarship programs include the provision of research funds to scholarship grantees, access to funds for joint research and long-lasting working and mentoring relationships with former supervisors in HIs and JSUs through joint research, RCs and academic staff exchange. However, according to the scholarship grantees interviewed by the evaluator, they were not aware of these advantages when they applied for an AUN/SEED-Net scholarship program. Therefore, AUN/SEED-Net and MIs should actively promote the advantages of its scholarship programs more extensively to attract prospective applicants with good grades. Also, HIs should make their educational and research environment more attractive (e.g., preparing all necessary laboratory equipment and extending hours of the laboratory) and promote such improvements to prospective applicants in SIs.

Support for *the ASEAN Engineering Journal*

   The ASEAN Engineering Journal has played an important role in the promotion of research and education in the region. The journal has been upgraded as it is registered with the Thai Scientific Index and the ASEAN Scientific Index. However, AUN/SEED-Net should do

more to raise its standards and establish it as more important regional academic journal by allocating more resources.

Reinforcement of Alumni Associations

Various networks of researchers have been strengthened and informal groups of alumni members have been formed through Social Networking Services, and yet there has been little progress in establishing alumni associations in a formal manner. Currently about 40% of alumni members join the private or the government sectors. Therefore, it is increasingly important for the AUN/SEED-Net to strengthen the network with these alumni members in order to facilitate UILs, joint research and collaboration between university and industry for industrial human resource development. The AUN/SEED-Net secretariat office should support representatives of the informal alumni group in each MI in the form of budget support and guidance for the establishment and management of an alumni association.

Support for UIL

The AUN/SEED-Net provides funds for collaborative research with industry and for solving common regional issues, but researchers in MIs are still not fully aware of this. Therefore, the AUN/SEED-Net and MIs should promote these funds more extensively. Because collaborative research has produced successful results, AUN/SEED-Net should share such cases with relevant offices in MIs (e.g., UIL promotion office, incubation center). For the MIs that face difficulty in collaboration with industry, AUN/SEED-Net secretariat office should closely work with the MIs by coordinating with business organizations such as a chamber of commerce and Japanese companies. Many MIs find it difficult to make progress in UIL because they do not have much know-how and a good backup system although access to competitive funds for joint research has increased other than the funds provided by AUN/SEED-Net. Such MIs should strategically use the AUN/SEED-Net's collaborative research funds for the purposes of developing UIL models or building up a track record of UIL activities.

4.2.2 Recommendations to JICA

The AUN/SEED-Net secretariat office is located in Thailand and it does not necessarily has strong ties with relevant organizations (e.g., business associations, Japanese business organizations, higher education authorities and science and technology agencies) in other member countries. Therefore, JICA offices in ASEAN countries should support MIs by introducing such organizations and providing information on UIL.

4.3 Lessons Learned

<u>Measures to increase the effectiveness of a scholarship program</u>

  The Project successfully increased the effectiveness of the scholarship programs by creating synergistic effects. Most of the HIs require that graduate students present their papers and contribute to academic journals as a condition to conferring a degree. Thus, the Project decided to establish field-specific regional conferences to provide opportunities for graduate students to present papers. The Project also established an academic journal to provide opportunities for graduate students to publish their papers. By providing such opportunities, the Project was able to help graduate students obtain their degrees in a relatively short period of time. Furthermore, regional conferences and the journal greatly helped develop networks among researchers and facilitate joint research in the region. In planning a project that has a scholarship program, it is advisable to add these components in order to enhance the effectiveness of the program.

Annex 1 Policy Priorities of the Member Countries in Higher Education (at the time of planning Phases I & II)

Country	Policy document(s)	Relevant policy priorities
Cambodia	National Strategic Development Plan （2009-2013）	Human resources development for industrial advances, expansion of scholarships, enhancement of research capacity of teaching staff and acquisition of degrees from oversea (No mention about higher education in earlier national plans)
Laos	7th National Socio-Economic Development Plan （2011-2015）	To strengthen higher education by encouraging local talents to be management staff and highly experienced technical staff (No mention about higher education in earlier national plans)
Myanmar	Thirty-year-long-term Education Development Plan （2001–2030）	Provision of quality higher education, improvement of universities to international standards through receiving accreditation and practical human resources development
Vietnam	The Five-Year Socio-economic Development Plan （2001-2010）	To develop an economy of knowledge and strengthen international competitiveness
The Philippines	National Science and Technology Plan （2002-2020） 1st National Higher Education Research Agenda 1999–2008）	Promotion of Research and Development, technology transfer, human resources development and UIL Improvement of research outcomes of research institutions, promotion of research by competitive research grants and establishment of a sustainable higher education system
Malaysia	National Higher Education Strategic Plan （2007–2010）	To strengthen such key universities as USM and UM in research and innovation and achieve excellence in terms of university ranking, increased percentage of Ph.D. holders and global product development
Thailand	2nd 15-year Long-Range Plan for Higher Education （2008-2022）	Human resources development in energy and environment sectors, university-industry collaboration in industry and services and human resources development in agriculture

Country	Policy document(s)	Relevant policy priorities
Indonesia	Master Plan for Acceleration and Expansion of Economic Development （2010-2025）	To become a high income country by 2025 by securing a national budget equivalent to 1% of GDP for Research and Development, increasing Ph.D. holders and promoting international cooperation in science and technology

(Source: Terminal evaluation reports of Phase I and Phase II, websites of the relevant agencies)

Annex 2 Needs of MIs (at the time of planning of Phase I)

Country	Main needs
Cambodia	Expansion of Master's programs, establishment of new Ph.D. courses and promotion of UIL
Laos	Expansion of graduate programs in collaboration with MIs and the upgrading of academic qualifications of lecturers
Myanmar	Improvement of teaching staff's academic qualifications, promotion of UIL and joint research
Vietnam	Improvement of teaching staff's academic qualifications in selected departments and promotion of joint research
Indonesia	Improvement of teaching staff's academic qualifications, promotion of joint research and UIL (particularly with Japanese companies)
The Philippines	Improved results of university evaluation (e.g., admission of foreign students and achievements of research)
Malaysia	Internationalization of universities, UIL
Thailand	Internationalization of universities, UIL and joint research with Japanese universities

(Sources: Final evaluation report – Phase II)

Annex 3 Policy Priorities of Member Countries in Higher Education (as of 2015 at the time of ex-post evaluation)

Country	Policy document(s)	Policies and needs
Malaysia	11th Malaysia Plan （2016 – 2020）	Human resource development to become a developed country and innovation of science and technology to respond to industrial needs
	Malaysian Education Blueprint （2015–2025）	To internationalize Malaysian universities, accept 250,000 foreign students and have at least two universities ranked top 100 in world university rankings such as QS
Thailand	2nd 15-Year Long Range Plan for Higher Education (2008–2022）	To develop industrial human resources that meet the needs of the labour market and to strengthen international competitiveness of Thai universities
The Philippines	CHED Strategic Plan （2011–2016）	To improve the quality and standards of universities
Indonesia	Leading Innovation Center Program: Pusat Unggulan Inovasi （PUI）	To improve industrial productivity by improving the capacity of science and technology institutions and allocate a special budget to lift 10 Indonesian universities to an international level by 2019
Myanmar	National Education Law （2014）	Preparation of educational environment that satisfies international standards, quality improvement of university education At the time of ex-post evaluation, the priority was to take measures to implement the law.
Cambodia	National Strategic Development Plan （2014–2018）	Development of human resources that meet the needs of the (export) market, strengthening of science and technology and engineering programs that meet ASEAN standards
Laos	7th National Socio-Economic Development Plan （2011-2015）	To increase the ratio of university graduates per population and establish and expand local universities The Ministry of Education plans to improve the qualifications of teaching staff (Ph.D. holders: 10%, Master's degree holders: 60% and Bachelor's degree holders: 30% by the end of 2015).
Vietnam	Socio-economic Development Strategy （2011–2020）	To increase the quality of university education and expand investment for key universities

(Source: the results of interviews and questionnaire survey to higher education institutions)

Annex 4 Needs and Priorities of MIs (as of 2015)

