PART II

Case 1

Network-Type Cooperation: Strengthening of Mathematics and Science Education in Western, Eastern, Central, and Southern Africa (SMASE-WECSA) Network

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1. Introduction

This paper focuses on network-type cooperation of mathematics and science educators across the African continent which share and create practical wisdom in the two main thematic areas, namely, establishing sustainable In-service Training (INSET) systems and enhancing classroom practices. JICA's Operation in Education Sector Paper (2010) states that JICA will further promote network-type cooperation, in which Japan can serve as a facilitator in utilizing different countries experiences, knowledge and outputs to solve common problems that the countries and regions are facing. In this context, JICA is hopeful that the Strengthening of Mathematics and Science Education in Western, Eastern, Central, and Southern Africa (SMASE-WECSA) will create a platform where countries can share their experiences in, and knowledge of, mathematics and science education (JICA, 2010). Within the SMASE-WECSA network, Kenya has served as a pivotal country of the African region with its leading role in sharing its practical wisdom with mathematics and science educators and for expanding cooperation in that area. However, with active participation of an increasing member of countries having various interests, the SMASE-WECSA network has been gradually moving towards one with more diversified relationships among the member countries.

The following sections will examine the development of SMASE-WECSA network and the process of sharing and creation of practical wisdom through the network-type cooperation, and draws implications of the case. The findings of this study are based on a review of relevant documents, interviews with persons who are involved in the network

and the author's personal experience[1] with the SMASE-WECSA network.

2. Overview and Background of the SMASE-WECSA Network
2-1 Overview of the SMASE-WECSA Network

SMASE-WECSA, an acronym for Strengthening of Mathematics and Science Education - Western, Eastern, Central, and Southern Africa, was born out of regional conference attended by mathematics and science educators of 11 original member countries[2] held in Kenya in early 2001. It was made possible by the initiative of Strengthening of Mathematics and Science in Secondary Education (SMASSE) Kenya project (hereafter referred to as SMASSE Kenya) (SMASE-WECSA, 2010a). Originally the network was named Strengthening of Mathematics and Science in Secondary Education (SAMSSE)-Eastern, Central, and Southern Africa (ECSA); however, the term Western was added to reflect the participation of Ghana that represented West Africa in 2002. This led to a change name from SMASE-ECSA to SMASSE-WECSA. The term Secondary was removed to broaden both primary and secondary education in 2006. Consequently, it thus became the current network name of SMASE-WECSA (hereafter referred to as SMASE-WECSA) in 2006 (SMASE-Africa, 2012).

The SMASE-WECSA network is a platform under which mathematics and science educators across Africa can share and create practical wisdom through the exchange of each country's experiences and knowledge in mathematics and science education. In this paper, practical wisdom is defined as experiences and knowledge to solve common challenges/problems that the SMASE-WECSA member countries face. There are the two major common challenges: establishing sustainable In-service Training (INSET) systems and enhancing classroom practices.

As of March 2012, as shown in Table 1 and Figure 1, there were 26 member countries plus 1 region[3] and 8 observer countries, for a total of 34 countries and 1 region (JICA, 2012). Among the 54 African countries

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[1] As a member of Human Development Department, JICA (2005 to 2010), the author served in conducting project design study on SMASE-WESCA related projects in 11 countries. However, the views expressed herein belong solely to the author and do not necessarily reflect the official views of JICA.

[2] Kenya, Lesotho, Malawi, Mozambique, Rwanda, Swaziland, South Africa, Tanzania, Uganda, Zambia and Zimbabwe

[3] The region refers to Zanzibar (Tanzania). The Zanzibar Ministry of Education is a separate entity from the Tanzania Ministry of Education; therefore, each is registered separately in the network.

(Member States of the United Nation), approximately 60% of the countries have been involved in the network. Each country throughout Africa, which submits an application through the appropriate ministry that oversees mathematics and science education and pays the registration fees and annual membership dues[4], is eligible to be a member of the SMASE-WECSA network (SMASSE INSET Unit, 2002).

Table 1: List of Member Countries•Year of Membership

Year	Country
2003	Ghana, Kenya, Lesotho, Malawi, Mozambique, Rwanda, Swaziland, Tanzania, Uganda, Zambia, Zimbabwe
2004	Botswana, Burundi, Niger, Nigeria
2005	Senegal
2006	Cameroon, Ethiopia, Sierra Leone
2007	Burkina Faso, Gambia, Zanzibar
2008	Angola, Southern Sudan
2010	Mali
2011	Benin, Namibia

Observers: Republic of the Congo, Cote d'Ivoire, Egypt, Madagascar, Mauritius, Seychelles, South Africa, Sudan   (Source: JICA , 2012)
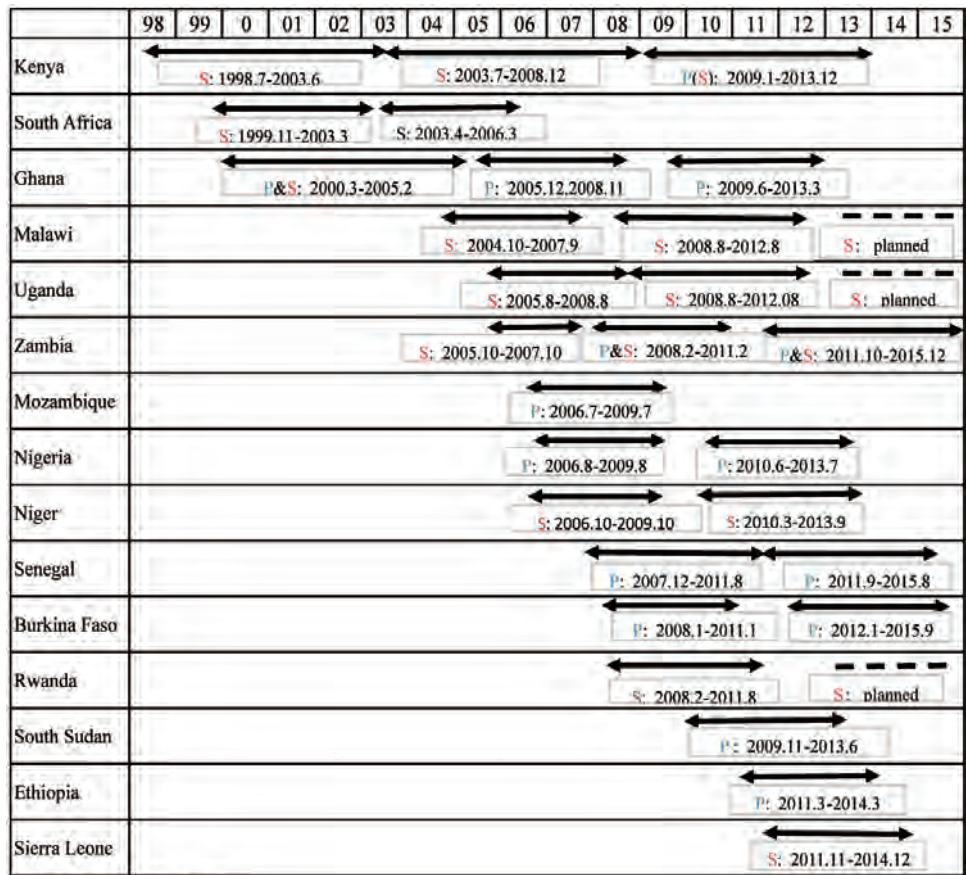
Figure 1: Change in Member Countries

(Source: JICA , 2012)
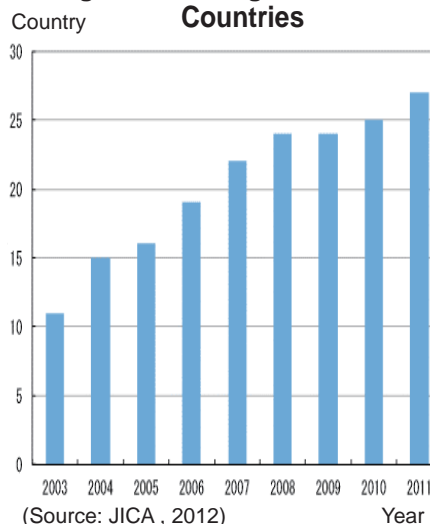
JICA has expanded mathematics and science education cooperation in Africa through the interactive learning activities of the SMASE-WECSA network with Kenya serving as a pivotal country for the regional activities. As is noted in Figure 2, since the establishment of the SMASE-WECSA network in 2001, SMASE-WECSA related projects in mathematics and science education have been launched in 12 countries, starting from Malawi. After the mission of SMASE-WECSA was revised to broaden mathematics and science education at the basic level including the primary level in 2006, the projects have been expanded to primary mathematics and science education. In addition, the projects have spread out across Francophone (Niger, Senegal and Burkina Faso) and Lusophone (Mozambique) countries besides Anglophone countries in Africa. Furthermore, the projects have also extended to the post-conflict countries (South Sudan, Sierra Leone).

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[4] Registration Fee $100 (USD), Annual Subscription Fee $300 (USD)

Figure 2: SMASE-WECSA Related Projects

	98	99	0	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15
Kenya		S: 1998.7-2003.6						S: 2003.7-2008.12					P(S): 2009.1-2013.12					
South Africa		S: 1999.11-2003.3					S: 2003.4-2006.3											
Ghana			P&S: 2000.3-2005.2						P: 2005.12.2008.11				P: 2009.6-2013.3					
Malawi							S: 2004.10-2007.9				S: 2008.8-2012.8				S: planned			
Uganda								S: 2005.8-2008.8				S: 2008.8-2012.08			S: planned			
Zambia								S: 2005.10-2007.10			P&S: 2008.2-2011.2			P&S: 2011.10-2015.12				
Mozambique									P: 2006.7-2009.7									
Nigeria									P: 2006.8-2009.8			P: 2010.6-2013.7						
Niger									S: 2006.10-2009.10			S: 2010.3-2013.9						
Senegal										P: 2007.12-2011.8				P: 2011.9-2015.8				
Burkina Faso										P: 2008.1-2011.1				P: 2012.1-2015.9				
Rwanda										S: 2008.2-2011.8				S: planned				
South Sudan											P: 2009.11-2013.6							
Ethiopia													P: 2011.3-2014.3					
Sierra Leone													S: 2011.11-2014.12					

P= Primary, S=Secondary

(Source: Composed from JICA's Knowledge Site, information based on interviews with JICA)

2-2 Challenges of Mathematics and Science Education among the Member Countries

Based on the JICA reports on mathematics and science education projects within the SMASE-WECSA network, the following main challenges had been pointed out:

(1) Mathematics and Science Education as the Basis for Promoting Science and Technology

As many African countries are looking toward economic development and industrialization, there is an urgent need to develop human resources that promote science and technology. At the core of the promotion of science and technology is the need to emphasize the importance of mathematics and science education with the expectation that students will be nurtured to think critically in the sciences. However, many African countries face the challenge of poor performance in mathematics and science education.

(2) Inadequate Teaching Skills

It has been pointed out that one of the common causes of poor performance in mathematics and science education is teachers' inadequate teaching skills. Although policies in many countries were advocating for a student-centered approach, the reality was that classes were mostly based on the teacher-centered lecture style model. Furthermore, there was no system in place to continuously provide teachers with INSET to improve their teaching skills during the course of their careers. Another challenge was related to the sustainability of INSET; it was often difficult to continue INSET activities once external support from aid agencies/organizations was withdrawn.

3. Evolution of SMASE-WECSA Network

How has the SMASE-WECSA network been evolving? The concept of communities of practice (Wenger et al, 2002) is useful for the analysis of the evolution of network. Wenger et al. (2002) defines communities of practices as groups of people who share a concern, a set of problems, or passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis. They have contended that, like other living things, communities are not born in their final state, but go through a natural cycle of birth, growth, and death. They have observed five stages of community development: potential, coalescing, maturing, stewardship, and transformation. They have argued, as communities evolve through stages, the activities needed to develop them also change.

A useful reference in analyzing the SMASE-WECSA is the case of Southern and Eastern Africa Consortium for Monitoring Education Quality (SACMEQ). SAQMEC is an international non-profit developmental organization of 15 Ministries of Education in Southern and Eastern Africa which decided, with technical assistance from UNESCO International Institute for Educational Planning (IIEP), to work together to share experiences and expertise in developing the capacities of education planners to apply scientific methods to monitor and evaluate the conditions of schooling and the quality of education. The evolution of SACMEQ from an experimental project to an independent organization over 20 years is divided into four phases: innovation, collaboration, consolidation and launch. The role and position of IIEP is described at each phase: initiator, facilitator, external friend and one of several external friends (SACMEQ 2012).

Using the above-mentioned concept and case as references, the author examines the evolution of the SMASE-WECSA network by dividing it into four stages (see Figure 3).

Figure3: Evolution of SMASE-WECSA Network
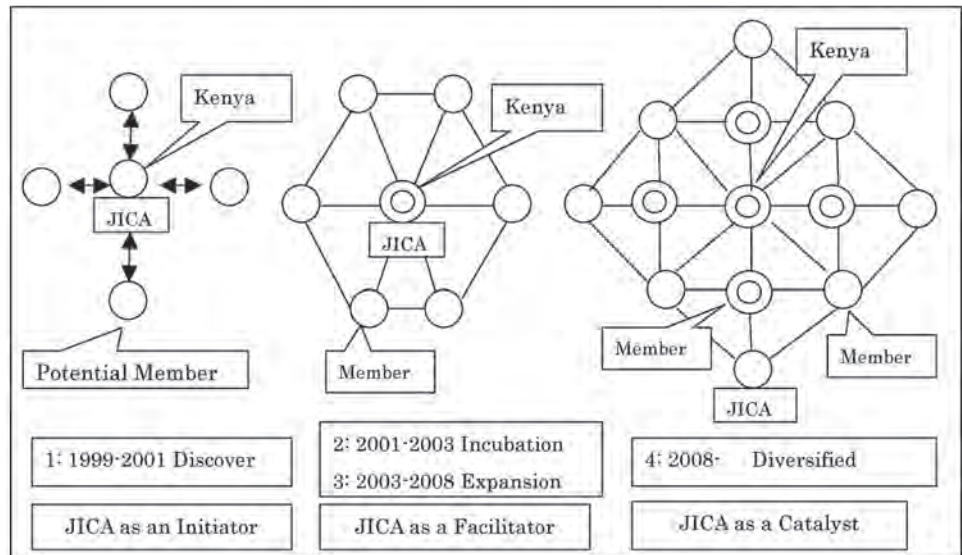
(Source: Created by the Author)   ◎ Pivotal Country

3-1 Stage 1: Discover 1999 - 2000

The origin of the SMASE-WECSA network can be traced back to an exchange visit to Uganda by SMASSE Kenya in January 1999, which was organized by SMASSE Kenya to learn lessons on sustainable issues from a similar project funded by other aid agencies (JICA, 2007a). From the late 1990s through the early 2000s, mathematics and science education projects had begun in Ghana and South Africa supported by JICA, and JICA experts were dispatched to Malawi and Zambia to explore possible education projects in each country. This marked the start of the informal exchange of ideas among various countries' mathematics and science educators and JICA experts. During this period, technical exchange visits were mostly initiated by SMASSE Kenya, either SMASSE Kenya's visit to other countries (Uganda, Tanzania, Malawi, Zambia and South Africa) or visits to SMASSE Kenya by other countries (Tanzania, Malawi, Zambia and South Africa). Through such informal technical exchange visits, they discovered common challenges such as the problem of INSET sustainability after the withdrawal of external support, and persistent criticisms against INSET as being too academic or impractical. The members of SMASSE Kenya, both Kenyan and Japanese, realized that SMASSE Kenya acquired a lot of experience related to the problems

facing secondary level mathematics and science education and possible interventions. By that time, SMASSE Kenya had made some headway towards enhancing the quality of mathematics and science in the classroom by developing an approach called ASEI-PDSI, or the "Activity, Student, Experiment, Improvisation / Plan, Do, See, Improvement"[5] Approach (SMASSE INSET Unit, 2001). Thus, by promoting various exchanges, SMASSE Kenya took an initiative to plan a regional conference as an initiator where participating countries could discuss common challenges and build up a network.

3-2 Stage 2: Incubation 2001- 2003

In establishing the SMASE-WECSA network, who were the participating members and what was the central focus of the discussions? At the 2001 and 2002 regional conferences, there was a wide range of participants involved in secondary mathematics and science education such as education administrators at both central and regional levels; teachers and head teachers of secondary schools; tutors of teacher's colleges; university lecturers; inspectors or educational methods advisors; and teacher trainers. The two main focal points from the first two regional conferences centered on establishing sustainable In-service Training (INSET) systems and enhancing classroom practices (SMASSE INSET Unit, 2001 & 2002, SMASE-WECSA, 2010a).

Because the participants were actual educators directly connected to classroom activities at the school level, their critical area of focus turned to the issue of classroom practices. Moreover, discussions also focused on the necessity of gaining support from school administrators for enhancing classroom practices. In the 2001 Kenya Regional Conference, where 44 participants representing 11 countries[6] were in attendance, the importance of exchanging the practical wisdom of each country's mathematics and science education was recognized, and it was decided to form a network for the purpose of developing

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[5] The philosophy of the ASEI-PDSI approach was born from discussions between the SMASSE Kenya counterpart and Japanese experts. ASEI aims at assisting teachers to shift classroom practice from: Content based to **Activity** based; Teacher-Centered to **Student-Centered;** Lecture methods/theoretical approach to **Experiments** and research based approach; Recipe type large scale experiments to Scaled-down experiments and use of **Improvisation**. PDSI on the other hand, emphasizes careful **Planning** before going to teach, **Doing** the actual teaching, Seeing where the planning is weak so as to **Improve** on future lessons (JICA, 2007a, SMASE-WECSA, 2010a).

[6] Kenya, Uganda, Tanzania, Zanzibar, Zambia, Malawi, South Africa, Swaziland, Lesotho, Mozambique, Zimbabwe, Rwanda. Including the secretariat and Observers, a total of 73 participants from12 Countries (including Japan) participated (SMASSE INSET Unit, 2001)

improvements for African mathematics and science education. With 37 participants representing 13 countries[7] in attendance for the 2002 Kenya Regional Conference, the constitution for SMASSE-WECSA Association was ratified. In 2003 the regional association was registered as SMASSE-WECSA association in Kenya, which became independent from SMASSE Kenya. However, the secretariat was located in SMASSE Kenya and the Chairperson and all secretariat members were selected from SMASSE Kenya (SMASSE INSET Unit, 2002, SMASE-WECSA, 2010a). JICA has started supporting SMASE-WESCA member countries through the SMASE-WECSA network[8] as a regional cooperation component of the SMASSE Kenya Phase 2 project since July 2003. Thus, SMASSE Kenya became the hub of the network-type cooperation.

3-3 Stage 3: Expansion 2003 - 2008
(1) Exchange with other Networks & Agencies

After the establishment of network-type cooperation in 2003, the SMASE-WECSA network actively started building collaboration with various networks and agencies. SMASSE Kenya played a pivotal role in building exchanges with other networks and agencies. Among the various networks, the SMASE-WECSA network developed a strong relationship with the Association for the Development of Education in Africa (ADEA)[9]. The 2002 Basic Education for Growth Initiative (BEGIN), which is a basic education cooperation policy of Japan, announced that Japan would participate in ADEA and support a creation of a working group on mathematics and science education. This led to the 2004 step in which, JICA became an ADEA member. Following this, the Working Group on Mathematics and Science Education (WGMSE) was launched in March 2005. The SMASE-WECSA association became a basis of networking of WGMSE (SMASE-WECSA, 2010a). Based on this, the activities of SMASE-WECSA gained a greater foothold in contributing to the development of African education, specifically in the area of mathematics and science education. However, JICA was not able to provide financial support to the WGMSE through ADEA due to administrative constraints. Thus, JICA has supported WGMSE activities through the SMASE-WECSA

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[7] In addition to the 11 countries which participated in the first conference, Ghana and Burundi attended. Including the secretariat and observers, a total of 68 participants from 15 countries participated. The observing countries were Japan and the Philippines.

[8] During SMASSE Kenya Phase 2, Kenya Internal Component and the Regional Cooperative Component were formed as two entities.

[9] Network developed for the purpose of exchanging policy dialogue and information regarding education in Africa, comprised of policymakers, practitioners, researchers, development agencies, private sector, NGO

network as a regional cooperation component of the SMASSE Kenya. Consequently, the activities of the SMASE-WECSA network and the WGMSE are two side of the same coin.

During this period, efforts seeking relationships with institutions in Asia were activated to explore possible collaboration: SMASSE Kenya visited, in November 2003, UP NISMED or the National Institute for Science and Mathematics Education Development, University of the Philippines, and in July 2005, SEAMEO or the Southeast Asian Ministers of Education Organization – the Regional Centre for Education in Science and Mathematics (RECSAM), Malaysia.

In addition to these networks, SMASSE Kenya has built networks with the Secondary Education in Africa (SEIA) Program under the World Bank Initiative since 2003, the New Partnership for Africa's Development (NEPAD) since 2004 and SACMEQ since 2005(SMASE-WECSA, 2010a, Bregman et al, 2004).

(2) Regional Conference
As shown in Table 2, Regional Conferences were hosted by the different member countries from 2003 to 2007. During this period, the primary focus of the conferences was the enhancement of classroom activities, specifically focusing on developing a practical program to address this issue. For example, classroom demonstrations were conducted by the participants at local schools, and a students' perspectives forum was organized to enable educators to hear students' perspectives on mathematics and science. Being exposed to such practical and experiential type programs, participants were able to gain practical and technical knowledge and skills. In particular, for the 2007 Regional Conference held in Zambia, Zambia's lesson study approach and activities[10] attracted participant interests from each country. This, in turn, led to the initiative of some countries attempting to adopt lesson study approach and activities in their countries.

Since the 2004 South Africa Regional Conference, in addition to participants from the SMASE-WECSA member countries, a number of JICA experts and staff of JICA offices participated as observers in the conference, which helped to build a network through joint learning.

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[10] Lesson study refers to a methodology involving the principle of Plan-Do-See for improving classroom lessons through peer collaboration, which is to focus exclusively on the lessons themselves (JICA, 2007b).

Consequently this led to expanded cooperation in mathematics and science education. In addition to the establishment of the ADEA Working Group on Mathematics and Science Education (WGMSE) in March 2005, the Steering Committee Meeting of ADEA-WGMSE has been organized during the timing of SMASE-WECSA Regional Conference since 2005. Consequently, the number of participants from ADEA, International Organizations, and institutions in Asia increased.

The SMASE-WECSA network initially targeted secondary mathematics and science education. However, as member countries increased, it became apparent that several of the member countries had their priorities on primary education. As a result, the charter of the SMASE-WECSA association needed to be revised to cover both primary and secondary mathematics and science education. The primary education factor necessitated a change in name of the network, from SMASSE-WECSA to SMASE-WECSA. This revision and change was adopted during the 2006 Regional Conference in Senegal (SMASE-Africa, 2012).

Furthermore, a secretariat administration was changed to multilingual representatives from all the languages of the region; a Chairperson from Zambia (Anglophone country), one Vice-Chairperson from Senegal (Francophone country), and another Vice-Chairperson from Mozambique (Lusophone country).

Table 2: Regional Conference 2003 - 2007

Year	Host Country	Main Theme (Keyword)	No. of WECSA Countries	No. of Participants (incl. observers)
2003	Ghana		18	90
2004	South Africa		21	111
2005	Rwanda	Enhancing Classroom Activities	27	133
2006	Senegal		27	93
2007	Zambia		23	167

(Source: Composed from SMASE-WECSA, 2010b, JICA, 2011)

(3) Expansion of Activities of Network-type Cooperation

Training programs which constituted the core of network-type cooperation started in January 2004 in Kenya, by using a program called Third Country Training Programme (TCTP). Since then, they have been taking place every year. The training was led by the Centre for Mathematics, Science, and Technology Education in Africa (CEMASTEA), a counterpart organization of SMASSE Kenya, for key

trainers from the SMASE-WECSA member countries, with the support of the Government of Kenya and JICA. The training programs, though centered on practical teaching approaches, included training in such key areas as sustainability, relevance, impact, efficiency and the effectiveness of INSET systems. Moreover, to better meet the needs of each member country, in addition to the regular TCTP, CEMASTEA has been conducting Special Training Courses for SMASE-WECSA member countries course since 2005. Technical Assistance services have also been provided by CEMASTEA (SMASE Kenya) staffs and JICA (Japanese) experts to SMASE-WECSA member countries from 2005(SMASE-WECSA, 2010a and 2010b). Since 2006, CEMASTEA has been offering TCTP at the primary level as well as at the secondary level and also for Francophone countries. In Asia, the Regional Centre for Education in Science and Mathematics (RECSAM) in Malaysia conducted a customized course for Kenya in 2006, for Uganda in 2007, and eventually expanding to cover seven member countries in 2008.

Through such activities of network-type cooperation, as illustrated in Figure 2, the related projects extended to 9 countries within the SMASE-WECSA network.   With this expansion, SMASSE Kenya played a significant role within the network-type cooperation.   It is thought that JICA served as a facilitator in expanding mathematics and science education projects for member countries in collaboration with SMASE Kenya through the network-type cooperation.

3-4 Stage 4: Diversified from 2008
From 2008, the Regional Conferences continued to be held in Kenya. The focus of the conferences has shifted from practical aspects of classroom activities to the organizational structure and way forward of the SMASE-WECSA network. Practical programs such as class demonstrations and students' perspectives forums were discontinued. As the number of member countries increased, it became more difficult to deal with the various and specific issues raised by the participants.

Table 3: Regional Conference 2008 - 2011

Year	Host Country	Main Theme (Keyword)	No. of WECSA Countries	No. of Participants (incl. observers)
2008	Kenya	Sustainable SMASE-WECSA Association	21	96
2009		Sustainable INSET activities	20	68
2010		A Reflection on a Decade	26	108
2011		The Way Forward of SMASE-WECSA	26	75

(Source: Composed from SMASE-WECSA 2010b, JICA, 2011)

Owing to the network's reliance on JICA's support, another concern that emerged was how the network could continue activities once JICA's support becomes unavailable. Thus the focus of attention began shifting toward the future sustainability of the network.

On the other hand, as the practical wisdom in science and education came to be built up not only in Kenya but also in other countries, those countries began exchanges among themselves. Specifically, in October 2008, a technical exchange visit between the Zambia Project and the Uganda Project was conducted, prompted by the two countries' mutual interest. Uganda, like Kenya, had taken a cascade approach to roll out INSET nationwide; however they had faced challenges regarding how to secure that teachers actually apply teaching approaches they had learned in training. Therefore, Uganda became interested in Zambia's school based training approach and experiences gained through lesson study; on the other hand, Zambia was interested in Ugandan experiences and how Uganda applied the SMASE Kenya approach in their own context. Encouraged by these exchanges, a series of regional technical workshops for lesson improvement were organized three times (in 2009, 2010, and 2012) through the initiative of Uganda and once (in 2010) through the initiative of Zambia.

Around the same time in 2008, as Swaziland was also interested in Zambian lesson study, Zambia was approached by Swaziland and the idea on technical workshops was discussed. Based on these ideas, at the November 2008 SMASE-WECSA Steering Committee meeting, it was proposed to introduce a more diversified menu of SMASE-WESCA activities that could better address the needs of different countries according to their interests and situations. As an example, technical workshops divided by language or by specific practical needs were suggested. This led to the first official SMASE-WECSA Technical Workshop in May 2009 in Swaziland, which was attended by 97 participants from 15 different countries including Asia (Malaysia, the Philippines and Japan). The important feature of this workshop is that it was wholly organized and facilitated by Kenyan and Zambian experts based on their own ground experiences in their respective countries (SMASE-WECSA, 2009, Kisaka & Matachi, 2009).

In Asia, the Projects in Uganda (since 2007), Nigeria (since 2008), Zambia (since 2008), and Malawi (since 2009)—without using Kenya

as an intermediary—communicated with RECSAM and RECSAM implemented customized courses for these countries. Moreover, beginning in 2008, the TCTP for Secondary Mathematics and Science Teacher Educators targeted 10 SMASE-WECSA member countries under the arrangement of equal cost sharing basis between the Government of Malaysia and JICA.

In this respect, the position and role of Kenya within the network-type cooperation began to shift in such a way that countries other than Kenya, which had accumulated practical wisdom, could also develop plans to share their knowledge and experiences with other countries. In other words, Kenya came to be seen as one of pivotal countries, as countries other than Kenya gradually came to assume similar functions. Within this framework, JICA's function switched to that of a catalyst whose role was to discover practical wisdom in each country which could benefit other member countries.

4. Case Analysis: The Sharing and Creation Process of Practical Wisdom

As shown in Figure 4, the SMASE-WECSA network is a platform where mathematics and science educators from the member countries can share and create practical wisdom through a variety of activities. The major characteristics of this network–type cooperation are: Kenya's role as a pivotal country although countries other than Kenya have gradually increased their role; and the exchange activities with the institution in Asia.

Figure 4: Major Activities of Network-type Cooperation
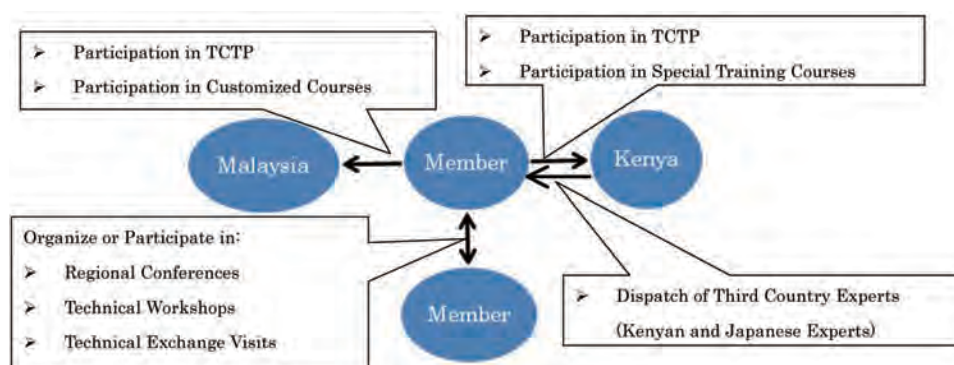
(Source: Composed from SMASE-WECSA,2010ab)

The record of major activities of network-type cooperation is summarized in Table 4.

Table 4: Record of Major Activities of Network-type Cooperation

Implementer	Activities	Record
CEMASTEA, Kenya	TCTP	1158 participants for 30 countries Year 2004-2011
	Special Training Courses	345 participants for 11 countries Year 2005-2009
	Third Country Experts (Kenyan and Japanese Experts)	216 experts for 15 countries Year 2005-2010
WECSA member countries	Regional Conferences (annually)	1082 participants (incl. observers) Year 2001-2011(11 conferences)
	Technical Workshops	273 for 13 countries Year 2009-2010 (organized by Uganda, Swaziland, Zambia and Botswana)
RECSAM, Malaysia	TCTP	241 for 12 countries Year 2006-2011
	Customized Courses	113 for 9 countries Year 2008-2011

(Source: Composed from SMASE-WECSA, 2010b, JICA, 2012, information based on interviews with JICA)

Even for member countries with no projects supported by JICA, sharing and creation of practical wisdom was made possible through regional activities such as TCTP. However, one unique feature of the SMASE-WECSA network can be found in the process of project formulation and implementation.

4-1 Process of Sharing and Creation of Practical Wisdom
This section examines how practical wisdom is shared and created through the process of project formulation and implementation. The standardized process is outlined in Figure 6, with the information regarding each step detailed below:

(1) Interest:
Delegates of mathematics and science educators (education administrators/practitioners) from the member countries participate in a regional conference, and then they become interested in the validity of the ASEI-PDSI approach and INSET systems.

(2) Understanding:
The member countries send mathematics and science educators to TCTP in Kenya. They can then understand the teaching approach and the INSET systems in Kenya.

(3) Ownership:
Mathematics and science educators of who attend regional conference

and TCTP in Kenya gained a strong sense of ownership to implement such projects in their own countries, and then lobby the relevant government ministries in their countries on the necessity of INSET for mathematics and science educators. Motivated by such moves, the governments of the member countries decided to submit official project requests to the government of Japan.

(4) Sustainability:

At the project design study stage, the commitments of the necessary personnel and budgets from the member counties are secured in order to continue INSET in a sustainable way.

(5) Institutionalization:

At the project implementation stage, the member countries work for establishing continuous INSET systems for enhancing classroom practices in the context of each country.

(6) Application:

When technical support is required for expertise on the development of teaching materials or the need for the establishment of INSET systems is confirmed, it is possible for each member country to find solutions to their challenges through technical exchange visits, third country experts and training programs abroad.

(7) Sharing & Feedback:

Each member country has the opportunity to share its amassed

Figure 5: Process of Sharing and Creation of Practical Wisdom
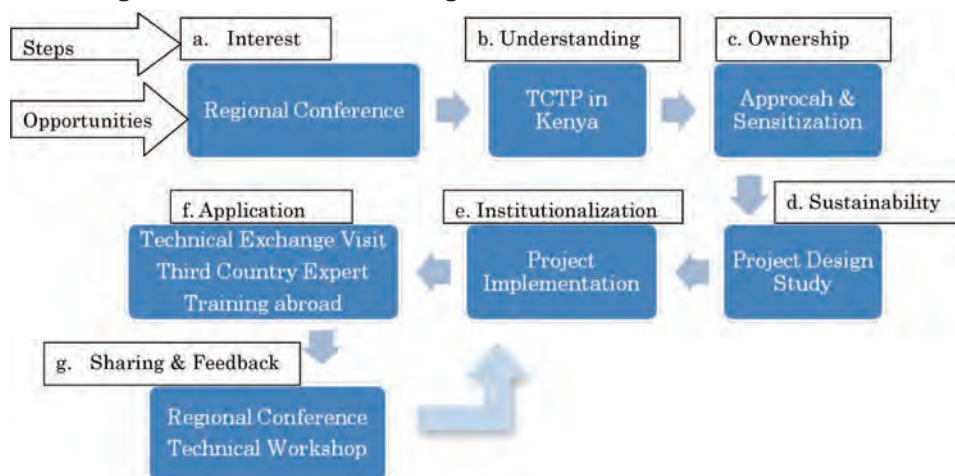
(Created by the Author)

experiences and knowledge, namely, practical wisdom through regional conferences and technical workshops, and then feed them back for the development of teaching approachs and INSET systems of their own countries.

4-2 Mechanism to Strengthen Ownership

Regional conferences and TCTP in Kenya enabled countries to learn about each other's experience, understand Kenyan initiative, develop a strong willingness to begin a project, and appeal to technical support from Kenya SMASSE and JICA. During the drafting stage of a project request, in the case where member countries request advice from SMASSE Kenya and JICA, they were advised as to what type of their own commitment would be required to start the project. A country's strong willingness to begin a project makes it possible to secure the firm commitment of the necessary budget and human resources. The practical wisdom of SMASSE Kenya which was created as a result of trial and error process helped make members of other projects understand the importance of their commitment. As the project was designed to develop a sense of ownership, JICA was intentionally not used to call this a 'JICA Project'. It was called the member counties' government projects/programs to foster the attitude that JICA is only a supporter of the project and programs.

The philosophy of Mr. Sugiyama,[11] SMASSE Kenya's former Chief Advisor who was involved in establishing the SMASE-WECSA network had a great influence on fostering this type of approach. Sugiyama's philosophy on cooperation for Africa's mathematics and science education can be summarized in his own words (taken from an interview article in Japanese, translated into English):

> "What's important first is that the country needs to have a "can-do" attitude. If a country wants to change the situation, people have to know that it is the country itself that has to take actions and that they can indeed make a change, rather than just accepting things as facts of life. Without this willingness, no external support including that of Japan is meaningless. The people of a country know their own educational system better than anyone—they are

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[11] For about 40 years since he was first appointed to serve in Tanzania in 1969 as a Mathematics and Science Teacher of Japan Overseas Cooperation Volunteers, Sugiyama has been engaged in African education cooperation. He worked as a Senior Advisor in Education of JICA. In 2006, he received the Foreign Minister of Japan Award. He passed away in 2012.

the experts. We serve only as a partner to jointly contribute to bringing forth the necessary wisdom for the improvement of education (JICA, 2006)."

4-3 Principles of Cost Sharing for Sustainability

What kind of measure can be used to establish sustainable INSET systems? As working conditions of teachers in many African countries are inadequate, one of the biggest incentives to get them to participate in trainings or workshops is a daily allowance. Most aid agencies and NGOs have been paying such a daily allowance to teachers who attended INSET; however, when the project finished, what happens in many cases is that INSET gets discontinued. Given this situation, SMASSE Kenya decided that it would, rather than pay a daily allowance, allocate funds to be used as part of tuition to cover the actual training costs (food, transportation, etc.). On the Kenyan side a SMASSE Fund was established as a means of sustaining INSET systems. The idea behind these moves is that since INSET aims to provide teachers with opportunities of continued lifelong learning, the system should be able to extend beyond the end of the project.

Based on this idea, as outlined in Figure 6, the member countries bear the cost of running INSET, while JICA funds the technical support and initial costs.

Figure 6: Breakdown of Cost Sharing

(Source: Composed from JICA's reports of SMASE-WECSA related Project)

The general pattern is that there are two budget reviews; first to confirm that both parties have consented to the general framework of the cost sharing (items based), and second to ensure that there is consent on the detailed budget. This type of specific budget review was started by the project in Uganda in 2005 to ensure that the necessary costs were covered by financial support. The budget review process varies across

member countries, however, and each country can learn from the other on how to secure the budget by understanding the structure of the budgeting process. The advantage of this process is that makes each country's responsibilities transparent. With the process, it becomes possible to examine the feasible cost unit, and identify the source of budget at national, regional, school or other levels, prior to the actual project start. Hence the process makes it possible to develop a nationwide budget projection when a pilot project begins in one region.

At early stages of projects, a teachers' strike often happened, because the project paid just the minimum cost (meals, transportation and free lodging) and no daily allowance. However, with time this came to be handled by the member countries' members. Overall, this process allowed the member countries' counterparts to strengthen their attitude and sense of responsibility. Mr. Agaba, the National Coordinator leading the Uganda project advocated as follows (taken from an interview article in Japanese, translated into English):

> "Motivation can only be derived from within; financial incentives should not be used to pull forth one's motivation. Professional teachers will have continuously high motivation from the joy they find in teaching and learning as it is connected to their own professional growth. We must patiently change ourselves now based on a look at what things will be like in ten years (JICA, 2006)."

4-4 Learning Together through Project Design Study

The following are some of the characteristics of the project design study. Firstly, many of the studies (Malawi, Uganda, Nigeria, Niger, Senegal, Burkina Faso, Rwanda, South Sudan) were conducted by the team consisting of SMASSE Kenya staff and JICA staff. It was useful that SMASSE Kenyan staff could make practical suggestions to other member countries based on their own country's experiences. For example, for the 2006 Niger Project Design survey, the education minister and permanent secretary of Niger requested the project to conduct nationwide teacher training from the beginning, since they had known that SMASSE Kenya had already extended nationwide. In response to their request, the SMASSE Kenya staff explained their own experience on the process starting from the pilot project as a trial run to examine and develop the feasible model for subsequent national

expansion. This suggestion helped the Government of Niger understand the importance of a step-by-step approach in launching the project. The author also could learn a lot from the Kenyan staff, while SMASSE Kenya staff could strengthen their capabilities through giving advice to other countries.

