



# Tackling Global Challenges Through Triangular Cooperation

**Achieving Sustainable Development and  
Eradicating Poverty Through the Green Economy**

**Japan International Cooperation Agency Research Institute  
(JICA-RI)**

in collaboration with  
The United Nations Office for South-South Cooperation (UNOSSC) and  
The United Nations Environment Programme (UNEP)

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October 2013

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The United Nations Office for South-South Cooperation (UNOSSC)

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The United Nations Environment Programme (UNEP)

Editorial Team in JICA-RI

Editors in Chief: Hiroshi Kato  
Shunichiro Honda

Managing Editor: Yasuhiko Sato

Editors: Yukiko Aida  
Jun Kawaguchi  
Mihoko Sakai  
Yukimi Shimoda

Cover Photos:

R. Raman, AfricaRice (largest photo)

Kenya Forestry Research Institute (right line, bottom)

JICA (right line, three pictures from top)

### **JICA Research Institute**

10-5 Ichigaya Honmura-cho Shinjuku-ku Tokyo 162-8433, JAPAN

TEL: +81-3-3269-2357 FAX: +81-3-3269-2054

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Achieving Sustainable Development and Eradicating Poverty Through  
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## Preface

South-South cooperation (SSC) and triangular cooperation (TrC) are often discussed together, as both of them encourage cooperation among developing countries. The only difference is that TrC involves a Northern partner, while SSC does not. These two types of cooperation are continuing to evolve, however, so that the distinction between the two is blurring. For example, there are a number of SSC projects already in place that have a “triangular” structure involving three or more actors, and some TrC projects in which countries in the South are helping one another without much direct involvement from the North. And if we look at the world more broadly, the traditional dichotomy of the “North” and the “South” will become increasingly pointless in the coming decades. Given these changes, it is highly possible that, pretty soon, we will no longer be discussing SSC and TrC separately.

However, we are not there yet. SSC must be promoted further to include more actors beyond the emerging middle-income countries. TrC, too, is still quite underdeveloped, with a relatively small number of active partners—even among the DAC member countries—engaged in the movement. To encourage both SSC and TrC, much remains to be done.

It was with this in mind, and especially the need to engage more partners in TrC, that this volume has been compiled. It explores the role that TrC can play in international development and addresses the actions and considerations necessary for implementing TrC projects. I hope that this volume will add to the discussions on these subjects at various fora including, particularly, the Global South-South Development Expo (GSSD Expo) 2013 in Nairobi, Kenya.

Initiated by the JICA Research Institute (JICA-RI) as part of its continuous inquiry into SSC and TrC\*, this volume is an outcome of a

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\*The current volume is the JICA-RI's second publication of its work on SSC and TrC, following the 2012 publication entitled “Scaling Up South-South and Triangular Cooperation.”

joint work of an international team of experts working on SSC and TrC. This project has been made possible by tremendous support of its collaborators and contributors. My thanks go first to Mr. Yiping Zhou of the United Nations Office for South-South Cooperation, and to Ms. Tomoko Nishimoto of the United Nations Environment Programme, who not only supported the project generally but also contributed a chapter of his/her own. I am also appreciative to all the contributors, who, despite the severe time constraints, kindly shared their rich experiences and insightful views.

Finally, I would like to add that the views and opinions expressed in the chapters do not necessarily represent the official views or positions of the organizations the authors work for or are affiliated with.

Tokyo, October 2013

Hiroshi Kato

Vice President, Japan International Cooperation Agency (JICA) and  
Director, JICA Research Institute



## List of Contributors

### Executive Summary

Hiroshi Kato Director, JICA Research Institute

### Part I

Tubagen A. Choesni Director for International Development Cooperation, National Development Planning Agency, the Republic of Indonesia (BAPPENAS)

Shunichiro Honda Research Fellow, JICA Research Institute

Akio Hosono Senior Research Advisor, JICA Research Institute

Tomoko Nishimoto Director and Special Adviser to the Executive Director on South-South Cooperation, United Nations Environment Programme

Nick Nuttall Director of Communications and Public Information, United Nations Environment Programme

Nils-Sjard Schulz Policy Advisor at MultiPolar (on behalf of the World Bank)

Yiping Zhou Director, United Nations Office for South-South Cooperation

### Part II

Jürgen Baumann Project Coordinator, CONAGUA-GIZ, Comisión Nacional del Agua

Karen Bernard Programme Specialist, United Nations Development Programme Pacific Centre