University	Policies and needs
YTU	• To enhance academic staff's capabilities and qualifications, and prepare an environment for research so that YTU can be recognized as a research university in compliance with the National Education Law • The strong need to upgrade academic staff's qualifications because every academic staff member must be transferred to another public university periodically. (Rector)
YU	• To become a comprehensive university. • To upgrade and expand the faculty of engineering • To reorganize the structure to be an autonomous university • The strong need to upgrade academic staff's qualifications because every academic staff member must be transferred to another public university periodically. (Rector and Dean)
NUOL	• To reach an international standard by 2020 by establishing an autonomous engineering university • To upgrade the academic staff who obtained Master's degrees to Ph.D. degrees　(Dean)
ITC	• To develop five departments into faculties and enhance UIL through the research and innovation center • The strong need to upgrade the academic staff who obtained Master's degrees to Ph.D. degrees (Rector)
HUST	• Human resource development of teaching staff • Improvement of the university's infrastructure • Strengthening of research activities • 80% of the teaching staff members are Ph.D. holders. The main target group for AUN/SEED-Net scholarship programs is undergraduate students.　(Director, International Cooperation Department)
HCMUT	• To encourage teaching staff to study abroad in order to have all teaching staff Ph.D. holders • To promote joint research with industry • To improve technologies relating to the seven core industries (ITC, manufacturing and machinery, food processing, material engineering, water resources and environment, renewable energy, automotive industry) promoted by the Government (Vice Rector)
ITB-INA	• The mid-term goal is to internationalize the university (to obtain international accreditations by 2020). The short-term goals are; (1) to enhance the faculty's international programs, (2) increase double degree programs and (3) promote UIL. At present, the need for upgrading academic qualifications of its teaching staff is relatively low. (Dean)
UGM	• To internationalize the university and increase competitiveness (e.g., lifting UGM's position in university rankings and promote UIL. • At present, the need for upgrading teaching staff's academic qualifications is low. UGM also recruits Ph.D. holders from other universities as teaching staff. (Dean)
DLSU	• To enhance research activities and collaboration with community and improve its position in university ranking by increasing research papers and mobility programs (Dean)
UP	• To upgrade Energy engineering program (Director, Electrical & Electronics Engineering Institute)

University	Policies and needs
UM	• To internationalize the university (e.g., to increase the number of foreign students) and promote UIL by strengthening university's venture companies • The need for accepting foreign students including students from Japan and increasing the number of collaborative programs with foreign universities (Dean)
USM	• To internationalize the university by expanding collaborative research and promote UIL • The need for support to link up with companies including Japanese companies, conduct joint research to deal with reduced budget allocation to universities after 2016 (Dean)
BUU	• To promote UIL by taking various measures (UIL is the highest priority for BUU as it is located near industrial areas.) • The need for upgrading staff's academic qualifications was high during Phases I and II, but the need is not so high as most of teaching staff have already obtained degrees (as of October 2015). (Dean)
CU	• The priority is to develop industrial human resources through UIL and to promote multi-disciplinary research by allocating special budget. AUN/SEED-Net is important for the university's internationalization. (Dean)
KMITL	• To pursue institutional collaboration with industry through formal agreements and joint research. AUN/SEED-Net responds to the need for internationalization of KMITL (Associate Dean, International School of Engineering)

(Source: the results of interviews to representatives of MIs)　( ): main interviewee

Mongolia

FY2015 Ex-Post Evaluation of Japanese Grant Aid Project

"The Project for Improvement of Primary Education Facilities (Phase IV) in Mongolia"

External Evaluator: Ai Ishitobi, Tekizaitekisho LLC

0. Summary

The project was implemented with the aims of increasing the seating capacity and mitigating the overcrowding in the schools by constructing twelve (12) primary and secondary education facilities in Ulaanbaatar covered by the project (hereafter referred to as "the project schools"), and thereby contributing to the improved access to primary and secondary education and to the provision of quality education in Ulaanbaatar.

The project has been in line with the development policy of Mongolia, aiming to improve access to education and provide quality education, as well as Mongolia's development needs for improving the educational environment urgently, and Japan's Country Assistance Policy for Mongolia established in November 2004, which designated the strengthening of basic education as a priority subject. Therefore, the relevance of the project is high.

While the project cost was within the plan, the project period exceeded it. Therefore, efficiency of the project is fair.

The project achieved outcomes such as an increase in the seating capacity and the number of students in the project schools, mitigation of the overcrowding in classrooms, a reduction in the percentage of triple-shift classes, and improved satisfaction among students and teachers with the educational environment. These effects resulted in various positive impacts such as the provision of effective class sessions and quality education and improvement of the motivation of students to study and of teachers to teach and work. Therefore, the effectiveness and impact of the project are high.

Since no major problems have been observed in the institutional, technical and financial aspects of the operation and maintenance system, the sustainability of the project effects is high.

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

1. Project Description

Project Location

A school constructed by the project
(No.118 school)

1.1 Background

The Government of Mongolia (hereafter referred to as "GOM") designated education as one of the priority areas in its national development plan, the MDG-based Comprehensive National Development Strategy (2007-2021) (hereafter referred to as "NDS"). It stipulates the establishment of a general education system in line with international standards[1] and the achievement of universal primary education as the medium-term goals. In order to achieve these goals, the GOM developed the Education Sector Master Plan (2006-2015) (hereafter referred to as "ESMP") in 2006, a medium- to long-term plan for the education sector with the aims to improve access to education and provide quality education. The ESMP promoted programmes with a focus on strengthening general education, with a focus on the transition of the school system from 10 years to 12 years and on the expansion of educated opportunities.

In Mongolia, while the net enrolment rate[2] at the primary level reached 92.7% in 2007, there were delays in providing educational facilities for the higher number of students resulting from the rapid influx of people moving from rural to urban areas and the transition of the entry year to first grade. The shortage of educational facilities seriously deteriorated the education environment. Especially in Ulaanbaatar, where the project was implemented, the population increased by about 30% between 2000 and 2007, the urban area rapidly grew into the suburbs, and the number of general students increased by 22,000. Because of these changes, the number

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[1] Mongolia adopted a twelve-year general education system in 2008. Compulsory education is nine years, which consists of five years of primary school and four years of lower secondary school. In Mongolia, general education schools are used by both primary and secondary students in general. The new school buildings constructed by the project are used mainly by primary students at the existing project schools and by primary and secondary students at the new project schools.

[2] The net enrolment rate is, at a certain level of education, the ratio of the number of people who actually receive the education (and who belong to the official school age group) to the total population of children of the official school age, expressed as a percentage. (Asia-Pacific Cultural Centre for UNESCO, "Glossary on literacy", http://www.accu.or.jp/shikiji/glossary/indexm2.htm ＊Accessed on August 2, 2016)

of districts where there were no schools within commuting distance increased, and hence children had to commute a long distance or go to a boarding school. Several schools had to deal with overcrowded classes with more than 50 students per class, or operate on triple shifts. Many schools also had to use a corridor and/or a hall as classrooms in order to address the lack of classrooms due to the increase in the number of students. In 2008, the entry age for primary school was changed from seven years old to six years old, which increased the number of students enrolled at a national level by 12% compared with 2007. Educational facilities had to be urgently provided. Under these circumstances, in the ESMP the GOM designated an increase in the number of educational facilities as one of the major priorities in order to respond to the increase in the number of students resulting from the reform of the education system and to reduce the gap between regions. Accordingly, the budget for the education sector was significantly increased from 2007 in order to construct classrooms to provide an additional 69,000 seats by 2015, and furthered the provision of educational facilities by establishing an annual action plan, including projects funded by foreign donors. However, since it was still difficult to provide a great enough quantity of educational facilities to respond to the increase in the number of students resulting from population growth and education system reforms relying only on their own financial resources, the GOM requested that the Government of Japan carry out a grant aid project to construct educational facilities and provide equipment in Ulaanbaatar, following the previous projects for improvement of primary education facilities (Phase I to III) in Mongolia[3].

1.2 Project Outline

The objective of this project is to increase the seating capacity and mitigate the overcrowding in the schools covered by the project by constructing twelve (12) primary and secondary education facilities in Ulaanbaatar, and thereby contributing to the improved access to primary and secondary education and to the provision of quality education in Ulaanbaatar.

The project provided expanded school facilities including classroom buildings at existing seven (7) schools (hereafter referred to as "existing project schools") and newly constructed five (5) schools (hereafter referred to as "new project schools").