Secondly, in many cases, prospective Japanese experts of projects (Malawi, Uganda, Senegal, Burkina Faso, Rwanda, Zambia, Sierra Leone and Ethiopia) joined the project design team as members. As they take part in the initial planning phase of projects, they developed a sense of responsibility. Then, through discussions with member countries sharing visions, it became possible to build relationships of mutual trust with their counterparts. Also, Japanese experts were able to strengthen their practical capabilities by being involved in these processes.

Additionally, depending on the situation, high-level officials of member countries' Ministries of Education (Uganda, Malawi, Niger) were invited to Kenya for discussions and the Kenyan high-level officials shared the importance of commitment and sustainability with high level officials from the member countries based on their experiences. Thus, it became possible for the member countries to gain commitments from the government at high levels.

4-5 Case of Applying Other Countries' Experiences: Uganda

The Uganda project was initially formulated through technical exchanges with SMASSE Kenya. As depicted in Figure 7, the Uganda project could apply the practical wisdom of Kenya, Zambia, and Malaysia through the SMASE-WECSA network, to develop teaching materials and teaching approaches that fit the context of each country. Specifically, just after the project began in August 2005, four National Trainers of the Uganda project spent approximately one month on an OJT Training in SMASSE Kenya. Through this OJT Training, Kenyan practical wisdom, such as its training approaches, development of teaching materials, and monitoring & evaluation tools could be studied. Beyond this, adhering to the context of Uganda, but using Kenya's experiences, culturally-appropriate training styles and teaching materials were developed. The national trainers (former mathematics and science teachers) who participated in this OJT Training stated that, "Although we specialize in mathematics and science education, we do

not have the experience and expertise on how to develop INSET systems effectively. Therefore, using Kenyan experience as a base has been quite useful in this process. Nevertheless, we cannot apply the Kenyan teaching approach and INSET systems as they do not necessarily fit in well with the context of our own countries." While Uganda applied Kenyan experiences for conducting cascade training for the first three years, there were challenges as to how teachers can apply teaching approaches in classrooms at the school level after attending training. As noted previously, Uganda was interested in school based training through lesson study in Zambia, and Uganda had had a technical exchange with a team from Zambia in October 2008. As a result, Uganda developed training contents and materials on lesson study in 2009 by referring to Zambian experiences. Furthermore, in June 2009, two national trainers were attached to RECSAM in Malaysia for a one-month OTJ Training. They developed the training contents and materials on assessment and evaluation with technical support from specialists of RECSAM.

In addition, the Ministry of Education and Sports of Uganda sent not only INSET trainers but also curriculum specialists, examination specialists, university lecturers and education administrators to training programs in RECSAM and Japan to promote a greater sense of collaboration among them. As a result, this promoted collaboration within the country. For example, National Trainers are invited the advisory committee on the national curriculum and examination as panel advisors.

Figure 7: Process of Developing Teaching Materials

(Source: Composed from SESEMAT Report; Interviews with National Trainers)

As these project developments illustrate, member countries were not simply using other countries' experiences, but rather developed contents that fit together with their own countries' societal systems while accumulating their own practical wisdom. In other words, it was not

simply a matter of introducing another country's model and then having a complete approach to INSET, but instead it was necessary to make a model workable for the country's development.

5. Implications of the Case / Conclusions

(1) Effectiveness of Learning Together

One of the prominent characteristics of SMASE-WECSA network is that member countries could learn together through the activities of network-type cooperation. The knowledge needed for enhancing classroom practices might be categorized as "tacit knowledge," which is a kind of knowledge difficult to be expressed in words; therefore, lesson demonstration and joint reflection might be useful methods to share practical wisdom. Moreover, practical training through the secondment to organizations in other countries have been effective to adapt their learning to develop training contents and training system.

(2) Value of Network

It must not be forgotten that networks do not exist for their own sake. The SMASE-WECSA network serves as a platform where each country can learn through sharing practical wisdom, and whether such wisdom can be practically implemented depends on the initiative of each country. It is important to understand that practical wisdom needs to be adapted to fit in the context of each country.

(3) Re-design Network in Diversified Relationships

The SMASE-WECSA network must make continuous and flexible changes in its structure for exchange and collaboration. As noted above, many countries started to amass practical wisdom of their own, and they have begun to develop exchanges and collaborations among themselves. These changes are calling for the redesigning of the network such that it becomes conducive to more diversified exchanges and collaborations. Within the network structure, each of the following factors needs careful consideration: flexibility, transparency, fairness, feasibility, and giving prioritized support for enthusiastic countries.

(4) Language Issues

Within Africa, in trying to build international exchange and collaborations, the issue of language is never avoidable. For example, Anglophone African countries can effectively communicate with partner Asian institutions, while the issue of communication becomes

problematic for Francophone and Lusophone countries, especially given the limited resources available to them. One way to deal with the language variance is to build collaborations among linguistically similar regions. However, it is nevertheless necessary to make sure that wisdom is brought together from all the member countries despite their linguistical variance.

(5) Strengthening Analytical Work and Information Dissemination

The member countries have been sharing practical wisdom through the SMASE-WECSA network, however, this huge body of practical wisdom has not yet been much analyzed and published. From the medium to long-term perspective, in order to conduct practical research and disseminate information, there is a need to nurture academic practitioners who can analyze practical wisdom, and at the same time build collaboration with local and international researchers and research networks. As SMASE-WECSA network functions as a secretariat of ADEA's WGMSE, the relationship and roles between these two entities need to be re-examined to establish more effective operation in analytical work and information dissemination.

(6) Effective Approach to Network-type Cooperation

Until now, JICA has been promoting network-type cooperation through bilateral technical cooperation. This technical cooperation has been proven effective to enhance classroom practices and establish INSET system at a country level, even under the existing system. However, generally speaking, tools and mechanisms of flexible support for network activities *per se* have been rather underdeveloped. If network-type cooperation as a significant approach to sharing and creating practical wisdom is to be mainstreamed, exploration and development of effective tools and mechanisms to support regional activities through the existing network such as ADEA are called for.

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Case 2

Inspired by Sri Lankan Practice: Scaling-up 5S-KAIZEN-TQM for Improving African Hospital Service

Shunichiro Honda

1. Introduction

The "Better Hospital Service Program (hereinafter referred to as BHSP)"[1] aims at improving hospital care in Africa, using the knowledge package for management change called herein 5S-KAIZEN-TQM. This knowledge, originally developed in Japan and later spread in Asia, was discovered as being applicable by the African leaders within their context in the field of hospital management and quality of health care.

The project started in 2007 as an Africa-Sri Lanka-Japan triangular cooperation and is still progressing. It is a network-program involving African countries that share similar demands, and the number of participating countries has now reached fifteen as of 2012. Among them, Tanzania has played a leading role, developing itself into a pivotal country. Major direct beneficiaries are the hospitals in those countries. Their number has also increased over time both within and across member countries where tangible results are emerging. The core knowledge used in this project was developed by a hospital director in Sri Lanka by building on what he learned from both Japanese firms operating in his country and a management training he received. Japan has been supporting the movement as part of a follow up to TICAD III or the Third Tokyo International Conference on African Development.

In Section 2, we will first take a look at the process of the program's development. In Section 3 we will then take a close look at how Tanzania has developed its capacity to become a pivotal country in this

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[1] Officially, this initiative on 5S-KAIZEN-TQM for hospital management consists of several separate but closely-coordinated sub-programs, including the Asia-Africa Knowledge Co-creation Program "Total Quality Management (TQM) for Better Hospital Services". In order to illuminate the entirety of the initiative, this paper collectively calls these sub-programs the "Better Hospital Service Program"

exercise. Section 4 will examine the whole process to see how the scale up process has been possible. Section 5 contains the conclusion.

2. Catalyzing Knowledge Co-creation for Better Hospital Care: Triangular "Better Hospital Service Program"

2-1 Co-creating African Knowledge for Better Hospital Service

In May 2011, Mbeya Referral Hospital (MRH), in a remote Southern Highland of Tanzania, hosted its very first triangular training on KAIZEN, the second stage of a hybrid management change approach for better hospital care[2].

The event marked a point of achievement for a triangular initiative entitled "Better Hospital Service Program" linking Sri Lanka, fifteen African countries and Japan since its start in 2007. Forty-five people participants including hospital managers as well as health ministry officials from the three neighboring East African countries of Kenya, Uganda and Malawi as well as those of Tanzania witnessed the tangible achievements such as the clean and well-organized working environment in hospitals. They were informed of the progress of institutionalization and replications to over 50 major hospitals in the country. Above all, they were inspired by the dedication of the hospital staff in practicing the principles and approaches of 5S-KAIZEN-TQM in their hospital work. BHSP successfully helped Tanzania to emerge as an African pivotal country of the 5S-KAIZEN-TQM approach for better hospital care, developed out of Sri Lankan successful practice with Japanese knowledge at its origin.

2-2 About the Better Hospital Service Program (BHSP)

The improvement of hospital management toward a better quality of care and medical safety started to draw international attention as a critical area for better health in both industrialized and developing countries. This was partly triggered by recurring incidents of medical errors in developed countries, and it was enhanced by mounting evidence showing that better quality and safer care is likely to lead to higher utilization of facilities even by the poor in low-income countries.

BHSP, a triangular cooperation program assisted by JICA, specifically addresses the challenges of improvement of hospital service quality. It aims to share Sri Lankan and Japanese experiences and knowledge of 5S-KAIZEN-TQM with fifteen African countries and forms one of the follow-

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[2] JICA 2011a.

up actions of the Third Tokyo International Conference on Africa's Development (TICAD III).

2-3 5S-KAIZEN-TQM: Its Origin and Characteristics

5S-KAIZEN-TQM is a hybrid management change approach for medical facilities (See Box for details). It combines three closely-related but separate tools for productivity and quality improvement, namely 5S, KAIZEN, and TQM (Total Quality Management). The first step, 5S, is a set of entry actions towards a more advanced stage of KAIZEN-TQM, and it represents respectively for 5 actions of "Sort," "Set," "Shine," "Standardize," and "Sustain" for a better working environment. The Second step, KAIZEN, is a participatory performance and productivity improvement approach through incremental and reflective group actions. Finally, total quality management or TQM is the approach for system-wide management in pursuing higher quality in products and services. As shown in the step-wise characteristics of its approach, one of its unique features is that it places particular importance on the empowerment and mind-set changes of hospital staff toward the improvement of the quality of care rather than top-down upfront organizational restructuring. Thus, the very first recommended action is to improve their working environment so that they feel the benefit and the sense of achievement, which then provide the motivation and incentives for the staff to further continue their bottom-up improvement actions.

The Key Feature of 5S-KAIZEN-TQM[3]

Some selected key features of 5S-KAIZEN-TQM are as follows;

1) Team-based practice at hospitals

Upon the decision of officially adopting 5S-KAIZEN-TQM by senior hospital management, each participating operational unit first establishes a work improvement team (WIT) within the section as a sort of taskforce to lead and monitor actions. At the same time, a quality improvement team (QIT) is installed at the senior management level, which is composed of members of senior management as well as representatives from WITs. The expected role of QIT is to oversee, advises and monitors actions taking place in WITs in line with the organization-wide strategy and action plan of 5S-KAIZEN-TQM.

2) Step-wise approach of 5S-KAIZEN-TQM practice at the hospital level

The most notable feature of 5S-KAIZEN-TQM is its step-wise

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[3] This box is largely based on Hasegawa et.al 2011a, Ishijima 2011 and JICA 2011b.

approach as below, starting from easier entry step of 5S towards more challenging advanced step of TQM via KAIZEN at the hospital level;

✓ *Step 1:* Work environment improvement through 5S activities application of TQM

✓ *Step 2:* Participatory problem-solving through the process of KAIZEN activities at the service front

✓ *Step 3:* Organization-wide management change and capacity development through the application of TQM

3) Sequenced scaling-up approach

5S-KAIZEN-TQM approach encourages partner countries to move towards practice changes at wider scale. In effectively doing so, it sets out a sequenced approach towards national roll-out. It recommends a country to first create one or more solid pilot hospital(s) with visible achievements. The pilot project is aimed at localizing the approach and demonstrating its relevance and efficacy to policy makers, administrators, hospital managers and practitioners. Upon the success of pilot activities with larger number of those who supports the initiative and the concomitant institutionalization, the country would then proceed to the national roll-out stage. With all these institutional set-up, concrete steps and scaling-up strategy, 5S-KAIZEN-TQM has been proven in Sri Lanka as an effective management change approach towards the quality hospital services in a wider scale.

Applying the 5S-KAIZEN-TQM approach to hospital management in a development country's context was an invention that came out of the practice of medical and health practitioners at Castle Street Hospital for Women (CSHW) under the leadership the then director of the hospital[4]. Learning from the practices of local subsidiaries of Japanese companies operating in Sri Lanka as well as the programs Dr. Karandagoda received at the Sri Lanka Institute of Public Administration (SLIDA), he and his staff creatively combined various management approaches and tools that originated in Japanese manufacturing companies to suit the Sri Lankan local context. His team successfully applied these in the hospital to yield a tangible outcome. Building on the success at CSHW, Dr. Karandagaoda further refined the approach to the package of 5S-KAIZEN-TQM, and this work was supported by Japanese health policy experts including Dr. Hasegawa and Dr. Handa, who acted as key collaborators on the Japanese side. It

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[4] The description of this section is largely based on Hasegawa, 2006

was this body of knowledge that was shared through this BHSP.

2-4 Program Design of BHSP
(1)Two phases

To effectively impart the step-wise knowledge of 5S-KAIZEN-TQM, BHSP is sequenced into two phases. The focus of the first phase is 5S, which lays the foundation for the subsequent advanced steps with the presentation of the overall vision and strategy of the entire approach. After completing the first phase, participating countries then proceed to the more advanced levels of KAIZEN and TQM coupled with the necessary actions for national level scaling-up. Details of the two phases are presented in the Table 1.

Table 1: Two Phases of Better Hospital Service Program

|	First phase	Second phase
Knowledge focus	**5S**	**KAIZEN and TQM**
General objectives	• Promote exchange and co-creation of locally adapted knowledge of 5S – KAIZEN - TQM with pilot 5S experimentations in preparation for national mainstreaming	• By building on the first phase focused on 5S, Phase 2 is aimed at enhancing and deepening locally-adapted 5S-KAIZEN-TQM through advanced practices, institutionalization and national rollout through the combination of experience sharing and country actions
Main program instruments	• Training sessions in Sri Lanka and Japan • Monitoring and field support visit by Japanese and Sri Lankan experts • Complementary support to country practices through bilateral cooperation by JICA	• Training in Sri Lanka, Japan and one of African countries (e.g. Tanzania) • Monitoring and field support visits by Japanese, Sri Lankan and African experts • Complementary support to country practices such as through bilateral cooperation by JICA • Provision of other opportunities of learning such as international workshop and seminars
Duration	1.5 years between the initial and final wrap-up training (Country pilot continues beyond 1.5 years.)	3 years including country execution

(2) Process-oriented learning

For both phase 1 and 2, the program adopts a reflective learning process among Asian and African countries. Through the process, participants are expected to adapt ideas and models they learned through training sessions, test them in their own countries upon their return, and feedback and share lessons for further actions. It systematically engages senior and middle management as well as the practitioners on the frontline to ensure a shared understanding of the concept and approach among the key players. Training sessions, comprising class-room learning as well as field observation tours to both Sri Lanka and Japan, were also complemented by periodic

monitoring and field support visits by Sri Lankan and Japanese experts. When requested by beneficiary countries, JICA also extended bilateral technical cooperation to health ministries as well as health facilities at each individual country level to support piloting and institutionalization.

To promote learning, the first phase centered on three intermittently-organized training programs; namely, 1) start-up training, 2) mid-term training and 3) final wrap-up training. As an integral part of the program, advisory missions composed of experts from Sri Lanka, Japan and neighboring countries were also sent to support implementation at each country level. Additionally, complementary bilateral cooperation may be provided through JICA's country offices in response to the request of the participating countries. Figure 1 illustrates the process of learning and practices:

Figure 1: Program Design of Better Hospital Service Program
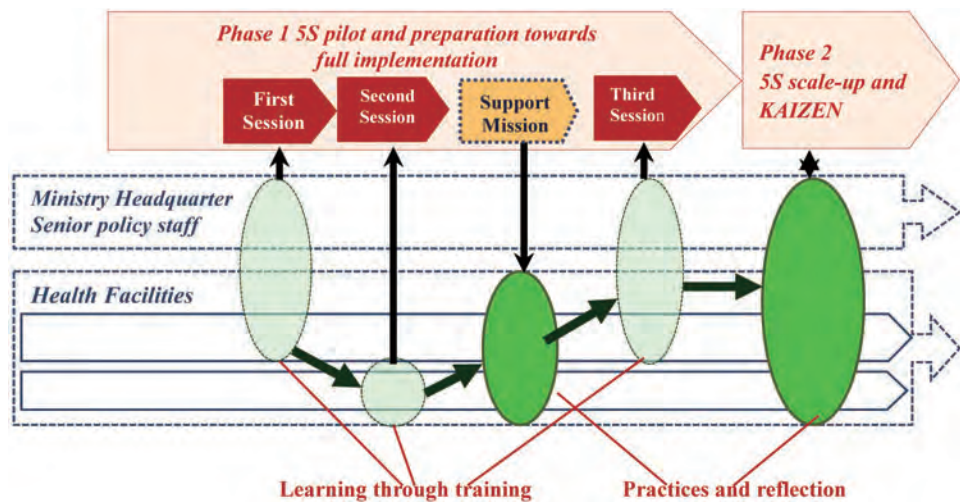
Source: The author

The first start-up session is targeted at both ministerial staff in charge of health quality and human resources policy as well as senior managers of the pilot hospitals, who are expected to exercise the leadership to promote change. It aims to facilitate mind-set change by eliciting a deeper understanding of and commitment to this approach among them. Soon after the first session, a separate second training is organized, this time for both middle-level managers and frontline staff directly in charge of day-to-day 5S actions. At the end of these introductory training phases, participants are expected to formulate a strategic action plan to translate what they have learned about 5S-KAIZEN-TQM into practices in their countries. These plans are implemented in the officially designated pilot hospital of each

participating country. The main objective of this step is to test the applicability of the approach in each country' specific context and try whatever adaptions as necessary. After about a year of experimentation, the key senior staff of participating countries gathers again to report back the results of their pilots, share lessons learned and reflect for further actions in the group. Through this continuing process of learning and practice, the implementing countries are expected to deepen their understanding of the approach.

The program package of the second phase, largely similar to that of the first phase, is composed of training programs and advisory field missions with complementary technical cooperation that has been official requested at each country level.

2-5 Progress and Achievements
(1) Progress[5]
Since the launch of the program in 2007, fifteen African countries in two separated groups have completed the first phase, and they are all in the second phase as shown in Table 2.

Table 2: List of Better Hospital Service Program Participating Countries

	Sub-region	Country	Program duration
First Group	West Africa	Nigeria, Senegal,	*(Phase 1)* March 2007 ~ November 2008 *(Phase 2)* October 2009 ~
	Eastern and Central Africa	Eritrea, Kenya, Tanzania, Uganda	
	Southern Africa	Madagascar, Malawi,	
Second Group	North Africa	Morocco	*(Phase 1)* March 2009 ~ October 2010 *(Phase 2)* August 2011~
	West Africa	Benin, Burkina Faso, Mali, Niger	
	Eastern and Central Africa	Burundi, DRC Congo,	

Several African participants commented that they were particularly inspired by what CSHW in Sri Lanka has achieved in the quality improvement of hospital care in spite of the challenging context including the lack of resources.

As of now, all of the participating countries are continuing their 5S practice, albeit at a different stage. In general, countries among the first group are at a more advanced stage due to their long years of execution than the second group countries, which are mostly in the process of

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[5] JICA 2011b.

adapting the approach into each country context through the pilot implementation.

Countries are at different stages. Three countries, namely Tanzania, Nigeria and Uganda, have progressed to the full KAIZEN implementation stage. Madagascar, Senegal and Democratic Republic of Congo are at the early phase of KAIZEN field trials with promising good practices in several hospitals. The institutionalization and scaling-up is advancing in virtually all of the countries of the first group. In Kenya, Malawi, Tanzania and Uganda, 5S-KAIZEN-TQM has been institutionalized through incorporation into the government official program, guideline or tools related to health services quality. It is also worth noting that the collaboration and mutual exchange among these countries are increasing and deepening, triggered by the country actions of 5S-KAIZEN-TQM. The work toward institutionalization is also underway in Eritrea, Madagascar, and Senegal. Replication of the 5S pilot is progressing in all countries with Tanzania prominent, where 56 hospitals including all tertiary and specialist hospitals have already started to practice 5S.

Apart from the different length of implementation years between the two groups, several factors for the different progress seem to have emerged from the records of the field monitoring mission. First, a better policy and institutional environment including country stability do matter. As will be touched upon in the next section, Tanzania had already laid out much of its policy and institutional frameworks in relation to quality improvement in health services prior to the introduction of 5S-KAIZEN-TQM, based on which the approach has been able to thrive and be sustained, whereas such a framework was not in place in most countries at the time of introduction. Such a favorable environment emphasizing quality improvement also supported the key like-minded leaders and change agents through the provision of legitimacy and incentives to take risk and experiment with the new approach for adaption and its rolling-out.

According to the report prepared by a field advisory and support mission dispatched by JICA, responses from training participants indicated that what they have learned on 5S-KAIZEN-TQM through BHSP has been very relevant and applicable to the organizations they belong to[6]. Almost all respondents stated that the approach fits well to

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[6] ibid.

the direction of policies and strategies of their ministries and hospitals. Several respondents commented that the simplicity and affordability of the approach have made it easier for them to apply. With such relevance and applicability, the majority of participants stated that they are applying the approach in their organizations after their training and have felt the impacts. The areas of concrete actions they are taking include:

- revision of policies, institutional frameworks and guidelines related to the quality of health services;
- actions to improve the facilities and the work environment in their hospitals;
- revision of the structure and setting of organizations they manage or belong to;
- improvement of techniques and methods in the daily service and;
- improvement of staff skills and the change of mind-set toward quality hospital services.

3. Tanzania Case Study: An Emerging Pivotal Country in 5S-KAIZEN-TQM

As stated above, Tanzania has come farthest among the fifteen countries. This section specifically illustrates the Tanzanian case, illuminating how the country has translated BHSP learning into its national practice and earned a position as an African regional center of excellence in 5S-KAIZEN-TQM[7].

After the successful piloting in the initial pilot hospital, the practice has been institutionalized and rolled out to other hospitals across the country as an integral part of the national quality improvement program under the country's sector-wide Health Sector Strategic Plan (HSSP). Moreover, Tanzania's achievement has become a regional program of excellence for the neighboring East African countries of Kenya, Uganda and Malawi, which are now in the process of expediting implementation of the approach.

3-1 Participation in BHSP and the Initial Pilot

For Tanzania, improving health services quality at health facilities was a daunting task. Recognizing the challenge, MoHSW had taken several actions in this area including the establishment of Department of Health

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[7] In Tanzania, 5S-KAIZEN-TQM is formally called as 5S-CQI-TQM in which CQI denotes "Continuous Quality Improvement". In this paper, 5S-KAIZEN-TQM is used throughout.

Quality Assurance under the Office of Chief Medical Officer (CMO) and the formulation of "Tanzania Quality Improvement Framework (TQIF)" aiming to promote and help embed the culture of quality services at all levels through a number of concrete actions. But even with these efforts, progress in quality improvement (QI) including that in the health facilities had been limited due to various bottlenecks.

It was in this context when the opportunity of participation in BHSP was offered to Tanzania and several other African countries. Through preparatory communications between MoHSW and JICA[8], MoHSW became increasingly aware of the potential of 5S-KAIZEN-TQM in QI and decided to participate in BHSP. The Ministry proceeded to select Mbeya Referral Hospital (MRH) as the first pilot hospital for the trial in Tanzania and sent several staff of MRH to the introductory seminar held in 2007.

Mbeya Referral Hospital (MRH) is a third tier referral hospital serving four regions in Tanzanian Southern Highlands. It is the top tier hospital, however; MRH is also a hospital located in a very remote city, 1,000 kilometers from Dar es Salaam. Through the training sessions including the observation tour to Sri Lanka and Japan, Dr. Elueter Samky, Director-General of the hospital, and his staff were firmly convinced of the relevance and high potentiality of the concept and approach for

Figure 2: Before and After the Introduction of 5S Activities
(The case of Mbeya Referral Hospital in Tanzania)

| August, 2007 | August, 2008 |
| Before the start of 5S practice | One year after the 5S launch |

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[8] JICA, with its policy adviser in human resources for health attached to MoHSW, has been supporting the development of Human Resources for Health Strategy and other accompanying policy instruments and the potential relevance of 5S-KAIZEN-TQM was discussed as an integral part of JICA's support to Tanzania's health sector.

improving hospital management. Upon his return to MRH, he exercised leadership to designate five hospital units as model areas for pilot 5S activities in August 2007 with the establishment of a work improvement team for each unit. In just four months, the first five units demonstrated tangible results, such as the continuous improvement of the work environment by the committed staff, as was confirmed by the first monitoring and evaluation by MoHSW conducted in December the same year.

3-2 Institutionalization and National Scaling-up

Witnessing the visible changes in the first pilots at MRH, MoHSW was quick to take actions in preparation for national rollout. The first action was the dissemination of concepts among key officials of MoHSW and a demonstration. A national seminar was organized with the participation of key officials of MoHSW including the directors of major hospitals. The seminar introduced the concepts and approaches with visual illustrations of the successes and experiences of Sri Lanka, as well as that of the MRH pilot. Following the unanimous agreement at the end of the national seminar, MoHSW proceeded to implement two demonstration pilot programs in MRH and Muhimbili National Hospital. The two Hospitals then succeeded in further validating the effectiveness and efficiency of the approach, which was then reported back to the senior management of MoHSW.

At the beginning of 2008, MoHSW officially adopted the approach as the core of the national quality improvement program as part of the national Health Sector Strategy and moved ahead for national rollout with the following institutional arrangements:

■ **The mechanism for sustained national scale-up:**
- *Institutionalization of 5S-KAIZEN-TQM:* MoHSW incorporated the approach into the revised Tanzania Quality Improvement Framework (TQIF), a document for concretizing the QI-related actions of HSSP. This was followed by the development of "Implementation Guideline for 5S-CQI-TQM approaches in Tanzania," which provides the key knowledge of the approach as well as standardized implementation steps for the national rollout.
- *Cascaded training approach for national rollout:* MoHSW organized multiple ToT sessions to train nominated staff from participating hospitals including all national, specialized and regional referral hospitals as well as the significant number of

district hospitals.

- *Quality Improvement Team (QIT):* All participating hospitals receiving 5S-KAIZEN training have established QIT for operationalizing 5S.
- *Communication:* MoHSW also devised instruments for communicating the 5S concept to health workers such as through the preparation and nationwide distribution of 5S posters in English and Kiswahili.

■ **Monitoring mechanism for continuous learning cycle:**

- *Bi-annual Progress Report Meeting (PRM):* Representatives from hospitals implementing 5S meet bi-annually to share their concrete experiences and discuss the way forward to further improvement of 5S activities complemented by learning sessions for skill enhancement.
- *Periodic consultation visits with user-oriented performance assessment:* 5S experts regularly visit implementing hospitals for performance assessment using a standardized monitoring and evaluation sheet and provide technical advice for further refinement of 5S activities.

3-3 Scaling-up at the National Level

Building on the inspiration gained from Sri Lankan best practice, 5S-KAIZEN-TQM has started to take root in a large number of hospitals in Tanzania. First of all, it has been officially designated the foundation of all QI approaches in Tanzania as stated in TQIF and implementation guideline[9]. As of September 2012, some 56 hospitals including all national, specialized and regional referral hospitals as well as a number of municipal and district hospitals have been trained, have established QIT and have implemented 5S[10]. Thirteen out of these hospitals have moved on to the second step of KAIZEN, the evidence-based participatory problem-solving actions for service quality improvement. Through the cascaded approach, well over 5,000 health workers have been trained in 5S. Moreover, it has been reported that not only the hospitals but also several health administrations at the regional and district levels have started to monitor the progress of 5S activities in the health facilities under their jurisdictions. According to a performance assessment, the majority of workers trained and implementing 5S-KAIZEN expressed a more positive attitude now toward QI than

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[9] MoHSW 2009
[10] Mohamed 2012

previously.

MRH, the first pilot hospital, has advanced further and started to produce notable outcomes while the approach is being scaled-up nationally. Under the leadership of Dr. Samky, MRH has now expanded 5S with QIT to all 54 units in three years with many units moving to the KAIZEN stage. Some of the achievements through KAIZEN include the reduction of overstocked inventory at medical stores sections, the reduction of waiting time for patient consultation (down to one third from 46 minutes to 15 minutes) and the doubling of reimbursement to MRH from the National Health Insurance Fund through better management at the accounts unit.

The incorporation of 5S-KAIZEN-TQM into pre-service training programs is being tried at some hospitals. Nursing students in clinical rotation are taught the approaches and are practicing during their clinical rotation.

3-4 Tanzania as the Regional Center of Excellence
Over five years of continuous execution has made Tanzania the regional center of excellence in quality improvement of hospital care through the application of 5S-KAIZEN-TQM. MoHSW has locally developed original training materials and tools including a practical session guideline for 5S training of teachers (ToT) facilitators and monitoring and evaluation tools among others. These materials have been continuously updated and improved. With these materials and trained local experts at hand, the country has actively shared its experience and lessons learned with other African countries— especially with its three neighbors of Kenya, Uganda and Malawi—since 2009.

Tanzania annually welcomed African participants into the regularly-organized training of trainers programs for both 5S and more advanced KAIZEN approach, accepted a study tour for a group of African countries to observe the work of MRH and dispatched Tanzanian experts to neighboring countries. The participation of officials from neighboring countries helped accelerate the formulation of official documents related to quality improvement as well as the preparation of 5S-KAIZEN training materials in these countries. Such examples include Quality Model of Kenya, 5S-CQI-TQM Guideline and 5S Handbook of Uganda, and 5S-KAIZEN Monitoring and Evaluation Tools

of Malawi[11]. What is more, a new groundbreaking collaboration among WHO, U.K. North Cumbria University Hospital NHS Trust, Mbeya Referral Hospital , and JICA has started under the Africa-wide initiative of African Partnership for Patient Safety led by WHO Afro.

At the DAC Triangular Cooperation Workshop held in Lisbon in September 2012, Dr. Mohamed, Acting Director of Health Quality Assurance of MHSW, stated that the acceptance of trainees from neighboring countries to hospitals in Tanzania has also motivated Tanzanian staff in the promotion of 5S and KAIZEN activities[12]. This clearly indicates that sharing and disseminating knowledge and experiences with other countries is a two-way joint learning process toward stronger capacity.

4. Scaling-up 5S-KAIZEN-TQM through a Multi-layered Triangular Program of Learning and Actions

Despite its ongoing status, the program has produced several notable achievements as seen above. Practical applications of 5S-KAIZEN-TQM are underway in the pilot hospitals of fifteen countries. Several countries have been mainstreamed or are in the process of mainstreaming the approach into their strategies and framework of quality assurance for health services. Countries like Tanzania and Kenya are now scaling-up pilot practices to other hospitals. Through the participation in the program, Tanzania has emerged as an African pivotal country in this approach for other African countries to learn from. What then are the key factors for these achievements?

4-1 Matching the Country's Knowledge Demands and the Supply of Appropriate Knowledge

(1) Local knowledge needs

One factor for the achievement so far was timely response to the increasing demands and needs for a practical and low-cost change management approach for better hospital services. As stated earlier, the quality of care has become an important global health theme. In response to such global moves, many African countries have completed or are in the process of formulating quality improvement frameworks with the assistance of donor agencies. For instance, the ministry and hospital staff in Tanzania are expected to improve their

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[11] ibid.
[12] ibid.

performance in line with the client service charter and the quality improvement framework for health service.

(2) Supplying relevant and appropriate knowledge – simple ideas and practicable models

Such knowledge demands then needed to be matched by the timely supply of a high quality program with practical and relevant knowledge contents. In that regards, it is safe to say that BHSP with 5S-KAIZEN-TQM has been able to fulfill such knowledge demands of the African health workforce under the increasing pressure for better management and performance.

Its approach, tools and implementation methods are simple, flexible and affordable. It is also a proven approach in the developing-country context of Sri Lanka which had a lot in common with African countries. In spite of the ongoing reform, medical and health practitioners in African countries continue to face shortage of resources including budget, human resources and medical supplies. The simple and practical design centered on the step-by-step approach enables users in developing countries to easily learn and apply even in a challenging working environment.

The approach can be flexibly adapted to suit diverse country and sector contexts. Its application requires only minimal costs such as those for undertaking necessary training programs. Its simple design does not necessitate expensive professional consultant services for implementation. Improved efficiency in service provision through its application could even generate extra savings for other essential activities. The simple and practicable nature of 5S-KAIZEN-TQM eventually resulted in its swift localization in Tanzania, from which other African countries are now able to learn.

4-2 Institutional Innovations for Mutual Learning and Knowledge Co-creation

(1) Systematic creation of processes and spaces or "*Ba*" for mutual learning and actions

BHSP is so designed that it systematically creates processes and spaces or "*Ba*" for learning and actions beyond the knowledge of 5S-KAIZEN-TQM through clear task-orientation, the integration of a PDCA cycle (Plan, Do, Check and Action), a combination of class room

teaching and field observation and through opportunities for mutual learning among other African colleagues. BHSP training sessions combine both class-room teaching by experts and field observation trips in Sri Lanka and Japan. In the wrap-up training program at the end of the first phase, participants from beneficiary countries gather to share the experiences and lessons from their pilot implementation with African counterparts for reflection. Toward the end of training program, each country representative is tasked to draft a national action plan for further actions such as the start of more advanced KAIZEN activities and institutionalization of 5S-KAIZEN-TQM into their national framework. These features of process-oriented learning have thus been instrumental in bringing out a stronger commitment in participants for sustained national practice.

Also, within each hospital, the core implementation strategies of 5S-KAIZEN-TQM embody the creation and institutionalization of spaces or "*ba*" for learning and actions toward continuous incremental improvement for better management. Under the leadership of senior management, WITs were established at unit/section level. This was then followed by the establishment of a QIT consisting of senior management and representatives of WITs in charge of monitoring and supervising the activities of WITs. The implementation strategy of 5S-KAIZEN-TQM is consciously designed to devise these task-oriented and self-organized improvement teams under the leadership of senior management for continuous and sustained practices of improvement toward better hospital services.

(2) Systematic engagement of and support for leaders and agents of change

The leaders and agents for change have certainly played critical roles all through the program. An additional but important feature of this program, however, is its systematic engagement of such leaders and key change agents ensuring that they lead the process of translating knowledge into sustained actions on a wide scale. Firstly, the program consciously involves both key ministry officials in charge of health service quality as well as the key staff of the designated pilot hospital, the latter including both hospital managers and the practitioners, from the onset. By engaging both of these, the program was able to assure its legitimacy and heighten motivation to the pilot experimentation. Secondly, the simple and flexible implementation strategy such as the

establishment of WITs and QIT has also helped provide a more-enabling institutional environment for both top leaders and the leaders of middle-management in driving and sustaining the improvement activities.

## 4-3 The Role of External Actors (Donors)

(1) Sri Lanka as the source for appropriate knowledge and inspiration

In this program, the basis of the knowledge was first developed in Sri Lanka, while the root ideas came from Japanese manufacturing practices. Thus, Sri Lanka can be said to have played the role of a pivotal country, providing the knowledge base. Following refinement and full development of 5S-KAIZEN-TQM among the Sri Lankan and Japanese specialists, the CSHW, with the distinction as the Asian center of excellence in the approach, has continued to play the key role of inspiring and presenting a replicable model to senior officials and key hospital staff of African countries.

(2) The emergence of Tanzania as an African center of excellence in 5S-KAIZEN-TQM

A remarkable aspect of BHSP is the emergence of Tanzania as an African center of excellence at a relatively early period as depicted in Figure 3.

Figure 3: Multi-layered Knowledge Exchange Process of 5S-KAIZEN-TQM
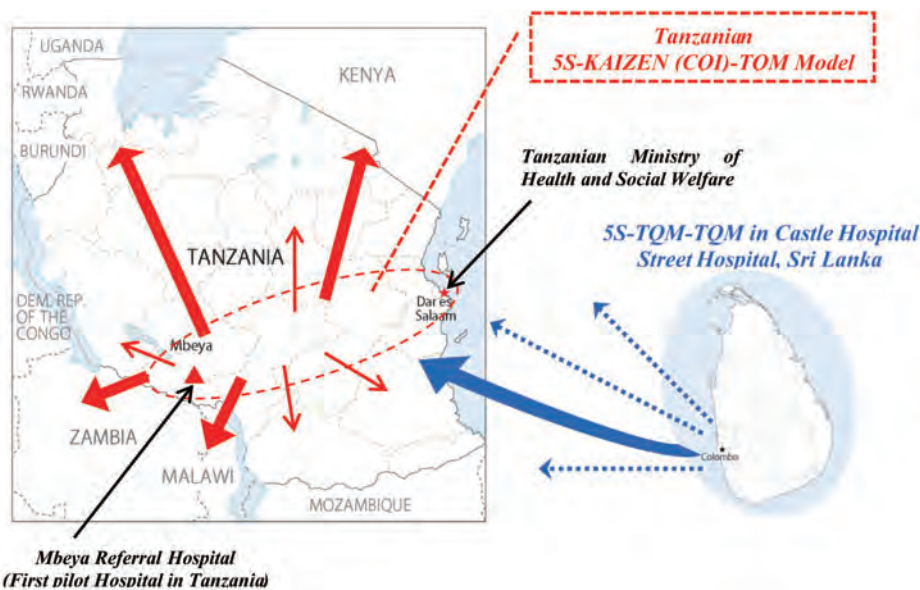
Source: By author

The emergence of Tanzanian as an African pivotal country has enabled

the learning to be dynamic and multi-layered. The geographical, cultural and contextual proximity of Tanzania to African countries, especially to its East African neighbors, has helped to enhance the knowledge accessibility and the relevance. In other words, Tanzania has started to play the dual role of beneficiary and pivotal country in knowledge sharing in the course of a single triangular program.

It is interesting to note that a Tanzanian senior health ministry official in charge of quality assurance stated in his presentation at an international workshop that "Continuous practice of Triangular and South-South Cooperation develop not only other country's capacity but also ours." This statement underscores that fulfilling the dual roles of learning and teaching could further lead to deeper understanding of the knowledge in question.

(3) JICA and Japanese experts as knowledge mediator and facilitator
JICA has played multiple roles in the initiative. In all of them, the presence of committed Japanese experts and staff were instrumental in JICA's effectiveness as a knowledge mediator and facilitator.