Marianella Feoli General Manager, Fundecooperación para el Desarrollo Sostenible

Nira Gautam Former Intern, Fundecooperación para el Desarrollo Sostenible

Motohiro Hasegawa Senior Advisor, JICA

Lingxiao He Intern, United Nations Development Programme Pacific Centre

Shunichiro Honda Research Fellow, JICA Research Institute

Hiomichi Kano Assistant Director, JICA (Project Coordinator of J-PRISM until October 2013)

Jun Kawaguchi Research Fellow, JICA Research Institute

Mary Luz Moreno Researcher, International Centre of Economic Policy for Sustainable Development (CINPE), Costa Rica

Carolina Reyes Project Officer, Fundecooperación para el Desarrollo Sostenible

Yukimi Shimoda Research Fellow, JICA Research Institute

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# Executive Summary

## A Myth or a Reality?—Triangular Cooperation as a Vehicle toward Green Economy

Hiroshi Kato

### 1. Introduction

#### 1.1 About this volume

This two-part volume is the joint work of an international team of experts and contains essays on triangular cooperation (TrC).<sup>1</sup> Part I explores thematic issues, such as the significance of TrC (Chapter 1), its relevance to green economy (Chapters 2 and 3), knowledge management mechanisms (Chapter 4), and TrC management systems (Chapter 5). Part II contains specific case reports contributed by practitioners working for multilateral, bilateral, and other development organizations (Chapters 6 through 12).

These chapters have been compiled chiefly to address, collectively, the following three questions:

- a. What is the relevance of TrC to the green economy?
- b. How does TrC support successful knowledge management?
- c. What are the institutional and managerial challenges related to TrC?

The motivation for producing this work, in an age when busy policy/decision makers and development practitioners hardly have time to read through voluminous compilations of essays and papers, is two-fold. First, we believe that a systematic look into such a multi-faceted phenomenon as TrC requires more than PowerPoint presentations. Second, we acknowledge that the writing of expository essays can provide an opportunity for self-reflection by developing practitioners.

We hope that this booklet attempting at systematic and in-depth

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1. There is no established definition of TrC (OECD 2013). In this essay, the term Triangular Cooperation (TrC) is used to mean “Southern-driven partnerships between two or more developing countries supported by a developed country (ies) /or multilateral organization(s) to implement development cooperation programs and projects” (United Nations 2012:5).

analysis of TrC lends momentum to existing initiatives, such as the Global South-South Development Expo, the Community of Practice of Knowledge Hubs, and the recent exercises led by the OECD<sup>2</sup>. It is our humble hope that this volume inspires the process of mutual learning about TrC, potentially leading to the organization of various activities, such as thematically focused workshops and mutual visits amongst participants of different projects relating to TrC.

### **1.2 Why triangular cooperation**

The importance of South-South cooperation (SSC) has increasingly been emphasized in various international fora, including the Outcome Document of the Busan High Level Forum on Aid Effectiveness in 2011. This demonstrates a marked contrast to the Paris Declaration in 2005, which did not mention SSC. Attention to TrC has also intensified among the actors outside the UN system, a long-time advocate of SSC and TrC; the OECD, for example, has begun to examine the idea (see OECD 2013), and Germany articulated its policy on TrC in a recent position paper (BMZ 2013).

Different actors may have different reasons for paying close attention to TrC. It is the author's view that TrC is important as a gateway to a new form of international cooperation. The volume of aid from the traditional donors is likely to wane in the decades to come, and while SSC will instead be of paramount importance, that is insufficient to fill the gap. Innovative methods for mobilizing and effectively using whatever resources are available are required. TrC is one such method, for it is assumed that "by joining forces, and bringing different skills and strength [through TrC], the DAC and non-DAC donors can improve aid effectiveness through developing better and more appropriate practices" (McEwan and Mawdsley 2012: 1192).

TrC could be particularly important for the horizontal exchange of local knowledge. Such exchange is becoming increasingly necessary, as we live in a world faced with multitudes of issues with no ready-made solutions, and hence "development cooperation must take the form of mutual learning and joint solution discovery (Tanaka 2012: 5)." TrC therefore, and SSC more generally, must be mainstreamed in the 21<sup>st</sup> century.

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2. A recent initiative by OECD is its Policy Dialogue on Triangular Cooperation.

## 2. Green Economy and TrC

This volume's first message is that TrC can be a very important instrument for the attainment of the green economy in the South.

Chapter 2 illustrates the many examples of SSC and TrC impacting global environmental issues. To name just one: in the Coral Triangle Initiative, six countries (Indonesia, Malaysia, Papua New Guinea, the Philippines, the Solomon Islands, and Timor Leste) have worked together to promote marine protected areas.