<Grant Aid Project>

E/N Grant Limit/ Actual Grant Amount	3,341 million yen (Detail design: 79 million yen, Main works: 3,262 million yen) / 2,942 million yen (Detail design: 79 million yen, Main works: 2,863 million yen)

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[3] The Basic Design report (2008)

Exchange of Notes Date /Grant Agreement Date	January, 2009 (Detailed Design), August 2009 (Main works) / January, 2009 (Detailed Design), August 2009 (Main works)
Implementing Agency	Education Department, Ulaanbaatar City Administration
Project Completion Date	March, 2013
Main Contractor(s)	DAI NIPPON-KONOIKE Joint Venture
Main Consultant(s)	Matsuda Consultants International Co., LTD
Basic Design	January 2009
Detailed Design	October 2009
Related Projects	【Grant Aid Project】 "The Project for Improvement of Primary Education Facilities in Mongolia"（1999-2001） "The Project for Improvement of Primary Education Facilities (Phase II) in Mongolia"(2002-2005) "The Project for Improvement of Primary Education Facilities (Phase III) in Mongolia: Phase III"(2004-2007) Renovation or extension of school buildings and dormitories by Japan's Grant Assistance for Grassroots Human Security Projects (Total: 132 projects) (2004-2014) 【Technical Cooperation Project】 ・ Technical cooperation "Teaching Methods Improvement Project towards Children's Development Phase1&2"（2006-2009, 2010-2013） "Promoting a violence-free, fair environment in public education for the purpose of realizing the children's rights project" (2008-2011) "Project for Child-Centred Education Supports"(2016-2019) "The Project for Strengthening Teachers Ability and Reasonable Treatments for Children with Disability"（2015-2019） ・ Grassroots technical cooperation "Sustainable use of ICT for improving the quality of primary education in rural Mongolia"（2012-2017） ・ Japan Overseas Cooperation Volunteers (JOCV) The total number of volunteers dispatched: 17 (2001-2016) (Categories: Physical education, Primary school education, Science education, Japanese language education, PC instructor, Computer technology, Home economics, and Sewing) 【Projects by other donors】 ・ Asian Development Bank "Third Education Development Project" (2006-2012) "The Ulaanbaatar School Concession Programme) (2014-2016) ・ The World Bank "Rural Education and Development Project"（2006-2012） Financial Assistance-EFA-FTI（2007-2012） "Improving Primary Education Outcomes for the most vulnerable children in rural Mongolia" (2012-2016) "Transparency and Accountability in Mongolian Education"（2014-2018） "Education Quality Reform Project"（2014-2019）

2. Outline of the Evaluation Study

2.1 External Evaluator

Ai Ishitobi, Tekizaitekisho LLC

2.2 Duration of Evaluation Study

Duration of the Study: August, 2015 -September, 2016

Duration of the Field Study: December 3-29, 2015 and April 19-28, 2016

3. Results of the Evaluation (Overall Rating: A[4])

3.1 Relevance (Rating: ③[5])

3.1.1 Relevance to the Development Plan of Mongolia

NDS (2007-2021), the national development plan, designates education as one of the priority areas in the field of human development, and the National Action Plan (2008-2012), which was enacted in order to achieve the objectives of NDS, identified the "transition to a 12-year school system" and "improvement of the quality of education" as priority policies for the primary and secondary education sector. Also, the ESMP (2006-2015)[6] aimed for "high-quality education which everyone can access," and in the sector of primary and secondary education, it prioritized improved access to education with the focus on reducing the gap between regions and providing quality education adapted to the renewed educational values. Therefore, the project has been highly consistent with the development and education policies and plans of Mongolia. In addition, the project directly contributed to the quantitative targets of the ESMP such as the number of students per class (36 at primary level and 32 at secondary level) and the provision of classrooms with a total of 69,600 seats.

The GOM's development and education policies in effect at the planning stage were still in force at the time of the ex-post evaluation (2015), and the following national action plan (2012-2016) also aims to "improve the educational environment by increasing and expanding schools" in the field of education. As a result, there were no major changes to the development plans of the GOM at the time of the ex-post evaluation. Therefore, the project has been highly consistent with the development plans of Mongolia from the time of the planning stage to the time of the ex-post evaluation.

3.1.2 Relevance to the Development Needs of Mongolia

As noted in "1.1 Background", the basic design study (2008-2009) pointed out that the

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[4] A: Highly satisfactory, B: Satisfactory, C: Partially satisfactory, D: Unsatisfactory

[5] ③: High, ② Fair, ① Low

[6] At the time of the 2nd field survey of the evaluation (April 2016), the amendment of the Education Law was under discussion and the subsequent national action plan had not yet been enacted.

increase in the number of educational facilities did not catch up with the increase in the number of students due to the population influx to the urban areas and the transition of the entry age. This resulted in the deterioration of the educational environment, such as overcrowded classrooms and the need to run schools with triple shifts. The report also pointed to the problem of areas with no school within commuting distance due to the expansion of urban areas. Especially in Ulaanbaatar, while the net enrolment rate for general education was lower than the national average, the percentage of triple-shift classes and the number of students per class were higher than the national average, as shown in Table 1. This indicated that the need to improve the educational environment was urgent. Besides, the same study also noted that most schools had to use non-classroom space such as corridors, halls and laboratories as classrooms because of the shortage of classrooms, and that a further shortage of classrooms was expected due to the rapid rural-to-urban migration. In this way, since Ulaanbaatar urgently needed to improve access to education and the educational environment compared with other regions at the planning stage, it was appropriate to choose Ulaanbaatar as the target site for the project. Even at the time of the ex-post evaluation, the population of Ulaanbaatar had increased by 31% compared with the planning stage (2007). As regards the educational environment, the percentage of triple-shift classes was 2.9%, and the number of students per class was 33.5[7]. Therefore, the development needs to improve the education environment in Ulaanbaatar remained high and the project has been highly consistent with these needs of Mongolia from the planning stage to the time of the ex-post evaluation.

Table 1   Educational indicators by region (2007)

	Net enrolment rate (%)		Percentage of triple-shift classes (%)	Number of students per class
	Primary	General		
Western	93.5	91.7	0.0	30.3
Mountainous	93.9	90.7	1.2	31.8
Central	93.9	91.5	0.3	29.3
Eastern	95.2	92.6	0.1	29.2
Ulaanbaatar	**90.4**	**87.2**	**0.6**	**31.7**
National	92.7	89.9	0.5	30.8

Source: The Basic Design Report

The selection of the project schools was relevant given the situation of the schools at the planning stage. Specifically, the seven existing schools out of the twelve project schools (1) were overcrowded and the number of students per class was higher than the national average[8], (2) four out of seven of the schools had to operate on triple shifts to accommodate a large

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[7] Ulaanbaatar City Education Statistics (2016)
[8] As of the planning stage in 2007, the number of students per class in the project schools was 34.4 (School No. 19) at a minimum, and 51.3 (School No. 30) at the maximum, while the national average was 30.8 students per class.

number of students, (3) population growth was rapid in the areas where the schools were located[9], and/or (4) the shortage of classrooms calculated based on a demand analysis exceeded the scale suitable for efficient operation and construction. Areas in which population growth was particularly rapid and/or there was no school within commuting distance were chosen as the sites for the new five schools.

3.1.3 Relevance to Japan's ODA Policy

The Country Assistance Policy for Mongolia established by the Japanese Ministry of Foreign Affairs in 2004 defined system development and human resource development to support market-oriented economic reform as one of the four priority areas of aid for Mongolia. As the strengthening of basic education was designated as one of the priority issues, Japan actively provided assistance in this area. The project was therefore relevant to Japan's ODA policy as the project was the continuation of the past three phases of the projects to improve primary education facilities in Mongolia (Phase I to III) under the policy.

This project has been highly relevant to Mongolia's development plan and development needs, as well as Japan's ODA policy. Therefore, its relevance is high.

3.2 Efficiency (Rating: ②)
3.2.1 Project Outputs

As shown in Tables 2 and 3, the following facilities, equipment and furniture were provided as planned. In terms of equipment, one boiler and two sewage tanks were additionally provided for the project schools. A boiler was added because when a technical examination was conducted based on the basic design of the project, it was found that central heating could not be provided at the site for School No. 27 since the supply capacity of the existing hot water pipes that had been planned to be connected to the school was lower than expected, and it was difficult to set up a branch from another main pipe to the school. Regarding sewage tanks, since it had not been determined whether two new project schools (Nos. 118 and 123) would be connected with the public sewage system before the schools opened, sewage tanks were additionally provided for the two schools. Based on these reasons, the changes to the plan were appropriate.

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[9] As of the planning stage in 2007, the most rapid population growth rate in the existing project school zones was 10.2%/year (the school zone of No. 19) and then 8.5%/year (the school zone of No. 30).