Firstly, Japanese experts including Dr. Hasegawa were active mediators and facilitators of knowledge connecting Sri Lanka, Japan and African countries. Dr. Hasegawa, a Japanese Health Policy specialist, both identified and gave professional validation to the excellent practice at CHSW through his JICA-funded field survey. Along with professional colleagues from Japan and Sri Lanka, including Dr. Karandagoda and Dr. Handa, Dr. Hasegawa went on to further conceptualize the practice into 5S-KAIZEN-TQM and, with the aid of experts from developing countries and Japan, disseminated this know-how to other countries through channels such as BHSP.

Secondly, JICA, using its extensive network of field offices, also helped facilitate the BHSP process of knowledge exchange between Sri Lanka and African beneficiaries, both in program formulation and implementation. During the implementation, JICA technical cooperation experts and JOCV (Japan Overseas Cooperation Volunteers) in the country assisted in the execution of pilot projects, institutionalization and rollout of the approach by hospitals and ministries.

Finally, it is interesting to note that several Japanese hospitals have

invited Dr. Karandagoda to their hospitals in Japan to learn from the Sri Lankan experiences. This is a proof of the importance of the two-way process of knowledge sharing and learning in this globalizing world.

5. Implications and Lessons

This case clearly presents several lessons and implications for other similar triangular cooperation programs involving multiple beneficiary countries. The case highlights:

a) the importance of effectively matching the demands and supply of knowledge by the identification of knowledge needs as well as the relevance and applicability of knowledge contents;

b) the importance of good program design with adequate sequencing and combination of various instruments such as training and pilot practices, so as to ensure the continuous process of mutual learning, reflections and actions among the partners;

c) the systematic engagement and nurturing of leaders and key change agents for sustained country practices;

d) the need for complementary technical support to beneficiaries in the process of pilots, institutionalization and rollout in most cases; and

e) the identification and promotion of the good performer among the beneficiaries whenever appropriate so as to create multiple channels of knowledge exchange.

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Case 3

The Triangle of Hope: Promoting Investment in Zambia through Malaysian Experiences

Yukimi Shimoda

1. Introduction

This case presents a project for sharing experiences between Asia and Africa. This cooperation aimed to assist in the development of Zambia's economy by improving the investment climate and inviting foreign direct investment (FDI). It utilised experiences and knowledge from Malaysia, which over the decades overcame the economic problems Zambia currently faces. The project was led with the concept of the "Triangle of Hope (ToH)" introduced by a Malaysian expert. The venture was implemented in two phases: Phase I 'Triangle of Hope, Strategic Action Initiative for Economic Development (ToH SAIED)' in 2006-2009 and Phase II 'Zambia Investment Promotion Project – Triangle of Hope – (ZIPP-TOH)' in 2009-2012. The Zambian organizations which played important roles were the State House, the Cabinet Office, the Ministry of Commerce, Trade and Industry, and the Zambia Development Agency (ZDA), as well as other line ministries, which undertook various tasks to improve the investment climate. With the strong initiatives of the government, high-level task forces were established to conduct the necessary actions to improve the investment climate.

Throughout the two projects, Malaysian experts supported Zambia's efforts, providing advice and know-how derived from their experiences in Malaysia. Their support brought significant outputs from the policy level to the practical level: the formation of the Client Charters and the development of investment promotion tools (e.g. the investment booklet, sector profiles). A number of investment promotion missions were dispatched to and from Zambia. Several investment projects were officially approved. Steady steps have been taken toward a diversified

economic structure for Zambia and a better investment climate. These activities have been harmonized with those of Zambia's Private Sector Development Reform Programme.

First, this paper describes the background and main activities of this cooperation. Then, examining outputs, the paper looks at some key factors that contributed to its progress, along with some implications that can be derived from the cooperation between Asia and Africa.

2. Background: Encounter of the Two Countries

2-1 Sharing the Experiences

(1) Zambia: The necessity for economic diversification

The economic and industrial structure of Zambia, a landlocked country, has heavily been dependent on its copper resource. Its economy and financial conditions are significantly influenced by the international price of copper. Since the introduction of the Poverty Reduction Strategy Paper (PRSP) and the Transitional National Development Plan (TNDP) in 2002, the policy priority of the Government of the Republic of Zambia (GRZ), which focused on the social sector, has shifted to the one more emphasised on the economic sector.[1] In addition, the GRZ has been making efforts to diversify its monoculture economic and industrial structure since its independence in 1964 from the United Kingdom. The GRZ prioritizes the promotion of investment through the improvement of the investment climate, in order to support its economic development and diversification.[2]

Under these circumstances, the GRZ formed the Fifth National Development Plan (FNDP) and the National Long Term Vision 2030 (Vision 2030) in 2007. The Vision 2030 aims to accelerate Zambia's economic growth through the implementation of the FNDP and future national development plans to become a middle-income country by 2030. The Six National Development Plan formulated in 2011 also emphasises the importance of economic development and diversification.

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[1] CAS 2004.

[2] Zambia's started the reform of its investment policy in 1991 and introduced a series of acts, for instance, the Investment Act of 1991, the Companies Act of 1995, and the Banking and Financial Services Act of 1994 (Mwitwa 2006).

(2) Malaysia: Rapid economic development and SSC

Like today's Zambia, Malaysia had a similar economic structure before the 1970s, which mainly relied on raw materials such as rubber, palm oil, and tin. However, during the 1970s and 1980s, the economic structure of Malaysia rapidly changed through the development of secondary industries such as the electronic industry, by inviting FDI.[3] Although there was a temporary decline of FDI in the 1980s due to the end of the 1970's favoured treatment of foreign capital and increases of domestic wages, the Government of Malaysia (GOM) introduced new favourable incentives for FDI, which resulted in the rapid increase of foreign capital in the 1990s. In 2005, per capita gross domestic product (GDP) of Malaysia became US $5,080, almost ten times bigger than that of Zambia's US $500. The two countries, which in 1970 were at similar developmental levels (GDP per capita of Malaysia and Zambia were US $400 and $430, respectively), have taken quite different paths.[4] Malaysia is currently an upper middle-income country.[5]

The GOM started their South-South Cooperation (SSC) in the 1980s, calling it the Malaysian Technical Cooperation Programme (MTCP). Their main activities were comprised of short-term training (less than three months), scholarships, and expert despatching. For instance, the total number of the short-term training participants until 2005 was about 1,800 from 135 countries, among which the number of those from the ASEAN region was the highest.[6] Almost all training participants were government officials.[7] In trade and investment, training programs were offered mainly by the Ministry of International Trade and Industry (MITI), the Malaysian Industrial Development Authority (MIDA),[8] Malaysia Productivity Corporation (MPC), and the Malaysia External Trade Development Corporation (MATRADE). Among them, MIDA is known

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[3] Hiroshima University & MRI 2006, p. 83.

[4] Homma 2012, p. 1.

[5] OECD 2012.

[6] Hiroshima University & MRI 2006, p. 113.

[7] This trend is recently changing. The MATRADE is, for instance, conducting training for those of chambers of commerce.

[8] The official name of the MIDA has been recently changed into the Malaysian Investment Development Authority (MIDA).

for its major role in contributing to the Malaysian economic miracle.[9] It has conducted seminars related to investment promotion for least developed countries since the 1990s.

Cooperation for SSC between Malaysia and Japan/Japan International Cooperation Agency (JICA) started with the latter covering the whole cost. However, since 2001, both countries have split the cost evenly under a new scheme, called the Malaysian Technical Cooperation Programme – Third Country Training Programme (MTCP-TCCP).[10]

2-2 Seamless Cooperation Led by the Triangle of Hope
(1) Making arrangement for matching two countries
During 2003-2004, the GRZ was searching for ways to improve the investment climate of the country. They conducted studies assisted by the World Bank (WB),[11] some of the recommendations of which were adopted to form the Private Sector Development Reform (PSDR) agenda in 2004. However, the agenda was not implemented as planned due to a lack of effective institutional structure. In 2005, the GRZ established the PSDR Programme (PSDRP), which consisted of a steering committee, working groups in priority areas, a secretariat, and a basket fund created with support of bilateral donors (i.e. Netherlands, Finland, UK, and Sweden).[12] WB, USAID, and EU also supported the PSDRP. In parallel with the PSDRP, some donors came to support Zambia's PSDR: WB's SEED project and the US Millennium Challenge Account Threshold program.[13] Under these circumstances, JICA also began to support the GRZ, in cooperation with experts from Malaysia.[14]

Preparation of the cooperation between Zambia and Malaysia: 2004-2006
Cooperation between Zambia and Malaysia was prompted by the third Tokyo International Conference on African Development (TICAD III) in 2003. The TICAD III called for assistance from the international community for the 'expansion of partnerships' as one of the eight important development agendas.[15] The agenda particularly emphasised

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[9] Jegathesan & Ono, 2008.

[10] Hiroshima University & MRI 2006, p. 113.

[11] IFC PEP-Africa and FIAS 2007, *Review of the Government of Zambia's Private Sector Development Reform Program (PSDR) and Recommendations for Enhancing Impact*, p. 5.

[12] IFC 2007, p. 5, and JICA 2008, pp. 9-10.

[13] IFC 2007, p. 5.

[14] The ToH Programme was a 'fast track one, which aimed to implement urgent, important issues in a top-down style, although the action agendas had been formed based upon the consensus among those of the government and the private sectors. On the other hand, the PSDRP was more comprehensive program involving a wider range of stakeholders from the government to the private (JICA 2011, p. 8).

[15] MOFA 2003.

the cooperation between Asian and African countries by sharing the former's know-how and experiences of economic development and by establishing cooperative networks in the areas of agriculture, capacity building, technological transfer, and trade and investment.

It was from these trends that the idea of utilising Malaysian's development experiences for assisting Africa emerged. In 2004, the JICA Malaysia Office and the Economic Planning Unit of the Prime Minister's Office, the GOM, sent a joint mission to Kenya, Zambia, Zimbabwe, and South Africa, in order to find possibilities for SSC activities.[16] Among the participants was Dato' J. Jegathesan, the former Deputy Director General of the MIDA, who was chosen for his rich hands-on experience in promoting investments. In Zambia, he presented the concept of the Triangle of Hope (ToH) to the Vice Minister of the Ministry of Commerce,

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Box 1: The Concept of the Triangle of Hope and the Quadrant Strategy[17]

For the economic development of a country, harmonisation of three forces is indispensable: 1) political will and integrity, 2) civil service efficiency and integrity, and 3) private sector dynamism and integrity. The most important point is to foster a common understanding of the concept among all stakeholders involved in the three forces and to take their cooperative endeavours towards the implementation of various development plans in the same direction.

The quadrant strategy is a pathway to connect the ToH with the ultimate object of creating jobs and wealth within the country. It takes four stages: 1) creating an investment environment, 2) identifying prioritised economic/ business sectors, 3) implementing investment promotion, and 4) ensuring actual implementation.

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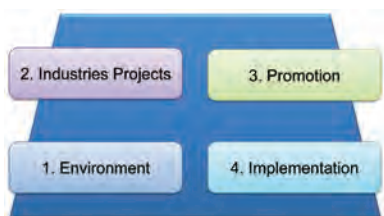
[16] There countries were selected bases upon the concerns of their geo-political characteristics. This mission also became the opportunity for the MIDA, the MPC, and the MATRADE to create triangular training for African countries.

[17] JICA, 2008, pp. 6-7, and Jegathesan & Ono 2008, pp. 211-216.

Trade and Industry (MCTI) and the Minister of the Ministry of Finance and National Planning (MoFNP).[18] ToH is a concept created out of Malaysia's experiences that emphasises three forces as prerequisites for a country's economic development: 'political will', 'civil service', and 'private sector'.

The concept of the ToH as the strategic action initiative for national economic development was well accepted in Zambia, which resulted in the official request of assistance to the then Prime Minister of Japan, Junichiro Koizumi and JICA. In response to this request, in the first half of 2005, JICA dispatched Mr Jegathesan several times to Zambia to explain the concept and foster a shared common understanding of the concept among a wide range of various stakeholders, from the late President Levy Patrick Mwanawasa, parliament members, and government officials to those in the private sector.

During 2005 and 2006, the GRZ, with the support of Mr Jegathesan and JICA, made various preparations to introduce the ToH in Zambia. Under the President's initiative, twelve Task Forces[19] were established to identify important issues in selected sectors and make necessary recommendations for the strategic policy of Zambia's economic development. Each task force consisted of three members from related line ministries and two from the private sector. For supervising and monitoring their activities, a Steering Committee was also appointed, which was chaired by Dr. Musokotwane, the Deputy Secretary to the Cabinet, and co-chaired by the Special Advisor to the President

(Programme Implementation and Monitoring), and the Resident Representative of the JICA Zambia Office. At the beginning of 2006, the Task Forces submitted their recommendations. By reference to the recommendations, each line ministry prepared action agendas. Consequently, the GRZ set twelve ToH Action Agendas, uniquely including health and education sectors

A briefing of Mr. Jegathesan to the President of Zambia and ministers

[18] It is currently the Ministry of Finance (MOF).

[19] These Task Forces were 1) air cargo hub, inland ports, 2) agriculture, 3), banking and finance, 4) cotton, 5) education, 6) government streamlining, 7) health, 8) information communication technology, 9) multi-facility economic zones (MFEZ), 10) small and medium enterprises, 11) tourism, and 12) mining (added later).

as the priority sectors for their economic development. Thus, the GRZ started taking concrete steps towards the realisation of the ToH.

(2) Two projects: Extended cooperation

The 12 ToH Action Agendas, now officially approved, had to be monitored to secure appropriate implementation. Therefore, one project was planned for supporting the GRZ to monitor the Agendas. At the end of the project, an urgent need emerged to develop the capacity of The Zambia Development Agency (ZDA), which was a newly established institution in charge of the investment promotion during the first project.[20] Consequently, the implementation of Thus Zambia's ToH programme came to be supported by the following two projects in which Malaysian experiences and know-how of investment promotion gave a significant influence.

Phase I 2006-2009: The strategic implementation of the Action Agendas

In 2006, a new project titled "the Triangle of Hope, Strategic Action Initiative for Economic Development (ToH SAIED)" began in order to support Zambia's ToH programme and monitor the 12 ToH Action Agendas. The main activities were 1) to establish a monitoring system of the 12 Action Agendas and other related activities and to improve the policy framework for the development of investment environments, 2) to prepare and disseminate necessary information on Zambia's investment environments to prospective investors (e.g. booklets, websites, promotion activities), and 3) to prepare the implementation of administrative infrastructure (e.g. Clients' Charters). The approval and implementation of actual investment projects were the GRZ's responsibilities. It also continued to act to enhance the understanding of the concept of the ToH among stakeholders – such as high-ranking government officials, politicians, and those in the private sector – through training and workshops.

The ToH SAIED was implemented under the coordination of the Steering Committee mentioned above, with support from five Malaysian experts as technical advisors, one of whom was Mr Jegathesan.

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[20] The ZDA was established in 2007 by the merger of five institutions, including the Zambia Investment Center (ZIC), one of the first counterparts of the ToH SAIED. It was about 2008 that the ZDA came to function after the allocation of a certain number of staff members.

Figure 1: The Structure of the ToH SAIED (as of 2008)[21]
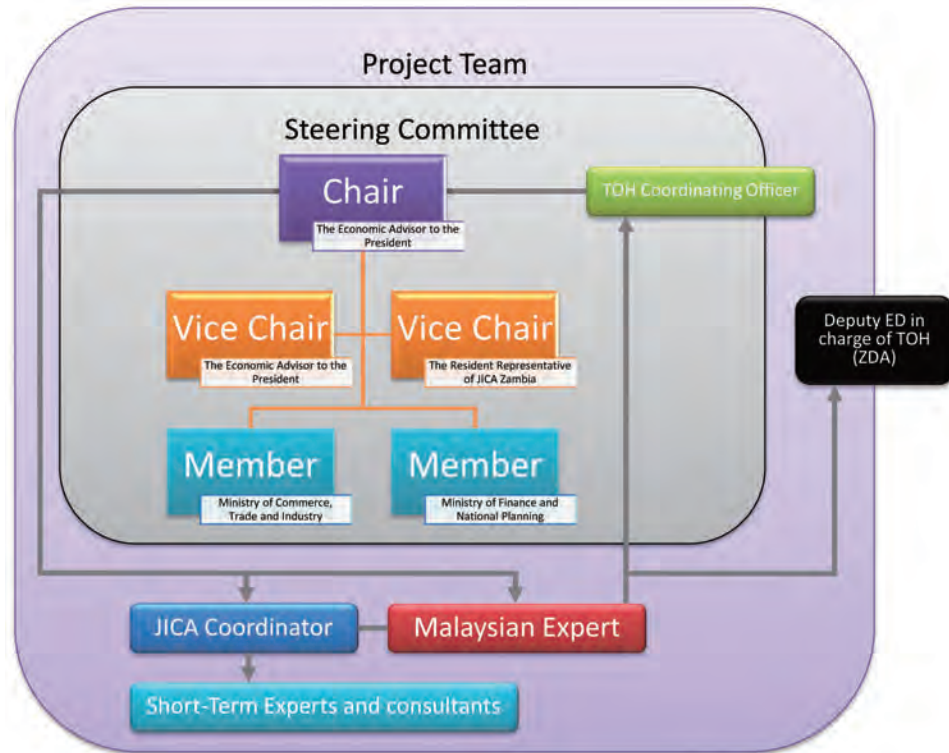
Phase II 2009-2012: The development of the capacity of the ZDA

Right after the completion of the ToH SAIED, a new project titled the Zambia Investment Promotion Project – Triangle of Hope – (ZIPP-TOH) started. It mainly aimed to strengthen the capacity of the ZDA together with other line ministries in order to effectively promote investment in Zambia. The ZDA was expected to play a central role in investment promotion activities in cooperation with other line ministries and the private sector. However, it was not functioning well due to its organisational fragility and the lack of practical experiences among the staff, which prevented them from gaining trust from the private sector.

In the ZIPP-TOH, various activities were conducted for the development of institutional and individual capacities for better promotion of investment. For instance, investment promotion tools, such as investment promotion booklets, sector and sub-sector profiles, product profiles, were prepared and/or revised. Information on investment procedures and target countries was compiled to provide better services to investors. It also aimed to improve the collaboration in investment activities among the MCTI, the ZDA, other ministries, and

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[21] Modified by the author (Figure 6 in JICA 2008, p. 12). After Dr. Musokotwane, the Chair of the Steering Committee, had been transferred to the State House as the economic advisor to the President in a personnel reshuffle during the project, he came to play a role of the Chair, doubled as a Co-Chair.

the private sector through periodical dialogue, information exchange, and other activities. In the latter half of the project, on-the-job training through day-to-day activities in the ZDA was introduced for capacity development of individual staff members. Training of trainers was also conducted. Simultaneously, the monitoring of the ToH Action Agendas continued. The

A business seminar at Malaysia

Malaysian experts constantly assisted the monitoring activities and provided advice for necessary policy reforms.

2-3 Changes in Zambia and a Future Task

As the result of emphasising the importance of the integration of the three forces, 'political will,' 'civil service efficiency,' and 'private sector dynamism,' the investment climate in Zambia has been improving, though it is still premature to measure ToH's impact on the Zambian economy. The World Bank's annual report, *Doing Business 2011*,[22] ranked Zambia in the top ten countries to have improved investment climate and introduced policy changes. The improvement of Zambia's investment climate is currently attracting FDI. The interest of Japanese companies in Zambia is also rapidly increasing recently. In Zambia investment seminars[23] held in Japan (Tokyo and Osaka) in July 2012, more than 170 companies attended. According to interviews and a survey among international corporations, economic associations, and foreign investors in Zambia, they felt that Zambia's investment climate and ZDA's services have improved.[24] This section explains some results to which the above two projects contributed to some extent.

The development of economic and business environments

Various activities for improving the investment climate have been conducted by the GRZ. More than half of the one hundred activity items[25] set under the Action Agendas have been (and are going to be) implemented. In addition, the ZDA Client Charter, of which ZDA staff members had prepared a draft in a workshop, was published. Other

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[22] IFC 2010, p. 5.

[23] These seminars were organised by the UNIDO Investment and Technology Promotion Office (ITPO), Tokyo, and the JICA.

[24] JICA 2012, p. 7.

[25] More than two hundred activity items, which were originally set under the ToH Action Agendas, were organised and reduced to one hundred after the mid-term review of the ZIPP-TOH in June 2011.

governmental institutions (e.g. the Zambia Revenue Authority, the Department of Immigration) also formed their Client Charters.

Many investment promotion tools were prepared and distributed at seminars, workshops, by investment promotion missions to other countries, and at meetings with investors visiting Zambia. For instance, in cooperation with the government and the private sector, a number of sector and product profiles, and user manuals have been published and/or revised and distributed among prospective investors within and outside Zambia. As of June 2012, there were six general investment promotion materials ready for reference (e.g. *Zambia's Investor Guide, Zambia, Africa's New Frontier for Investments and Profits*), two manuals for applying investment licenses, eight sector profiles (agriculture, energy, mining, manufacturing, infrastructure, education, health, tourism), four sub-sector profiles (agro-processing, mineral beneficiation, copper fabrication, iron and steel), and two product profiles (computers, leather and leather product). Most of them were prepared by working groups consisting of ZDA staff members. These investment tools are updated annually and are available on the ZDA website.

Regarding the E-Governance system introduced by Mr Jegathesan, the Ministry of Communication and Transport is preparing its basic design with support from UNDP.

Investment promotion activities and the development of the ZDA's capacity
An important feature of the projects, particularly the ZIPP-TOH, is its on-the-job capacity development of the ZDA and its staff members through their participation in actual investment promotion missions. Taking advantage of the professional networks of Mr Jegathesan, a number of investment promotion missions were organised to India, Malaysia, Thailand, South Africa, and Japan. During the missions, a number of investment promotion seminars were held. With the support of the ZDA, Zambian companies prepared about thirty joint venture proposals. By sending these missions as well as by receiving investment missions from other countries, the ZDA could obtain direct feedback from prospective investors and learn of their expectations.

These activities have resulted in nine investment projects in various

sectors, most of which are FDI from Malaysia and India (including joint venture with Zambian companies), having been officially approved. Over thirty projects are currently under negotiation.

The Diversification of Zambia's Economic Structure

These activities of improving the investment climate have helped to shed light on potential sectors other than copper, particularly in non-traditional sectors (e.g. tourism, education, health, information and communications, and finance). Until recently, the private sector was not involved in these sectors in which the central government had been expected to take initiative in the

A mobile phone factory

socialist era.[26] However, with the advice of the Malaysian expert, the successful promotion activities in these non-traditional sectors resulted in increasing FDI and contributed to the diversification of sectors for private investment. This trend has been sustained by enhancing the common understanding of the ToH concept among stakeholders.

Investment projects are emerging in the information and communications and the health sectors, for instance, through international business promotion meetings in Malaysia and India. In the education sector, regulations were revised in order to enable national universities to conduct business on a commercial basis, which lead to serious discussions on joint ventures between national universities in Zambia and international corporations.[27] Several projects have been realised or are in the process toward realisation, such as a mobile phone manufacturing factory, an information and communication college, and a high-tech hospital.[28]

Remaining tasks and the future of Zambia's ToH

The continual implementation and monitoring of the ToH Action Agendas are important for the further economic development of Zambia. For this purpose, the ZDA needs to develop its internal system, such as training, in order to disseminate and utilise skills and knowledge obtained by its staff members, who had participated in

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[26] JICA 2008, p. 8.

[27] JICA 2008, p. 21.

[28] JICA 2008, p. 21.

investment promotion activities. This would sustain (and improve) the capacity of the staff members and enable the ZDA to continue improving investment environments and supporting investors. In addition, Zambia's ToH and its related activities have been being harmonised with the PSDRP and continuing even after the completion of the ZIPP-TOH. In this sense, the continual implementation and monitoring of the Action Agenda are also vital.

3. The Learning Process
This section looks at some factors that have contributed to the positive progress of the project thus far.

3-1 Key Factors
(1) Fostering ownership with shared visions
A key to the success of Zambia's ToH is to secure that the concept of the ToH and its visions are shared among various stakeholders, from the President to those in the private sector. A number of briefings and workshops were repeatedly organised. The Malaysian expert provided important advice to ministers. MoFNP, for instance, was advised about the overall policy of investment promotion, preferential tax and other incentive treatment for investors, and individual investment projects. Other ministers were advised about ways to attract investors to their sectors, from the policy level to the individual project level.

As a result of this, a high-level commitment was developed. The leadership of the Steering Committee with the strong commitment of Dr. Musokotwane, the economic advisor to the President, made it possible to form and monitor the 12 ToH Action Agendas by coordinating concerned ministries; complex issues requiring the commitment of many governmental institutions were implemented swiftly. In addition, the top-management of the ZDA was very active in ToH related activities. It was, however, observed that the robust top-down structure of the Committee sometimes resulted in undermining the feeling of ownership among other stakeholders, particularly that of line ministries.

(2) Change drivers
Several factors have worked as drivers of change in this exercise.

Promotion of Asia-Africa cooperation
The emphasis of the importance of Asia-Africa cooperation in the

TICAD III created a favourable atmosphere for Zambia, whose economy had been faltering and was searching for ways to diversify their economic structure. The joint mission of Japan and Malaysia to Africa resulted in bridging the two countries together, Malaysia and Zambia.

Powerful examples of Malaysia's experiences

Relatively fresh experiences of economic development of Malaysia, which had successfully changed their economic structure and achieved rapid economic development, were instrumental in stimulating and motivating Zambia to undertake economic development with the support of Malaysian experts. Mr Jegathesan, who used to work for the MIDA in Malaysia as the Deputy Director General in the middle of the development process of the country, played a key role in bringing Malaysia's experiences and know-how to Zambia. The GRZ directly was able to learn the ways in which the GOM had promoted the policy of introducing FDI and changed the country's economic structure.

Timely start of the projects

The timely start of both projects, the ToH SAIED and the ZIPP-TOH, facilitated Zambia's ToH. The GRZ could obtain effective and timely advice from the Malaysian expert, right after the preparation period of 2004-2006, during which the Zambian governmental stakeholders had developed strong interest in the concept of the ToH.

(3) Learning in the process

The two projects were designed to highlight the process of learning through the implementation of related activities both on theory and practice. This enabled the GRZ to obtain interactive feedbacks between the policy level and the implementation level.

Malaysian experiences were effectively modified and utilised for Zambia at both levels. At the policy level, some practical ideas were suggested by the Malaysian expert to the GRZ. One example was an idea of streamlining governmental services for making investment in Zambia competitive and providing incentives to the private sector.[29] This idea was transformed into the 12 Action Agendas and one hundred activity items through discussions in each Task Force. Together with the monitoring process in the Steering Committee, this process of

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[29] From the Summary Table (JICA 2008).

internalising foreign expert's advice was a learning process for the GRZ.

Similar processes of learning were observed at the implementation level. Some of investment promotion tools were prepared by adapting and modifying the ones which Malaysia had developed during their economic reform. For instance, *Zambia's Investor's Guide and Cost of Doing Business* were made with reference to the materials published by the MIDA.

In addition, on-the-job training before, during, and after investment promotion missions to other countries enabled the ZDA staff to learn and develop skills under the instruction of the Malaysian expert. Such skills were related to, for instance, the organisation of missions, the preparation of presentation, the effective use and distribution of

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Box 2: Investment Promotion Missions as Practical Training[30]

The participants of investment promotion missions, such as ZDA staff members and Zambian private companies, were able to learn lessons from various activities for successful promotion (i.e. preparation, implementation, follow-up) to professional attitudes under the instruction of Mr Jegathesan. In the beginning, Zambian participants, without much practical experiences in investment promotion, tended to get confused when they received

A business meeting between the ZDA and a Malaysian company at Malaysia

a number of questions from Asian investors. Mission members sometimes had a hard time convincing the potential investors that the GRZ was doing its best to maintain law and order for those investors, whose biggest concern usually was security. Through these experiences, Zambian counterparts directly understood the difficulties of inviting FDI and accumulated basic knowledge on what was expected of them from investors and how to attract investors.

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[30] Fukuda 2009.

missions also included staff members of the private sector. These skills promotion materials, and follow-up activities. Investment promotion and knowledge could be used for receiving missions from other countries. Additionally, one Japanese expert provided daily on-the-job training by giving more detailed advice for the ZDA staff to improve their everyday services.

ZDA had several channels of feedback in the process of providing services; for instance, they received feedback from staff members taking care of investors, from stakeholders of the government and the private sector on the draft sector profiles prepared by them, and from the participants of investment promotion missions and seminars.[31] Through these feedback channels, what they learned in the practical level could be brought back to the policy level.

(4) Coordination with other programmes

The GRZ did not receive financial support from JICA for their ToH programme. JICA's support was only to provide technical support for the GRZ to implement the programme. Dr. Musokotwane, the chair of the Steering Committee, sometimes made necessary coordination between their ToH programme and the PSDRP, and obtained funding for the former.[32]

3-2 Key Roles of Malaysia and Japan

(1) Respecting the ownership of the beneficiary country

For the Japan and Malaysia's cooperation for Zambia's ToH programme, the assistance of Mr Jegathesan was important. His rich experiences accumulated through his service at the MIDA during the economic development of Malaysia was the source of strong support for forming and realising the 12 ToH Action Agendas in the ToH SAIED and the ZIPP-TOH projects. In cooperation with the government of Malaysia, which strongly promoted South-South Cooperation, and private corporation associations, together with the Malaysian expert's professional networks, the GRZ could successfully send and receive investment missions to and from Malaysia.[33] However, what is notable is that the two projects only supported part of activities related to Zambia's ToH programme, but did not take over their works. In the

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[31] JICA 2012, p. 7.

[32] This coordination was smoothly conducted particularly during the time when Dr. Musokotwane played the roles of the both chairs of the PSDRP and the ToH (JICA 2008, p. 9).

[33] JICA 2008, p. 21.

preparation period, the Malaysian expert provided advice to the task forces (and the Steering Committee later), while emphasising the GRZ's ownership. He made them work out their problems on their own. Later, this relationship became more pronounced. When the ZDA staff members had developed their capacities to conduct investment promotion missions, the Malaysian expert let the Zambian side implement and manage missions almost entirely.[34]

(2) Effective combination of Malaysian and Japanese experts over time
Japan/JICA played the role of catalyst in the formation of the cooperation between Malaysia and Zambia. JICA had strong connections to both countries. Due to the long cooperation with them, the idea of applying Malaysia's highly relevant experiences and know-how to Zambia emerged. A joint mission of Japan/JICA and Malaysia to Zambia made a bridge between Malaysia and Zambia. Moreover, it was very efficient and effective to recruit Mr Jegathesan as a Malaysian expert, who had rich experiences in MIDA and a strong connection with prospective investors in Malaysia and India. The expansion of investment sectors to non-traditional ones, such as health and education, was also derived from his experiences in Malaysia. His long-term commitments throughout the two projects greatly contributed to support Zambia to implement ToH related activities.

Moreover, where necessary, the inputs of Japanese experts brought synergistic effects for Zambia's ToH from time to time. For example, when it was necessary to expedite the progress of ZDA's capacity development, Japan immediately arranged the dispatch of a Japanese expert specialised in training of investment promotion activities. There was a broad division of labour between the Malaysian and Japanese experts: the former provided guidance on 'what' to do, while the latter on 'how' to implement it.[35]

4. Implications
This case study provides some implications for future effective cooperation.

Validity of Asian experiences for Africa and the potential future business
This experience indicates the possibility that Asian experiences can

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[34] JICA 2012, p. 8.
[35] JICA 2011, p. 12.

have some relevance for African countries. Some Southeast Asian countries, particularly those who became middle income countries, have similar experiences in having to overcome economic weakness by learning from other advanced countries, and applying these experiences to their different socio-cultural-economic environments. Like Malaysia, some experienced economic development through investment promotion by inviting FDI under the strong government initiative. If such exchanges are developed, Asia-Africa cooperation may create business opportunities for participating countries.

Political high-level commitment

The commitment of high-level stakeholders became a driving force for realising Zambia's ToH programme. This commitment was based on the shared understanding of the concept of the ToH, which had been fostered and intensified through repeated briefings and workshops since the preparation period. This approach was based upon the experiences of the Malaysian expert, who had learned the importance of inviting investors under the strong government initiative.[36]

Capacity development: Learning by doing

It was extremely effective to provide opportunities for developing and strengthening the capacity of individual ZDA staff members and the ZDA as an organisation, not only through training for transferring knowledge and skills, but also through the implementation of actual investment promotion missions. They learned both from the successes and failures of such missions, which helped them to build self-confidence.

Harmonisation among various projects

The GRZ and donors in the private sector development have long recognized the need for strengthening the coordination and harmonization of programs and projects in the sector.[37] In addressing the issue, the GRZ has started to take leadership in deepening harmonization and coordination between the two programmes of ToH and PSDRP through closer communication and the information exchanges over the last few years. Although the exercise is still on-going, reasonable improvements in terms of the complementarity of the two programmes have already been reported. Such closer

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[36] JICA 2008, p. 31.
[37] JICA 2008, p. 35, and IFC 2007, p. 21.

communications among stakeholders and international donors is important to further improve the effectiveness of cooperation in the sector.

Flexible management of the projects and combination of different types of knowledge

The flexible framework of the projects, particularly that of the ToH SAIED, proved effective in making use of the various ideas of the Malaysian expert. He made available the broad range of ideas based on his Malaysian experiences and helped to adapt them to the country and sector context. In the ZIPP-TOH, his advisory activities were complemented by Japanese experts, who provided timely and practical advice to the ZDA staff in the form of on-the-job training. The ideas of the Malaysian expert indicated some directions of Zambia's ToH programme, while the practical daily advice of the Japanese experts helped the realisation of the former's ideas. Flexible management and an effective combination of different types of knowledge are effective for this kind of cooperation.

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Case 4

Flexible Cooperation for Indonesia's Multi-dimensional Challenges for South-South Cooperation under a Shared Vision

Yukimi Shimoda and Shigeki Nakazawa

1. Introduction

Indonesia is currently taking a path towards becoming a robust partner for providing effective South-South and Triangular Cooperation (SSC/TrC). Current international and national trends have been strongly supporting their endeavours. By tracing Indonesia's efforts to develop and strengthen the capacity to implement need-oriented, effective SSC activities, this case presents the way in which the international community, with a particular focus on the Japan International Cooperation Agency (JICA), has been supporting them.

Since the late 2000s, line ministries of the Government of the Republic of Indonesia (GOI), particularly the National Development Planning Agency (BAPPENAS), the Ministry of Foreign Affairs (MOFA), the Ministry of Finance (MOF), and the State Secretariat (SEKNEG), have been cooperatively working for promoting effective SSC/TrC. Although it would be premature to make a decisive evaluation, significant balanced results have been emerging from the policy level to the practical level. The major advancement comprises the formation of drafts of the Grand Design and the Blue Print as a policy framework, progress in the development of human resources, and the application of the policy framework to actual pilot projects.

In so doing, the GOI has been sharing a vision for the future direction of Indonesia's SSC/TrC with a wide range of stakeholders from line ministries to international donors and NGOs. This shared vision fostered through face-to-face regular interactive dialogues among stakeholders is the most prominent means that has helped to harmonise

various activities and support Indonesia's challenges for effective future SSC/TrC.

This paper first describes the background and process of this cooperation. Secondly, it presents the notable results of various activities and identifies several key factors that have led to achievements. Finally, this paper considers certain implications regarding future cooperation to support prospective providers of SSC/TrC activities.

2. Towards Harmonised Cooperation

2-1 International and National Momentum for South-South and Triangular Cooperation

(1) Brief history of Indonesia's South-South Cooperation

The history of South-South Cooperation (SSC) in Indonesia can be traced back to the Asia-Africa Conference held in Bandung, Indonesia, in 1955. This conference played an important role for enhancing mutual cooperation among developing countries, which was exemplified by the establishment of the Non-Aligned Movement in 1961 and the Group of 77 in 1964. One of the outcomes of their cooperation was establishment of the Non-Aligned Movement Centre for South-South Technical Cooperation (NAM-CSSTC) on the initiative of Indonesia and Brunei Darussalam in 1995, in order to accelerate development in the developing countries.[1]

After 1978 when the Buenos Aires Plan of Action (BAPA) came to underpin the importance of technical cooperation among developing countries (TCDC) and support the promotion of SSC, the GOI started implementing various technical cooperation activities in 1981. It formed the Indonesian Technical Cooperation Program (ITCP) approved by a Presidential Decree, under which four institutions (known as the 'four legs') took charge of ITCP.[2] They were BAPPENAS, MOFA, MOF, and SEKNEG.[3] ITPC aimed to share Indonesia's experience and knowledge of development through training programs and the exchanges of experts, with support from other countries and international donors.[4] The Triangular Cooperation (TrC) of Indonesia and Japan, through JICA, also began in various sectors, when they provided supplemental training for Low-Cost Housing training in Japan

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[1] NAM-CSSTC, n.d.

[2] JICA 2010a, p. 52.

[3] It was known as the Cabinet Secretariat (SEKAB) at that time.

[4] JICA 2010a, pp. 72-73.

in 1981. Particularly, since the 1990s, Japan's/JICA's role in Indonesia's SSC/TrC has been active.[5] Until now, the GOI has provided training and apprenticeship programs, and scholarship grants to more than 4,000 participants from countries in Asia, the Pacific, Africa and Latin America and has dispatched experts.[6]

(2) Structure of South-South and Triangular Cooperation in Indonesia

The institutional and funding structures of SSC/TrC in Indonesia are complex due to the existence of many stakeholders. In 1982, with the support of the United Nations Development Programme (UNDP), the Coordinating Committee for International Technical Cooperation, whose members included the aforementioned four institutions, was established under a Presidential Decree in order to conduct the necessary technical and administrative coordination for SSC/TrC across more than ten governmental departments and institutions.[7] However, the structure of ministries and government agencies has been changed over time. Currently, regarding technical cooperation, SEKNEG has responsibility for multilateral cooperation with developed countries and international donors, while MOFA is in charge of bilateral cooperation.[8] Technical cooperation is also implemented by various ministries, government agencies, universities, and non-governmental organizations (NGOs). The Ministry of Education and universities are, for instance, in charge of educational cooperation. On the other hand, economic cooperation, namely the Economic Cooperation among Developing Countries (ECDC), is managed by the Ministry of Trade, the Ministry of Industry, and the Indonesian Chamber of Commerce.[9]

The funding of Indonesia's SSC/TrC comes from state budgets and aid from other countries and international donors spread into line ministries and implementing agencies. The state budget is, for instance, used for matching funds through SEKNEG and for full funding through MOFA.[10] However, the GOI, which does not have a separated fund for SSC/TrC, relies heavily on funding from other countries and international donors.[11] Germany, through the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), has provided scholarships to those from

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[5] JICA 2010a, p. 81.

[6] Coordination Team 2011a.

[7] JICA 2010a, pp. 72-73.

[8] JICA 2011a, p. 6.

[9] JICA 2010a, pp. 77-78.

[10] JICA 2010a, p. 81. Scattered budgets were also embedded into the state budget of line ministries.

[11] JICA 2010a, p. XIII.