Table 2　The planned and actual provision of facilities, equipment and furniture

School Number	Planned								Actual							
		facility		equipment			set of furniture	set of equipment		facility		equipment			set of furniture	set of equipment
	Classroom	Classroom building	Gymnasium	Water tank	Sewage tank	Boiler			Classroom	Classroom building	Gymnasium	Water tank	Sewage tank	Boiler		
The existing project schools																
12	8	○					○	○	8	○					○	○
19	8	○					○	○	8	○					○	○
27	12	○			○		○	○	12	○			○	○	○	○
30	19	○					○	○	19	○					○	○
35	8	○			○		○	○	8	○			○		○	○
52	8	○					○	○	8	○					○	○
79	12	○			○	○	○	○	12	○			○	○	○	○
The new project schools																
118	16	○	○			○	○	○	16	○	○		○	○	○	○
120	16	○	○	○	○	○	○	○	16	○	○	○	○	○	○	○
121	16	○	○	○	○	○	○	○	16	○	○	○	○	○	○	○
122	16	○	○	○	○	○	○	○	16	○	○	○	○	○	○	○
123	16	○	○			○	○	○	16	○	○		○	○	○	○
Total	155	12	5	3	6	6	12	12	155	12	5	3	8	7	12	12

Source: Information provided by JICA

As shown in Table 3, the following furniture and equipment were provided as planned.

Table 3　List of furniture and equipment provided

	Existing/New		Furniture and equipment provided
Furniture	Both	Classroom	Desks and chairs for students and teachers, blackboard, bulletin board
		Teachers' room	Tables and chairs for meetings, desks and chairs for the headmaster and other management staff, cabinets
	Only new project schools	Computer room	PC desks and stools for students, desk and chair for teachers, bulletin board
		Special room	Desks and chairs for students, laboratory table and chair for teachers, blackboard, bulletin boards, cabinets
		Kitchen	Open shelves
Equipment	Both		A geographic map, an administrative map, a mineral resource map, a botanical map, a zoological map of Mongolia, a world geographic map, a world political map, charts of chemical elements, physical measuring units, human body dissection, and Mongolian Cyrillic alphabet, a multiplication table, geometric block models, an abacus, a wall thermometer, an azimuth compass, a measuring tape, a T-square, ruler set, a projector set

Source： Information provided by JICA

3.2.2 Project Inputs

3.2.2.1 Project Cost

The total project cost amounted to 2,942 million Japanese yen, which was 88% of the planned cost (3,341 million yen), as shown in Table 4. The gap resulted from the lower contract amount with the consultant than planned as the result of the bidding. Although the Mongolian side was supposed to provide about 361 million Mongolian Tughrik (hereafter referred to as "Tg", 33 million yen when calculated at the exchange rate during the planning stage[10]) for provision of external facilities (e.g., gates, fences, and pavement), clearance and levelling of the sites and so on, the information on the actual amount spent was not available.

Table 4　Project costs provided by the Japanese side

（unit：million yen）

	Planned	Actual	％
Detailed design	79	79	100
Main Works	3,262	2,863	88
Total	3,341	2,942	88

Source: Information provided by JICA

3.2.2.2 Project Period

Compared with the planned project period (46.5 months), the actual project period was 49.4 months, which was 6% longer than planned. The main reason for the extension was that the examination of the detailed project plan by the GOM took longer than expected and the planned period for detailed designing was 5.5 months, but it took 8.5 months. Although the duration available for construction outside is limited during the year in Mongolia since the average temperature goes down below the freezing point in the winter, the extension of the project period had no effect on the planned start date of the construction.

Although the project cost was within the plan, the project period exceeded the plan. Therefore, efficiency of the project is fair.

3.3　Effectiveness[11]　(Rating:　③)

3.3.1　Quantitative Effects (Operation and Effect Indicators)

<Operation Indicators>

Number of classrooms at the project schools

With 155 classrooms newly constructed by the project, the total number of classrooms at the

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[10] 1 yen =11.00 Tg (Mongolian Tughrik : local currency)（as of July 2008, the Basic Design report）

[11] Sub-rating for Effectiveness is to be put with consideration of Impact.

12 project schools amounted to 311 classrooms as planned (Table 5), and this resulted in an increase in the seating capacity of the project schools. At some of the project schools that were comparatively less crowded with students, there were cases in which these schools used classrooms for other purposes (e.g., rooms for staff or for activities at a district level) and therefore, 295 out of 311 classrooms were used as general classrooms at the time of the ex-post evaluation (Table 5). These schools confirmed that such classrooms would be used as general classrooms when the number of students increased further, and the education department of Ulaanbaatar city (hereafter referred to as "UBC") also confirmed that they have instructed these schools to use classrooms in that way.

The basic design report of the project (2007) pointed out that some rooms inappropriate as classrooms[12] were used as general classrooms at all the existing project schools. According to the result of a questionnaire conducted for this evaluation, such rooms were no longer used as general classrooms, which indicated the improvement in the physical education environment of the existing project schools.

Table 5　Number of classrooms at the 12 project schools　(unit: classroom)

	Baseline (2007)	Target (2013)	Actual (2013)	Actual (2015)
	Planning	Completion	Completion	2 years after completion
Number of classrooms	156	311	311	311
Rooms used as general classrooms	156	311	(unknown)	295

Source: Summarized by the evaluator based on the results of the survey and the Basic Design Report

<Effect Indicators>

The total number of students at the project schools

The project was expected to increase in the number of students at the project schools at the planning stage due to the increase in the seating capacity of the schools by the project, as shown in Table 6. The total number of students at the 12 schools was 13,206 at the planning stage in 2007, which was increased to 15,577 (72% of the target value) when the project was implemented in 2013, and to 19,672 (90% of the target value) at the time of the ex-post evaluation, quite close to the target value (21,770 students). The target value was calculated as twice of the seating capacity (35 students per class) on the assumption that the project schools

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[12] The basic design report defines "inappropriate classrooms" as classrooms which are smaller or narrower than a standard classroom, classrooms far from standards such as ones students unable to enter from a corridor, and classrooms of which the UBC prohibits the use due to the reasons including deterioration, and pointed out that there were 21 inappropriate classrooms in total at the seven existing project schools.

operate on double shifts[13].

Table 6 Number of students and classrooms at the project schools[14] (unit: person)

		The number of students			
		Baseline (2007)	Target (2013)	Actual (2013)	Actual (2015)
		Planning	Completion	Completion	2 years after completion
The existing project schools	12	1,802	2,240	1,939	2,377
	19	1,135	1,680	936	1,080
	27	2,301	2,660	2,314	2,641
	30	2,052	2,660	1,801	2,392
	35	1,797	1,890	1,453	1,558
	52	1,608	2,030	2,194	3,157
	79	2,511	3,010	2,252	2,270
The new project schools	118	0	1,120	804	941
	120	0	1,120	543	826
	121	0	1,120	192	355
	122	0	1,120	588	1,274
	123	0	1,120	561	801
Total		13,206	21,770	15,577	19,672

Source: Summarized by the evaluator based on the results of the questionnaire survey, the Basic Design Report and the UBC Education Statistics.

One of the main reasons of not achieving the target value is that new schools were constructed in the vicinity of three existing project schools (No. 19, 35 and 79) and the number of students at the schools dropped. Another reason is that one new project school (No. 121) located in the suburb did not reach the target value at the time of the ex-post evaluation due to the delayed development of the planned area, although the number of students of the school has increased year by year since the school opened. At the same time, the number of students is expected to further increase because the number of residents in the vicinity of the school (*Horoo*[15]) had steadily increased for the past three years (2013-2015). Besides, the UBC and the school think that the potential needs of the school are huge because not a few people move

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[13] The number of students at all the project schools has increased year by year. According to the district education offices and headmasters, it is highly likely that two more project schools need to newly operate on triple shifts and one project school already with triple-shift classes has to operate on quadruple-shift from 2016. Given this situation, it was realistic to assume that schools would be used on double shifts, not a single shift. In 2015, five project schools (No. 12, 27, 30, 52 and 122) have 27 triple-shift classes. The UBC aims to make all general schools operate on a single shift in the future.

[14] At the time of the ex-post evaluation, the actual number of students of School No. 30 was 2,932. The above number excludes 540 students of School No. 14, which will be destroyed and rebuilt due to the deterioration. The construction of a new school building of No. 14 will be completed in 2018 or 2019.