Timor-Leste who participate in a program in Indonesia.[12] Like UNDP, which has been actively assisting Indonesia's South-South and Triangular Cooperation, there are also many international donors who have provided financial support for Indonesia's SSC/TrC in their specialised sectors.[13] For instance, the United Nations Population Fund (UNFPA) and the Food and Agriculture Organization (FAO) have been providing assistance for the GOI's technical cooperation in the sectors of family planning and agriculture respectively, which were flagship programs in the 1990s.[14] The United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) has supported disaster training programs.

(3) International and national initiatives for SSC/TrC
Recently, a new momentum for Indonesia's SSC/TrC has been brought by their emergence as a global economic and political player in the world. In reflection of their quick economic recovery after the Asian Financial Crisis in 1997, Indonesia became a member of Group 20, the sole Southeast Asian member, in 2009.[15] G20 membership brought Indonesia a larger global economic and political responsibility. Indonesia also became the chair country for the Association of Southeast Asian Nations (ASEAN) in 2011.

The endorsement of international initiatives, such as the Paris Declaration on Aid Effectiveness in 2005 and the Accra Agenda for Action in 2008, highlighted Indonesia's global responsibility. These initiatives have come to shed light on SSC/TrC as a means of assisting the enhancement of aid effectiveness for the purpose of achieving economic and human development among developing countries.

Under these circumstances, in 2009, the GOI signed the Jakarta Commitment adopted by 26 development partners. Its roadmap to 2014 and beyond is structured to implement the agenda for the international aid effectiveness based upon the Paris Declaration and the Accra Agenda for Action, by effectively utilising external assistance in line with

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[12] JICA 2010a, p. 81.

[13] JICA 2010a, pp. 81-82.

[14] In 2009, Indonesia and the FAO signed a Letter of Intent on the programmes and technical cooperation in agriculture, which focuses on South-South Cooperation as a follow-up to the discussions between the FAO and Indonesia during the High-level Conference on World Food Security in 2008. Through this cooperation, the former provides the latter experts and technicians, as well as tools and equipment, to improve the productivity of small-scale farmers in developing countries (FAO n.d.).

[15] G20, a forum of finance ministers and central bank governors from major economies, was set up to discuss important issues related to the international financial system.

its national development priorities. As one of the commitments, it clearly declares strengthening 'regional processes and institutions facilitating South-South cooperation' for financial and technical assistance.[16] As a means to execute the Jakarta Commitment, the GOI formally established the Aid for Development Effectiveness Secretariat (A4DES) with the intention of taking full ownership and leading aid coordination and management processes.[17] International donor support for the A4DES includes the Australian Agency For International Development (AusAID) and the United States Agency for International Development (USAID) for the establishment of the Secretariat; the Canadian International Development Agency (CIDA) and UNDP for the survey on Aid Effectiveness in 2008, preparation of the Jakarta Commitment, and training on Aid Effectiveness; and UNDP for the facilitation of establishing a multi-donor Aid for Development Effectiveness Programme for the capacity development of Indonesia in order to strengthen its country systems.[18] The six working groups under A4DES were joined by various international donors, such as AusAID, USAID, and The Federal Ministry for Economic Cooperation and Development (BMZ).[19] JICA is active in all six working groups, including the Capacity Building and Knowledge Management Working Group in charge of SSC.

The GOI, in cooperation with JICA, the World Bank (WB), and UNDP, also organised a High-Level Meeting, 'Towards Country-Led Knowledge Hubs', held in Bali in July 2012, in order to discuss the importance of establishing knowledge hubs (core countries and institutions for knowledge

The high-level meeting in Bali

exchanges) and networking these for the future development of SSC/TrC.

Meanwhile, to realise Indonesia's role in the international community became one of the national development missions stated in Law No. 17/2007 on the National Long-Term Development Plan (RPJPN)

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[16] *Jakarta Commitment*, pp. 4-5.
[17] A4DES 2011, and Coordination Team n.d., p. 12.
[18] UNDP n.d.a and UNDP n.d.b.
[19] A4DES 2009, p. 3.

2005-2025.[20] SSC was also included in the National Medium Term Development Plan (RPJMN) 2010-2014.[21]

Thus, the recent international and national trend of promoting SSC/TrC has brought about external and internal expectations and pressures to the GOI, which have further accelerated the process of Indonesia's becoming a pivotal country.

2-2 Balanced Approach for SSC/TrC towards Effective Development
(1) Beginning of harmonised cooperation
With the strong push and pull factors mentioned above, it became imperative tasks for the GOI to formulate policy frameworks and restructure its complex implementing mechanism towards the implementation of more effective SSC. Many international donors have been moving faster to provide support for the GOI's endeavours of effective SSC/TrC. For instance, UNDP has supported BAPPENAS through the Enhancing Capacity for Better Aid Management project (ECBAM-UNDP), as a continuation of which it is currently planning a new project, so-called the Strengthening Innovative Partnership for Development Cooperation. WB has facilitated south-south knowledge exchange through the Global Distance Learning Network (GDLN) more than ten years in many countries, including Indonesia, and more recently through The South-South Experience Exchange Facility.[22] GIZ supported the formation of the Aid Information Management System (AIMS).[23] GIZ and the Asian Development Bank (ADB), together with the GOI, organised the workshop "Triangular Cooperation: Towards Horizontal Partnership, But How?' among practitioners and policy-makers of the Asian region in 2011, as part of the preparation for the 4th High Level Forum on Aid Effectiveness (HLF-4) held in Busan in 2011.

In relation to Japan, the Japan-Indonesia Partnership Program (JIPP) set up a political framework for SSC/TrC in 2003, under which annual meetings have been held.[24] In the Southeast Asian region, JICA has been making efforts to facilitate SSC/TrC among Southeast Asian countries through the Japan-Southeast Asian Meeting on South-South

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[20] JICA 2010a, p. ix and BAPPENAS 2010, p. I-23.

[21] JICA 2010a, p. ix and Coordination Team n.d., p. 12.

[22] WB n.d. and WBI n.d..

[23] BAPPENAS n.d..

[24] Germany also has partner countries, namely Anchor countries, such as China, India, Indonesia, Pakistan, Thailand, Egypt, Iran, Saudi Arabia, Nigeria, South Africa, Argentina, Brazil, Mexico, Russia, and Turkey (Hoven & Kanera 2004, P. 4).

Cooperation (J-SEAM), which evolved from a mechanism known as the
JICA-ASEAN Regional Cooperation Meeting (JARCOM).[25]

As part of these trends, a workshop
on South-South Technical Cooperation
was organised in March 2009. In
cooperation with MOFA, SEKNEG,
NAM-CSSTC, and JICA, this workshop
resulted in revealing key issues for
Indonesia's SSC/TrC. Almost 200
participants were invited from various

The Workshop on South-South
Technical Cooperation

key organisations, such as the line ministries, international donors,
embassies, universities, and NGOs. They discussed the future direction
of Indonesia's South-South technical cooperation by examining
technical cooperation activities Indonesia has implemented. Overall,
the workshop helped to identify the areas Indonesia would need to
tackle for effective SSC. Later, the areas were categorised into three
pillars directing their activities: 1) mainstreaming SSC in the National
Policy, 2) enhancing human resources for international cooperation,
and 3) improving the quality of SSC.

Figure 1: The three Pillars for the Development of Indonesia's SSC[26]

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[25] JARCOM aimed to formulate and implement well-prepared, needs-oriented south-south technical cooperation
and to improve the quality of SSC among the member countries, including Indonesia.

[26] JICA 2011a, p. 9.

(2) Focusing on the process of various activities under the three pillars

Activities to support Indonesia's challenges for effective SSC/TrC were not being conducted in a systematic manner at the very beginning. In the case of JICA, related activities were rather flexibly conducted on an ad-hoc basis, responding to requests and needs from the GOI. They had been gradually converged and shaped into a broad structure of support for strengthening Indonesia's SSC/TrC coherently under the three pillars shown in Figure 2.

Figure 2: JICA's Activities under the Three Pillars

First pillar: SSC in national policy

Two important studies were requested by BAPPENAS: 'Policy Direction on Indonesia's South-South Cooperation' (hereafter referred to as 'Policy Study') and 'Basic Study for South-South Cooperation (Draft Grand Design and Blue Print)' (hereafter referred to as 'Basic Study'). The Policy Study provided useful suggestions for future directions of Indonesia's SSC, which were derived from five concerns: 1) legal basis, 2) institutional framework, 3) funding mechanism, 4) the involvement of wider stakeholders, including NGOs and private sector, and 5) comprehensive monitoring and evaluation mechanism.[27]

Before the Basic Study was conducted, there was considerable motivation in the GOI to establish an independent institution responsible for coordinating and implementing SSC,[28] which the Policy Study also identified.[29] However, the discussion between the GOI and

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[27] JICA 2010a, pp. VII-XV.
[28] Hearing from the JICA Indonesia Office.
[29] JICA 2010a, pp. IX-XIII.

JICA resulted in highlighting the importance of clarifying visions and missions of Indonesia's SSC/TrC prior to the establishment of such an institution. Thus, the Basic Study was designed to facilitate the GOI's formulation of a Grand Design and a Blue Print as their policy frameworks of SSC. Several meetings and workshops under the framework of the Basic Study were organised with ECBAM-UNDP. Other international donors, such as GIZ and the Asian Development Bank Institute (ADBI) also participated in these.[30]

After drafting the Grand Design and the Blue Print, a series of follow-up studies and projects were conducted. 'A Comparative Study on The Management of South-South Cooperation in Indonesia, Brazil, Thailand and Japan Cases' was also accomplished in 2011-2012 for the better management of SSC. In March 2012, the technical project 'Project on Knowledge Management for South-South Cooperation (KM-SSC)' started in support of developing Indonesia's capacity to promote SSC through identification of the comparative advantage of Indonesia for SSC, using knowledge management skills based upon the SECI Model.[31]

Second pillar: HRD and quality improvement
Concurrently, the GOI has been making efforts to develop human resources among stakeholders and to improve the quality of SSC/TrC. For instance, Indonesian government officials participated in the JICA training course (in Japan) 'Strengthening for Implementation Capability of Development Training under South-South Cooperation' from 2010.[32] This training for persons in charge of the planning, implementation, and evaluation of training programs under SSC in their countries was aimed to develop capacities for improving training quality. Lecturers were invited from JICA and also from InWEnt (currently GIZ), UNDP, and the International Training Centre of the International Labour Organization (ITC-ILO).

Prior to the training, each participant was requested to prepare an

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[30] 30 JICA 2011b, p. S-2.

[31] The SECI Model consists of four steps: 1) Socialisation, 2) Externalisation, 3) Combination, and 4) Internalisation, which guide the process of interactions between tacit and explicit knowledge (Nonaka et al 2008, pp. 18-19). Through this process, new knowledge will be created.

[32] This training was planned based on discussions in the High Level Retreat on the Effectiveness of International Development Training organised by the World Bank Institute (WBI) and the Capacity Building International, Germany (InWEnt: Internationale Weiterbildung und Entwicklung) on 4-5 June, Berlin, which had confirmed the importance of enhancing the effectiveness of training implemented in developed countries, as well in developing countries.

action plan in order to improve the international training programs in their respective countries.[33] This consequently led the GOI that felt the necessity of evaluating their training programs in the process of preparing an action plan, to develop an evaluation guideline for better implementation of their SSC/TrC. With the support of the JICA Indonesia Office, the GOI conducted three follow-up activities in order to realise their action plan: 1) to deepen understanding of the evaluation mechanism, 2) to form a guideline for the evaluation mechanism, and 3) to promote the enhancement of understanding of the guideline among stakeholders and educate (future) evaluators.

Third pillar: Application to projects

Running parallel with activities under the first and second pillars, actual development projects have been undertaken and will continue to be implemented, providing assistance for the development of beneficiary countries in Asia, South Pacific, Middle East, and Africa, based on specific country needs in the forms of training, despatching experts, and conducting workshops. In doing so, the GOI would be able to utilise knowledge and skills brought about by the studies, workshops, and seminars supported by JICA and other donors.

2-3 Consequence of Harmonisation

Indonesia's challenges are still on-going and concrete outcomes remain to be seen. The main progress of a series of activities under each pillar is described below.

Under the first pillar – formation of a policy framework

The outcomes of the Policy Study were shared among a wide range of stakeholders, from line ministries and international donors (e.g. JICA, UNDP, and GTZ) to NGOs in the National Seminar in July 2010, which was funded by JICA and ECBAM-UNDP.[34] The notable result of the National


The National Seminar

Seminar was establishment of the Coordination Team on South-South and Triangular Cooperation that was expected to be responsible for

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[33] The submission of an action plan has become one of common activities in JICA training after the reformation of training programs in the mid-2000s. The actual implementation is not mandated.

[34] JICA 2010a, p. Attach-1. The GOI, JICA, and ECBAM-UNDP had been working jointly since the start of the Policy Research. As of 2012, the ECBAM project completed its activities (hearing from the JICA Indonesia Office).

promoting and developing Indonesia's strategic SSC working in coordination with other line ministries.[35] Its core members were BAPPENAS, MOFA, SEKNEG, and MOF. The Coordination Team, officially approved by a ministerial decree of BAPPENAS,[36] is currently the only institutional framework coordinating among the stakeholders of Indonesia's SSC, since the A4DES virtually completed its missions after the Busan HLF-4.

Figure 3: Structure of Coordination Team[37]
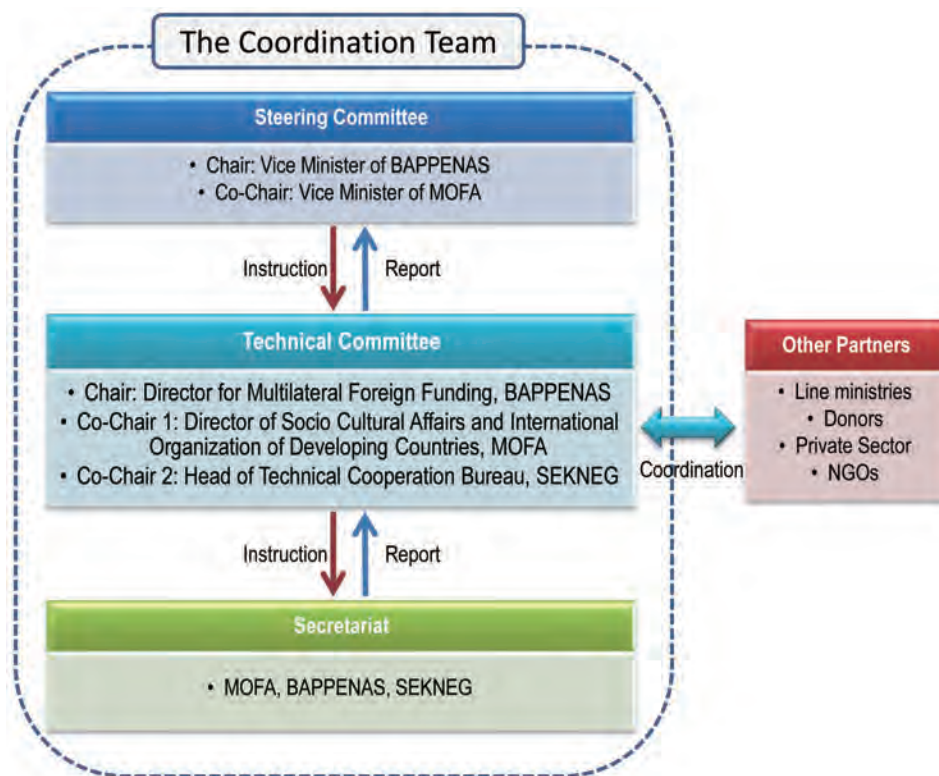
The Basic Study produced the drafts of the Grand Design 2011-2025 and the Blue Print 2011-2014.[38] In accordance with the period of the RPJPN 2005-2025, the targets and time frame of the Grand Design were divided into three periods: 1) Period I 2011-2014 for consolidation of Indonesia's SSC through, for instance, the formation of the legal framework and the strengthening of the institutional coordination;

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[35] JICA 2011b, p. Chap. 1-1.

[36] With the support of JICA, the Coordination Team later published the directory, 'Indonesia's Capacities on Technical Cooperation', as an attempt at analysing the areas where Indonesia's implementing agencies demonstrated their strength.

[37] Coordination Team 2011b (modified by the authors). As of August 2012, the chair of the Steering Committee was the Minister of BAPPENAS.

[38] The three periods of Blue Print: 1) 2010-2014 Strengthening coordination within the improved institutional framework, 2) 2015-2019 taking the role as an emerging partner in innovative South-South development cooperation, and 3) 2020-2025 stronger partnership in SSC (Coordination Team n.d., p. 12).

2) Period II 2015-2019 for the strengthening and expansion of SSC by enhancing the involvement of all stakeholders, including the private sector, NGOs, and universities; 3) Period III 2020-2025 for the further strengthening and expansion of SSC.[39] The Blue Print aimed to realise the targets of Period I. These two drafts have been submitted in 2011 and are currently in the process of being officially approved as a presidential regulation.[40]   Other international donors also have assisted (and will assist) the formation of the policy framework: WB has provided their comments on the drafts and UNDP is considering support for the preparation of related regulations.[41] If the Grand Design and the Blue Print become legitimised, Indonesian stakeholders will obtain a legal basis for the implementation of SSC. The establishment of the Coordination Team and the formation of the political frameworks will reshape the coordinating mechanism of Indonesia's SSC.

Meanwhile, the obtained knowledge (e.g. other countries experiences) and skills (e.g. knowledge management) through the Comparative Study and the KM-SSC technical cooperation project are expected to strengthen Indonesia's capacities for more effective managing and promoting their SSC over time. The KM-SSC has in fact just started and will continue until May 2013. Furthermore, the Coordination Team is now discussing with JICA Indonesia a new technical cooperation project, the Capacity Development Project for South-South and Triangular Cooperation (CADEP), in order to strengthen Indonesia's institutional capacity and human resource capacity for better management of SSC through the implementation of flagship projects. These two projects are designed to develop the capacity of Indonesia for conducting activities under all three pillars.

Under the second pillar – preparation for the improvement of SSC activities
The formation of the Evaluation Guideline, which started as follow-up activities of an action plan after the JICA training course in Japan, is progressing. For the first follow-up, SEKNEG in cooperation with MOFA held a workshop in 2010 in order to enhance understanding of the evaluation mechanism among stakeholders. In the workshop, InWEnt/ GIZ and JICA shared the monitoring and evaluation systems of projects, such as the Programme-integrated Monitoring and Evaluation

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[39] JICA 2011b, Attachment I, pp. 25-28.
[40] Peraturan Presiden (PERPRES).
[41] Hearing from the JICA Indonesia Office.

(PriME) System and Project Cycle Management (PCM) respectively, while implementing agencies also presented their experiences of executing training activities.[42] For the second follow-up in 2011, the GOI developed the first draft of a national evaluation guideline for international training programs, which was further improved through case studies of ex-post evaluation in Vietnam and Fiji and feedback from line ministries and implementing agencies.[43] A completed draft of the evaluation guideline is now in the process of being approved as a formal regulation and is expected to be a national guideline.[44] At the end of 2012, the third follow-up activity will be implemented to introduce the evaluation guideline and its usage and to develop prospective evaluators among line ministries and implementing agencies. These activities are expected to continue in the CADEP.

Under the third pillar – implementation of actual projects
Acquired knowledge and the outcomes derived from activities under the first and second pillars are immediately being utilised in Indonesia's SSC/TrC activities. For instance, the GOI supports Timor-Leste in the road sector; Palestine in the three areas of agriculture, SME development, and health; and Afghanistan in the area of community development. The support takes the forms of international training and the despatch of experts in collaboration with JICA. Additionally, new flagship projects are expected to be formed in accordance with the specific needs of beneficiary countries and the development of Indonesia's capacities for SSC/TrC.

Thus, Indonesia's multidimensional challenges for the implementation of effective SSC/TrC continue under the broad framework of the three pillars.

A Good Partnership: Case of Timor-Leste[45]

The road network in Timor-Leste is a major means of connecting the entire country and an essential infrastructure for socio-economic development. This roadway lifeline is heavily damaged by sediment during rainy seasons. This became a heavy burden for Timor-Lester to develop and to maintain their roads. In turn, the

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[42] 42 JICA 2012b, p. 18.

[43] Universitas Indonesia 2011, pp. 1-3.

[44] JICA 2012b, p. 8.

[45] JICA 2012b, p. 10.

road sector was one of the areas in which Indonesia has competitive strengths developed through long financial and technical support from international donors. The road sector was also a high-priority area of JICA's development cooperation for Timor-Leste.

The implementation of triangular cooperation among Timor-Leste, Indonesia, and Japan, formed in a high-level meeting in 2009, was not an easy business for some of the stakeholders due to the sensitive relationships between Indonesia and Timor-Leste, the latter having gained independence from the former in 1999.[46] However, in 2010, a series of meetings among the three countries was held: a SSC meeting on the road sector in Bali, which was attended by road-sector experts from the tree countries, and an annual meeting of the J-SEAM in Manila, during which the focal points of the three countries' SSC/TrC discussed the agenda. The in-depth discussions during the meetings resulted in highlighting the strong needs of Timor-Leste and drew the strong willingness of Indonesia to seek a solution. After a joint fact-finding mission by the GOI and JICA to Timor-Leste, Indonesian experts from the Ministry of Public Works (PU), Indonesia, took the initiative to prepare a project plan to strengthen the technical capacity of the National Directorate of Roads, Bridges and Flood Control, Ministry of Infrastructure of Timor-Leste.

The project was designed with careful concern for regular work schedules of the participants. At the time, twelve Timorese engineers were trained in PU-related institutions in the two fields related to roads and bridges – 'reconstruction and rehabilitation' and 'construction and maintenance'.[47] Meanwhile, three follow-up missions of Indonesian experts were dispatched to Timor-Leste. In November 2012, a wrap-up seminar was held in Timor-Leste. In March of 2012, JICA had decided to provide a yen loan of

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[46] JICA 2012b, p. 10.
[47] JICA 2011a, p. 14.

A joint mission to Timor-Leste

5.3 billion (USD65 million), the first ODA loan, to Timor-Leste for its national road project.[48] The engineers in Timor-Leste have been gaining knowledge shared by the Indonesian partners, which is expected to be actively utilised during implementation of the ODA loan project.

This cooperation has contributed to strengthen the ties between Timorese and Indonesian engineers and to foster trust among them. The GOI is now planning to continue to support Timor-Leste in the road sector (e.g. despatching short-term experts) in response to the latter's request.

Future tasks

Indonesia's efforts have been supported by internal and external factors. Taking advantage of and expanding this momentum is a precondition for its accomplishment. The Coordination Team has to continue encouraging communications among the members and other stakeholders in order to maintain the current harmonisation.

Indonesia will need some time to see actual outcomes from their efforts, since most of the activities have only recently been completed and others are still on-going. For instance, in a seminar of the on-going KM-SSC project, a significant number of participants had difficulty understanding the theoretical concept and methods of knowledge management and the provided materials. In the same vein, it is not an easy task in practice to absorb and apply the necessary knowledge and skills to actually implement SSC/TrC activities.

3. Significance of the Case

3-1 Turning Points

(1) Strong ownership

Historically, the GOI has a strong ownership for promoting SSC/TrC, which they consolidate under the current national and international

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[48] JICA 2012b, p. 10.

circumstances. The GOI have been taking primary initiatives and/or making the decisions in the activities explained above. For instance, BAPPENAS initially requested JICA to support conducting a Policy Study and Basic Study. The GOI established the Coordination Team. Also, it was the GOI's desire to prepare the evaluation guideline. Indonesian experts and staff members of PU actively exchanged views with Timor-Leste partners in the process of preparing a training design.

In the High-Level Meeting in Bali in July 2012, the GOI demonstrated strong leadership organising the event. In the opening remarks, the Indonesian vice president Boediono declared that Indonesia was ready to play the role of a knowledge hub[49] in the areas of 'energy and food security and community-driven disaster mitigation; governance and peace building; and macro-economic management'.[50]

(2) Change drivers
Recent national and international circumstances
For Indonesia, SSC has been a long-running national policy since the Asia-Africa Conference of 1955. There are also other push factors: the steady economic recovery, signing of the Jakarta Commitment, establishment of A4DES, and inclusion of SSC into RPJMN 2010-2014. In addition, the recent international initiatives highlighting SSC as a means of assisting the enhancement of development effectiveness, as well as G20 membership, have been working as a strong pull factor. These national and international trends strongly motivated the GOI to endeavour to become a major player in SSC/TrC.

Involvement of core ministries
The establishment of the Coordination Team is a significant factor in Indonesia's steps towards the promotion of SSC/TrC. The Coordination Team is now functioning, in particular, to coordinate the core institutions, BAPPENAS, MOFA, MOF, and SEKNEG towards smooth, effective implementation of Indonesia's SSC/TrC.

Assets from past cooperation and experiences
Indonesia has competitive strengths in several areas supporting its becoming a pivotal country. These take the form of knowledge and experiences among line ministries, implementing agencies, and NGOs

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[49] 'A knowledge Hub is an organization or a network, dedicated to share and exchange development experiences and models with partners from other countries' (*Bali Communique* 2012).
[50] *Jakarta Post*, 2012.

through their SSC/TrC activities over the last few decades. There are several centres of excellence which have been supported by international donors. Some of the centres assisted by JICA, such as the Indonesia University of Education (UOI), the Electronics Engineering Polytechnic Institute of Surabaya (EEPIS-ITS), and NAM-CSSTC, have implemented international training and dispatched experts to other developing countries. These assets within the country, together with its development experiences, position Indonesia to respond to the international trend of highlighting SSC/TrC.

Timely arrangements

At the time when JICA organised the Workshop on South-South Technical Cooperation in 2009, it was extremely important for the GOI to form the policy and restructure mechanism of its SSC. This workshop became support revealing the necessary tasks and directions towards the strategic development of Indonesia's SSC/TrC. Subsequent activities under the three pillars also have been implemented in a timely manner and in response to Indonesia's specific needs.

(3) Learning in the process

Through activities under the three pillars which cover components extending from upstream (policy) to downstream (actual projects), the learning process among stakeholders as individuals and groups is progressing. In particular, through

A site visit in Brazil

studies, workshops, and site visits, the core members of the Coordination Team are obtaining first-hand information on the experiences and perspectives of various stakeholders, from implementing agencies to recipient countries. For instance, in the site visits of the Comparative Study supported by JICA, Indonesian participants gained insight into new attempts and challenges in Brazil, the role of the private sector in Japan, and the importance of national level coordination in Thailand.[51] Through visits to Vietnam and Fiji for the preparation of the evaluation guideline, participants from BAPPENAS, MOFA, and SEKNEG could gain an understanding of the expectations of beneficiary countries and the efficiency of knowledge and skills acquired during training in Indonesia. These have been

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[51] JICA 2012b, p. 8.

reflected in the Grand Design, the Blue Print, and the evaluation guideline and will contribute to form future customised SSC/TrC projects for a beneficiary country. Indonesian stakeholders are currently creating knowledge 'through practice',[52] which is developing their capacities as a whole.

3-2 Donor Collaboration for Supporting Indonesia's Challenges

The role of the individual international donor can be considered a catalyst among Indonesian stakeholders and between Indonesia as a pivotal country and beneficiary countries. As an example, JICA's provision of technical and financial support and complementing arrangement were both timely and respectful of the GOI's ownership. Paying attention to and flexibly responding to the GOI's decisions and directions for the development their SSC/TrC, JICA has been supporting for Indonesia's multi-dimensional challenges under the three pillars in a balanced way.

It is notable that international donors have been loosely collaborating, with roles divided intentionally and unintentionally. An example was seen in the process of supporting the formation of the Grand Design and the Blue Print, with JICA assisting the GOI to conduct the Basic Study and prepare the drafts. In coordination with JICA, UNDP Indonesia is expected to support the legitimisation of the drafts of the Grand Design and the Blue Print, since they have hitherto assisted Indonesia's SSC in the area of policy and setting up of institutions, while JICA has focused more on technical assistance for the development of human resources in practice.[53] In contrast, WB Indonesia provided comments on the drafts of the Grand Design and the Blur Print when requested by the GOI.

Collaboration with other international donors also can be observed in the evaluation workshop held in 2010. JICA invited InWEnt as a presenter, since, together with UNDP and other donors, they had been lecturers in JICA's training course in Japan. The training course aimed to strengthen the capacity of developing international training, which includes the building of monitoring and evaluation skills. It is a challenging task even for traditional donors, including JICA, to provide

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[52] 52 Nonaka et. al. 2008, pp. 13-14.

[53] It was in 2008 when JICA merged with part of the Japan Bank for International Cooperation, who was in charge of loan projects.

such training.[54] Through these activities, JICA and other donors jointly shared their experiences and knowledge, even though some aspects of these might not be fully mature, with participants from prospective pivotal countries. By so doing, they consequently shorten the period needed by Indonesia as an emerging donor to catch up.

4. Implications
This case study provides some implications for future cooperation to support prospective providers of SSC/TrC.

The importance of momentum
In order to support a country's endeavours to becoming a donor, some preconditions seem to be required: specific socio-economic circumstances and sufficient experiences and knowledge in areas that meet the beneficiary countries' needs. The recent socio-economic-political circumstances of Indonesia are reaching a certain maturity for their challenges. Particularly, the adaptation of the Jakarta Commitment, which declared promotion of SSC, was a notable turning point and became a powerful driving force in the development of capacity to implement SSC. These have created the right momentum for international donors to support the GOI. The case of Indonesia suggests the importance of finding the right momentum for providing support.

Sharing a common vision
It is vital to foster and share a common vision. In the case of Indonesia, such a common vision was shared in the process of forming the Grand Design and the Blue Print towards Indonesia's future SSC/TrC at an early stage of the cooperation for Indonesia's challenges. The policy framework provides a basic foundation for Indonesia's SSC/TrC and supports related activities among Indonesian stakeholders and the international community.

Enhancement of face-to-face dialogues
A series of studies, workshops, and seminars have been providing some space for various stakeholders, including development partners, to discuss common issues officially and unofficially. Participants were often overlapped, which seemingly has supported enhancement of

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[54] As in a final wrap-up session in the 2009 training, a staff member of InWEnt stated that they had just started its monitoring and evaluation and understood that there were various ways (JICA 2010b).

a mutual understanding and the achievement of a sharing of visions for the future directions of Indonesia's SSC/TrC by way of the face-to-face interactions. The enhancement of fact-to-face dialogues makes future collaboration and cooperation smoother.

The creation of the feedback process
Through the actual implementation of projects, stakeholders, particularly policy makers, are able to gain immediate feedback from beneficiary countries. They gain knowledge of the influence and effectiveness of their endeavour through this trial and error, which in turn provides enriched experience for the further improvement of their SSC.

Mutual learning between traditional and emerging donors and between traditional donors
In the process of receiving support from traditional donors, the GOI is gaining insight into the former's advanced know-how and perspectives, such as the importance of considering beneficiary countries' needs and introducing monitoring/evaluation into a project design in the early stage of becoming a donor. In contrast, JICA—and probably other international donors, as well—is learning from Indonesia by way of its different experiences, knowledge, and expertise, which might have better application to beneficiary countries, like the case of Timor-Leste. Indonesia, being familiar with Timor-Leste's circumstances and problems, is becoming a good development partner for JICA, each optimizing and minimising the other's strengths and weakness.

During the course of supporting Indonesia's challenges, traditional donors also had an opportunity to observe the different strengths and know-how of fellow donors in areas such as the preparation of the Grand Design and the Blue Print and the formation of the evaluation workshop.

The importance of close and regular communication
A long and seamless commitment on the part of donors is indispensable for supporting the relatively long process of becoming a donor. JICA has, for instance, maintained a presence in Indonesia that dates back to the establishment of the Indonesia Office over four decades ago, so the office has a long history of working closely with Indonesian stakeholders. There are also senior staff members who have been closely communicating with stakeholders. This kind of close and regular

consultations with stakeholders helps to build trust and make it possible to provide assistance and advice in a timely manner.

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Case 5

The *Taishin* Triangular Initiative in Central America: Co-creating Quake-Resistant Construction Methods for Popular Low-Cost Housing

Shinobu Saito

1. Introduction

The Project *Taishin* (a Japanese word meaning "quake resistant"), or the project for "Enhancement of Technology for the Construction of Popular Earthquake-resistant Housing," aims at alleviating the disaster risk for residents in the popular low-cost housing in El Salvador.

Started in 2003, the project is a collaborative response by Mexico and Japan to help El Salvador to recover and reconstruct the country from the aftermath of two successive tragic earthquakes in 2001, which resulted in the casualties of over 1,000 people with extensive damage on buildings, especially on popular housing of low-income group. El Salvador was fortunate to have a sub-regional center of excellence on disaster prevention, the National Center for Disaster Prevention (CENAPRED) established in 1990 in Mexico with Japanese assistance. Through the triangular partnership, main local counterparts including two universities and a local non-governmental foundation, El Salvador Foundation for Development and Dissemination of Housing (FUNDASAL), have jointly developed and piloted quake-resistant construction methods for popular housing with the compilation of manuals and guidelines. The currently -ongoing phase 2 of the project is working towards the further scaling-up of the tested methods.

In the following Section 1, we first outline the background and the pathways of project development. Section 2 will then examine what factors have contributed to the project's achievement as well as how different actors have contributed to it. Section 3 concludes with some thoughts on the case analysis.

2. Co-creating Quake-resistant Construction Methods: The Project *Taishin*

2-1 El Salvador, Recovering and Rebuilding from the Aftermath of the Earthquake

Diagram 1: Map for the Country in Scope of the Project

Source: Prepared by the author

The Republic of El Salvador in Central America was devastated by two huge successive earthquakes, the first on January 2001 and the second the following month. Their magnitudes measured 7.6 and 6.6 respectively.

The damage was tremendous, especially in the worst-hit provinces in the eastern part of the country. It was estimated that these earthquakes took the lives of more than 1,000 people and inflicted the total damage of 16 billion dollars (that accounts for 12 percent of the GDP of this country)[1]. Approximately 8 percent of the houses in the country were half destroyed or partially destroyed, and approximately 10 percent of these houses were completely destroyed[2]. Public buildings were also affected including half of the hospitals, one third of the schools and even the Office of the President. The aftermath of earthquake revealed the fact that those particularly hit were the poor and the vulnerable group in the country with 60 percent of the half or partially destroyed houses resided in by the low income group[3]. The incidents also exposed the insufficient state of social protection accorded to them.

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[1] Country Assistance Strategy 2001
[2] Country Assistance Strategy 2001
[3] Early assessment chart for JICA Project

In tackling the tragic disaster, an emergency Consultative Group (CG) meeting was held in March inviting donors including Japan, which resulted in pledges totaling 13 billion dollars of emergency assistance to the country. During the meeting, donors led by IDB announced their priority areas of assistance, which included the provision of temporary housing, special housing subsidy and loan facilities for low-income people.

2-2 Pathways leading to Project, *Taishin*

(1) Mexico as the emerging sub-regional knowledge source for disaster prevention

One of the hallmarks of this triangular initiative was the proactive engagement of Mexico as the pivotal country. It was largely possible because of the expertise and preparedness which Mexico had already accumulated through its own tragic experience of large earthquake in 1985 which killed about 10,000 people[4]. Another factor was the emergence of Mexico as a newly proactive "emerging" donor at the time.

Following the Mexican earthquake, Mexico decided to establish CENAPRED with the financial and technical assistance (92 experts in total during the period from 1990 to 1994[5]) from the Japanese Government. Since its foundation, CENAPRED has gradually developed its capacity in knowledge and approach in disaster prevention and has particularly built a regional reputation in the scientific assessment technique of seismic capacity of building and houses, which was then started to be called *Taishin*, the Japanese expression for quake resistance.

The growth of CENAPRED as the regional center of excellence in the *Taishin* technique and other disaster prevention technology and approaches also coincided with the gradual emergence of Mexico as an "emerging donor" in the sub-region. At the time of this triangular initiative, Mexican government had just established Mexican Agency for International Development Corporation (AMEXCID[6]), which was the clear indication of the commitment for extending international cooperation by the Mexican Government. In support of the newly

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[4] 4 The Series 3 introducing the project to provide technological cooperation to developing countries in building and housing area - Earthquake disaster prevention project in Mexico, P49

[5] The Series 3 introducing the project to provide technological cooperation to developing countries in building and housing area - Earthquake disaster prevention project in Mexico, P50

[6] Then, it was called IMEXCI (Instituto Mexicano de Cooperación Internacional). AMEXCID was newly established in 2011. (http://amexcid.gob.mx/index.php/es/acerca-de-la-amexcid/ique-es-la-amexcid)

established AMEXCID, the Japanese government dispatched Japanese experts to the organization for its capacity development. Advisers also helped the organization to identify and formulate pilot triangular cooperation initiatives, which had the intention of providing assistance to seven Central American countries including El Salvador.

It was when the preparation of the pilot triangular cooperation was under way that the great earthquake hit El Salvador. In the immediate aftermath of earthquake, the Mexican and Japanese governments quickly dispatched a joint survey mission to El Salvador, and had consultations with the central government in discussing the details of the assistance. As a result of the joint survey, the three parties — Mexico, Japan and El Salvador — identified strong needs in the improvement of earthquake resistance performance (seismic performance) for low-cost state housing as well as self-help housing by low income groups (popular housing). These houses, inhabited by low income groups, were severely destroyed by earthquake.

(2) The formation and implementation of *Taishin* triangular cooperation
Against this backdrop, the three parties agreed on a triangular initiative to develop the capacity of El Salvadorian organizations to effectively undertake the scientific seismic capacity assessment (*Taishin* technique) of popular low-cost housing. The Japanese Government also agreed to provide the necessary facilities and equipment for the *Taishin* experiments. The period of project formulation also coincided with the official visit by then Mexican President Vicente Fox Quesada to Japan in 2003, during which the Japanese and Mexican governments concluded the agreement on the Japan-Mexico Partnership Program (JMPP). This agreement laid the official overall partnership framework between the Japanese and Mexican governments for triangular cooperation. Thus, *Taishin* became one of the earliest triangular cooperation projects undertaken in the framework of the newly launched JMPP.

Due to the relatively long period taken for formulation and preparation of this triangular initiative, the main activities actually started in late 2003. Nevertheless, its launch was timely as the government introduced the "Safe Country: Plan of Government of El Salvador 2004-2009" (País Seguro: Plan de Gobierno 2004-2009) in the following year, which advocated for the adequate provision of housing with the clear

government roles in tackling the challenge such as the formulation of a new housing policy, strengthening of housing standards and regulations, a new loan scheme for informal sector and the land entitlement, especially for the poor. The arrival of the five-year plan document of "Safe Country", which emphasized the housing issues, further enhanced the policy relevance of the *Taishin* initiative.

Diagram 2: Photo showing the experimenting on the seismic capacity of a brick


Source: JICA El Salvador Office

In El Salvador, several low-cost housing construction methods were already available on the ground through the work of FUNDASAL, a local foundation working for low-income settlements, an international NGO and other organizations. In spite of the low-cost nature of those methods, which made them accessible to the poor, there was the important remaining issue that the level of quake-resistance capacity on these methods had not been scientifically tested. The main objective of the triangular initiative was thus to test and refine these low-cost construction methods so as to make them more earthquake-resistant.