[15] There are nine districts in Ulaanbaatar and under each district, there are sub-districts called "*Horoo*."

to the areas avoiding the serious air pollution in the city centre[16], and there are children in the vicinity of the school who commute to schools in the city centre and those who lead a nomadic life. Hence the UBC was constructing a dormitory[17] at the school as of April 2016. The UBC expects that the school will reach the full seating capacity with this dormitory within a couple of years.

<u>Number of students per classroom and the number of triple-shift classes</u>

The project was expected to mitigate the overcrowding in classrooms and cancel triple-shift classes by increasing the seating capacity of the project schools. With regard to the change in the number of students per classroom before and after the project (Table 7), the target for this indicator (i.e., less than 85 students per classroom) was achieved as the number was 56 when the project was completed in 2013, and increased to 67 at the time of the ex-post evaluation in 2015 at the existing project schools. The indicator was also achieved at the new project schools. While the target value was 70 students per classroom, the number was 34 when the project was implemented in 2013 and 52 at the time of the ex-post evaluation in 2015.

Although the number of triple-shift classes at the project schools could not be reduced to zero (i.e., complete cancellation of triple-shift classes) as targeted, it was reduced from 21 at the planning stage in 2007 to five as of the project's completion in 2013 (Table 7). After 2013, however, due to the increase in the number of students at the project schools, the number of triple-shift classes was increased to 27 in 2015. On the other hand, since the total number of classes at the project schools had been increased due to the implementation of the project and the increase in the number of students[18], the percentage of triple-shift classes at all of the project schools was reduced from 6% in 2007 to 1% in 2013, and while the percentage was increased to 4% as of the ex-post evaluation in 2015, the value was still lower than the baseline.

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[16] In fact, during a focus group discussion, some parents at the school mentioned that they had moved to the school's vicinity in search of an environment with fresher air.
[17] The construction of the dormitory is due to be completed in October 2016. If the school has a dormitory, children of nomads can live in the dormitory and attend school.
[18] The total number of classes at the 12 project schools was 349 as of the planning stage in 2007, increased to 506 at the time of the project completion in 2013, and to 624 at the time of the ex-post evaluation in 2015.

Table 7   Number of students per classroom and operation of triple-shift classes

	Baseline (2007)	Target (2013)	Actual (2013)	Actual (2015)
	Planning	Completion	Completion	Two years after completion
Number of students per classroom (The existing project schools)	85 students	Reduced	56 students	67 students
Number of students per classroom (The new project schools)	—	70 students	34 students	52 students
Number of triple-shift classes	21 classes	0 class	5 classes	27 classes
Ratio of triple-shift classes in the total number of classes	6%	0%	1%	4%

Source: Summarized by the evaluator based on the results of the questionnaire survey, the Basic Design Report and the UBC Education Statistics.

In this way, the results of the evaluation showed that the project helped to mitigate crowding in classrooms and reducing the ratio of triple-shift classes by increasing the seating capacity of the project schools.

3.3.2 Qualitative Effects

In order to assess the qualitative impacts of the project, this evaluation conducted a questionnaire and semi-structured interviews with school officials (i.e., a headmaster, a curriculum coordinator, a maintenance staff, and a medical staff in each school). A questionnaire was also given to and a focus group discussion was held with about six teachers who had been teaching in a new school facility, about six students who had been studying at a new facility, and about six parents/grandparents of students who had studied at a new facility. Responses were collected from 12 headmasters, 12 curriculum coordinators (or his/her proxy), 76 teachers (19 male teachers and 57 female teachers), 12 maintenance staff, 11 medical staff, 79 students (33 male students and 46 female students) and 58 parents/grandparents (16 fathers/grandfathers and 42 mothers/grandmothers)[19].

<u>Improvement of satisfaction with physical education environment</u>

A questionnaire survey was conducted with teachers and students to assess the satisfaction level with newly constructed facilities such as classrooms, toilets, a gymnasium and a

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[19] The response rate was 100%. Students and parents were selected mainly from the student council and a parents' association when possible.

computer room. The result shows that their satisfaction level was very high, and most of teachers (96%) and students (98%) responded that they were "very much satisfied" or "satisfied" with newly constructed classrooms (Table 8). In addition, the same survey was conducted at schools not covered by the project (hereafter referred to as "non-project schools")[20] and the result of the survey shows that teachers and students of the non-project schools were much less satisfied with the classrooms at their schools, in contrast to the result of the project schools (Table 8).

Table 8   Level of satisfaction with classrooms

	Project school		(Non-project school)	
	Teacher	Student	(Teacher)	(Student)
Very satisfied	**62%**	**84%**	**(0%)**	**(0%)**
Satisfied	**34%**	**14%**	**(6%)**	**(36%)**
Neither	4%	3%	(28%)	(36%)
Unsatisfied	0%	0%	(39%)	(27%)
Very unsatisfied	0%	0%	(28%)	(0%)

Source: Summarized by the evaluator based on the results of the questionnaire survey

Note: Numbers of respondents: 76 teachers and 79 students at the project schools, and 24 teachers and 27 students at the non-project schools. As the numbers were rounded up, the total sum of % is not necessarily equal to 100.

The questionnaire was given to teachers and students in order to compare new classrooms with older classrooms at the existing project schools and with classrooms of schools where teachers and students at the new project schools used to go or work before the project. The result shows that over 90% of teachers and students responded that the spaciousness, brightness, and warmness of the new classrooms were "improved" or "very much improved" by the project (Tables 9 and 10), and it supports the contention that the project has contributed greatly to improvements in the physical education environment. On the other hand, in terms of "crowdedness", 50% of teachers and 60% of students responded that the crowdedness of new classrooms was "improved" or "very improved". This can be considered due to the rapid increase in the number of students at several project schools (i.e., Nos. 12 and 52) from 2013 to 2015 as Table 6 shows.

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[20] During the first field survey in the evaluation, with the cooperation of the JICA office in Mongolia and the UBC, the survey on the physical education environment at five non-project schools was conducted in order to use the information as a reference when examining the impact of the project. The number of respondents was 51 persons (24 teachers and 27 students) in total at the five non-project schools. Since the data is collected only from the five non-project schools that the UBC chose (not at random), it is not statistically meaningful to compare the data of the project schools and those of non-project schools. Therefore the results should be used only for reference.

Table 9 New classrooms in comparison with old ones (respondents: teachers)

	Warmness	Brightness	Spaciousness	Crowdedness
Very improved	61%	58%	41%	16%
Improved	33%	41%	50%	34%
Neither	5%	1%	8%	39%
Worse	1%	0%	1%	11%
Much worse	0%	0%	0%	0%

Source: Summarized by the evaluator based on the results of the questionnaire

Note: Number of respondents: 76 teachers.

Table 10 New classrooms in comparison with old ones (respondents: students)

	Warmness	Brightness	Spaciousness	Crowdedness
Very improved	94%	97%	68%	54%
Improved	0%	3%	26%	5%
Neither	6%	0%	3%	39%
Worse	0%	0%	3%	1%
Much worse	0%	0%	0%	0%

Source: Summarized by the evaluator based on the results of the questionnaire

Note: Number of respondents: 79 students. As the numbers were rounded up, the total sum of % is not necessarily equal to 100.

Regarding toilets, 85% of teachers and students responded that they were "very satisfied" or "satisfied" with toilets. Female teachers and students in particular were more satisfied than male teachers and students, listing "more single toilet rooms than before", "neat" and "cleaner" as the reasons for their positive responses. On the other hand, respondents noted that a few toilets in some schools had a very bad smell[21]. The project equipped a handrail with some toilets and a slope outside a new school building for people who use wheelchairs. While some schools show some consideration, such as always putting classes with such students on the first floor, since there are no toilets on the first floor of new school buildings[22], teachers, parents[23] and/or students have to carry these students to toilets on the second floor during break time, which is a burden for them, as they pointed out.

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[21] Regarding the smell in toilets, refer to "3.5.4 Current status of operation and maintenance" and "4.2.1 Recommendations".

[22] According to the consultant in charge of the project, on the first floor space for the entrance and access to the basement floor were prioritized and the necessary number of toilets was provided on the second floor or higher floors instead.

[23] Some parents of physically disabled children not only accompany the child to and from school, but also come back to the school during the break between classes in order to carry the children to toilets.

Table 11 Satisfaction level with toilets (respondents: teachers)

	All	Male	Female	（Non-project）
Very satisfied	42%	26%	47%	（0%）
Satisfied	43%	37%	46%	（21%）
Neither	8%	21%	4%	（13%）
Unsatisfied	0%	0%	0%	（4%）
Very unsatisfied	7%	16%	4%	（63%）

Source: Summarized by the evaluator based on the results of the questionnaire

Note: Number of respondents: 76 teachers at the project schools and 23 teachers at the non-project schools.

As the numbers were rounded up, the total sum of % is not necessarily equal to 100.

Table 12   Satisfaction level with toilets (respondents: students)

	All	Male	Female	（Non-project）
Very satisfied	65%	61%	67%	（0%）
Satisfied	20%	12%	26%	（14%）
Neither	15%	27%	7%	（27%）
Unsatisfied	0%	0%	0%	（36%）
Very unsatisfied	0%	0%	0%	（23%）

Source: Summarized by the evaluator based on the results of the questionnaire

Note: Number of respondents: 79 students at the project schools and 27 students at the non-project schools.

The satisfaction level of students was so high with the new facilities and rooms constructed only at the new project schools such as a gymnasium and a computer room that 100% of students responded that they were "very satisfied" or "satisfied" with the gymnasium and 91% of students were also "very satisfied" or "satisfied" with the computer room. On the other hand, at the existing project schools, students were not able to fully use the existing facilities (especially the gymnasiums) due to the increase in the number of students caused by the construction of new school facilities; many of them requested that the same facilities as the new project schools be additionally provided.

Clean toilets

A new gymnasium

3.4 Impacts

3.4.1 Intended Impacts

(1) Provision of effective class sessions and quality education

The project aimed to help provide effective and quality education by equipping the project schools with basic educational equipment and appropriate educational environment. During the focus group discussion with teachers, many of them commented that the educational equipment provided by the project such as geometric block models, an abacus and a projector set which enables teachers to use visuals aids made it easier to get students interested in class sessions by using visible and tangible equipment for explanation rather than relying solely on general explanations using a black board, and that the equipment was used daily and contributed to effective class sessions. Also, a number of teachers pointed out that the educational equipment was useful in promoting a new child-centred teaching method[24] that JICA supported in Mongolia, by enhancing interactive communication between teachers and students. In addition, some teachers and students commented that the reduced number of students per classroom enabled teachers to provide students with more detailed instruction, and it was easier for students to ask questions and concentrate in the class sessions due to the quieter environment.

At the project schools, where all beneficiaries have more time because triple-shift classes were reduced or cancelled, teachers commented that they were able to take more time for students who need more assistance than other students, and also had more time for class preparation. Students also commented that now they had the time to ask questions after class, and to continue to study after going home. Students' parents now take more time to communicate with teachers, and as a result, parents became more interested in their children's education, which led to the improvement of students' academic performance and parents' cooperation with the schools. For the reasons above, the project contributed to the provision of effective class sessions and quality education.

(2) Impact on the motivation to study and teach

As noted in "3.3 Effectiveness," at the planning stage, the existing project schools had to face with overcrowded classrooms and operation on triple shifts, and hence the improvement of the educational environment needed to be urgently tackled. When teachers and students were asked what impeded their motivation to study or teach before the project (multiple responses were allowed), most students listed the "smallness" (69%) and "darkness" (67%) of

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[24] This is a teaching method supported by the JICA technical cooperation project "Teaching Methods Improvement Project towards Children's Development Phase 1 (2006-2009) and Phase 2 (2010-2013)", which aimed to help students to think and learn by themselves, rather than the conventional teaching method in Mongolia, which focuses on memorization.

classrooms, while teachers chose "double/triple shifts" (59%) and "classroom temperature" (39%) as the major causes.

"3.3.2 Qualitative effect" shows that the teachers and students of the project schools were highly satisfied with their new educational environment, and felt that their new classrooms were much warmer, bigger and brighter compared with the previous classrooms they had used. In addition, when asked about the changes to their motivation to study after the project implementation, all students at the existing project schools who participated in the questionnaire responded that the motivation to study had improved in the new classrooms compared with the old classrooms, and many of them stated, "Now that I can study in a comfortable environment, I like to study and my academic performance was improved." Many teachers and parents also responded that after the project implementation, the motivation of students to study was improved, and several teachers mentioned that when students had to take classes in the third shift, they were already tired when the class session started, and found it difficult to concentrate during the session. Some teachers and parents also commented that since the school was now warm and comfortable, students were happy to come to school.

Similarly, because of the reduction in multiple shifts and the improvement in classroom temperature by the project, 98% of teachers who participated in the questionnaire responded that their motivation to teach and work was improved due to the new school building. Some headmasters and parents also commented that after the project, "the attitude of teachers was improved" (headmaster) and "Teachers do not want to be transferred to another school" (parents).

In sum, the results show that the improvement in the educational environment contributed to the positive impact of improved motivation for students to study and for teachers to teach and work.

(3) Reduction of economic burden due to less commuting costs and time

At the planning stage of the project, it was expected that in the areas where new schools were constructed, it would become possible for students to go to school on foot, thus reduce financial costs for commuting or boarding.

The results of the focus group discussion with students and parents showed that due to the construction of the new project schools in the areas where there were no schools before the project, students who live close to the schools were able to greatly reduce commuting time and hence financial costs, as expected. Before the project, many students of these new schools had to take several buses to go to school in the city centre of Ulaanbaatar and it took one to two hours. However, now they come to the project schools on foot due to the construction of the new schools. Parents pointed out that they no longer had to cover commuting costs such as bus

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fees or fuel costs[25] and boarding costs (about 320,000Tg/year) with this change. As an unintended positive impact, some parents mentioned that as they no longer needed to accompany children to and from school, now more parents can have a job or work longer. Besides, due to the large reduction in commuting time, students commented that now they have the time to read, study or participate in a club activity.

（4） Improvement in students' hygienic and health conditions

Since the project was expected to contribute to improvements in the hygiene and health conditions of students by equipping the project schools with hygienic toilets and heating and ventilation systems appropriate for the severe winter, the evaluation assessed the change on the hygienic and health conditions of students after the project based on the statistics of medical offices and interviews with medical staff.

According to the statistics of the medical offices at seven out of nine project schools with data on medical offices for more than two years, the number of students who left school during the day after being diagnosed with illnesses such as colds steadily decreased year by year, as shown in Table 13.

Table 13 Number of students who left school after the diagnosis

of illnesses such as colds by medical office   (unit: %)

	2012	2013	2014	2015
	1 year before completion	Project completion	1 year after completion	2 years after completion
No. 12	114	97	64	49
No. 19	78	74	60	39
No. 27	859	654	637	300
No. 35	55	38	22	16
No. 79	-	-	21*	48
No. 118	-	-	917	321
No. 121	-	-	28	25

Source: Summarized by the evaluator based on the results of the questionnaire

Note: * This figure consists of the data for the three months from October to December 2014.

Besides, during the interviews with medical staff and parents, they commented that "the number of students who contracted influenza has fallen to zero for the past three years," and "at the new school facility, I have not heard of any students who contracted infectious diseases

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[25] Commuting costs before the new project schools were constructed vary by household and school. The maximum amount reported was 10,000 Tg (about 588 yen) per day. 1 yen = 17 Tg as of December 2015. The table for a settlement rate for FY2015. (JICA, 2015)
（http://www.jica.go.jp/announce/manual/form/consul_g/ku57pq00000kzv7m-att/rate_2015.pdf） *Accesed on June 14, 2016.

in the past three years." Medical staff at the project schools thought that the improvement in the health conditions of students resulted from maintaining an appropriate temperature by improving the heating system, reducing airborne infection of viruses due to less crowded classrooms and improving the hygienic environment of classrooms compared to previous conditions with the provision of a cloakroom (i.e., no need to keep dusty jackets inside a classroom)[26].

Based on these findings, it is reasonable to think that the improvements made to the educational and hygienic environment by the project helped to improve the hygienic and health conditions of students.

A new classroom

A cloakroom

(5) Mitigating the overcrowding at schools near the project schools

At the planning stage of the project, the project was expected to mitigate crowding at schools near the new project schools by transferring some students at those schools to the new project schools. When assessing changes to the crowding of classrooms at schools near the new project schools before and after the project implementation in 2013, it was found that the number of students per class at the schools near three out of five new project schools (Nos. 118, 120 and 123) was reduced, and the number of triple shift classes at the schools near the two project schools (27 triple-shift classes in total) was also reduced after the project implementation in 2013 (Table 14). The remaining two new project schools (Nos. 121 and 122) did not have any impact on existing schools in the vicinity since the two new schools were constructed precisely because of the lack of schools in the surrounding areas (before the project, students at the two schools went to schools in the city centre)[27].