As shown in the diagram 3 the technical cooperation experts were dispatched from both Mexico and Japan in the program. Additionally, it was decided that some experts that specialized in adobe (sun-dried)

Diagram 3: Structure for Project Implementation
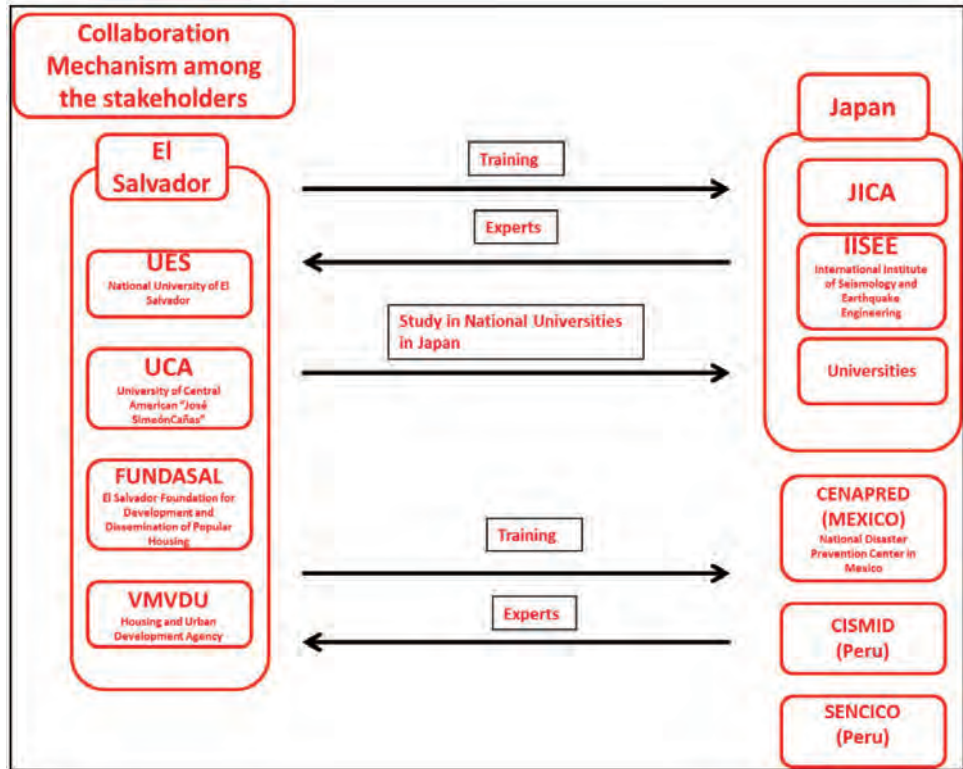
Source: Prepared by the author

brick methods were also sent to El Salvador from a Peruvian organization, which had developed its capacity through bilateral technical cooperation with JICA in the past.

The following are the additional details of the assistance and the role of key actors in this initiative.

(1) El Salvador (The beneficiary country):
- Universities: National University of El Salvador (UES), the premier national comprehensive university and Central American University "José Simeón Cañas" (UCA), the highly-regarded top-ranked private university strong in the engineering field. Both of these universities were to conduct the experiments on the earthquake resistance strength (seismic performance) of the houses which were constructed based on the four construction methods (soil cement, block panel, adobe, and concrete block).
- Local NGO: El Salvador Foundation for Development and Dissemination of Housing (FUNDASAL). FUNDASAL, a local NGO working for low-income settlements, was tasked to build the model

housing through which the results of the experiments were further fed back into the project for further actions.

- The Bureau of Housing in the Ministry of Housing and Urban Development (Vice Ministerio de Vivienda y Desarrollo Urbano/VMVDU): The ministry bureau in charge of housing policy was given the supervisory and advisory role in the project. It also took responsibility for the policy actions such as the formulation of the pilot project.

- The joint dissemination task team: The task team, consisted of the representatives from all the counterpart organizations, was established as the institutional mechanism for nationally disseminating and sharing the knowledge related to the construction methods for earthquake resistant houses.

(2) Mexico as the main pivotal country with Peru as the second pivotal nation

- CENAPRED (National Center for Disaster Prevention): CENAPRED, as the regional center of excellence in disaster prevention techniques, provides capacity development assistance to El Salvadorian counterpart organizations in the *Taishin* technique, the pilot model housing project and the advisory service for the institutional mechanism for disseminating *Taishin* methods.

- AMEXCID (Mexican Agency for International Development Corporation): AMEXCID oversees the support from Mexico to El Salvador at a policy level.

- Japan-Peru Earthquake Disaster Prevention Center (Centro Peruano-Japonés de Investigaciones Sísmicas y Mitigación de Desastres): CISMID of Peru is noted for its expertise in quake-resistant adobe house construction techniques. As many Peruvians still reside in adobe houses unlike Mexico, Peru with its CISMID is better positioned for sharing knowledge on the improved technique for adobe houses. It was also opportune to engage CISMID as there was an ongoing JICA technical cooperation project in the Peruvian organization at the time, which also aims to disseminate the appropriate construction methods for quake resistant houses[7].

(3) Japan as the facilitating donor country:

- Japanese Government through JICA, the executing organ: The Japanese government through JICA has facilitated the triangular

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[7] The project for technical training and disseminating low cost earthquake resistant housing (2005~2007)

initiative through the process of formulation, execution and progress monitoring. It assisted partners in both managerial and financial aspects of the initiative including the provision of necessary equipment and facilities for *Taishin* experiments, the dispatch of experts from Mexico, Peru and Japan and the acceptance of El Salvadorians for short-term training as well as long-term fellowships.

- Partner institutions in Japan: A number of Japanese institutions including the Building Research Institute, the International Institute of Seismology and the Earthquake Engineering (IISEE) and some National Universities have been engaged in the program with the provision of training opportunities in Japan as well as the fellowship opportunities in partnership with JICA.

2-3 The Progress, Achievements and Challenges

Progress

All the project activities for the first phase of this initiative have been completed as planned. As a triangular cooperation, it is particularly noteworthy that Mexican experts have played a central and effective role in the planning and execution of this program from the onset in close collaboration with El Salvadorian a resident coordinator and Japanese experts.

Nonetheless, this initiative has not been without challenges in its implementation process. For instance, the initial consensus on the project building design such as coordination mechanisms and the procedural details among stakeholders took a quite long time due to the different policies and institutional settings of the three countries. However, such initial lengthy dialogues among partner countries eventually turned out to be positive for the subsequent smooth execution of the project.

There were also certain difficulties in information sharing and the team building among organizations within El Salvador due partly to the competition among universities. However, such initial challenges were gradually overcome through their collaborative work through the initiative as well as the frequent dialogues at the monthly "technical committee" meetings in which representatives from all the counterpart organizations participated. In the committee, the participants shared the information and had intense discussions regarding the progress of actions set for each member. In this regard, the committee effectively

provided a space and opportunity, or "Ba" for mutual learning and actions among members[8].

Major accomplishments

Although the triangular collaboration towards the further national scale-up of *Taishin* housing is continuing, the initiative has already recorded several notable accomplishments.

First of all, the initiative has undertaken all the planned activities for the transfer and adaption of *Taishin* assessment techniques to two major national institutions including the National University of El Salvador and the UCA. Now, these two universities are capable of undertaking the scientific seismic capacity assessments using the equipment and facilities provided by Japan. Through the *Taishin* experiment, the laboratory of two universities in collaboration with FUNDASAL has already finished testing four low-cost housing construction methods. It is also noteworthy that in 2012, both of these universities newly established a Master's Program for Earthquake Engineering, which takes advantage of the capacity and expertise the universities have built up through this *Taishin* initiative. Though the start of these programs are not solely explained by the *Taishin*, it, nevertheless, indicates that two universities are now in a position of offering such postgraduate programs in the closely related field to which *Taishin* has made contributions.

Secondly and closely related to the first achievement, the project succeeded in refining four low-cost housing construction techniques to make them more earthquake resistant. In collaboration with FUNDASAL, the project undertook the experimental housing construction pilot, based on the refined quake-resistance methods. With regard to the soil cement method, one of the four appropriate technologies for low-cost housing, the project improved the soil cement by adding the locally available volcanic ash to soils. Furthermore, in collaboration with El Salvador's "Chagas' disease[9] project" with JICA assistance, the *Taishin* project also introduced cement plaster for adobes, which is effective in preventing the vector insect of Chagas'

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[8] SECI, Ba and Leadership: a Unified Model of Dynamic Knowledge Creation P15

[9] It is the tropical disease the second serious disease after malaria. In Republic of El Salvador, it is considered that approximately 32,000 people that represent about 4.3% of the population have been infected with Chagas disease. The assassin bug transmitting Chagas disease resides in the walls and floors of adobe houses (http://knowledge.jica.go.jp/km/ProjectView.nsf/SearchResultView/9552C05F6418FF90492575D100359127?OpenDocument")

disease (kissing bugs) from encroaching into the walls and floors of the adobe houses. The introduction of such improved technique of low-cost adobe methods, which is more quake-resistant and repellent to insects, would be particularly beneficial for low-income groups. Following the satisfactory results of the pilots, manuals and training materials on the quake-resistant construction methods were developed and distributed widely. Several training events for its dissemination have also been organized.

Thirdly, thanks to the successes in the capacity development of partner institutions, El Salvador has now started to play the role of a sub-regional pivotal country in the field of the *Taishin* technique through this triangular initiative. The following are some examples.

- Assistance to Nicaragua: From 2010, the UCA and other El Salvadorian counterpart organizations started to jointly host specialist training programs for the Nicaraguan counterparts on the *Taishin* technique as part of the ongoing project in Nicaragua for the improvement of the earthquake-resistant housing construction technologies.
- Assistant to the Dominican Republic and Haiti: A special seminar was organized in the Dominican Republic in March 2011 with the aim of disseminating the El Salvadorian experience to counterparts of the Dominican Republic as well as Haiti, which were affected by earthquake in January 2010. The staff from two universities in El Salvador and those from the El Salvador Building Association participated in this seminar as instructors. El Salvadorian experts also organized a training program in El Salvador for the officials of the Haitian Public Works, Transport and Communication Ministry in response to the official request from the Haitian government.

Other notable actions

In addition to the above, there were other notable achievements, which were not fully envisaged at the beginning of the project. One such achievement is the organizational change in the management of the housing sector. Partly inspired by this triangular program, the Bureau of Housing in the Ministry of Housing and Urban Development (VMVDU), the national policy maker in the housing area, voluntarily took the initiative in establishing the Department of Standard Formulation and Investigation (UNICONS) in itself and created the El Salvador Construction Institute (ISC) to modernize the construction industry in El

Salvador. As part of the currently ongoing phase two of this project, the UNICONS are revising relevant regulations and drafting out technical standards pertaining to four construction methods.

Another notable self-help action by El Salvador, inspired by this initiative, was the closer academic exchanges between the two universities. Before this project started, the collaboration between two universities had been very limited partly due to the competition between the two institutions. Through the joint activities of this initiative, they have been able to build mutual trust and a closer partnership. They are now undertaking various joint activities in the field of quake resistant construction engineering to support other Central American countries without much external intervention.

Ongoing project for further national dissemination
The follow-up phase of this triangular initiative is currently underway. The ongoing project is currently making an effort to mainstream the proven quake-resistant low-cost housing methods into national technical standards for further scaling-up. Considering the fact that the country had not even had a national official standard for housing construction, the ongoing project is now playing a critical role in the preparation of policy and standards for safe and quake-resistant popular low-cost housing, building on the refined technology and methods developed during the first phase, which this case study has illustrated.

3. Case Analysis
3-1 Key Factors of Achievement
The key factors of notable achievements so far in this *Taishin* initiative include the following;
- ✓ Strong knowledge demand matched by the provision of appropriate knowledge by the pivotal country
- ✓ Engagement of major key stakeholders committed to the cause
- ✓ Institutional innovations for effective knowledge transfer and mutual learning

The knowledge demand matched by the timely and adequate opportunity provisions for knowledge exchange
This is a triangular knowledge exchange triggered by two tragic large earthquakes in El Salvador. The desire to acquire "knowledge" for safe

quake-resistant housing in the post-earthquake period in the country was matched by the supply of *Taishin* methods by Mexico. Prior to the El Salvadorian earthquakes, Mexico had acquired and localized the knowledge from Japan over the years following their tragic experiences of huge earthquakes in the mid-1980s. In other words, the fact that all the three countries in this initiative share recent tragic experiences of large earthquakes became an underlying driving force to connect three countries towards this triangular program.

In El Salvador, the devastation after the earthquakes provided a basic country context for increasing recognition on the need for the "knowledge" of earthquake resistant housing construction standards and methods, virtually non-existent in the country prior to the disaster. The aftermath of earthquakes also brought to light the national reality that low-income groups residing in popular and self-constructed housing were the most affected due to the inadequate construction methods used.

Such potential ground for demand on the *Taishin* knowledge was then underpinned by the high level emergency Consultative Group meeting for reconstruction as well as by the formulation and launch of a national development plan after the meeting. At the CG meeting, donors including the IDB made commitments for support, which included policy actions on housing issues with the provision of temporary housing and other related schemes such as special housing loans. This CG meeting effectively provided the initial impetus for policy actions on housing including *Taishin*. The policy environment surrounding this initiative was further consolidated by the formulation and launch of a coherent national development plan entitled "Safe Country (2004-2009) Plan of Government of El Salvador 2004-2009" (País Seguro: Plan de Gobierno)" in 2004, soon after the start of *Taishin*. The plan clearly stated the importance of the role of the state in ensuring adequate access to houses by the people in low income brackets. The demand and the commitment for the acquisition of *Taishin* knowledge were also evident among implementing organizations. One such indication was the construction of a building by the UCA, which could accommodate the facilities for the experiments under their own financing.

In this case, Mexico with its national disaster prevention center, the CENAPRED played the role of supplying knowledge to El Salvador.

Mexico has accumulated knowledge for disaster prevention, having experienced a large earthquake. As stated in the preceding sections, the establishment of CENAPRED was one of these initiatives with the help of the Japanese Government and JICA. Over the years, Mexico has absorbed and adapted the Japanese disaster prevention technology of *Taishin* into the context of Mexico as well as the Central America sub-region. Through the process, CENAPRED has emerged as the regional center of excellence. It was therefore fortunate for El Salvador to have Mexico as a reliable sub-regional partner, capable of providing localized *Taishin* methods suited to the Central American context. The Japanese Government through JICA, its ODA implementation arm, has helped facilitate both countries to link up for knowledge exchange such as through the dispatch of joint fact finding and dialogue missions by Mexico and Japan to El Salvador to explore the potential area for collaboration.

Against these backdrops, El Salvador thus requested Mexico, the pivotal country, and Japan, to provide the country with the opportunity for learning the *Taishin* technique.

Engagement of major key stakeholders committed to the cause

The initiative strategically engaged a broad range of El Salvadorian stakeholders on housing issues in the country, from policy to research and dissemination. As mentioned in the previous section, the key actors involved include VMVDU, two universities; the National University of El Salvador (UES) and Central American University "José Simeón Cañas" (UCA), and FUNDASAL, a non-government foundation working for popular housing.

As envisaged, their engagement in the initiative became an asset for the progress of the initiative. VMVDU, mandated for national planning and implementation of urban development[10] and housing issues, has demonstrated its leadership and commitment throughout the initiative including the proactive contribution to the formulation process of this project. Two universities of UES and UCA, the main executing organization of the project, have played the central role in the initiative. During the initiative, they made an effort to build their staff capacity to be able to undertake the experiment with support from Mexico and Japan. Last, but not the least, the country was also fortunate to have the well-

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[10] VMVDU website http://www.vivienda.gob.sv/

known non-governmental agency, FUNDASAL, actively working in the very area of popular housing. The engagement of the foundation, equipped with rich practical experience in the field, has certainly helped the initiative in the pilot construction project as well as its dissemination process in the country, which is still ongoing. Active engagement of counterpart organizations in El Salvador equipped with the basic capacity to plan and execute the activities has been one of the key factors for the good progress in knowledge exchange.

Institutional innovations for effective knowledge transfer and mutual learning

In addition to further development of capacities for the execution and scaling-up of quake-resistant housing policy and practice, another challenge for the initiative was how to ensure the closer collaboration, continuous exchange and mutual learning among diverse actors for the adaptation, institutionalization and operational scaling-up of *Taishin*. In spite of the relatively sound capacity of the counterpart organizations involved, one of the bottlenecks was the insufficient collaboration among these organizations. Therefore, as an integral part of the program, the *Taishin* initiative consciously designed "Ba" and institutional mechanism so as to ensure the closer partnership and continuous mutual learning among them. One such institutional set-up was the monthly Technical Committee.

Besides the routine meeting agenda such as the monitoring of progress and performance, the interactions at the meeting helped facilitate the members to know each other well and resulted in the stronger mutual trust within the group. The start of closer academic exchanges by the two universities in earthquake engineering, for example, is a clear indication of the enhanced partnership that has grown out of the *Taishin* initiative. The Committee has thus provided precious opportunities and spaces among the stakeholders for information exchange, trust building and mutual learning with the common vision and objective of localizing and scaling-up *Taishin* methods.

It is also worth noting that an El Salvadorian coordinator assigned to the project played a key role in consolidating and coordinating stakeholders of this project. In the case of triangular cooperation in which large numbers of diverse stakeholders are involved, the presence of capable coordinator is often indispensable to smooth the process of trust

building and mutual learning among the stakeholders.

3-2 Roles and Effective Assistance Approaches by Pivotal Country and the Donors

In this initiative, external actors have played an effective role not only as the knowledge source but also as facilitator of knowledge acquisition by El Salvador counterparts.

The roles of the pivotal country

Mexico, the main pivotal country of this case, played the critical role in sharing their localized *Taishin* knowledge and advising and helping to facilitate the management of the knowledge process.

As stated, Mexico has learned the technology and approaches on earthquake disaster prevention with Japanese assistance ever since the major earthquake in 1985. Building on what the country has learned from Japan, she has even undertaken a training program on *Taishin* for the counterparts from Central America and the Caribbean countries with complementary JICA support between 1997 and 2001. Through these prior efforts, CENAPRED of Mexico, the main actor of the pivotal country, has already nurtured its capacity as the regional knowledge base on *Taishin*. The movement in Mexico towards more structured and systematic assistance to neighboring countries with the establishment of AMEXCID was timely for Mexico to start activities as the pivotal nation.

More specifically, Mexican expert teams mostly from CENAPRED, particularly its committed team leader, played the critical role for the progress of the *Taishin* initiative so far. It was the team leader, who played the central role with the technical advice from Japanese experts during the formulation process of the detailed plan of this project. Following the launch of this project, the team leader coordinated the dispatch of other Mexican specialists in response to the request from El Salvador. Mexican expert teams also advised the initiative on the mobilization of Peruvian experts, who are better positioned on the specific knowledge of adobe houses than Mexican specialists. Gathering from those involved in the initiative, the contribution of Mexican experts to this initiative was not limited to the transfer of technical and management skills but the spirit to catch up. The Mexican experts, who had gone through the similar process of learning the

Taishin approach from Japanese experts, recognized what sort of capacity challenges their El Salvadorian counterparts would have to face and thus were well-positioned to provide necessary encouragement for their counterparts to further progress. All in all, the committed experts with the presence of an effective leader, who all had the direct experience of absorbing the knowledge from Japan, and are conversant with the sub-regional context were instrumental for the success of the initiative.

Japanese Government and JICA as the knowledge catalyst

As has been seen above, Mexico and Peru played the proactive role in this knowledge exchange with El Salvador. What then was the role of Japan and JICA in this endeavor?

First of all, Japan played the role of nurturing the knowledge base on *Taishin* in the sub-region, where countries frequently experience serious earthquakes. JICA helped the Mexican government with the establishment and capacity development of CENAPRED, which then extended assistance to El Salvador. Also, the Japanese government through JICA simultaneously supported the AMEXCID, newly established at the time, through Japanese advisers dispatched to the organization for its capacity development. Those advisers helped to identify and formulate the pilot triangular cooperation initiatives, through which Mexico had the intention of providing assistance to seven Central American countries including El Salvador.

JICA dispatched several Japanese experts to El Salvador to provide complementary technical and specialist advice to the counterparts in the country. This helped ensure that the El Salvadorians would practice the newly acquired knowledge on their own with periodic external advice for further actions.

The El Salvadorian counterparts of the project consolidated their knowledge through these training. Several of them went on the overseas training or fellowship program provided by the International Institute of Seismology and Earthquake Engineering (IISEE) in Japan and some National Universities. Out of the eight people, three persons obtained doctor's degree or master's degree. This overseas education stimulated the counterparts to be engaged in the activities of the project more energetically.

4. Conclusion

As we have seen, the project has been successful in producing a new body of knowledge by combining knowledge coming from El Salvador, Mexico, Japan, and in part from Peru. And similar processes of knowledge creation and exchange are still continuing and expanding.

There are a number of factors that have helped the development of the project, but three of these may have been the most critical: First, the beneficiary country had a strong need for the body of knowledge; indeed there was a desperate need for and commitment to obtain applicable knowledge on earthquake-resistant housing in El Salvador. Second, there was a base knowledge on which new local knowledge could be developed. Third, those who extended cooperation, both Mexican and Japanese, had been struggling with the same challenge of disaster prevention, and that shared experience among the professionals who gathered in the project, together with the interactive process of the project, might have facilitated the joint knowledge creation.

As emphasized in Chapter 2 of this volume, disaster prevention is becoming a global challenge, requiring the concerted efforts of the entire international community. The importance of knowledge creation leading to affordable disaster prevention like the ones realized in this project cannot be overemphasized; similar efforts to that end are called for.

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Case 6

Sharing Sustainable Agricultural Methods between "the Sister Countries of Española Island" in the Caribbean

Shinobu Saito

1. Introduction

The project of Technical Training to technicians in the Agricultural Production System in the mountainous areas of the Republic of Haiti aims to contribute to an increase in the production of food crops by farmers in the Central Province of Haiti by way of advancing the technical farm skills of agricultural extension officers. The project, started in October 2010, runs until October of 2013.

Serving as a pivotal country, the Dominican Republic, through the Ministry of Agriculture and ISA University, are extending support to Haiti to improve the farming skills of Haiti. The main Haitian participants are the Ministry of Agriculture, Natural Resources and Rural Development of Republic of Haiti (MARNDR). NGOs working in Haiti are also benefitting from the project. JICA plays the role of catalyst in the project activities.

Given the absorptive capacity of Haiti, the project is being implemented on a modest scale, comprising training programs in the Dominican Republic, followed by field visits to Haiti by the Dominican Republic's and Japanese counterparts after the participants return home. So far, results are encouraging: though output is rather limited, the project has made available such agricultural techniques as homemade composts and fertilizers, drip irrigation systems using readily available materials such as plastic bottles, and rafting techniques using coating materials easily available to Haitian agricultural workers. The enthusiasm of Haitian members is high, and they are starting to work proactively.

The next section contains an overview of the countries involved, project background information and mentions of achievements. Section 2 attempts to analyze the case from the perspective of capacity development, or scaling up. And the final section provides conclusions.

2. Case Overview

2-1 Development Challenges confronting the Beneficiary Country and the Context

Figure 1. Location of Project area

Source: Prepared by the author

(1) Republic of Haiti

Haiti is an island nation located in the Caribbean Sea. After Columbus came to the island in 1492 and claimed it for the Spanish crown, in subsequent years France and Spain fought for supremacy over the island that the Spanish named *La isla La Española* (Española Island). In 1697, a third of the west side of the island became French territory (now Haiti); and the east side, Spanish territory (now the Dominican Republic). With the revolt by the African slaves in 1804, Haiti became independent from France. This independence was the first of its kind in Latin America, the second in the Americas, and it created the world's first black republic nation. Since independence, however, the country's domestic political turmoil has continued to this day and the economy has persistently been in a stagnant state. Major developed countries had not provided much in the way of direct support; most support for Haiti is from domestic and foreign NGOs.[1] However, in 2006, the coming into power of the Alexis Administration brought about a policy shift in the international community leading to their support in the development of Haiti. Finally, the situation in Haiti began to stabilize.

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[1] Hearing from the (then) Deputy Director of the JICA Dominican Republic Office

Haiti created and submitted the Growth and Poverty Reduction Strategy Paper (GPRSP) in 2007, and the International Conference toward a New Future in Haiti was held in 2009. The Japanese Government expressed support in their seat (from 2009 to 2011 providing $50 million USD out of the $324 million USD total pledges).

Food and agriculture were raised as the two key areas of the GPRSP, while expansion of agricultural production, the promotion of sustainable agriculture, and the development of market infrastructure have been serious challenges. In January 2010, as the country worked on reconstruction based on the GPRSP, a major earthquake (magnitude 7.0) struck claiming the lives of over 310,000 people.[2] Immediately afterward, the government launched the Action Plan for National Recovery and Development of Haiti (HAC) with the support of donor countries, following the GPRSP and choosing agriculture as one of the four major priority industries. The main donors in the agricultural sector are Inter-American Development Bank (IDB), the United States of America, Canada, and the World Bank.

(2) Dominican Republic

The Dominican Republic occupies the eastern half of Española Island. Although they were independent from France as a part of Haiti in 1804, they resented being under Haitian rule, and won independence from Haiti in 1845. Thereafter, both Haiti and the Dominican Republic followed a similar historical transition to civilian rule[3]: military occupation by the United States followed by a dictatorship. However, the Dominican Republic achieved phenomenal economic development in contrast to its neighbor. The Gross National Income (GNI) of the two countries was almost the same in1960, but the Dominican Republic's rate of economic growth from 1960-2010 averaged 5% and the country rose in rank to first place[4] in the Latin American region, with a GNI per capita of $5,240 USD in 2011[5]. In contrast, the 1% average economic growth rate in Haiti was the lowest[6] in Latin America, with a GNI per capita of $700 USD in 2011[7]. The Dominican Republic implemented

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[2] 2 Action Plan for National Recovery and Development of Haiti

[3] Haití, Republica Dominicana: Más que la suma de las partes Un Estudio Sobre las Relaciones Económicas Bilaterales, P3

[4] Haití, Republica Dominicana: Más que la suma de las partes Un Estudio Sobre las Relaciones Económicas Bilaterales, P3

[5] World Development Indicator

[6] Haití, Republica Dominicana: Más que la suma de las partes Un Estudio Sobre las Relaciones Económicas Bilaterales, P3

[7] World Development Indicator

organizational reform and decided to develop a long-term national development strategy (Estrategía Nacional de Desarrollo 2010-2030 un Viaje de Transformación hacia un País Mejor), which aims to modernize the nation for the first time. As one example, the Ministry of Economy Planning and Development (Ministerio de Economía, Planificación y Desarrollo : MEPyD) was established (2006) to serve as an organization for establishing and implementing economic policy and coordinating international cooperation. JICA dispatched an expert to help build the capacity of the MEPyD for the Dominican Republic to be an effective pivotal country.

(3) Sister countries in a state of mutual distrust

Historically, despite some of the long-standing problems and delicate mutual public sentiments between them,[8] the Dominican Republic and Haiti have been mutually dependent, one extending a helping hand to the other from time to time, with the Dominican Republic working more actively to support Haiti. In 2004, when Haitian President Aristide was exiled, the United Nations Stabilization Mission in Haiti (MINUSTAH) moved in as a peacekeeping force. Since then, the Dominican Republic has positively supported the stabilization of Haiti. Following the 2010 earthquake in Haiti, an emergency donor meeting was held in the neighboring Dominican Republic, and since then, the Republic has hosted a base for the transport of emergency relief supplies to Haiti.

2-2 Background of the Project and Project Details

(1) Background of Triangular Cooperation

Responding to a request by the Japanese government, JICA dispatched a preliminary mission to the Dominican Republic and Haiti in 2009. As a result of the dialogs, JICA implemented what it terms "triangular training," ("third-country training") in the area of agriculture. It was decided that the Dominican Republic will be the pivotal-country offering the training. GPRSP and HAC pointed out that, as the agricultural sector of Haiti required funds, human resources, technology and infrastructure, a comprehensive package of countermeasures was needed. JICA had a long history of implementing support in the area of agriculture in the Dominican Republic and the Dominican Republic was familiar with JICA's modes of operation and with Japan's agricultural technologies.

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[8] They include, for example, illegal logging along the border and illegal immigration from Haiti to the Dominican Republic

The Dominican Republic designated ISA University as the institution responsible for the cooperation.

Prior to this, some joint preparations for the support of Haiti were made by the Dominican Republic and Japan (JICA), which helped the actual project formulation process. In the early 2000s, when Haiti's political situation was unstable, the JICA Dominican Republic Office conducted a survey in Haiti that revealed the country's formidable needs.[9] Assuming the Dominican Republic's potential as a future partner in supporting Haiti, the JICA office proposed a joint third-country training[10] as a trial, which was subsequently completed.

The Dominican Republic has also received a number of benefits by taking part in aid for Haiti; it was believed that the aid would help the two sister countries alleviate thorny problems between them, such as illegal immigration from Haiti, illegal logging along the border, and poverty along the border, among others. Illegal logging had a negative impact for both countries for which tourism is important. Border regions in the Dominican Republic are poverty stricken areas where numerous Haitians have settled, and with dysfunctional government control, public disorder was rampant.[11] For the Dominican Republic government, Haiti is the only neighboring country that bisects the island. With the geographical proximity and the close tie between the two countries,[12] the Republic has been proactively engaged in the formulation process of this triangular cooperation program.

(2) Triangular Cooperation Initiatives

The triangular cooperation comprised training programs for agricultural extension officers and NGO field workers. The trainees were then expected to transfer the technology to farmers. Some 15 participants were invited to the University of Agriculture in the Dominican Republic to attend a one-month training program whose focus was advanced agricultural technology (soil conservation, irrigation, and cultivation

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[9] Hearing from the (then) Deputy Director of the JICA Dominican Republic Office

[10] "Improved diagnostic imaging technology training in Central America and the Caribbean region" 2005-2010

[11] According to the Constitution of the Dominican Republic (2010), the condition to acquire nationality was changed from birthright (jus soli) to lineage (jus sanguinis). Thus, the children of illegal Haitian immigrants now can acquire neither Haiti nor Dominican Republic nationality. This has developed into an international human rights issue. Both countries have problems that they need to tackle together. Illegal immigrants are currently estimated between 900,000 to 1.5 million people, which are putting pressure on the population of the Dominican Republic (9.93 million people, 2010). Most workers on sugarcane plantations and construction sites and in paddy fields are Haitian, which shows how dependent the Dominican Republic is on these workers.

[12] Feedback from the (then) Deputy Director of the JICA Dominican Republic Office

techniques for vegetables, among others).[13] The training institution was part of ISA University, which had accepted many Haitian students in the past. The professors in ISA University were training-program lecturers. As resources for the training program, organizations who had worked with JICA in the past also participated, such as the Secretary of Agriculture (SEA) and the Dominican Institute of Investigations of Agriculture, Livestock and Forest (IDIAF). An expert was dispatched from JICA. The textbook was prepared in the French-based Creole language spoken by Haitians for the convenience of the participants.[14] The training program consisted of lectures and practical training in the field. The program contents included Española Island's hydrology, soil conservation in the mountain slope, irrigation, vegetable cultivation, use of organic fertilizer, and producing composts. Upon completion of training, participants are expected to carry out an action plan in their working field. The training will be held four times during the period of 2010 to 2013.

As a follow up to the training, lecturers and the JICA expert made field visits to Haiti to support the trained participants.

On-site advisory support in Haiti by the professionals in the PROAMOH project

The project demonstrated that off-the-job training, if accompanied by the appropriate follow-up, leads to positive results. For example, how to improve the quality of soil to increase the production of agricultural crops was one of the training subjects. Having learned this skill, some of former trainees, after returning home, started to manufacture compost fertilizers. One former trainee wrongly used low-grade soil containing sand not suited to composting. Seeing the fruitless effort, the ISA University lecturer and the expert on the field visit suggested using leaf mold instead, because leaf mold promotes the fermentation of the compost, which yields a better result.

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[13] "Cholera Prevention" was added later.

[14] The native language of Haiti is Haiti creole, a combination of French and the languages of West Africa spoken by the slaves brought to Haiti.

Figure 2. Practice of production of compost in the Dominican Republic

Source: Go Kimura

2-3 Achievements through Efforts and Challenges

Though the program is still ongoing, several encouraging achievements have been reported. For instance, the former trainees started to experimentally introduce some of the techniques they learned upon returning home. Another positive sign is the gradual self-help scale-up process after the program. Having developed a strong sense of unity among themselves during the training, the ex-participants, as a team, voluntarily organized a workshop a few months after the training, for the benefit of extension officers and those workers who did not have a chance to participate in the training in the Dominican Republic, with the financial support of the Haitian Ministry of Agriculture as well as the JICA Haiti Field Office. These self-help initiatives have been enhanced by the informal network and the rapport created among participants during the training.

The possibility of further positive results is also likely. Trained officers and workers asked JICA to provide additional training at the advanced level, which was not covered in the original plan, and JICA accepted their request. The advanced training was completed in November of 2012. Farmers are adopting the technology passed on by the extension

officers and the use of contour cultivation[15] and the production of compost are already spreading.

The remaining challenge is the further strengthening and refining of the efforts to facilitate the building of a network among the training participants by which they liaise with other existing networks.

3. Case Analysis
3-1 Success Factors
Factors supporting these developments, as described above, are stakeholder's ownership and various drivers of change.

(1) Stakeholder Ownership:
Training participants from Haiti demonstrated a strong motivation to learn from the training because they knew that the knowledge they acquired would be directly linked to their success on the job. During the program, they tackled the tasks required of them with great enthusiasm, and successfully completed challenging assignments. The Dominican Republic's professors also developed a deep commitment to the project in ensuring the quality of the program. It has been reported that the Japanese expert had to lead the process of formulation and execution at certain times in the initial stages of the project. As the project progressed, however, the Dominican Republic's counterparts started to increasingly play the lead role in the program. For instance, a Dominican Republic instructor took the initiative to add the subject of cholera prevention[16] to the training curriculum, which was highly relevant to the health of the rural population in Haiti.

(2) Change Drivers:
Several drivers facilitated the progress of the project.
- ✓ **Policy environment:** The general policy guideline provided by GPRSP and HAC, clearly stating that agriculture should be revived as one of the most important industries, has ensured the policy relevance of this triangular program.
- ✓ **The role of JICA Expert:** The expert made a conscious effort to

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[15] The farming method which recommends creation of a furrow along the contour of the slope to prevent the deletion of the topsoil by rainwater.

[16] After the earthquake, in October 2010, cholera broke out. In Haiti, cholera had not occurred for over 100 years. After the earthquake, health conditions deteriorated to the point where believed that they caused cholera outbreak. Another belief is that the peacekeeping force brought the bacteria to Haiti. According to the Haitian Ministry of Health approximately 580,000 people were affected and approximately 7,500 died (as of July 22, 2012).

build an equal partnership with the Dominican lecturers with mutual learning. In addition, the expert strategically identified key persons at ISA University who could help improve the training contents and cope with the various operational problems. To make sure all participants felt at home in class, the expert helped create an atmosphere in which all the counterparts could closely work on the preparation and execution of the program as a team. The expert also ensured the provision of complementary and supportive advice on the activities of the participants.

✓ **The engagement of key persons at the host organization, the ISA University:** The expert strategically engages key persons of the ISA University including the former Vice-Chancellor Ing. Cesar E. Cruz, and Dean Dr. Rafael Amable Vásquez. The commitment by these key persons promoted the project's visibility and presence on campus.

✓ **The presence of highly motivated instructors (ISA University and other organizations):** Working closely with the JICA expert, lecturers have also developed a sense of ownership and started to eagerly contribute to the training programs. Among the lecturers from outside the university, some had participated in JICA training in Japan, which added to their sense of belongingness to the project. They worked as equal partners with the JICA expert. It is noteworthy that those who visited Haiti started to have a strong motivation, witnessing the country's situation on the ground and listening to the voices of local Haitians.

✓ **Network:** The training participants who returned to Haiti continued to exchange information among them. It was there that they hit upon the idea of holding additional seminars. Many of the trained officers and workers share workplaces in Haiti and, hence, have many opportunities to meet to maintain their network. At these seminars, new information is shared and new ideas are born. When the trained officers and workers resume working back home, they usually do not have someone to consult, this gap was filled partly by fellow trainees.

✓ **Strategic selection of trainees:** One of the key factors of a successful training program is that it strategically recruits the right kind of participants. To this end, pre-training seminars were organized in Haiti by the Haitian Ministry of Agriculture, Dominican Republic officials (Ministry of Agriculture and ISA University) with the attendance of the JICA expert. Also invited to these seminars

were Haitian professionals who had attended earlier training programs and who could adequately advise prospective seminar participants. This pre-training process engaging ex-trainees helped facilitate the smooth induction of trainees into the program.

✓ **Follow Up:** This program organized in the Dominican Republic has been followed up by an advisory and support mission to the field of ex-trainees in Haiti. The advisory team consisted of the Dominican Republic's Ministry of Agriculture and ISA University, the Haitian Ministry of Agriculture, and the JICA expert. This follow up is a great opportunity for ex-trainees to seek advice, gather together, and get feedback on their activities. They can share experiences, challenges and successes and further discuss and reflect on the pertinent issues that need special attention. This practice helps generate new ideas.

(3) Mechanisms for continuous mutual learning and joint solution discovery

Many efforts are made to ensure that the process of mutual and continuous learning takes place. They included:

✓ **Small meeting opportunities:** The lecturers and the JICA expert have small meetings periodically between individual training sessions (classes) to determine what to add to or change in the training contents, or how to improve the implementation system as a whole. They are well-aware that such timely adjustment even during the course will improve the effectiveness of the program.

✓ **Feedback mechanism for continuous program improvement:** At the end of the training, a carefully prepared questionnaire is passed out to trainees asking them to evaluate the quality of contents and the organization of the training. They also hold a dedicated participatory workshop at the end to directly hear the assessment of the program quality by participants. The information collected at the workshops is sent to the appropriate organizations and the project organizers for subsequent action (such as a change of lecturers, or an addition to courses).

✓ **Adequate follow-up strategy:** The practice of follow up mentioned above was not only beneficial to former participants but also to the program organizers. The visits enabled the program organizers to grasp the latest conditions of the local area in Haiti such as the farm's agricultural and economic conditions. Through the field visits, the project could see the reality in the field and the information thus

collected was fed into the planning process for the subsequent training program.

3-2 Roles of External Actors and Approach toward CD Assistance

Now we look at the role of external actors in a project aimed at improving agricultural techniques in Haiti:

The role of the JICA expert in the project can be described as both that of a facilitator for all project members and that of a complementary coordinator for key project activities. As touched on above, the project made numerous efforts to meet the needs in Haiti, including the follow-up actions in Haiti, the preparation of textbooks in Creole which is the Haitian local language, and joint selection of trainees. These efforts have further improved the quality of the project and made possible the smooth collaboration among the project members with the assistance of the JICA expert.