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[26] Some medical staff responded that the expansion of the space for hand washing made hand washing a habit, which also contributed to improving health conditions of students.
[27] Schools No. 121 and 122 are located 20-40 kilometers away from the city center.

Table 14 Changes in the number of students and of triple-shift classes at schools near the project schools due to construction of new project schools (before and after project implementation)

	Number of students per class			Number of triple-shift class		
	2012	2013	2014	2012	2013	2014
	1 year before completion	Project completion	1 year after completion	1 yr before completion	Project completion	1 year after completion
No. 60 (near No. 118)	29 students	28 students	28 students	2 classes	0 class	0 class
No. 87 (near No. 120)	31 students	30 students	29 students	0 class	0 class	0 class
No. 106 (near No. 123)	37 students	32 students	33 students	8 classes	0 class	0 class

Source: UBC Education Statistics

3.4.2 Other Impacts

The project did not require the resettlement of residents and land was not acquired for the project since public land was utilized. There was no impact observed on the natural environment by the project.

In light of the above, this project has largely achieved its objectives. Therefore, the effectiveness and impacts of the project are high.

3.5 Sustainability (Rating: ③)

3.5.1 Institutional Aspects of Operation and Maintenance

The Ministry of Education, Culture and Science (hereafter referred to as "MoES") directs the operation and maintenance of the project schools and the UBC and district education offices supervises them. Each school appropriates staff, develops and submits the budget and develops an educational programme according to the standards set by the MoES. In addition to teachers, each school hires specialized staff (technical staff) to take charge of school operations and maintenance of school facilities. At all the project schools, including the new project schools, a school management committee[28] (or a similar committee) was established and has been convened twice a year to discuss school-related issues.

In terms of maintenance of the project schools, the UBC inspects all the general schools twice a year to identify the facilities and equipment that need to be fixed, and repairs them. In

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[28] A school management committee consists of Deputy Chief of the UBC, district education offices, representatives of each school (a curriculum coordinator, a social worker), representatives of parents and representatives of students.

addition, the officer in charge of the project in the UBC also took charge of the previous projects (Phase I to III) and demonstrates a high sense of ownership over the project. He grasps the detailed conditions of all the project schools and supervises and directs the schools in effective maintenance and management of the facilities, making use of lessons in past JICA projects[29].

On the other hand, in terms of school operations, securing an appropriate number and quality of staff and teachers is a challenge. At 10 out of 12 project schools, the number of students per teacher is beyond the MoES goal (27.4 students per teacher for primary education level, and 16.9 students per teacher for secondary education level), as shown in Table 15[30]. While the UBC is aware of the situation, it is not possible to easily increase the number of classes due to lack of classrooms, and the UBC responds to this issue mainly by increasing the number of students per class and hence cannot increase the number of teachers. One new project school (No. 121) is less attractive as a workplace since the school is located far away from the city centre and has no dormitory, and therefore it is difficult to hire experienced teachers and staff[31]. No one commented on the deterioration of the quality of education due to the lack of sufficient teachers, however.

Table 15 Number of students per teacher（2015） (unit: person)

School	12	19	27	30	35	52	79
Primary	**43.5**	**32.2**	**33.2**	**39.9**	**33.2**	26.8	**29.8**
Secondary	**35.4**	**29.7**	**31.1**	**58.2**	15.8	**70.4**	**38.1**

School	118	120	121	122	123
Primary	**29.6**	**31.7**	22.6	**34.3**	**27.8**
Secondary	**31.2**	**63.5**	16.9	**32.3**	**36.4**

Source: Summarized by the evaluator based on the results of the questionnaire

Note: Boldface type figures denote that the figure exceeds the MoES target (27.4 students for

primary education and 16.9 students for secondary education level)[32]

Therefore, while full deployment of teachers and staff is still an issue, the institutional system needed to sustain the development effects of the project was established.

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[29] For example, according to the results of the interview with him, there were cases in the previous projects (before Phase IV) in which a headmaster hired an acquaintance with no knowledge and skills as maintenance staff through personal connections, which caused technical challenges in terms of the operation and maintenance of schools facilities. Therefore at this project, the UBC instructed headmasters to hire experienced technicians as maintenance staff, and if they hired inexperienced persons who could not properly conduct their duties, headmasters are supposed to take responsibility.

[30] While Schools No. 30, 52 and 120 have a higher number of secondary students per teacher than other project schools, these schools have less than 40 students per class [33.9 students (No. 30), 39.9 students (No. 52) and 31.9 students (No. 120)], according to the results of the questionnaire. Therefore, the reason why these schools have a higher number of secondary students per teacher is possibly because of teachers who have multiple classes due to multiple shifts.

[31] The dormitory was under construction as of April 2016, and supposed to be completed in October 2016. As of the ex-post evaluation, many teachers were young and had limited teaching experience. No medical staff worked for the school.

[32] The average number of students per teacher in Ulaanbaatar in 2015 is 34.4 at the primary education level and 16.2 at the secondary education level.

3.5.2 Technical Aspects of Operation and Maintenance

According to the results of the interviews with maintenance staff and a site survey, although the frequency of inspections and repairs differs by school and facility, all the project schools regularly inspect and carry out repairs of facilities, equipment and furniture. There were cases in the previous projects (before Phase IV) in which, even though headmasters and maintenance staff received instruction on the maintenance of facilities, this knowledge was not passed on when headmasters and maintenance staff were changed. Accordingly, in this Phase IV, the UBC developed an operation and maintenance manual for facilities and distributed it to each school along with the training on operation and maintenance when the facilities were handed over to the schools. The project schools implement inspections and minor maintenance based on what they learned at the training and from the manual. Since the UBC is supposed to bear the cost when major maintenance of facilities is required, the UBC conducts such maintenance based on the results of the inspection twice a year.

Therefore, no major problems with the technical aspects of the operation and maintenance system were identified.

3.5.3 Financial Aspects of Operation and Maintenance
(1) Budget for operation and maintenance at the ministry and city level

About 10% of the budget of the MoES for 2012-2014 was allocated for the maintenance of educational facilities (Table 16). In addition, the UBC independently allocated about 8 million Tg for 2014 and about 3 million Tg for 2015 for the maintenance of educational facilities[33].

Table 16 Percentage of operation and maintenance cost of education facilities

in the MoES budget   (unit：1,000Tg)

	MOES budget	Operation and maintenance costs	% of operation and maintenance costs in the budget	Operation and maintenance costs per school
2012	133,908,700	12,453,947	9%	112,198
2013	116,520,700	12,691,937	11%	111,333
2014	269,144,800	18,342,900	7%	154,142

Source: Information provided by the MoES

(2) Financial support for operations and maintenance at a district level

While the budget of the district education offices is allocated only for human resources, the offices can request the necessary funding from the head of the district or the district assembly, as needed. The contents of the financial support on operation and maintenance differ by district, as below (Table 17).

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[33] Financial data provided by the UBC.

Table 17 Financial support for operation and maintenance of general education facilities

by the District Education Offices

District	School	Supports
Bayanzurkh	No. 27 No. 30 No. 79 No. 120	In case of emergency[34], up to 10 million Tg can be provided.
Songinokhairkhan	No. 12 No. 121 No. 122 No. 123	No financial support is provided.
Bayangol	No. 19	In case of emergency, up to 10 million Tg can be provided as required. When more than 10 million Tg is required, the request must be made to the district's national Diet member.
Sukhbaatar	No. 35	Lobbies to the district assembly as required, irrespective of the amount.
Khan-Uul	No. 52 No. 118	Disbursed from the budget of the district chief as required. 500 million Tg is budgeted for education and protection of children for 2016.

Source: Summarized by the evaluator based on the results of the interviews with the district education offices

(3) Budget for operation and maintenance at the school level

According to the result of the questionnaire, the annual budget of the project schools for 2012-2016 was or is from 531 million Tg to 2,071 million Tg (1,189 million Tg per school on average)[35], greatly increased from the planning stage (about 388 million Tg per school on average). 1-2 % of the schools' budgets were allocated for operation and maintenance. Maintenance staff of the 11 project schools responded that although the maintenance costs were not sufficient (for major maintenance), the schools provided costs for minor maintenance. When the major repair of facilities and equipment[36] is required, the MoES or the UBC provides the costs, or schools partially repair them every year. Therefore, no major problem was observed.