The JICA expert and ISA University counterpart nurtured an equal partnership, jointly overseeing training through continuous and close mutual exchanges involving the program management and content. Through such close exchanges as the equal partner, the members from ISA University started to further strengthen their sense of commitment to the program. They became increasingly eager to be involved in the management of the training.

3-3 Facilitating Mutual Learning and Collaboration

Because many of the trainees use Haiti Creole as their common language, the project prepared Creole text materials from materials written by training lecturers in Spanish. These materials incorporated numerous examples explaining the new techniques discussed in training, such as drip irrigation; therefore, the materials can be used as tools for dissemination.

As explained earlier, the project's careful selection of training participants was a key factor in ensuring effective learning. Taking advantage of the recruitment training seminars organized in Haiti, applicants participated in a question and answer session with the ex-trainees. Thanks to information provided by the ex-trainees, the project received hardly any complaints later on. As for the selection of the trainees, priority was given to individuals who demonstrated a strong

potential. As for candidates from NGOs, the project made it a rule to accept applications both from the local and the international NGOs.

As mentioned above, a number of small opportunities or "Ba" for networking were consciously organized throughout the program as well as in the follow-up phase. At the initial stage, particular care was taken to ensure rapport building among the participants. This fostered a sense of the participants being a team during the one-month training. The program organized a wrap-up workshop which offered the opportunity for all the participants to share and mutually discuss the action plan that each participant prepared for the follow-up activities upon his/her return to Haiti. With the help of these program designs, most trainees have been continuing to exchange information and lessons learned through practice even after their return to their fields in Haiti.

4. Conclusion

Though the project we have examined is one with a modest input and a short time frame and while it is still too early to make a definitive evaluation, several encouraging signs are evident. Most typical is the continued enthusiasm and commitment to the project demonstrated by the Haitian workers, despite their harsh working environment. The project has also produced tangible outcomes, though, given the conditions the Haitian farmers face, obviously much remains to be done. Among the points examined in the case analysis above, three conditions seem to have been of utmost importance in contributing to the thus-far satisfactory trajectory of the project.

First, so long as the project is designed to help impact or generate the kind of knowledge and skills that are directly linked to the needs of the beneficiaries, it is likely to succeed.

Second, if practitioners who share similar problems or missions meet and foster a relationship of trust, and if they are given adequate facilitation and opportunities, they will continue to build a network of learning. New and innovative ideas can be born when information and experiences are exchanged through this network. The information exchanged at these meetings will then help trainees when they return to their workplace. Bonded by this network, the members maintained contact; thus, the atmosphere remains friendly. The time and space the trainees used to exchange and share information became "*Ba*", and the

idea of holding a seminar for the extension officers that could not take part in the training was born.

Third, as stated above, such knowledge creation cannot happen by chance; it must be supported by careful and continuous efforts of coordination and facilitation.

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Case 7

Tackling Regional Challenge of Livestock Hygiene in South America through the Development of Professional Network

Yukako Inamura

1. Introduction

This paper looks at the "Project of the Capacity Development for Improvement of Livestock Hygiene in the Southern Part of South America through Regional Technical Cooperation". The aim of the project is to enhance the capacity of researchers and university faculty members to improve livestock hygiene in South American countries by means of veterinary epidemiology and disease diagnostic methods. Participants of the projects were Argentina, Bolivia, Paraguay, and Uruguay. Japan played a catalyst's role.

The project started in 2005. It adopted the distinctive approach of promoting regional network of university-based veterinary professionals for active mutual exchanges of information, knowledge and experiences. Through its five-year project activities, the project has attained several achievements. At the country level, for instance, participating scientists have acquired knowledge and skills of the latest diagnostic methods on animal diseases. Furthermore, they disseminated the knowledge to a broad range of stakeholders, including field veterinarians and livestock farmers. At the regional level, the network members have undertaken joint research activities and widely shared their research results with the veterinary professionals in the region.

In the following Section 1, we first outline the background and development process of the professional network through the project. Section 2 then examines key success factors in the process that regional and country-level actions for the improvement of livestock

hygiene has thrived and be sustained by development of a professional network. In Section 3, the author provides implications based on the case.

2. Overview: A Challenge of the Regional Cooperation

2-1 Background: The Expansion of Economic Connections and the Threat of Animal Diseases

In the Southern part of South America, the liberalization of trade was progressing among the members of the Southern Common Market (MERCOSUR). MERCOSUR established in 1991 was an economic and political agreement, aimed to promote free trade and the free mobility of goods, people, and currency.[1] As part of the activities, in 2003, MERCOSUR entered into a Free Trade Agreement (FTA) with the Andean Community (CAN)[2] as a customs union established in 1969. Thus, the economic linkage of the region was being widened and strengthened. The expansion of regional economic connections greatly stimulated the livestock industry, which was one of the most important industries in the region, and rapidly promoted animal product export within and beyond the region.

However, the promotion of such economic partnerships brought the risk of animal diseases spreading beyond national boundaries. Should an outbreak occur, it would damage not only livestock and farmers' economy, but also greatly influence the national economy. In the case that it spread to neighboring countries, it also would damage their economies. In fact, when an outbreak of foot-and-mouth disease (FMD) occurred in the early 2000s in the region, other countries imposed bans on imports.[3]

In addition, economic damage was not the only problem that would result from animal diseases. There were zoonoses, such as bovine spongiform encephalopathy (or ovariant Creutzfeldt-Jakob disease), rabies, and highly pathogenic avian influenza, which could be transmitted between animals and humans. The poor counter-measures to animal diseases could threaten human health.

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[1] The full members are Argentina, Brazil, Paraguay, Uruguay, and Venezuela, and the associate members are Bolivia, Chile, Colombia, Ecuador, and Peru.

[2] The full members are Bolivia, Colombia, Ecuador and Peru, and the associate members are Argentina, Brazil, Paraguay, Uruguay, and Chile.

[3] JICA 2006, p. 149.

Therefore, various international organizations formed political frameworks and standards concerning animal health. For instance, the World Organization for Animal Health (OIE) prepared a list of animal diseases, including zoonoses, technical disease cards, and regulations on how to deal with them.[4] The OIE, the FAO, the Pan American Health Organization, the World Health Organization (WHO/PAHO), and the Inter-American Institute for Cooperation on Agriculture (IICA), worked in the field of animal health in South America. The World Trade Organization (WTO) also created provisions on the trade of plants and animals, the so called Sanitary and Phytosanitary Measures (SPS), so as to be able to take the appropriate measure should an outbreak occur.[5]

However, most of the activities conducted by these international organizations were limited to establishing standards, providing guidance and advice, and exchanging information. In many cases, the implementation of specific measures and the introduction of special techniques for the prevention of animal diseases were often left to national efforts.

Therefore, counter-measures of countries were of mixed standards and coverage. For the animal diseases listed by the OIE, each country formed their own national guidelines and conducted various activities for preventing them: diagnosis, diagnostic medicine production, insect control, vaccinations, and public relations activities supporting regional communicable disease control. The levels and degrees of these activities often depended on their socio-economic-political circumstances.

International donors provided loans (e.g. Inter-American Development Bank) and technical support (e.g. International Atomic Energy Agency (IAEA)) for the development of animal health and the prevention of animal diseases.[6] For instance, the IAEA provided Enzyme Linked Immunosorbent Assay (ELISA) kits to diagnose and control animal diseases. However, the improvement of knowledge and techniques was not sufficient at the field level.

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[4] OIE 2012a.

[5] WTO 2010. According to the SPS, the OIE has decided on international standards for animal health (WTO 2010, pp. 18-19). The OIE sets the international standards, namely the Terrestrial Animal Health Code (the Terrestrial Code), which includes standards for safe international trade in terrestrial animals and their products (OIE 2012b).

[6] JICA 2003, pp. 10-25.

2-2 Region-Wide Challenges for Animal Health

(1) The formation of an idea of the regional cooperation[7]

Being ahead of its neighboring countries in animal disease measures, Argentina, along with Brazil, had one of the reference laboratories of the OIE,[8] which had been established as a center of expertise to standardize diagnostic techniques for its designated diseases. In the laboratories of both countries, experts conducted inspection, set regulations, and provided recommendations in collaboration with neighboring countries. In Argentina, the National Institute of Technology-Agricultural Quarantine and Sanitation Services (SENASA) was appointed as an OIE laboratory. The SENASA, together with the National Institute of Agricultural Technology (INTA) and the Faculties of Veterinary Sciences of eight national universities,[9] worked for the improvement of diagnostic methods, vaccinations, and public relations activities for communicable disease control in Argentina. It was the National University of La Plata (UNLPVS) who undertook the education of the staff of the SENASA and played a key role in maintaining animal health in Argentina.

The Faculty of Veterinary Sciences, the UNLPVS (FCV-UNLP), had a close relation with Japan. For example, the Japan International Cooperation Agency (JICA) provided support to the FCV-UNLP through a five-year technical cooperation and a two-year follow-up cooperation starting in 1989. The main purpose of this cooperation was to contribute to the development of the livestock industry by strengthening their basic research activities.[10] Consequently, the FCV-UNLP established excellent research facilities and human resources in South America. The FCV-UNLP developed its capacity to the point that they were able to share their advanced skills and experiences with neighboring countries where there was a growing demand for knowledge and techniques.[11]

In those days, the Government of the Argentine Republic (GOA) was starting to consider implementing regional cooperation in the field of animal health. In 1992, the GOA who had had a long history of

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[7] JICA 1996.

[8] As of 2011, the OIE has established 225 Reference Laboratories in 37 countries (OIE n.d.).

[9] The SENASA had responsibilities for the quarantine of animal diseases, sanitary regulations, and the supervision and inspection of slaughter houses and meat facilities. The INTA was established for the purpose of agricultural technology reform and the research and dissemination for the development of farmers and corporations, and had branches throughout the country. The eight national universities were located in areas where livestock productivity was high.

[10] JICA 1993.

[11] JICA 1996, p. 13.

international cooperation as both a receiver and provider of assistance in several areas established the Argentina Fund for Horizontal Cooperation (FO-AR) in order to share knowledge and experiences through training and the transfer of skills with the countries of the region.[12] It was compatible with the national policy indicated in the FO-AR to cooperatively work to solve animal health problems as a long concern among the countries of the region. This also would contribute to the Argentinean economy and the health of their citizens. The GOA conducted international training with support from donors.

Japan through JICA also supported such GOA's goals. In cooperation with JICA, the GOA through the FCV-UNLP provided training in the Diagnosis and Research of Animal Diseases to neighboring countries from 1996 to 2000 (the first phase) and from 2001 to 2005 (the second phase). When the second phase started, Japan came to further support the national policy of the GOA. In 2001, the two countries signed The Partnership Programme for Joint Cooperation between Japan and Argentina (PPJA)[13], a framework for the cooperation to jointly support economic and social development of other Latin American countries. Under the PPJA, Japan assisted the GOA to conduct international training in various areas, including animal health, and dispatch their experts to other countries.[14]

Training on Diagnosis and Research of Animal Diseases[15]
Participants (Phase I 1996-2000): Bolivia, Brazil, Chile, Paraguay, Uruguay, Ecuador, Costa Rica, Cuba, Nicaragua, Mexico, Guatemala
Participants (Phase II 2001-2005): Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Ecuador, Guatemala, Mexico, Nicaragua, Paraguay, Uruguay, Venezuela

The aim of the training was to provide an opportunity for Central and South American countries to improve knowledge and techniques of veterinary diagnosis. Participants were university graduates in veterinary science (veterinarians) and had experiences of more than two years in related fields. A six-week

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[12] PAHO/WHO and Ministerio de Relaciones Exteriores, 2009, p. 9. About 3,600 activities have been implemented under the FO-AR (INSOUTH n.d.).

[13] In 2005 when the original period had been expired, the PPJA was extended after evaluation.

[14] JICA 2005.

[15] JICA 1996.

training program was divided into two: 1) three-week introductory courses for all participants to learn the general concepts of ten themes (i.e. immunology, biochemistry, laboratory animals, microbiology, virology, parasitology, genetics, pathology, physiology, CEDIVE) and 2) three-week specialized courses for individuals to enhance their knowledge and research methods in selected themes. This training was highly evaluated by the participants. Through this training, the FCV-UNLP developed their capacity to play a key role in animal health in the region.

When the GOA was conducting the training of the Diagnosis and Research of Animal Diseases, the idea of establishing regional cooperation emerged. In the early 2000s, outbreaks of FMD were reported in South American countries, such as Bolivia, Uruguay, Argentina, and Paraguay. This highlighted the different degrees and levels of counter-measures taken by these countries. It was becoming an important, urgent issue for the countries of the region, who had been largely preoccupied with monitoring the border of their own countries, to strengthen their capacities to deal with trans-boundary diseases.

Under these circumstances, a basic survey was conducted in 2003 to identify the situations and problems of prospective countries for regional cooperation. The mission members of the survey visited Argentina, Uruguay, Paraguay, and Bolivia who were both participants of the Diagnosis and Research training and MERCOSUR.[16] Following the basic survey, two preliminary surveys were conducted in 2003 and 2004. Through these surveys, the prospective countries elaborated on an idea of regional cooperation for the development of animal health, by maintaining and utilizing training results, although their national risk priorities of animal diseases and capacities varied.

The three surveys and a series of following discussions among stakeholders defined the direction for regional cooperation. The three surveys identified specific local conditions needed to maintain activities and continue to manage both animal and human health after the cooperation. It seemed neither sufficient nor efficient to focus on only

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[16] With concern over the excessive expansion of targeted countries, Brazil who had a vast land was excluded in this regional cooperation (JICA 2003, Appendix pp. 37-38).

the improvement of diagnosis techniques. For the sustainability of activities, it was thought to be more effective to develop human resources with the ability to conduct proper veterinary diagnosis in the region, and create some mechanism in which they would keep improving their knowledge and skills.

(2) Regional cooperation of the four universities

The regional cooperation called the Project of the Capacity Development for Improvement of Livestock Hygiene in the Southern Part of South America through Regional Technical Cooperation (PROVETSUR) started in August 2005 under the framework of the PPJA.[17] Four universities from the four countries participated as implementing agencies: the FCV-UNLP in Argentina, the Faculty of Veterinary Science, Autonomous University of Gabriel René Moreno (FCV-UAGRM) in Bolivia, the Faculty of Veterinary Science, the National University of Asunción (FCV-UNA) in Paraguay, and the Faculty of Veterinary Medicine, the University of the Republic (FV-UDELAR) in Uruguay. The selection of universities rather than national laboratories was because of the priority given to human resource development. Like the FCV-UNLP, the faculties of the other three universities, also had had experienced cooperating with JICA in the areas of livestock production and animal health.[18]

Figure 1: Participants of the PROVETSUR

Figure 2: Structure of the PROVETSUR

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[17] The participation of Uruguay was in 2006 due to necessary administrative arrangement with the government (JICA 2006, pp. 8-9).

[18] JICA 2006, pp. 160-161.

Bolivia: Survey on rabies virus antibody valency (assessing the age of a dog by dentition)

The activities of the PROVETSUR consisted of two layers. In the regional level, the PROVETSUR aimed to establish a mechanism of continuing professional education for veterinarians and develop networks of mutual cooperation and of sharing diagnostic and epidemiological information. These were crucial activities for the four countries to continuously develop their capacities for dealing with animal diseases.[19] The targets at the national level were to strengthen the capacity of Argentina's FCV-UNLP as a regional veterinary center for providing professional education and for improving the capacities of veterinary diagnosis of the other universities. Their final goal was to contribute to the development of animal health through proper implementation of veterinary diagnosis in the region.

Uruguay: Survey on antibody to Infectious diseases induced miscarriages (Sampling blood from sheep)

The implementing mechanism of the PROVETSUR was designed to make smooth coordination among a number of stakeholders. A project secretariat was located in the FCV-UNLP as a pivotal institution, which would provide international training for and dispatched experts to the other three universities. In the secretariat, there were three coordinators for Bolivia, Paraguay, and Uruguay, and administrative staff members. Each faculty of the three universities appointed one country coordinator for necessary coordination with the secretariat. One Japanese long-term expert who stayed in the secretariat circulated the three countries regularly. In so doing, he provided necessary advice face-to-face and support to the stakeholders. All four universities annually held a joint coordinating committee (JCC) in order to discuss an annual plan and related issues. Though it took some time before the JCC became fully functional and the implementing mechanism of the project under the JCC contributed to enhancement of smooth communication among the stakeholders.

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[19] JICA 2006, p. 16.

Equipment and materials were provided by JICA and were used to develop each university's laboratory for appropriate diagnosis and research activities. They chose equipment for diagnosis that was particularly easy to maintain. Materials such as reagents were procured locally.[20]

Paraguay: Survey on *salmonella* (sampling specimen)

PROVETSUR covered various diseases. Workshops and interviews with the stakeholders during the second preliminary survey revealed the different countries' differing priorities of animal diseases to cover. Their priorities were: rabies in Bolivia, gumboro disease in Paraguay, and avian and equine influenzas in Uruguay.[21] Given the mixed priorities, it was decided not to have specific common targeted diseases. Consequently, each country started to work to improve diagnostic techniques for the diseases which had priority.

The targets and activities of the PROVETSUR were changed in the middle of the five-year implementation as shown in Figure 3, to clearly distinguish regional and national targets and activities, which were not clearly separated at the beginning, causing confusion in the participating universities.

Figure 3: Relations between Regional and National Targets and Activities

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[20] An interview with the Japanese long-term expert.

[21] JICA 2006, pp. 164-165. It was examined to set the prevention of FMD as a common task at the very beginning of the formation of the project. However, there was a great risk to research on FMD without proper laboratories of the bio safety level 3 in the international standard, which the four countries did not have. The outbreak of FMD, which could trigger ban on export and damage national economy, might cause political disputes among countries. Therefore, despite the importance of its prevention, FMD was excluded from the targeted animal diseases of each country (JICA 2010, p. 35).

In the new structure, the regional and national targets and activities of each country were separated. One regional and four national targets were set. For instance, at the national level, the three universities aimed to develop the capacity of diagnosis for their priority diseases by receiving training from the FCV-UNLP, while the latter also improving their capacities by providing training. At the regional level, all of them participated in activities that would contribute to the region, such as joint research and sharing results. The FCV-UNLP took the main responsibility for managing the regional level activities. The overall goal was modified to promote the professional education of veterinarians in order to improve their veterinary disease diagnosis in the region.

2-3 Consequence: Towards the Strengthening of a Regional Network[22]
(1) Regional level: Cooperation and network construction
The formation of a network and its expansion
The PROVETSUR provided a precious opportunity for the four countries to create a network among them. Although they were members of MERCOSUR and the CAN, there had been little practical regional cooperation and coordination in animal health until the start of the PROVETSUR. However, the activities of the PROVETSUR promoted regular personal face-to-face interactions among the faculty members and students of the four universities, which resulted in the formation of a network. The network is currently still utilized for joint activities, such as the publication of joint research papers.

The members of the network are also gradually expanding their activities beyond the PROVETSUR by connecting it with other networks. For instance, the Iberoamerican Society of Veterinary Epidemiology and Preventive Medicine (SIEVMP) was established by responding to the call of Professor Dr. Andre Perez in 2009.[23] The FCV-UNLP, together with the Regional International Organization for Plant Protection and Animal Health (OIRSA) in El Salvador, is managing the information network of the SIEVMP. Many university researchers who participated in the PROVETSUR have joined the SIEVMP and have been sharing the fruits derived from the former's activities with the latter's academic members. By making a bridge with other network(s), the scale of the network of the PROVETSUR is growing little by little within and beyond the region.

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[22] JICA 2010, pp. 35-37.
[23] JICA 2010, p. 22. The headquarters of the SIEVMP is in Chile.

The improvement of the research level in the region

During the PROVETSUR, the research level of the faculties of the four universities was significantly improved. One of the focused activities was to prepare and distribute epidemiological information, since it was considered an effective research activity for planning and implementing the comprehensive counter-measures of animal diseases at the national and regional levels.[24] Epidemiological methods that mainly rely on non-laboratory methods were more fitted to the conditions of the four universities, whose laboratories lacked the latest equipment. This, in turn, provided researchers with an incentive to write academic papers based upon data collected through fieldwork and sampling. More than 25 regional research groups were formed, consisting of mixed faculty members of the four universities. They published a number of research papers in academic journals, including well-known international ones. As of 2010, the following number of papers and reports were published.[25]

Table 1: A Number of Publications (as of 2010)

	Argentina	Bolivia	Paraguay	Uruguay
Papers (peer-reviewed)	17	4	3	2
Reports	3	-	2	5

These research outputs were shared through the website of PROVETSUR and with presentations in conferences, and contributed to the enhancement of knowledge on animal health in the region.

(2) National level: Development of human resources

Development of veterinary diagnosis techniques

According to their national risk priority, the faculties of the four universities developed their capacities of implementing veterinary diagnosis both at the individual staff level and at the faculty level as a group. The improvement of laboratory facilities also contributed to supporting technical development. The following table shows the major achievements for the development of the capacities of veterinary disease diagnosis, including notable outcomes, such as the preparation and dissemination of manuals and the increase of providing related services to those outside the universities (e.g. diagnosis).

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[24] JICA 2010, pp. i-ii.
[25] JICA 2010, pp. vii-ix.

Table 2: Major Achievements in Veterinary Disease Diagnosis[26]

	Obtained diagnosis techniques	Animal diseases to be diagnosable	Notable outcomes
FCV-UNLP (Argentina)	Polymerase Chain Reaction (PCR), Real time PCR*	-	- Prepared and disseminated 'The Manual of Biostatistics for Veterinary Science', which is expected to be used as a common text of biostatistics in the region. - The official approval of the veterinary epidemiology training as a course for the professional education of the faculty members of the FCV-UNLP - The increase of providing services (e.g. diagnosis, laboratory techniques)
FCV-UAGRM (Bolivia)	Hemagglutination test, Hemagglutination inhibition test, ELISA, Real time PCR, Agglutination test plate, Agar-gel immunodiffusion test	Rabies, New Castle disease, Brucellosis in cattle, Equine infectious anemia, Bovine leukemia	Reduced the number of people with rabies by effectively controlling it, in cooperation with the Veterinary Diagnostic Center (LIDIVET) and municipal authorities
FCV-UNA (Paraguay)	ELISA, PCR, Immunomagnetic separation, Morbid anatomy, Immunohistochemical staining, Separation and fixation of bacteria	Gumboro disease, *Mycoplasma* infection, Avian infectious bronchitis, Salmonellosis in poultry and pigs	The increase of diagnostic requests from outside
FV-UDELAR (Uruguay)	ELISA, PCR, Indirect immunofluorescence assay	- Infectious diseases induced miscarriages in sheep and cattle: Infectious bovine rhinotracheitis, Bovine viral diarrhea-mucosal disease, *Campylobacter* disease, Trichomoniasis, Neosporosis - Poultry diseases: *Chlamydia, Mycoplasma* infection, Infectious *orthobacterium rhinotracheale*, Avian pneumovirus disease, Gumboro disease)	- Made an agreement with a producer association on the provision of diagnostic services of poultry disease - Prepared and disseminated a manual of diagnostic methods (e.g. ELISA, PCR, Indirect fluorescent antibody method)

* These diagnostic techniques were transferred to the FCV-UNLP by Japanese short-term experts. Then, their staff members were dispatched as experts to the other three universities in order to transfer the techniques.

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[26] JICA 2010, pp. 22-23.

Development of the national capacities of diagnosis

The faculty members who participated in the PROVETSUR have been disseminating obtained skills and knowledge through training and workshops to fellow researchers and veterinarians in the field. In Argentina, the FCV-UNLP has been providing education for faculty members, particularly junior members, to improve their diagnosis techniques and enhance epidemiological knowledge and skills. They have organized a number of seminars on various topics, from the introduction of veterinary epidemiology and the research design to individual animal diseases, for faculty members, students, staff members of related organizations, veterinarians in the field, and producers. The other three universities also conducted similar seminars. In Paraguay and Uruguay, researchers of the National Service for Animal Quality and Health (SENACSA) and staff members of the Ministry of Agriculture Livestock and Fisheries were invited in order to provide professional education and disseminate output of the project activities respectively.[27]

(3) Future tasks

It is indispensable for the four countries to cooperatively continue developing their capacities for preventing animal diseases and improve animal health in the region. This requires several actions: the systematization of professional education on the basis of the needs of veterinarians in the field; the further development of diagnosis and epidemiological techniques among faculty members; the continual efforts of the standardization of diagnosis among countries; and the financial security of maintaining necessary materials (e.g. reagent) for diagnosis.[28] In addition, it is necessary to strengthen relationships with governmental organizations and institutions such as veterinary medical associations, in order to meet the needs of production sites by raising the overall level of the veterinary medical services. It is also important to continue supporting veterinarians by surveying their needs and monitoring the results of professional education.[29]

(4) Step forward: New challenges

The PROVETSUR opened a path for promoting regional cooperation in animal health in South America. In 2011 after its completion, a new collaboration, namely the Prevention and Zoonosis Control of South

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[27] JICA 2010, p. 24.
[28] JICA 2010, pp. xiv-xv.
[29] JICA 2010, p. 26.

American Region, began among Argentina, Bolivia, Paraguay, Uruguay, Nicaragua, Peru, and Ecuador. Here again Argentina is acting as a pivotal country, and the FCV-UNLP is providing training. In the PROVETSUR, the selection of targeted diseases depended on each country due to their different socio-economic circumstances, risk priority, and capacities. The task of preventing common animal diseases was left as a task yet to be achieved in the future. The seven countries of the new project who had observed the activities and achievement of the PROVETSUR decided to focus on zoonotic diseases, such as leptospirosis, *Escherichia coli* infection, *salmonella* infection, brucellosis, trichinosis, anthrax, highly pathogenic avian influenza, rabies, and West Nile encephalitis. These diseases have been threatening human lives in Central and South America. The close cooperation under the PROVETSUR fostered trust among the participants of the four countries, which were encouraged to promote further cooperation among them and develop their activities with new member countries.

The cooperation of the PROVETSUR is being succeeded by another form of regional cooperation. The four universities obtained certification of regional accreditation of university education, and became members of the network of thirty universities from the seven countries of MERCOSUR, who had agreed to exchange credits among them.[30]

3. Lessons Learned from the Case Study

3-1 Key Success Factors

(1) Ownership of the stakeholders

The ownership of the GOA and the FCV-UNLP became a driving force for the implementation of the PROVETSUR. The FCV-UNLP had been working with the GOA, for instance, by providing education to the staff of the SENASA. The implementation of the PROVETSUR was motivated by the GOA, who intended to promote the internationalization of the university, and by the FCV-UNLP, which was rich in experience and human resources in the area of animal health.

In addition, the ownership of the other three universities was also important. They actively supported the PROVETSUR by developing their diagnosis techniques and providing seminars to faculty members, students, and veterinarians in the field in each country. They also collaborated with government officials and local veterinarians.

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[30] JICA 2010, p. 36; and JICA 2011.

University researchers who participated in the PROVETSUR continued related research and published results of the activities of the PROVETSUR.

The four universities were not uniformly committed to the project early on. However, as the project progressed, and particularly after the reorganization of regional and national activities as well as of the JCC's mechanism, tangible achievements from activities that crossed national boundaries helped foster their commitment.

(2) Change drivers
There were several drivers behind the formation and dynamic development of the PROVETSUR.

Outbreaks of FMD
The outbreaks of FMD in the Southern part of South America in the early 2000s highlighted the importance of maintaining animal health in the region. The countries of the region directly felt the dangers of animal diseases to their economies and to the health of their citizens.

Socio-political frameworks of regional cooperation and international standards
The existence of socio-political frameworks of regional cooperation, such as MERCOSUR and the CAN, contributed to establishing quick linkage among the four countries and motivating them to work together for the benefits of the region, as well as their own. Existing international standards, such as the OIE list and technical disease cards, also became guidelines for them to conduct their activities.

Flexible adaptation of young researchers
Junior researchers at the four universities had the flexibility to try epidemiological and other methods introduced by the Japanese experts, and were encouraged to publish findings based on statistics and data obtained through fieldwork. Successful publication in international journals not only greatly stimulated other junior researchers but also motivated senior researchers in the region.

(3) Learning in the Process of the Cooperation
A virtuous circle of learning through publications
During the PROVETSUR, the faculty members of the four universities

changed their ways of thinking and expanded their research activities by using epidemiological methods and jointly working with fellow researchers in the region. Researchers, particularly senior ones, of the four universities had not thought much about publishing papers in leading academic journals, given their working environment lacked sophisticated equipment. However, the performance of young researchers who successfully started to publish peer-reviewed papers encouraged senior researchers to do the same.

Such successful publication in international journals brought about a virtuous circle of learning. Through publication, researchers of Bolivia, Paraguay, and Uruguay, as well as Argentina, could obtain opportunities for joining in the international academic circle crossing national boundaries. Research results were also presented and shared with fellow researchers in various seminars and conferences, such as the SIEVMP. They could exchange research results and views with researchers of other countries, which consequently contributed to develop their knowledge and research level. Their research activities expended. In so doing, the gap of their research level gradually narrowed. As a result of this, they have more opportunities to participate in joint research activities and publish papers.

From competition to cooperation through face-to-face interactions
The activities of the PROVETSUR enabled them to find and understand the great merits of regional cooperation. Before the implementation of the PROVETSUR, the framework of MERCOSUR in the area of animal health meant only competition among the members.[31] The assumption changed with the progress of the project. The member countries learned that they could obtain actual benefits from the regional cooperation and mutual support.[32] The cooperative relationships of the four universities have been constructed through individual face-to-face interactions, rather than institutional ones, in frequent international training in the FCV-UNLP and national training conducted by dispatched Argentinean experts.[33] In so doing, they fostered trust among them, which created the friendly circumstance in which they could consult with each other and exchange opinions. These experiences consequently lead them to form the new project mentioned above. In 2010, participants said that with support from Japan as a bridge,

[31] JICA 2010, p. 30.
[32] JICA 2008, p. 37.
[33] JICA 2010, p. 30.

MERCOSUR changed to a framework of cooperation.[34]

(4) Mutual learning

Knowledge transfer was not a one-way flow from the FCV-UNLP as a pivotal institution to the other three universities. SENACSA in Paraguay dispatched two experts to Bolivia's FCV-UAGRM. With their support, the FCV-UAGRM was able to obtain the technique of producing the diagnostic reagents for brucellosis and became able to produce three kinds of diagnostic reagents.[35] The FCV-UNLP also learned from the other three universities. By participating in the project, they could accumulate experiences and know-how of providing training and managing a regional cooperation project. Thus, mutual learning occurred among the members.

3-2 Support for the Network Creation

(1) Strengthening a network through the enhancement of communication

The FCV-UNLP as a main pivotal institution effectively combined different types of training, by responding to the needs and requests of the other three universities. Within Argentina, the FCV-UNLP provided both group-training with the combination of classroom lectures and practices for all three universities, and

Staff members of the FCV-UNLP, who were learning from a Japanese short-term expert.

individual training with the focus of specific technique(s) for individual universities. They also dispatched experts to each university and transferred techniques through on-the-job training.[36] Regarding some of the latest diagnosis techniques, such as PCR and Real Time PCR, the FCV-UNLP cooperatively worked with Japanese short-term experts. After Japanese short-term experts had provided guidance to the faculty members of the FCV-UNLP, they transferred their obtained knowledge and skills to the other three universities. The combination of these different training programs was very effective and efficient in raising the capacities of diagnostic knowledge and techniques in the three countries, and in the region as a whole. Consequently, face-to-face interactions through these training programs contributed to the

[34] JICA 2010, p. 30.
[35] JICA 2010, p. 23.
[36] JICA 2010, p. 23.

enhancement of communication among participants, fostering of mutual trust, and strengthening of their network.[37] The FCV-UNLP also could enrich their experiences as a provider of international training.

In addition, the strengthened monitoring process used during the project, which included a reinforced quarterly reporting mechanism, further facilitated the development of the network and the management skills of the FCV-UNLP. Through such actions, the FCV-UNLP, together with the secretariat, were able to prepare an even more strategic annual plan for the PROVETSUR's activities. The annual plan was intensely discussed and agreed to by the four universities in the JCC. This reflective and continuous improvement of project management significantly contributed to the project's achievements.[38] Enhanced communication made possible through training, and the monitoring process resulted in smooth cooperation between the four universities, which also helped consolidate their network.

(2) Bridge making, clear objectives, and visualized outputs
Japan through JICA played a role of catalyst. As stated before, there was little cooperation in animal health in the region before the implementation of the PROVETSUR. JICA had previously provided bilateral assistance in animal health for the four Spanish-speaking countries and recognized the potential for regional cooperation. This facilitated the creation of a practical linkage among the countries and promoted regional cooperation. During the PROVETSUR, both long- and short-term experts from Japan assisted the FCV-UNLP, which conducted a variety of training activities for the other three universities. Particularly, at the early stage of the project, the Japanese long-term expert played an important role in connecting the four universities, who had not yet developed a strong sense of trust.[39] He assisted the FCV-UNLP in organizing the JCC and making it functional. His regular visits to the three universities also helped the FCV-UNLP, which was still developing its management capabilities, to maintain and strengthen the whole network. This kind of direct support in linking the four universities and the assets of bilateral cooperation contributed to the overall activities of the PROVETSUR and resulted in a good combination of bilateral and regional cooperation.

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[37] JICA 2010, p. 36.
[38] JICA 2010, p. 26.
[39] JICA 2010, p. 25.

In addition, JICA successfully motivated individual participants by introducing a clear structure with visualized output at both the national and regional levels. It is easy for individuals placed in a regional cooperation framework to lose sight of the bigger picture. Therefore, the creation of an easy-to-understand structure for project implementation was an effective means through which individual members could understand how their daily activities connected to overall output and outcome as well as to individual and regional benefits. The knowledge and techniques required for the PROVETSUR were explicitly defined. The publication of papers and reports also helped the visualization of outputs derived from daily activities. The outputs were also modified (e.g. translated into Spanish) and widely shared with other researchers and veterinarians through the project website and conferences. This approach helped elucidate the benefits of cooperating regionally to the four universities and consequently provided motivation for them to maintain the network.

4. Implications

This case study provides some implications for future effective cooperation.

The importance of fostering a common vision by linking national and regional activities

It is important to foster a common vision among stakeholders to ensure effective implementation of regional cooperation. At the beginning of the PROVETSUR, the linkage of national and regional activities did not seem to be sufficiently defined for stakeholders. The four countries also had little experience in regional cooperation and had different national risk priorities. In response to a mid-term review of the PROVETSUR, the structure and implementation mechanism of the project were revised and revitalized. This enabled individual participants to obtain a clear understanding of actual outputs/outcomes and understand the connection between the daily activities in each country and the meaning of the activities at the regional level.

The necessity of sufficient preparation in forming an effective mechanism of implementation and coordination

Since it essentially involves a larger number of stakeholders, regional cooperation often requires a longer time than bilateral cooperation to design and initiate an effective mechanism of implementation and

coordination. For the PROVETSUR, the four universities worked together with the Japanese long-term expert and spent a certain amount of time constructing a practical, workable mechanism for implementing and coordinating related activities, making the JCC function properly, and introducing a monitoring system.

Mechanism for promoting communication and strengthening networks
The preparation of a mechanism for promoting communication among participants is very important for regional cooperation, especially when the participants have divergent socio-economic-political situations, interests, and capacities. Smooth communication is the first step in fostering the trust necessary to construct a solid network and attain expected outputs. A variety of activities in the PROVETSUR provided such a mechanism, including personal face-to-face interactions through attending international training in the FCV-UNLP in Argentina, dispatching Argentinian experts to the other three universities, the circulation of the Japanese long-term expert, and the participation in academic conferences held in the region.

Bringing productive, inclusive competition through visualized outputs in the region
The introduction of a certain level of competition in a project sometimes encourages productive outputs by enhancing mutual learning among participating countries. The PROVETSUR successfully utilized publication as a tool for motivating participating researchers to form regional research groups and activate research in the region. This also became an alternative to funds and equipment as an incentive to maintain activities.[40] Some kinds of visible, clear objects can stimulate participants' motivation and bring about productive, inclusive competition in the region.

Political and policy framework and resources for the promotion of regional cooperation
Favorable political and policy circumstances are important for the promotion of regional cooperation. The existing regional cooperation frameworks, such as MERCOSUR and the CAN, provided a political foundation for the formation of the PROVETSUR. Simultaneously, Argentina had the FO-AR as a national policy for promoting horizontal cooperation. Under the PPJA, Argentina and Japan also agreed to work

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[40] An interview with the Japanese expert (31/July/2012).

together for the development of South-South and triangular cooperation. Moreover, in Argentina, there were several institutions, such as the FCV-UNLP, the SENASA, and the INTA, which with their accumulated knowledge and expertise are capable of providing support to neighboring countries in the area of animal health.

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Case 7

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Case 8

Japan-Brazil Partnership Program: A Framework for Triangular Cooperation

Kota Sakaguchi

1. Introduction and Overview

This paper will attempt to give a bird's eye view of the Brazil-Japan bilateral process and framework in the Triangular Cooperation developed over the decades between the two countries. In so doing it will present some representative projects, including the ones touched on in other parts of this volume (in Chapter 3 and 4 and in Case 9).

The cooperation between Brazil and Japan has been developing through several stages. The first phase started in 1985, when the two countries started implementing triangular cooperation by means of what is called "third country training programs." The primary intention of the arrangement was to capitalize on the accumulated achievements and outputs of the bilateral cooperation carried out since 1958. Covering mainly the agriculture, health, vocational training and environmental sectors, the programs were mainly targeted atLatin American countries and Portuguese speaking African countries.

Collaboration between the two countries entered a new stage in 2000 when they introduced the Japan-Brazil Partnership Program (JBPP), seeking to conduct triangular cooperation based on a more equal partnership. Based on this framework, Brazil and Japan jointly formulated and implemented two new training programs.

Fuller cooperation enabling large scale joint projects became possible in the mid 2000s. In a high-level meeting held in April 2007, Sadako Ogata, then President of the Japan International Cooperation Agency (JICA), and Celso Amorim, Foreign Minister, Brazil, agreed that they would

implement projects jointly in Africa. As the result of this meeting, JBPP proceeded to enter a full-scale execution stage. The first joint project was entitled "Training for Capacity Building of Josina Machel Hospital," which started in Angola in October 2007. In 2010, the two partners developed a new concept, the "Japan-Brazil Global Partnership for the solution of global issues," under JBPP. Over a period of approximately five years from the commencement of the first joint project in October 2007 to November 2012, JBPP realized 13 joint projects, 14 joint seminars, and 17 new third-country training courses. Not only has the number of joint activities been increasing, but the scale of each project has been expanding dramatically in terms of human resources, budget and materials, in such a way that projects under JBPP produce large and positive impacts for the development of the beneficiary countries.

2. Japan-Brazil Triangular Cooperation

2-1 Trends in International Cooperation between Japan and Brazil

While Japan's budget for international cooperation has been following a declining trend in recent years, Brazil's technical aid budget practically doubled every year between 2008 and 2010, reaching a record of approximately 90 million reals (about $US 45 million) in fiscal 2011.[1] The number of Brazil's partner countries has reached about 70. The basic position of Brazil, which calls itself a development partner rather than a donor, is that it will implement and promote South-South and triangular cooperation that is directly reflected in its foreign policy. Brazil regards this as a tool to achieve its diplomatic strategy.

Despite the increase in overall size of projects and budgets, Brazil is still in the middle of developing in terms of its capability and systems for implementing cooperation programs for the following reasons: it has yet to establish overseas offices specialized in international cooperation;[2] almost all decisions are made in Brazil rather than in beneficiary countries; Brazil still doesn't have its own system of accounting and procurement and uses the United Nations Development Programme (UNDP) systems; and methods of formulating, monitoring, and evaluating projects are still under development. Triangular cooperation with Brazil, in the spirit of cooperation under the equal partnership, has been useful in strengthening

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[1] Brazil's technical aid budget normally includes the travel cost and daily allowance of dispatched Brazilian experts and trainees from beneficiary countries but not such items as Brazilian experts' salary and technical fees. (There exist exceptional cases.) If these expenses were included, the actual budget of technical aid would be five to ten times higher than the above figure (however, there is no statistical data for this).

[2] The contact in recipient countries is the Brazilian embassy.

Brazil's capacity in international cooperation by making the traditional donors' experience and method of international cooperation available.

As Brazil's capacity to provide international cooperation developed over the period, the meaning of JBPP for Japan has also changed; in its early years, Japan used to view JBPP primarily as a means of supporting Brazil in its capacity development for conducting SSC. In later years, however, with Brazil's ever-growing capacity as an international cooperation provider, JBPP has transformed itself into an equal partnership by which the two countries can cooperate to extend effective development cooperation.

Figure 1: Changes in the Meaning of JBPP Seen from Japan's Perspective: From Brazil's Capacity Development for SSC to Equal Partnership
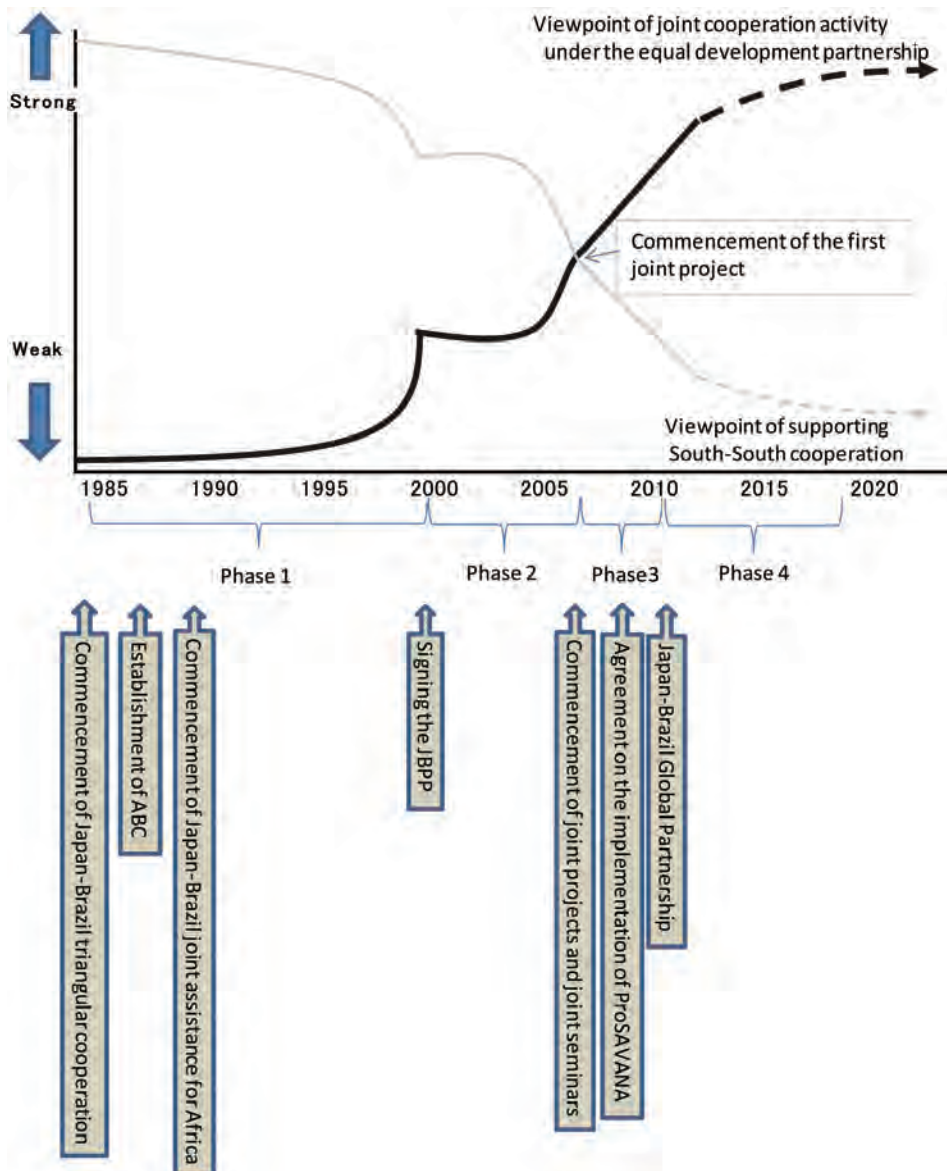
2-2 Brazil as a Partner in Triangular Cooperation

While Japan has been a strong proponent of South-South cooperation and triangular cooperation since the 1970s and was a forerunner in teaming up with Brazil, other donors, too, have begun actively being engaged in triangular cooperation programs in recent years. Countries such as Germany, the United States, France, Italy, Canada, Spain, and Israel have been strategically implementing triangular cooperation programs with Brazil. Also, the UK has recently been formulating projects. UN agencies are working with Brazil to implement South-South cooperation projects. Thus more and more actors are coming to team up with Brazil as a strategic partner in triangular cooperation. I believe the donor countries' intentions behind these movements are as follows:1) to make use of Brazil's rich body of technology and experience; it has one of the world's highest levels of resources that can be used for development cooperation in terms of technologies developed in and applicable to tropical areas; and 2) to strengthen their bilateral diplomatic relationship with Brazil, which is experiencing strong growth as an emerging country.

Motivated by these and perhaps by other factors, many countries are showing a high level of commitment in the strategic promotion of projects. For example, US Secretary of State Hillary Clinton signed a framework document to promote triangular cooperation with the Brazilian government in 2009.

Meanwhile, Brazil seems to be promoting triangular cooperation against the backdrop of and for the purpose of the following: 1) to take advantage of the technologies and funds coming from developed donor countries for the implementation of projects with large potential impacts; 2) to learn developed donor countries' methods and know-how in international cooperation management; and 3) to strengthen its bilateral relationship with partner countries which are generally traditional developed donor countries.

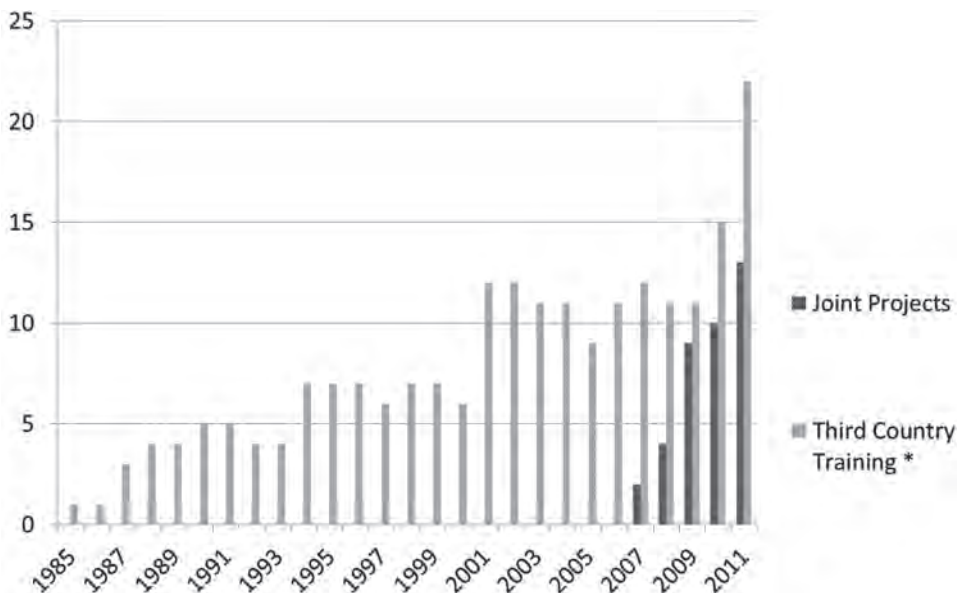## 3. Japan-Brazil Triangular Cooperation

As stated above, the history of Japan-Brazil triangular cooperation can be divided into four phases (see Figure 1 for changes in the number of projects):

- ✓ Phase 1 (from the 1985 commencement of third-country training, "The Electrical and Electronics Course," to March 2000);

✓ Phase 2 (from the signing of JBPP in March 2000 to April 2007);
✓ Phase 3 (from the meeting of Ms. Ogata and Mr. Amorim in April 2007 to June 2010); and
✓ Phase 4 (from the launch of the "Japan-Brazil Global Partnership for the solution of global issues" in June 2010).

Japan-Brazil triangular cooperation grew dramatically in Phase 3, and the current theme of JBPP is "global issues," or more specifically: "food security," "environmental measures and climate change remedies," "measures to improve health and prevention of infectious disease," "enhancing good governance and public security," and "disaster prevention." Some examples are described below.

Figure 2: Number of Projects Implemented under Japan-Brazil Triangular Cooperation

*number of courses provided annually

3-1 Triangular Cooperation Programme for Agricultural Development in African Tropical Savanna Among Japan, Brazil and Mozambique (ProSAVANA-JBM)

Japan and Brazil implemented international cooperation projects for the development of the tropical savanna in Brazil called the Cerrado, for more than 20 years (since the late 1970s). These projects have been changing the barren earth into the world's largest green belt and have greatly helping to stabilize global food prices and food supply. The ProSAVANA program is designed to create market oriented agricultural development models while securing the coexistence of small to large

scale farmers with environmental consideration and measures for Africa's savannah areas, the last agricultural frontier on earth. By making use of past experience with the Japan-Brazil Cerrado development project, it aims to meet the growing demand for food due to the economic development of emerging countries, and contribute to Mozambican and world food security.

The program is beginning in the areas neighboring the Nacara Corridor in northern Mozambique. In Phase I, it aims to develop human resources and formulate an approximately five-year development plan by carefully joining the following elements: technical cooperation to improve agricultural research capacity, study to create a master plan for agricultural development, and technical cooperation to strengthen the capacity of agricultural extension and conduct agricultural demonstrations. The plan of Phase 2 is to implement agricultural development activities in the field andmonitor the project's progress and outcomes. One noteworthy aspect of the program, not very usual in triangular cooperation, is that it started promoting cooperation between the public and private sectors in Japan, Brazil, and Mozambique immediately after the program began. This element has been emphasized because without private sector participation through the principle of Responsible Agriculture Investiment (RAI), it would be impossible to achieve a development of the expected scale; Mozambique has a tropical savanna of 55 million hectares, approximately 15 times greater than Japan's cultivatable area.

3-2 A Japanese-Brazilian Adviser for Human Resource Development in Mozambique

Another project under JBPP is a case where a descendant of former Japanese immigrants to Brazil has had an important role to play. Dr. Lucy Ito (Medical Department of the University of São Paulo), a third-generation Japanese Brazilian, provided expert service to Mozambique's Ministry of Health as JICA's first long-term third-country expert in the world. Dr. Ito worked to establish the groundwork for the human resources development system and supported authorization of the first Mozambican-made textbooks and manuals[3], that were in a state of extreme short supply, for several technical training courses for health professionals. The project in which Dr. Ito is working is
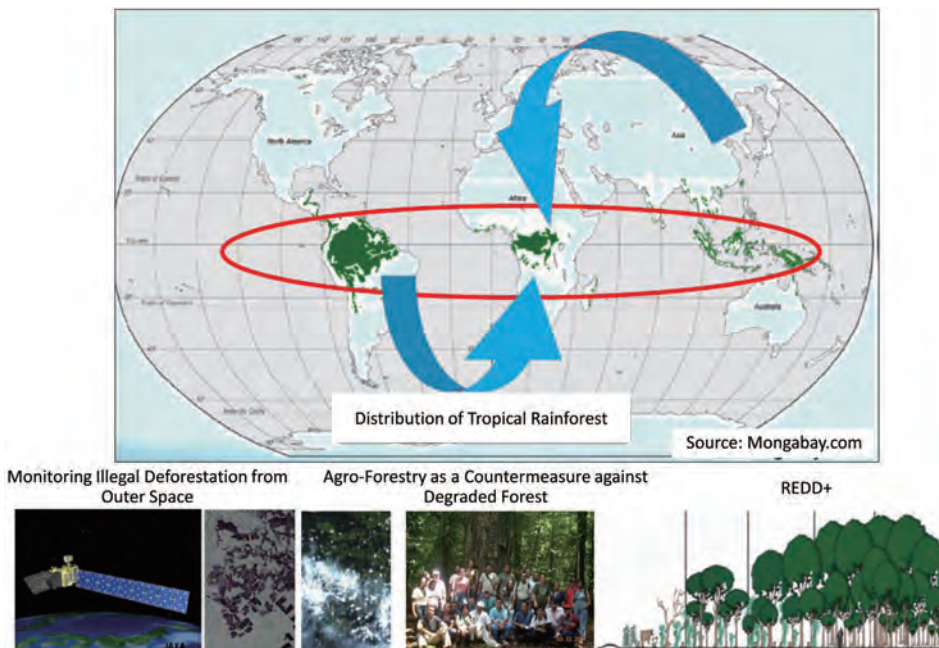
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[3] Until then they were using learning materials developed in foreign countries, not necessarily fit to the Mozambican contexts.

a Japanese international cooperation program, where, along with her professional skills and knowledge, Dr. Ito can take advantage of her familiarity with cultures and traditions both of Japan and Brazil.

3-3 The Japan-Brazil Global Network for the Conservation of the Tropical Rainforest [4]

Bilateral cooperation between Japan and Brazil has also been contributing to the creation of a tropical rainforest conservation model. Amid the strong demand for Brazil's technology and experience by other countries in the world that posess tropical rainforests, Brazil, which has the largest tropical rainforest in the world, and Japan are now jointly providing technical assistance on the following three themes: "monitoring tropical rainforests from artificial satellites," "reducing emissions from deforestation and forest degradation in developing countries (REED+)," and "spreading agro-forestry as a countermeasure against forest degredation." Under these themes, the cooperation between Brazil and Japan is expanding on a global scale and is covering non-Portuguese-speaking African countries, such as those in the Congo Basin, and Southeast Asian countries, and it can be called the "Japan-Brazil Global Network to Save the Tropical Rainforests". A conceptual diagram and tangible examples of such cooperation are shown in Figure 3.

Figure 3: Vision of the Japan-Brazil Global Network to Save Tropical Rainforests

Distribution of Tropical Rainforest

Source: Mongabay.com

Monitoring Illegal Deforestation from Outer Space

Agro-Forestry as a Countermeasure against Degraded Forest

REDD+

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[4] For more details, see Case 9 of this volume.

3-4 Japan-Brazil Coordination and Cooperation to Improve Public Security in Central America

Since 2000, Japan has been implementing bilateral technical cooperation with the State of São Paulo, which has suffered an extremely large number of crimes compared to other parts of the world, by facilitating community police activities based on Koban (Japanese-style police station). This has contributed to a reduction of the murder rate of the state by 70% over 10 years. Based on this achievement, the Japanese and Brazilian governments have been developing human resources to improve public security in Central American countries[5] that are interested in the São Paulo model, and have maintained dialogues since 2005. Even some developed countries, especially European countries, have begun to take a strong interest in learning about the successful cases in São Paulo.

4. Points to Consider for Future Promotion

Though there has been steady progress in the activities, JBPP, in my personal view, has several challenges to face for its continued progress, such as the following:

✓ **Strengthening the Dissemination of JBPP Activities**

The experience coming out of JBPP activities may be worthy of being shared and made known more widely. Among the JBPP activities, the ProSAVANA program cited above has become one of the best-known triangular cooperation programs in the world; it has been taken up by the mass media on occasions such as G20 meetings, the High-Level Forums for South-South cooperation, and summit meetings. However, there are more cases with interesting and important achievements/ experiences, and active and constant dissemination of information and experiences of such JBPP projects are in order.

✓ **Looking at JBPP as an International Cooperation Instrument**

When JBPP was being advanced, top priority was placed on the implementation of projects to achieve tangible and concrete results, and efforts for publicly disseminating such achievements of this framework to the international development community have at best been inadequate. However, as the JBPP has already achieved massive results that can be disseminated and is turning a new page in international cooperation, it would be worthwhile to look back at JBPP

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[5] El Salvador, Costa Rica, Guatemala, and Honduras

and clarify what have been its advantages and disadvantages, and what will be its further possibilities. This kind of intellectual analysis could be done from various angles in cooperation with universities and research institutes.

✓ **Development of Practical Implementation Structure**

JBPP triangular cooperation projects are planned and implemented based on an equal and horizontal partnership among three countries, but the system and capacity of JBPP for effective implementation are still under development. From a practical point of view, the following two seem essential: 1) to create sufficient and very close communication among the persons in charge of the three countries; 2) to facilitate mutual understanding through periodic communication among high-level authorities.

Table : List of the JBPP Projects

	Beneficiary Country	Project Name	Brazilian Institute	Implementation Period (JFY)
Joint Cooperation Project (PCJ)				
1	Angola	Capacity Development for Josina Machel Hospital	USP, UNICAMP, HSC	2007-2009
2	Angola	Vocational Training Advisor	SENAI	2007
3	Madagascar	Improvement of Maternal, Neonatal and Child Health Service in Madagascar	HSF	2008-2009
4	Mozambique	Improving the Sanitation and Sustainable Water Distribution in Zambezia State	EMBRAPA	2008-2010
5	Mexico	Development of Tropical Fruit Culture and Promotion of Small Producers	EMBRAPA	2009-2011
6	Mozambique	Advisor for Personnel Training in Health	USP	2009-2011
7	Guatemala	Strenghtening of the Urban Planning Capacities	IPPUC	2010
8	Mozambique	Strengthening the Capacity of Agriculture Reseach Institute of Mozambique	EMBRAPA	2010-2015
9	Bolivia	Improvement of health service delivery at community level	NUSP/UFPE	2010
10	Paraguay	Strenghtening of Transparence and Capability Development of the Local Governments	IMAP	2009-2011
11	Angola	Strengthening the Health System through Human Resources Development in Josina Machel Hospital and the other medical facilities and revitalization of primary health care in Angola-PROFORSA	MS, FIOCRUZ, (UNICAMP)	2011-2014
12	Bolivia	Value-added Agriculture and Forestry for Improvement of the Livelihood of Small scale farmers in North of La Paz	CEPLAC, CAMTA	2011- 2014
13	El Salvador	Supporting Community Police Activities	PMESP	2011-
Joint Seminar (SCJ)				
1	Central America	International Community Police Meeting (in São Paulo)	PMESP	2007
2	Mozambique	Seminar for TCTP ex-participants in Mozambique (in Maputo, Mozambique)	ABC	2008
3	Paraguay	Seminar for the Formation of Human Resources in Transports (in Assuncion, Paraguay)	CEFTRU	2009
4	Latin America and Caribbean	2nd International Seminar of Non Revenue Water Management (in São Paulo)	SABESP	2009

5	Central America	International Meeting of Community Police (in São Paulo)	PMESP	2009
6	NA	JBPP Promotion Meeting 2010 (in Brasilia)	ABC	2009
7	Mozambique	International symposium Brazil-Japan Joint Agricultural cooperation in Tropical Savannah of Mozambique-PROSAVANA JBM- (in Tokyo)	EMBRAPA, etc	2009
8	SADC	Seminar for the Promotion of the Understanding on the ISDB-T system of digital television through the Brazil-Japan collaboration (in Sao Paulo)	DCT/MRE, MC	2010
9	NA	Seminar for the 10 years of the JBPP and 25 years of Triangular Cooperation (in Brasilia)	ABC	2010
10	Latin America and Africa	International Conference on Humanized Child Birth (in Brasilia)	REHUNA	2010
11	Pan Amazon Countries	International Symposium on Agroforestry Systems (in Belem)	EMBRAPA	2010
12	Central America	International Meeting of Community Police (in São Paulo)	PMESP	2010
13	Mozambique	International Seminar on Investiment to Mozambican Agricultural Sector (in São Paulo)	MRE	2011
14	Central America	4th International High Level Meeting of Community Police (in São Paulo)	PMESP	2011

Third Country Training Programme (TCTP)				
1		Electric Engineering and Microcomputer	SENAI	1985-1989
2		Rescue and Fire Fighting	Corpo de Bombeiro DF	1987-1991
3		Applied Electronic Circuit and International Training Course on Microcomputer	SENAI-MG	1990-1994
4		Ceramics Technology and International Training Course on Housing Technology and Planning	IPT	1992-1996
5		Geriatrics	PUCRS	1994-1998
6		Quality Control of the Measles Vaccine	FIOCRUZ	1993-1997
7		Water Pollution Control	CETESB	1994-1998
8		Protective Relaying for Electric Power Generation and Transmission Systems	CESP	1994-1998
9		Vegetable Crops Production	CNPH/EMBRAPA	1995-1999
10		Tropical Diseases	LIKA/UFPE	1996-2000
11		Forest Watershed Management	IEF-SP	1995-1999
12	Various	Factory Automation Systems	SENAI SP	1997-2001
13		Strengthening on the Most Advanced Gastroenterological Diagnosis Training Course	UNICAMP	1998-2002
14		Domestic Waste Water Treatment Techniques	SABESP	1999-2003
15		Study of Poisonous Animals, Diagnosis and Treatment of Accidents caused by Poisonous Animals and Production of Antivenoms	BUTANTAN	1999-2003
16		Urban Railway Transport System	TRENSURB	1999-2003
17		Geriatrics	PUCRS	2000-2004
18		Progress in Livestock Parasitosis Diagnosis	UFBA-EMV	2000-2004
19		Vegetable Crops Production	CNPH/EMBRAPA	2000-2004
20		Worker's Health	CESTEH/FIOCRUZ	2001-2005
21		The JBPP Joint Training Course for Tutors in Public Health	FIOCRUZ	2001-2005
22		Tropical Diseases	LIKA/UFPE	2001-2005
23		Productivity Integrated Management	IBPQ-PR	2001-2005
24		Manufacturing Automation Systems	SENAI	2003-2007

25		Domestic Wastewater Treatment Techniques	SABESP	2005-2009
26		Rescue and First Aid Techniques	Brigada Militar	2005-2009
27		Livestock Parasitosis Diagnosis (Prorogation)	EMV-UFBA	2005-2009
28		Development of Immunobiologicals to the Public Health	BUTANTAN	2006-2011
29		Opportunistic Infections in HIV/AIDS Patients	UNICAMP	2006-2010
30		Sustainable Vegetable Crops Production	CNPH/EMBRAPA	2006-2010
31		Tropical Diseases	LIKA/UFPE	2006-2010
32		Agroforestry Systems Technology	CPATU/EMBRAPA	2006-2010
33		Urban Railway Transport System	TRENSURB	2006-2010
34		Urban Management Practices	IPPUC	2006-2010
35		Cassava Production and Processing and Tropical Fruits Production	CNPMF/EMBRAPA	2007-2011
36		Health Promotion, Local Development and Healthy Municipalities	NUSP/UFPE	2009-2013
37	Various	Tropical Forest Monitoring	INPE/IBAMA	2010-2013
38		Great Rivers Discharge Measurement Techniques	ANA	2010-2014
39		Humanized Maternal and Childcare	FAIS/HSF	2010-2014
40		Best Practices in Non-Revenue Water Prevention and Control	SABESP	2010-2014
41		Tuberculosis Management	FIOCRUZ	2010-2014
42		Persistent Organic Pollutants of the Stockholm Convention	CETESB	2011-2014
43		Agroforestry Systems Technology	EMBRAPA Amazonia Oriental	2011-2015
44		Reduce Emissions from Deforestation and Forest Degradation	INPA	2011-2012
45		ISDB-T Method for Digital television	Ministerio of Communication	2011-2012
46		Sustainable Vegetable Production	Embrapa Vegetables	2011-2015
47		Cashew Fruit Cultivation: Production, Post-Harvest and Industrial Processing of Cashew's fruit and peduncle	EMBRAPA Agroindustry	2011-2015
48		Sustainable Urban Management Practices	IPPUC	2011-2015
49		Comunity Police Koban System	Military Police of Sao Paulo State	2011-2013
50		Strengthening of Monitoring Capabilities of Mercury in the Amazon Region according to the Minamata Convention	IEC	2012-2015
51		Strengthening of Capabilities for management of International Cooperation by LDCs	ABC	2012-2015

Case 9

Towards Sustainable Rainforest Conservation in the World: International Course on Rainforest Monitoring

Yukiko Aida and Chiaki Kobayashi

1. Introduction

Implemented in the framework of the Japan-Brazil Partnership Program, the International Course on Rainforest Monitoring aims to develop the capacity of satellite monitoring among countries with rainforests.

The main content of the course is based on the knowledge developed out of a bilateral technical cooperation project between Brazil and Japan "Utilization of ALOS Images to Support Protection of the Brazilian Amazon Forest and Combat against Illegal Deforestation." Through this prior cooperation, Brazil has accumulated knowledge and practices on rainforest satellite monitoring, which it shares with the world as a country with the world's largest rainforest and a leader in its conservation.

This paper gives a brief illustration of the process of Brazil's capacity development in Rainforest conservation and how the country has been sharing its knowledge and capabilities with other countries.

2. Tropical Deforestation around the World and Brazil: The Process towards the Formulation of International Program

At one time, rainforests covered 12% of the earth's land mass but have been rapidly disappearing or deteriorating since the beginning of the 20th century. According to the Global Forest Resources Assessment issued by the Food and Agriculture Organization (FAO), approximately 13 million hectares of forests disappeared annually between 2000 and 2010.[1]

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[1] FAO (2010)

Brazil's forest area is 520 million hectares, where primary forested area is estimated to be approximately 490 million hectares with 360 million hectares in the Amazon region, making Brazil the country with the largest rainforests in the world. At the same time, Brazil is also the country suffering from the severest depletion of forests in the world.

Recognizing the challenge, the government has made extensive efforts for preventing excessive deforestation, focusing on taking countermeasures for prevention of illegal deforestation in the Amazon. Measures taken include strengthening regulatory enforcement and monitoring using the remote sensing by earth observation satellites, closer collaboration within the administration, and increasing the awareness of agricultural and livestock farmers on forest conservation.

One of the big turning points in the Brazilian environment policy was the incorporation of environmental issues into the new federal constitution formulated in 1988. In the following year, four administrative organizations concerning natural conservation in Brazil were consolidated into an executive agency, the Brazilian Institute of Environment and Renewable Natural Resources, IBAMA. Also, the Environment Agency was upgraded to the Ministry of the Environment in 1992 and the environmental crime law was introduced in 1998. In this way, environmental policy, standards and regulations on the environment were instituted one after another, which formed the basis of the country's present environment conservation system. It is worth noting that these environmental protection regulations included provisions regarding the promotion of international cooperation in the field of environmental conservation. It points to Brazil's determination in taking the leadership in environmental conservation in the world.

In 2003, the "Action Plan for Protection and Control of Deforestation in the Amazon, (PPCDAM)" was formulated as a major policy and action plan. It aimed to reduce the deforestation ratio in the Amazon by the partnership of federal organizations, state governments, citizens groups, and private sectors through implementing the following approaches: [1]
1) Maintenance of territory and lands
2) Monitoring and environment management
3) Sustainable production activities

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[1] MOFA(2010)

4) Infrastructure improvement.

In order to implement the action plan, the Brazilian government decided to adopt the latest technologies of the advanced countries while modifying them to meet actual conditions. It also implemented trainings for enhancing capacities of domestic institutions involved in conservation.

The rainforest monitoring system utilizing remote sensing technology[2] by earth observation satellites is an extremely effective tool for creating a deforestation database. In Brazil, forest monitoring utilizing satellite images started in the 1970's for tackling illegal deforestation of the Amazon rainforest. The National Institute for Space Research, INPE, adopted this system in 1988. However, monitoring with this system was often impeded by heavy clouds during rainy seasons. To overcome this problem, in 2007, the Japan Aerospace Exploration Agency, JAXA, started providing Brazil with satellite images from the Japanese Advanced Land Observing Satellite, ALOS, called "*Daichi*"(a Japanese word meaning the earth). Brazil thus embarked on an attempt to introduce a rainforest monitoring and observation system from outer space to monitor rainforests from above the clouds.

Brazil had to build up technological capability to interpret the ALOS images which are different from the conventional satellite images Brazil had been using. Thus JICA started a technical cooperation project called "Utilization of ALOS Images to Support Protection of the Brazilian Amazon Forest and Combat against Illegal Deforestation" from June 2009 to June 2012 with the Brazilian Institute of Environment and Renewable Natural Resources, IBAMA, and the Brazilian Federal Police Department, DPF. From the Japanese side, the participating member organizations included the governmental and scientific institutions.

The aim of this project was to build a capacity and establish a system to utilize the images provided by the ALOS, to enforce conservation and management of rainforests in the Amazon. The monitoring systems established by the project have now become the Brazilian government's reference system of forest management, producing

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[2] Features of remote sensing technology:
  http://www.eorc.jaxa.jp/en/hatoyama/experience/rm_kiso/whats_feature_e.html

positive outcomes including the closer collaboration among public organizations concerned and enhanced the prompt enforcement of regulations. An expert involved in the project pointed out that in addition to enhanced monitoring capacities, it has brought unintended positive effects; i.e., it has, helped by the wide press coverage, enhanced the citizen's awareness that illegal deforestation is being monitored and that committing such crimes would not go unpunished.

Thanks to these Brazil's continuing efforts on environment conservation, the trend of deforestation has been slowed gradually in recent years. The annual national average of deforestation was 3.09 million hectares between 2000 and 2005. Between 2005 and 2010 it was down to 2.19 million hectares.[3] Figure 1 shows the result of Brazil's enhanced regulation against illegal deforestation in the Amazon. The figure indicates the annual loss of Amazon rainforest between 1988 and 2011, which was calculated and announced by INPE.[4] The trend has declined since 2004 and reached record lows since 2009.

Figure1: Annual Deforestation Rate in the Amazon
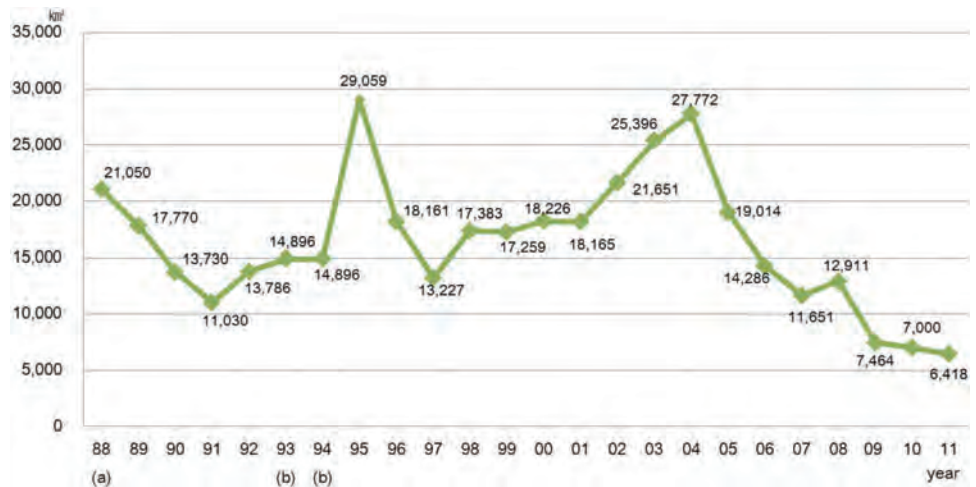
Source: The graph created based on the data of INPE/MCT
    http://www.obt.inpe.br/prodes/prodes_1988_2011.htm
Note: (a) average between 1977-1988 (b) average between 1993-1994

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[3] FAO (2010)

[4] The data includes both legal and illegal cutting areas.

Current research collaboration among Brazil and Japan

A project called "Carbon Dynamics of Amazonian Forests," was started in 2010, under the Science and Technology Research Partnership for Sustainable Development, SATREPS, as a bilateral cooperation between Brazil and Japan. Participating in the project are, from Japan: the Forestry and Forest Products Research Institute and the Institute of Industrial Science of the University of Tokyo, and from Brazil: INPE and the National Institute for Amazonian Research (INPA), a Brazilian research institution which is responsible for research of forestry and ecological science in the Amazon. The project aims to advance the development of carbon dynamics assessment technology for a wide range of forests under joint research by Brazil and Japan in order to contribute to the current discussion of Reducing Emissions from Deforestation and Forest Degradation, REDD.

3. Sharing Brazil's Rainforest Conservation Experience with Other Countries

In 2010, a new initiative started under a Japan-Brazil partnership, with Brazil's interest in expanding their accumulated experiences on forest conservation and environment management technologies, as well as Japan's interest in solving global issues. The International Course on Rainforest Monitoring (Third Country Training Program) started in that year with an aim of widely sharing the rainforest technology for monitoring illegal logging using satellites to other countries with rainforests. This course is offered through the partnership of four parties, the Brazilian Agency for Cooperation (ABC), INPE, IBAMA, and JICA. The implementation period was set between 2010 and 2013. Through this period, a total of 10 training sessions will be implemented accepting 120 or more personnel from 40 or more countries with dense rainforests.

In fact, Brazil has already built its high technological capability to be able to launch satellites. Over the last few decades, INPE has played a central role in transferring its technologies to other countries aiming to widely share their software which was used for the satellites. In partnership with Japan, Brazil has implemented 50 or more training courses for other developing countries since 1985. Among these courses, an example of triangular cooperation in the environmental

conservation field is the training program under the theme of watershed forest management. The program has been successfully implemented in two phases between 1990 and 1998. Through these activities, Brazil had accumulated abundant information not only on Latin American countries but also on African countries.

The International Course on Rainforest Monitoring is intended for a wide range of countries with dense rainforests threatened by serious deforestation risk including Southeast Asian countries. It had three specialized courses held annually per region: the first course is for Latin American countries such as Mexico and Peru, the second for African countries such as Mozambique and Angora, and the third for Southeast Asian countries. This extensive global coverage of beneficiary countries in this program has made the course a pioneering effort on dealing with issues on a global scale. In its implementation, Brazil partnered with Japan which has had many years of experience in collaborating with Asian countries.

The three-week training is mainly divided into two components covering theory and practice. The National Institute for Space Research, INPE, in charge of training related to forest monitoring using satellites, is an institution that provides experts for processing and making satellite images and

Practice of using Terra Amazon system

transferring technology. With over 20 years' experience, it has advanced remote sensing technology. Training participants learn concepts of remote sensing and deepen their understanding of the Terra Amazon system, work on processing rainforest satellite monitoring images, and identify locations where rainforests have disappeared. Brazil offers the Terra Amazon system at no cost. The system is characterized by its high versatility due to its flexible specifications and it can be customized to fit the circumstances of each country. Although each country needs to prepare and install satellite images to be processed, image processing is implemented at no cost. This advantage has been well-received from participating countries. Also, participating countries have access to necessary technical support as JICA and INPE agreed to appoint technical support staff

Trainees receiving lecture at IBAMA

during the project implementation period until 2013.

IBAMA, which has over 30 years of experience in forest monitoring and has implemented training for environmental analysts, is in charge of how the provided image data is used for actual monitoring and regulation. They offer training, by using the Terra Amazon system, focused on enhancing image interpreting capacity which enables training the identification of the locations of deforested areas and improving the administration system, allowing the swift crackdown on illegal activities.

This whole package of training has been executed under the Japan-Brazil Partnership Programme (JBPP). The triangular partnership between Japan and Brazil has already started in 1985 mainly aiming to disseminate the fruits of the past Japan's cooperation with Brazil to other developing countries. Since the two countries reached an agreement on the Partnership Programme in 2000, the cooperation entered into the full-fledged execution phase implementing trilateral cooperation on an equal footing between the two countries. In 2010, Japan and Brazil agreed to focus on formulating the project aiming to tackle various global issues. As priority areas for partnership, "environment and climate change," "food security," "measures for health and infectious diseases," "strengthening good governance and public security," and "disaster prevention" were selected[5].

In the field of "environment and climate change," various training programs were offered in the form of triangular cooperation, including not only rainforest monitoring in the Amazon but also capacity development in project formation, implementation and monitoring on REDD plus in Latin American countries. With regard to sustainable development promotion, agro-forestry as an approach of combining rainforest conservation and small scaled sustainable agriculture also attracts attention as described as "agricultural methods leading to the creation of forests.".

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[5] Sakaguchi (2011)

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4. Status of Follow-up Actions among Participating Countries: Indonesia as an Example

A country with significant economic growth, Indonesia is the 8th largest forest nation in the world. The land size of Indonesia is 180 million hectares, and forests account for about half, at 94.43 million hectares. Started in the 1970's, land diversion for lumber processing and agriculture has resulted in a large scale forest development, forest fires, and illegal logging causing serious deforestation. Between 1990 and 2000, the amount of forest decreased 1.91 million hectares annually which ranked Indonesia 2nd in the amount of forested areas impacted in the world, following Brazil. Although the speed has slowed down since 2000, the rate of deforestation in Indonesia is still the 3rd in the world. Under these circumstances, the Indonesian government is shifting policy from advancing forest development toward forest conservation including the elimination of illegal logging, forest fire prevention, and promoting sustainable forest management [6].

Cooperation between Indonesia and Brazil progressed taking various steps. Prior to the implementation of the "International Course on Rainforest Monitoring" for countries in Southeast Asia, a Japan-Brazil joint mission was dispatched to Indonesia in July 2011 for the purpose of

Meeting at the President's Office in Indonesia

conducting a needs assessment and planning a training course making use of Brazil's experience. From the discussion emerged a strong interest in the use of high-level remote sensing technology using microwave sensors, which makes observation of rain forests from above the clouds possible throughout the year. Indonesians who later participated in the training discovered that the Terra Amazon system that they learned during the training would work quite well in Indonesia. With its strong desire to exchange rainforest conservation technology at a policy level, Indonesia dispatched a team of high-level officials to Brazil. Their interests were not only in Brazilian monitoring technology but also Brazil's experience in the establishment of management systems. In addition to this training course, complementary technical cooperation using ALOS for controlling illegal logging was provided to

[6] FAO(2010), Baser et al.(2011)

Indonesia as the bilateral cooperation between Indonesia and Japan.

5. Review of the Past and the Future Perspectives

Efforts have been made to maximizing the training course's benefits. One challenge was to select appropriate participants to enable effective knowledge exchange. In order to recruit the appropriate participants from countries with diverse technological levels, training participants are carefully selected and the maximum number of participants per training set limited to 12 people. Also efforts have been made to customize the training programs to suit the needs of particular groups of participants.