According to the results of the focus group discussion with parents, most parents were satisfied with the maintenance of their schools, and appreciated that their children were able to study in a comfortable environment. For the maintenance of the schools, since parents had provided various supports including provision of necessary maintenance costs, painting of walls, varnish coating and repair of furniture so far, their support can be expected in the future as well. Parents also provided a wide range of support for the schools such as planting, and

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[34] For example, in case of failures of electrical wiring and heating pipes in the winter.

[35] The figure for 2016 is an estimate.

[36] In order to reduce the gap between existing school facilities and new school facilities constructed by the project, three out of the seven existing project schools already underwent extensive repairs, including to heating systems, by end 2015 and one more school is scheduled for extensive repairs in 2016.

donation of soaps and toilet paper[37].

Therefore, no major problems were observed in the financial aspects of the operation and maintenance system.

3.5.4 Current Status of Operation and Maintenance

The current status of operation and maintenance of facilities and equipment in the project schools is shown in Table 18 below. There are no major problems observed in the current status of operation and maintenance of the project schools. Although ventilation and drainage systems at some schools need to be repaired soon, the rest needs only minor maintenance.

Table 18 Maintenance status of facilities and equipment（as of December 2015） (unit: school)

	Already repaired	Need to be repaired	No need to be repaired	Total Number of schools with the facility
Classroom	2	1	9	12
Gymnasium	1	1	3	5
Water tank	0	1	2	3
Sewage tank	0	2	6	8
Boiler	0	2	5	7
Heating system	1	1	10	12
Ventilation	0	6	6	12

Source: Summarized by the evaluator based on the results of the questionnaire given to maintenance staff.

Note: The maintenance status of drainage system is not covered by the questionnaire.

There are no major problems with the maintenance of furniture and equipment, which were well taken care of. In order to keep new facilities clean, students change their shoes to slippers or sandals inside the new facilities, which are cleaned by students or cleaners once to three times a day at all the project schools. Some schools made more efforts to keep the facilities clean for longer. For example, even teachers change their shoes to room shoes, and visitors need to wear vinyl covers on their shoes. Other schools cover desks and chairs with a thick vinyl sheet to protect them from damage. On the other hand, the results of the interviews with headmasters and teachers indicated that the misunderstanding that project schools were not allowed to make any changes to facilities, equipment and furniture for the three years after the

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[37] Support by parents differs by the area in which the project schools are located, however. For example, in the schools in the areas with high-rise apartment buildings and industrial parks in the city center or in the newly developed areas in the suburbs, about 1,000 to 2,000 Tg per month/student or 20,000 Tg per time when required are collected, but in the schools in the areas with many *ger*s (portable round tents) 3,500 Tg per student are collected once in two years, or only the donation of toilet paper and soap at the beginning of a school year is requested.

handover of the facilities prevailed among the schools[38], and due to the misunderstanding, there were cases in which furniture and facilities were not repaired.

While there were no major problems identified in the ventilation and drainage systems when the UBC and the consultant in charge of the project examined the defects of the facilities, equipment and furniture of all the project schools in July 2014, some schools pointed out a bad smell from toilets or sewage systems, which were identified after the examination. According to the result of the interview with the consultant for the evaluation, the cause of the smell is likely to result from the sewage system[39] and can be resolved with repairs[40]. There were some ventilation systems with weak suction power, and the UBC recognized the need for maintenance in this case. While it was reported that some facilities (such as the storage space in the gymnasium) at the three new schools experience inundation above ground level (about 10 cm) once a year or so during the heavy rains in the summer[41], this happens only about one day a year and does not have major adverse impacts on the development effects of the project. The UBC plans to inspect these issues (repair of ventilation systems, smell at toilets and floor inundation) during the summer school holidays (end May to August) in 2016 and take necessary actions. In addition, "the report on the result of the examination of defects in facilities provided and the solutions (translated into Mongolian)" prepared by the consultant had already been handed over to the UBC by the JICA Mongolia Office. The schools are planning to carry out minor maintenance by themselves with this report.

In sum, there were no serious problems observed in the current status of operation and maintenance and the facilities and equipment were appropriately operated and maintained in general.

No major problems have been observed in the institutional, technical and financial aspects of the operation and maintenance system. Therefore, the sustainability of the project effects is high.

4. Conclusion, Lessons Learned and Recommendations

4.1 Conclusion

The project was implemented with the aims of increasing the seating capacity and mitigating

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[38] The UBC, informed by the evaluator, immediately contacted all the project schools and has already dispelled the misunderstanding.

[39] The result of an additional survey at the school with the bad smell indicates that the cause of the smell is likely because, while water kept in drainage pipes usually prevents such smells, water did not stay in the pipes at the school since it is always dry in Mongolia and the ventilation of air did not prevent the smell.

[40] Additional parts are flexible pipes or PVC pipes and a PVC cap. Odor leakage can be prevented by sealing the slit between buried pipes rising from the floor and flexible pipes with a sealant.

[41] According to the consultant, the issue with the floor inundation can be solved by installing a mobile drainage pump and hose at the schools.

the overcrowding in the schools by constructing twelve (12) primary and secondary education facilities in Ulaanbaatar covered by the project, and thereby contributing to the improved access to primary and secondary education and to the provision of quality education in Ulaanbaatar.

The project has been in line with the development policy of Mongolia, aiming to improve access to education and provide quality education, as well as Mongolia's development needs for improving the educational environment urgently, and Japan's Country Assistance Policy for Mongolia established in November 2004, which designated the strengthening of basic education as a priority subject. Therefore, the relevance of the project is high.

While the project cost was within the plan, the project period exceeded it. Therefore, efficiency of the project is fair.

The project achieved outcomes such as an increase in the seating capacity and the number of students in the project schools, mitigation of the crowding in classrooms, a reduction in the percentage of triple-shift classes, and improved satisfaction among students and teachers with the educational environment. These effects resulted in various positive impacts such as the provision of effective class sessions and quality education and improvement of the motivation of students to study and of teachers to teach and work. Therefore, the effectiveness and impact of the project are high.

Since no major problems have been observed in the institutional, technical and financial aspects of the operation and maintenance system, the sustainability of the project effects is high.

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

4.2 Recommendations

4.2.1 Recommendation to the Implementing Agency

The bad smell in the toilets (i.e., repair of drainage system) and floor inundation which were pointed out at several project schools are planned to be inspected and repaired by the UBC during the summer school holidays (from end May to August) in 2016 and to be addressed by each school as needed. Given the possible adverse impacts of these issues on the educational environment, it is recommended that the UBC urgently fix them.

4.2.2 Recommendation to JICA

During the field survey for the evaluation, the project schools often expressed a desire to strengthen ties with JICA, to take the advantage of their participation in the project through, for example, participating in JICA's technical cooperation programs in the field of education as a model school or receiving JOCVs (e.g., Japanese language instructor). In addition, the ex-post evaluation report of the *Project for Improvement of Primary Education Facilities*

(Phase II) in Mongolia introduced a case in which the effective deployment of a JOCV in charge of youth activities at a project school enhanced education at the school. Therefore, in this project as well, it is recommended that JICA maintain ties with the project schools through cooperation such as the deployment of JOCVs and promote the cooperation with synergistic effects in order to improve sustainability of the Project and maximize the project impact.

4.3 Lessons Learned

-Consideration for the place to install toilets for physically disabled children when planning a facility

At the new school buildings, toilets are located on the second and third floors, and it is inconvenient for children with physical disabilities who use classrooms on the first floor. Similar projects in the future should consider the place to install toilets when planning a facility, such as installation of toilets for students with physical disabilities on the first floor, for the convenience of such students. By doing so, projects can contribute to the improved access of students with physical disabilities to education, and to reducing the burdens of carers.

-Ensuring equity among beneficiaries

As already stated, since students at the expanded schools with facilities including classroom buildings under the project cannot fully utilize the existing facilities due to the increase in the number of students resulting from the project, many of them requested that their schools be provided with additional facilities and equipment (e.g., a gymnasium and a computer room) equivalent to those at the newly constructed schools under the project. In particular, gymnasiums are very crowded and do not have enough room for exercises since multiple classes use them at the same time, both at the expanded and newly constructed schools. Therefore, at many of the project schools, primary students do only gymnastics in front of a cloakroom in the basement of the new school building and some pointed out that they cannot get enough exercise. In order to ensure equity among beneficiaries and to maximize the development effect of a project, it is recommended that similar projects in the future take into account the rate of operation at existing facilities and the expected increase in the number of students at existing schools, and reflect the results into a facility plan to ensure the provision of an appropriate educational environment.