The forest monitoring system was created through a trial and error process by Brazil, the world's largest rainforest country, and it has contributed to a reduction of the deforestation ratio. It offers a huge opportunity for countries with rainforests. In order to maximize the learning, several means of support have been made available after training such as the following:

1) A technical coordinator makes tours to the participating institutions.
2) Consultation related to the system is provided via e-mail or TV conferences.
3) Building a network between trainees is encouraged.

There are challenges, however. First, program may wish to invite more decision makers from the policy-making level as well as technological experts. Second, in beneficiary countries, due to a shortage of engineers who are responsible for the operation and diffusion of knowledge acquired from training, there is a need for

Discussion with support staff on diffusing the system after the training

improvement in terms of facilitating participation and dissemination of learning after the training. JICA has a system of follow up support through which Brazilian experts can be dispatched, for activities such as workshops with returning training participants. Taking full advantage of these and other mechanisms, it is essential for the beneficiary countries to spread the benefits of the training in their own countries.

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APPENDIX

Appendix 1: Policy Statements of Japan on South-South and Triangular Cooperation

An excerpt from Japan's ODA Charter adopted on August 29, 2003.

> *"Japan will actively promote South-South cooperation in partnership with more advanced developing countries in Asia and other regions. Japan will also strengthen collaboration with regional cooperation frameworks, and will support region-wide cooperation that encompasses several countries."*

An excerpt from the Statement by Mr.Joe NAKANO, then Parliamentary Vice-Minister for Foreign Affairs of Japan at Plenary 2, at the Fourth High Level Forum on Aid Effectiveness at Busan, Korea, on November 30, 2011.

> *"Regarding the South-South cooperation, Japan has a long and profound record. We have signed agreements on partnership programs with 12 countries, Indonesia, the Philippines, Singapore, Thailand, Argentina, Brazil, Chile, Mexico, Egypt, Jordan, Morocco and Tunisia.*
>
> *Food Security is one of the most pressing global issues facing us. Let me introduce Japan-Brazil-Mozambique trilateral cooperation. Expanding our long-term bilateral cooperation, Japan and Brazil are now working together to provide agricultural assistance to Mozambique.*
>
> *Another example is Japan-Kenya cooperation on teacher training on mathematics and science education. Based on our bilateral cooperation, Kenya is now providing teacher training courses and technical assistance to other African countries with us.*
>
> *Japan's long history of foreign assistance has started in 1954, when it was still an aid recipient. That is why the South-South cooperation has profound significance for Japan. Japan continues to be one of the biggest contributors to triangular cooperation.*
>
> *We bear a common responsibility to build a better future. It is my sincere hope that all of us gathered here today will renew our commitments to strengthening international cooperation.*
>
> *I believe that our own experiences in Asian region can be applied to other regional context, which will lead to scaling up for the South-South Cooperation through win-win-win partnership by sharing respective development experiences."*

Appendix 2: Major Events in South-South and Triangular Cooperation

Year	Global			Japan/JICA
	Venue	**Name of International Conference**	**Adopted Action Plan**	
1950	Colombo, Sri Lanka		**Colombo Plan**	
1955	Bandung, Indonesia	**Asian-African Conference**		
1961	Belgrade	Conference of Non-Aligned Nations	Non-Aligned Movement (NAM)	
1964			Group of Seventy-Seven (G77)	
1974			UNDP, SU/TCDC	
1975				The First Triangular Training of JICA in Thailand
1978	Buenos Aires	United Nations	**Buenos Aires Plan of Action** on Technical Cooperation among Developing Countries	
1992	Rio de Janeiro	United Nations Conference on Environment and Development (Rio Earth Summit)		ODA Charter
1993	Tokyo	The Tokyo International Conference on African Development: TICAD	Tokyo Declaration	
1994				Japan-Singapore Partnership Programme (JSPP)
				Japan-Thailand Partnership Programme (JTPP)
1997				Japan-Singapore Partnership Programme for the 21st Century (JSPP21)
1998	Tokyo	TICAD II	Tokyo Agenda for Action	Japan-Egypt Triangular Technical Cooperation Programme for the Promotion of South–South Cooperation in Africa
1999				Japan-Tunisia Triangular Technical Cooperation Programme for the Promotion of South-South Cooperation in Africa
				Japan-Chile Partnership Programme (JCPP)
2000	Havana, Cuba	1st Summit for the South	Havana Programme of Action	The Japan-Brazil Partnership Programme (JBPP)
2001	N.Y.	56th UN General Assembly	State of South-South Cooperation (Report to Secretary General)	Partnership Programme for Joint Cooperation between Japan and Argentina (PPJA)
				Japan-Philippines Partnership Programme (JPPP)

Year	Global			Japan/JICA
	Venue	**Name of International Conference**	**Adopted Action Plan**	
2002	Johannes-burg	World Summit on Sustainable Development		The 1st Japan-ASEAN Regional Cooperation Meeting (JARCOM)
2003	Tokyo	TICAD III	TICAD Tenth Anniversary Declaration	**ODA Charter (Revised)**
				Japan-Morocco Triangular Technical Cooperation Programme for the Promotion of South-South Cooperation in Africa
	Marrakesh, Morocco	G77 High-level Conference on SSC		Japan-Mexico Partnership Programme (JMPP)
				Japan-Indonesia Partnership Programme (JIPP)
2004				Japan-Jordan Partnership Programme (JJPP)
2005	Paris	The 2nd High Level Forum on Aid Effectiveness	Paris Declaration on Aid Effectiveness	
2008	Accra	Third High-Level Forum on Aid Effectiveness	Accra Agenda for Action	
	Yokohama	TICAD IV		
	N.Y.	The Global South-South Development Expo (GSSD Expo) 2008 / High-level Directors-General Meeting		
2009	Nairobi	High-level U.N. Conference on South-South Cooperation	Nairobi outcome document of the High-level United Nations Conference on South-South Cooperation	Japan-Southeast Asian Meeting for South-South Cooperation (J-SEAM)
	Washington D.C.	GSSD Expo 2009 / High-level Directors-General Meeting		
2010	Bogota	The High Level Event on South-South Cooperation and Capacity Development	Bogota Statement	
	Geneva	GSSD Expo 2010 / High-level Directors-General Meeting		
2011	Busan	Fourth High Level Forum on Aid Effectiveness	Busan Partnership for Effective Development Co-operation	
	Rome	GSSD Expo 2011 / High-level Directors-General Meeting		
2012	N.Y.	UNDP High-level Committee on South-South Cooperation		
	Rio de Janeiro	The United Nations Conference on Sustainable Development (Rio+20)		
	Bali	High-Level Meeting, 'Towards Country-Led Knowledge Hubs'		
	Vienna	GSSD Expo 2012 / High-level Directors-General Meeting		

Appendix 3: List of Completed and Ongoing Triangular Programs/Projects (as of November 2012)

	Started In	Completed in	Region (Pivotal)	Pivotal	Beneficiaries	Sector	Program and Project Title
1	2003	2013	Africa	Kenya	Africa	Education and Human Resource Development	Strengthening of Mathematics and Science Educationin Western/ Eastern/ Central and Southern Africa
2	2009	2013	Africa	Kenya	South-East Africa	Education and Human Resource Development	Seminar on Geographic Information Science
3	2012	2016	Africa	Kenya	Ethiopia	Education and Human Resource Development	Triangular Cooperation in Capacity Development of Mathematics and Science Teacher Educators
4	2009	2012	Africa	Malaysia	Zambia	Trade and Industry	Zambia Investment Promotion Project-Triangle of Hope(ZIPP-ToH)
5	2007	2012	Africa	Sri Lanka	Africa	Health	Better Hospital Services Program
6	2004	2014	Africa	West Africa Regional Network	West Africa	Education and Human Resource Development	School-Based Management in basic education (*Multiple projects)
7	2010	2012	Africa	West Africa Regional Network (Ghana)	West Africa	Agriculture/ Forestry and Fisheries	Plant Breeder (Rice) for West Africa Centre for Crop Improvement (WACCI)
8	2012	2015	South-East Asia	Cambodia/ Laos	Cambodia/ Lao PDR	Trade and Industry	Laos-Cambodia South-South Cooperation on UXO/Mine Action Sector
9	2004	2006	South-East Asia	Indonesia	Afghanistan	Agriculture/ Forestry and Fisheries	Third Country Training Program: Exchange Visit for Agricultural and Rural Development Officers from Afghanistan
10	2007	2011	South-East Asia	Indonesia	Africa	Public Sector Management	Micro Finance for African Region: Establishing Micro Finance Institution (MFI)
11	2007	2011	South-East Asia	Indonesia	Asia/ Africa	Education and Human Resource Development	Capacity Building for Poverty Reduction
12	2008	2011	South-East Asia	Indonesia	Asia/ Africa	Agriculture/ Forestry and Fisheries	Training of Trainers for Participatory Training Program on Agricultural Extension Methodology
13	2010	2013	South-East Asia	Indonesia	Asia/ Africa/ Palestine	Education and Human Resource Development	Education for Computer based Industrial Automation

	Started In	Completed in	Region (Pivotal)	Pivotal	Beneficiaries	Sector	Program and Project Title
14	2011	2016	South-East Asia	Indonesia	Asia / Africa	Telecommunication and ICT	The Third Country Training (The International Training Program on Documentary TV Program Production for Asian and African Countries)
15	2012	2013	South-East Asia	Indonesia	Indonesia (Global)	Public Sector Management	Project on Knowledge Management for South-South Cooperation
16	2006	2007	South-East Asia	Malaysia	Asia	Agriculture/ Forestry and Fisheries	Policy and Strategy in Prevention/ Control/ and Eradication Programme of Avian Influenza in Region at Source
17	2006	2009	South-East Asia	Malaysia	Asia	Agriculture/ Forestry and Fisheries	Diagnosis of Avian Influenza at Source
18	2007	2008	South-East Asia	Malaysia	Malaysia (Global)	Public Sector Management	Monitoring and Evaluation of Training Programmes under South-South Cooperation
19	2008	2011	South-East Asia	Malaysia	Africa	Education and Human Resource Development	TCTP Course for Secondary Mathematics and Science Teacher Educators from African Countries
20	2008	2011	South-East Asia	Malaysia	Afghanistan/ Iraq/ Sudan	Public Sector Management	Cosolidation of Peace for Multicultural Nations
21	2009	2012	South-East Asia	Malaysia	Uzbekistan/ Kyrgyzstan/ Tajikistan	Public Sector Management	Project Planning & Management
22	2011	2014	South-East Asia	Malaysia	Africa	Education and Human Resource Development	Primary science and Mathematics Teacher Educators Training
23	2011	2013	South-East Asia	Malaysia	Africa	Trade and Industry	SME Development for trade promotion/TICAD IV follow up
24	2012	2015	South-East Asia	Malaysia	Cambodia/ Lao PDR	Public Sector Management	TCTP on Development Planning and Project Management for Cambodia and Laos
25	2012	2015	South-East Asia	Thailand	Myanmar	Education and Human Resource Development	Strengthening of Measurement Standard Institution
26	2008	2008	South-East Asia	Singapore	Global	Public Sector Management	Economic Development Experience of Singapore
27	2008	2008	South-East Asia	Singapore	Asia/ Africa/ Micronesia	Water	Non-conventional Water Resources and Environmental Management in Water Scarce Countries
28	2009	2009	South-East Asia	Singapore	Global	Public Sector Management	Economic Development Experience of Singapore
29	2009	2009	South-East Asia	Singapore	Global	Public Sector Management	Community Policing Strategies evolving from the Koban system of Japan and the NPC system of Singapore
30	2009	2009	South-East Asia	Singapore	Global	Public Sector Management	Public Policy Responses to Global Financial Crisis

	Started In	Completed in	Region (Pivotal)	Pivotal	Beneficiaries	Sector	Program and Project Title
31	2009	2009	South-East Asia	Singapore	Asia	Transport	Maritime Safety Management
32	2009	2009	South-East Asia	Singapore	Asia/ Africa/ Middle East/ Micronesia	Environment	Non-Conventional Water Resources and Environmental Management in Water Scarce Countries
33	2010	2011	South-East Asia	Singapore	South-East Asia	Public Sector Management	Capacity Building for ASEAN Secretariat
34	2010	2011	South-East Asia	Singapore	Global	Public Sector Management	International Disaster Management
35	2010	2011	South-East Asia	Singapore	Asia / Pacific	Health	Workshop on Multi-Sectoral Approach to Managing Pandemics for APEC Economies
36	2010	2011	South-East Asia	Singapore	Africa	Urban Development	Urban and Regional Development Planning and Management
37	2010	2011	South-East Asia	Singapore	Viet Nam	Public Sector Management	Public Governance for Vietnam
38	2010	2011	South-East Asia	Singapore	Global	Public Sector Management	Community Policing Strategies evolving from the Koban system of Japan and the NPC system of Singapore
39	2010	2011	South-East Asia	Singapore	Global	Public Sector Management	Economic Development Experience of Singapore and Japan
40	2010	2011	South-East Asia	Singapore	Cambodia/ Lao PDR/ Myanmer/ Viet Nam	Trade and Industry	Competition Law and Impact on FDI for CLMV
41	2010	2011	South-East Asia	Singapore	Cambodia	Trade and Industry	Conformity Assessment Needs and Approaches for Cambodia
42	2010	2011	South-East Asia	Singapore	Asia	Transport	Road Safety Engineering and Management
43	2010	2011	South-East Asia	Singapore	Asia / Pacific	Trade and Industry	Achieving Competitiveness in the Service Sector: Strategies and Lessons for APEC Economies
44	2010	2011	South-East Asia	Singapore	Asia/ Palestine	Environment	Climate Change and Energy Sustainability
45	2010	2011	South-East Asia	Singapore	Myanmar	Social Welfare	Occupational Health and Safety Management for Myanmar
46	2010	2011	South-East Asia	Singapore	Asia / Pacific	Trade and Industry	Trade and Investment Promotion for APEC Economies
47	2010	2011	South-East Asia	Singapore	Cambodia/ Lao PDR/ Myanmer / Viet Nam	Trade and Industry	Intellectual Property for CLMV
48	2010	2011	South-East Asia	Singapore	Africa	Public Sector Management	Governance for African Countries
49	2010	2011	South-East Asia	Singapore	Cambodia/ Lao PDR/ Myanmer / Viet Nam	Environment	Environmental Planning for Sustainable Tourism for CLMV

	Started In	Completed in	Region (Pivotal)	Pivotal	Beneficiaries	Sector	Program and Project Title
50	2010	2011	South-East Asia	Singapore	Asia	Transport	Maritime Safety Management
51	2010	2011	South-East Asia	Singapore	Asia/ Middle East/ Africa/ Micronesia	Water	Integrated water resources and environment management policy in water scarce regions
52	2011	2011	South-East Asia	Singapore	Asia/ Middle East/ Africa/ Micronesia	Water	Integrated Water Resources and Environment Management Policy in Water Scarce Regions
53	2011	2011	South-East Asia	Singapore	Africa	Public Sector Management	Governance for African Countries
54	2011	2011	South-East Asia	Singapore	Africa	Urban Development	Urban and Regional Development Planning and Management
55	2011	2011	South-East Asia	Singapore	Global	Public Sector Management	International Disaster Management
56	2011	2011	South-East Asia	Singapore	Cambodia/ Lao PDR/ Myanmer / Viet Nam	Environment	Environmental Planning for Sustainable Tourism for CLMV
57	2011	2011	South-East Asia	Singapore	Asia	Public Sector Management	Community Policing Strategies evolving from the Koban system of Japan and the NPC system of Singapore
58	2011	2011	South-East Asia	Singapore	Asia/ Palestine	Environment	Climate Change and Energy Sustainability
59	2011	2011	South-East Asia	Singapore	South-East Asia	Public Sector Management	Capacity Building for ASEAN Secretariat
60	2011	2011	South-East Asia	Singapore	Myanmar	Social Welfare	Occupational Health and Safety Management for Myanmar
61	2011	2012	South-East Asia	Singapore	Cambodia/ Lao PDR/ Myanmar/ Vietnam	Trade and Industry	Intellectual Property for CLMV
62	2011	2011	South-East Asia	Singapore	Asia	Transport	Maritime Safety Management
63	2007	2012	South-East Asia	South-East Asia Regional Network (Thailand)	Asia / Pacific	Social Welfare	Asia-Pacific Developemnt Center on Disability (Phase 2)
64	2008	2011	South-East Asia	Thailand	Thailand (Global)	Transport	Capacity Building of Neighbouring Countries Economic Development Cooperation Agency (NEDA)
65	2008	2013	South-East Asia	Thailand	Asia / Pacific	Trade and Industry	The Program on Strengthening of Measurement Standards Institutes of Asia Pacific Countries
66	2008	2011	South-East Asia	Thailand	Africa	Health	International Training Course on STIs Case Management Skills
67	2010	2013	South-East Asia	Thailand	Africa	Health	International Training Course on Malaria Prevention and Control for Africa

	Started In	Completed in	Region (Pivotal)	Pivotal	Beneficiaries	Sector	Program and Project Title
68	2010	2012	South-East Asia	Thailand	Asia	Transport	Sustainable Road Development (Phase 2)
69	2010	2013	South-East Asia	Thailand	Cambodia/ Lao PDR	Social Welfare	Capacity Building on the Return/ Repatriation and Reintegration of Trafficked Persons in Cambodia/ Lao PDR/ Myanmar and Vietnam
70	2008	2016	South-East Asia	South-East Asia Regional Network (Thailand)	South-East Asia	Education and Human Resource Development	ASEAN Univesity Network/South-East Asia Engineering Education Development Network Phase 2
71	2005	2008	Central Asia	Bulgaria	Armenia	Trade and Industry	Human Resource Development of SMEs in Armenia
72	2002	2009	Middle East	Egypt	Zambia	Health	Clinical Immunology Laboratory Anaysis Training for Zambia
73	2004	2007	Middle East	Egypt	Africa	Agriculture/ Forestry and Fisheries	Warm Water Fish Production
74	2004	2007	Middle East	Egypt	Africa	Agriculture/ Forestry and Fisheries	On-Farm Water Management
75	2004	2009	Middle East	Egypt	Africa	Health	Clinical Immunology on Infectious Diseases& Total Quality Management
76	2005	2008	Middle East	Egypt	Yemen	Transport	Repair and Maintenanse of Road Construction machines Machines for the Arab Republic of Yemen
77	2006	2008	Middle East	Egypt	Iraq	Health	Trilateral Medical Technical Cooperation for Iraq in Egypt
78	2007	2007	Middle East	Egypt	Africa	Agriculture/ Forestry and Fisheries	Rice Processing Technology for Africa
79	2007	2010	Middle East	Egypt	Africa	Agriculture/ Forestry and Fisheries	Food Processing Industry (FPI) for Africa
80	2007	2010	Middle East	Egypt	Africa	Agriculture/ Forestry and Fisheries	Warm Water Fish Production for Africa Phase2
81	2009	2012	Middle East	Egypt	Africa	Agriculture/ Forestry and Fisheries	Rice Cultivation Techniques for Africa
82	2009	2012	Middle East	Egypt	Africa	Health	International Course for Clinical Immunology for Africa
83	2010	2013	Middle East	Egypt	Africa	Health	Woman's Health across Life Span for African Nurse Leaders Phase2
84	2010	2013	Middle East	Egypt	Africa	Agriculture/ Forestry and Fisheries	Warm Water Fish Production for Africa Phase3
85	2010	2013	Middle East	Egypt	Africa	Agriculture/ Forestry and Fisheries	On Farm Water Management;Irrigation and Drainage for Africa Phase3
86	2010	2012	Middle East	Egypt	Africa	Health	Total Quality Management for Health Care Facilities for Africa
87	2010	2013	Middle East	Egypt	Palestine	Health	Total Quality Management for Health Care Facilities for Palestinians
88	2011	2014	Middle East	Egypt	Africa	Health	Quality Management of Concurrent Infections Control of TB and HIV for Africa Phase2
89	2011	2014	Middle East	Egypt	Africa	Trade and Industry	Export Marketing Techniques and Export Plan

	Started In	Completed in	Region (Pivotal)	Pivotal	Beneficiaries	Sector	Program and Project Title
90	2011	2014	Middle East	Egypt	Global	Health	Health Economics: Principles/ Methodologies/ Evaluation and Decision Making in Developing Countries
91	2011	2014	Middle East	Egypt	Africa	Agriculture/ Forestry and Fisheries	Food Processing Industry Phase 2
92	2011	2014	Middle East	Egypt	Middle East	Trade and Industry	Tourism Development in Middle East Countries
93	2012	2015	Middle East	Egypt	Africa	Agriculture/ Forestry and Fisheries	Rice Cultivation Techniques for Africa phase 2
94	2012	2015	Middle East	Egypt	Africa	Energy	Electricity For African Countries
95	2012	2015	Middle East	Egypt	Africa	Health	Infectious diseases: clinical and laboratory diagnosis
96	2012	2015	Middle East	Egypt	Arab	Trade and Industry	Export Marketing Techniques & Export Plan for the Arab Countries
97	2009	2012	Middle East	Iran	Afghanistan	Education and Human Resource Development	Third country training program for Afghanistan on Management of Basic Vocational Training
98	2010	2012	Middle East	Iran	Afghanistan	Public Sector Management	3rd Country Training for Afghanistan / Custom
99	2012	2015	Middle East	Iran	Afghanistan	Education and Human Resource Development	Project for Third Country Training Program on Management of Basic Vocational Training for Afghanistan phase 2
100	2009	2012	Middle East	Jordan	Palestine	Agriculture/ Forestry and Fisheries	Capacity Development for Agricultural Research and Development in the Palestinian National Authority
101	2009	2013	Middle East	Jordan	Yemen	Agriculture/ Forestry and Fisheries	Efficient use of water for irrigation in Yemen
102	2009	2012	Middle East	Jordan	Palestine	Water	Water Resource Management for Palestinians -Phase 2-
103	2009	2013	Middle East	Jordan	Yemen	Water	Capacity Building in Water Sector Management- Non Revenue Water- in Yemen
104	2009	2012	Middle East	Jordan	Palestine	Trade and Industry	Capacity Development on Food Control and Food Laboratory Analysis for Food Inspectors and Food Labolatory Technicians in Palestine
105	2009	2012	Middle East	Jordan	Palestine	Environment	Capacity Development in Meteorology for Palestine
106	2012	2015	Middle East	Morocco	West Africa	Agriculture/ Forestry and Fisheries	Promotion of Artisanal Fisheries Phase3
107	2012	2015	Middle East	Morocco	West Africa	Transport	Road Maintenance and Construction Equipment (Phase 4)
108	2012	2015	Middle East	Morocco	West Africa	Transport	Exploitation and Management
109	2009	2013	Middle East	Tunisia	Yemen	Agriculture/ Forestry and Fisheries	Capacity Building of Fishery Vocational Training for Yemen
110	2011	2012	Middle East	Tunisia	Tunisia (Global)	Public Sector Management	Enhancement of South-South Cooperation

	Started In	Completed in	Region (Pivotal)	Pivotal	Beneficiaries	Sector	Program and Project Title
111	2011	2014	Middle East	Tunisia	Francophone Africa	Trade and Industry	Strengthening Tourism Sector in French-speaking African Countries
112	2012	2015	Middle East	Turkey	Central Asia/ Middle East	Education and Human Resource Development	Industrial Automation Technology(IAT) Extension Project for Central Asian/Middle East Countries
113	2005	2012	Latin America	Argentina	South America	Agriculture/ Forestry and Fisheries	The Project of the Capacity Development for Improvement of Livestock Hygiene in the Southern Part of South America through Regional Technical Cooperation
114	2005	2010	Latin America	Argentina	Latin America	Environment	Evaluation and Control of the Environmental Contamination
115	2005	2007	Latin America	Argentina	Latin America	Public Sector Management	The Enhancement of Capacity in PCM Method Project
116	2006	2011	Latin America	Argentina	Latin America	Public Works/Utilities-Social Infrastructure-Measurement/Map	Training on Remote Sensing using ASTER data
117	2011	2014	Latin America	Argentina	South America	Agriculture/ Forestry and Fisheries	Prevention and Zoonosis Control of South American region
118	2011	2014	Latin America	Argentina	Latin America/ Africa	Trade and Industry	Training for Application of management technologies in SMEs
119	2012	2015	Latin America	Argentina	Latin America	Public Sector Management	International Cooperation Project Management(PCM)
120	2008	2010	Latin America	Brazil	Paraguay	Environment	Project for the Support to the Decentralization of the Environmental Administration
121	2010	2014	Latin America	Brazil	Latin America/ Africa/ Asia	Agriculture/ Forestry and Fisheries	International Course on Rainforest Monitoring
122	2010	2015	Latin America	Brazil	Latin America	Water	International Course for Great Rivers Discharge Measurement Techniques
123	2010	2015	Latin America	Brazil	Madagascar/ Cambodia	Health	Training Course on Humanized Care for Mother and Newborn
124	2010	2015	Latin America	Brazil	Latin America/ Africa	Water	International Course on Best Practices in Non revenue water prevention and control
125	2010	2015	Latin America	Brazil	Lusophone Africa	Health	Training Course on Tuberculosis Managing for PALOPSs
126	2011	2016	Latin America	Brazil	Mozambique	Education and Human Resource Development	Project for improving research capacity for Nacala Corridor agriculture development

|	Started In	Completed in	Region (Pivotal)	Pivotal	Beneficiaries	Sector	Program and Project Title
127	2007	2012	Latin America	Central American and Caribbean Regional Network	Latin America	Disaster Prevention	Project on Capacity Development for Disaster Risk Management in Central America "BOSAI"
128	2002	Ongoing	Latin America	Central American Regional Network	Latin America	Health	Capacity Development for vector control of Chagas Dieases
129	2003	2006	Latin America	Chile	Chile	Public Sector Management	Strengthening Japan-Chile Partnership Programme(JCPP)
130	2003	2008	Latin America	Chile	Latin America	Agriculture/ Forestry and Fisheries	Mollusk Aquaculture
131	2004	2009	Latin America	Chile	Latin America	Public Sector Management	International Training course on Environmental Restoration for sustainable management of Degraded soil and Watersheds
132	2006	2011	Latin America	Chile	Latin America	Agriculture/ Forestry and Fisheries	Third Country Training Programme for Sustainable Bovine Production on Small and Medium Agriculture
133	2006	2011	Latin America	Chile	Latin America	Social Welfare	International Course on the Attention System of Rehabilitation for Disabled People
134	2009	2012	Latin America	Chile	Paraguay	Health	JCPP Project on Strengthening of Early Intervention Program for Disabled Children in Paraguay
135	2009	2012	Latin America	Chile	Colombia	Agriculture/ Forestry and Fisheries	JCPP project on shellfish aquaculture development in Colombia
136	2010	2013	Latin America	Chile	Bolivia	Social Welfare	JCPP Project on Strengthening of Policy Implementation for Person with Disability in Bolivia
137	2009	2012	Latin America	Costa Rica	Latin America	Trade and Industry	Project for Capacity Building of Facilitators on Improving Productivity and Quality for Small and Medium Enterprise in Central America and Caribbean Region
138	2010	2013	Latin America	Dominican Republic	Haiti	Agriculture/ Forestry and Fisheries	Project PROAMO Technical Training to Technicians in Agricultural Production System in Mountainous Areas in the Republic of Haiti
139	2010	2011	Latin America	Guatemala	Guatemala	Urban Development	The Project on Urban Planning Capacity Development in Guatemala City

Appendix 4:

Partnership Programs

Countries in Partnership Programs with Japan

Opportunities for South-South Knowledge Exchange

Magnitude of Triangular Training Programs Supported by Japan by Region
&
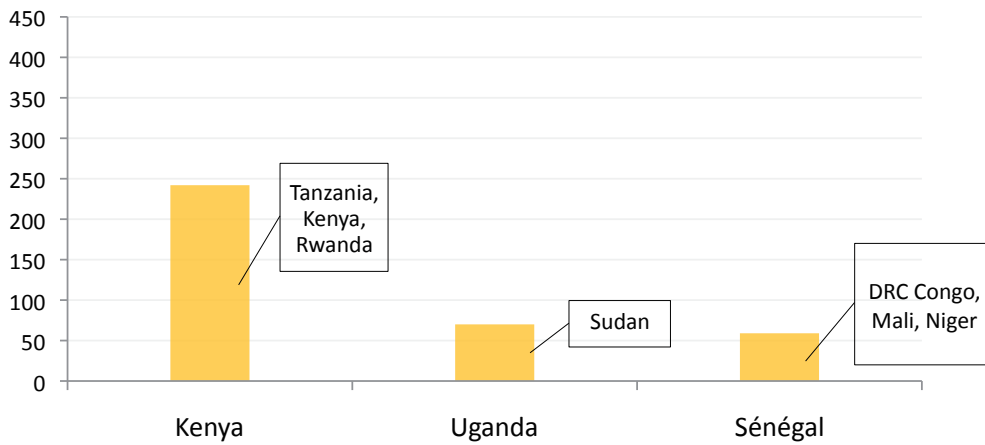## The Composition of Participants (Japanese Fiscal Year 2010)
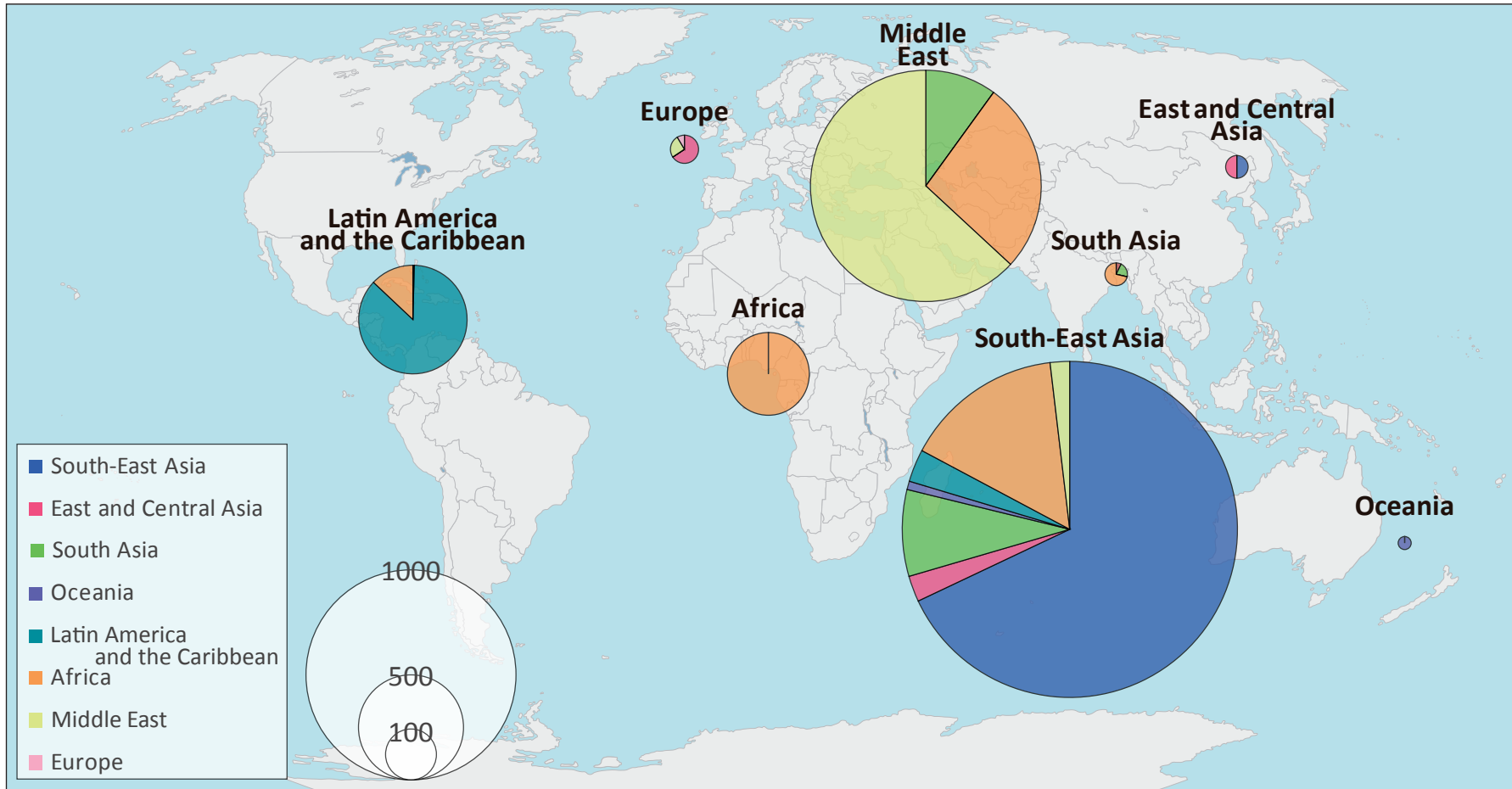
Notes:

-The size of the pie charts indicates the magnitude of knowledge exchange opportunities offered by the countries in the region (with support from Japan).

-The segments in the pie charts indicate the regions where the exchange-program participants come from.
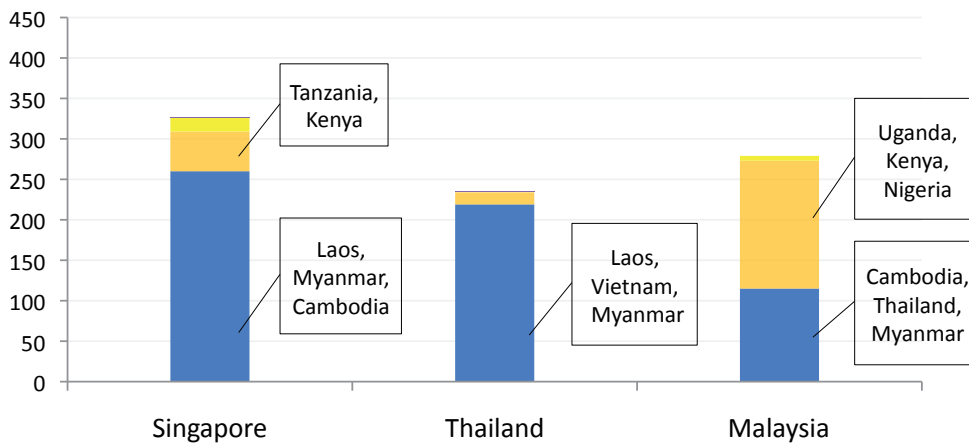
Appendix 6:

Opportunities for South-South Knowledge Exchange

Magnitude of Triangular Training Programs supported by Japan by Country
&
The Composition of Participating Countries
(Top 3 countries-Japanese Fiscal Year 2011)

AFRICA
■ AFRICA

Kenya: Tanzania, Kenya, Rwanda

Uganda: Sudan

Sénégal: DRC Congo, Mali, Niger

South-East Asia
■ ASIA   ■ AFRICA   ■ MIDDLE EAST   ■ OCEANIA

Singapore: Tanzania, Kenya / Laos, Myanmar, Cambodia

Thailand: Laos, Vietnam, Myanmar

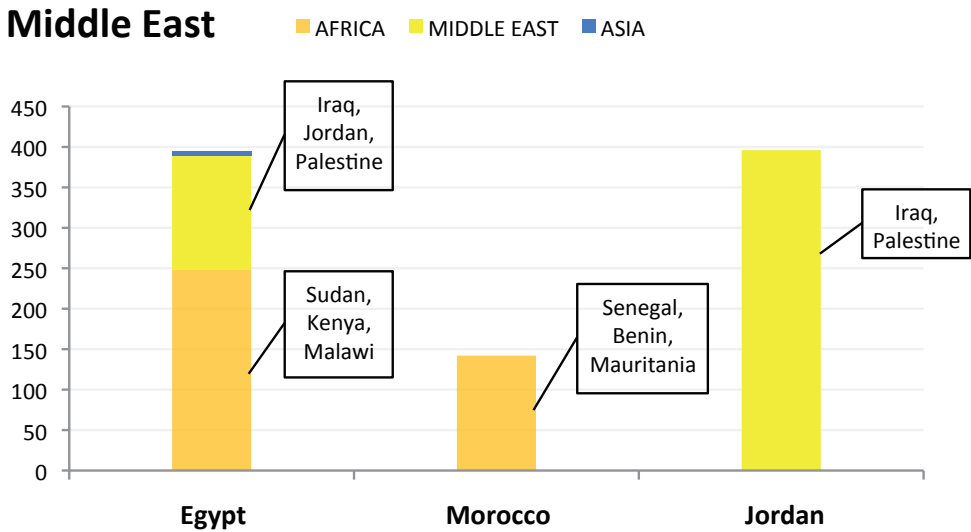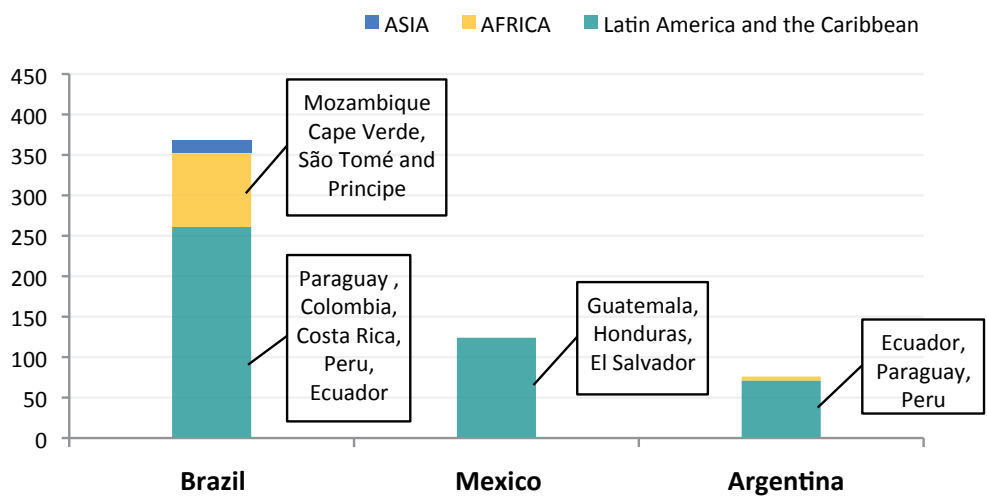Malaysia: Uganda, Kenya, Nigeria / Cambodia, Thailand, Myanmar

Notes:
The height of the bar charts indicates the magnitude of knowledge exchange opportunities offered by the top 3 countries in the region (with support from Japan). The segments in the bar charts indicate the countries where the exchange-program participants come from. The name of countries in boxes above denotes the main recipients of training programs provided by each pivotal country.

Middle East

Legend: AFRICA MIDDLE EAST ASIA

Egypt:
- Iraq, Jordan, Palestine
- Sudan, Kenya, Malawi

Morocco:
- Senegal, Benin, Mauritania

Jordan:
- Iraq, Palestine

Latin America and the Caribbean

Legend: ASIA AFRICA Latin America and the Caribbean

Brazil:
- Mozambique Cape Verde, São Tomé and Principe
- Paraguay , Colombia, Costa Rica, Peru, Ecuador

Mexico:
- Guatemala, Honduras, El Salvador

Argentina:
- Ecuador, Paraguay, Peru

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