Chapter 3 analyzes why TrC can be a particularly effective vehicle for tackling environmental issues including green economy and sustainable development. The author argues that sustainable environmental conservation efforts must be supported by bottom-up initiatives of residents (i.e., they must be “be inclusive”), and propose locally-created and applicable solutions (i.e., they need “innovative solutions”). Such innovative solutions, he goes on to claim, can be facilitated by TrC.

TrC is useful for the creation of innovative solutions because it encourages *horizontal* mutual learning amongst problem-solvers facing similar challenges across national borders, and allows them to create and share locally available and affordable knowledge and skills. Well-designed TrC projects can also support *vertical* collaboration among different actors within and across countries, such as local residents, administrations, and knowledge hubs. By supporting these knowledge exchanges with institutional backup, TrC can help make innovative solutions sustainable and replicable in the long term. Beyond this, TrC can help foster *international fora* where various actors can harmonize their efforts. TrC can be used to help countries having similar challenges and problems to come together and voice their problems and positions (See Chapter 12 for an example).

## 3. Successful Knowledge Management

Having examined the relationship between TrC and environmental conservation efforts, we now turn to the issue of successful knowledge management, which is necessary for the success of TrC projects. There are several observations.

First, as the cases demonstrate, successful projects are usually those that have been designed to acquire *the right kind of knowledge*, which is knowledge that is both desperately needed and not likely to be gained through other methods, such as traditional North-South cooperation. Knowledge of environmental conservation is one such example; it is desperately needed, and cannot be learned countries in the North with different geo-climatic and social conditions. Effective measures must be discovered locally, and mutual learning among the problem-solvers of the South facing similar problems in similar conditions is therefore of great help.

Dealing with the right kind of knowledge, however, does not guarantee the success of a TrC project. *There must also be certain mechanisms that support the healthy knowledge sharing and creation.* As Nonaka (1994) postulated, knowledge creation and exchange proceeds along a step-wise process<sup>3</sup> and as such needs time and institutional support to develop. Not surprisingly, we find that successful cases—with varying degrees and through different means—have been designed to make sure that the time-consuming knowledge creation process takes place in a sustainable manner. Methods for achieving this include emphasizing face to face communication, field visits, workshops, and symposia, and making use of local people as resources. In some cases, it proved useful to have a solid knowledge base at Centers of Excellence for verifying and backing up local innovations with scientific methods.

#### **4. Management of TrC**

This volume examines the TrC management methods and tools that lead to maximum benefits with minimum transaction costs. The cases in the volume provide us with ample lessons, though they are not free from selection bias, as they were chosen from exceptionally successful cases.

##### **4.1 Forms of TrC**

To understand TrC management methods, we must first look at the wide variety of forms that TrC could take.<sup>4</sup>

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3. Nonaka postulated this process as a model SECI, comprising the four stages of Socialization, Externalization, Conceptualization, and Internalization (Nonaka 1994).

4. The basic patterns of TrC have been grouped into four categories by OECD (2013). Also, a fairly detailed description of formats and contents of SSC and TrC in Asia-Pacific is given in Kumar (2008).

Among them, the “classic” formula of TrC from bilateral donor agencies’ point of view is that which capitalizes on the capacities of their partner countries, developed as a result of preceding bilateral cooperation; and they are used for supporting other countries, especially in the area in the vicinity of the original partner country. Examples of such cases are those in Chapters 6, 7, and 8.

TrC is evolving rapidly, however. For example, Japan’s TrC, which initially relied on the “classic” model, has undergone a significant evolution and today has a wide range of menus available to accommodate diversified needs (See Chapter 5 for a detailed discussion). Other innovative approaches include a project financially supported by the Netherlands and linking Benin, Bhutan, and Costa Rica (Chapter 11), one that aims at multiple beneficiary countries (Chapter 7), the one that links different regions (Chapters 9,10, and 12).

International organizations, too, are engaged in a wide variety of TrC activities (United Nations 2012, OECD 2013). These organizations use their international or global mandates to act more as catalysts. Chapter 9 provides an illustrative example of such a role for a UN agency. UNDP worked on an inter-regional project linking the Caribbean and the Pacific countries, and is described to have played the roles of “convener, facilitator, networker, resource mobilizer, and translator (across cultural differences)” (Ch.9, p.193).

#### **4.2 How to manage a TrC project**

TrC projects appear to be harder to manage than bilateral projects, obviously because they have, by definition, three or more parties, each of which may again comprise a number of actors. Reducing the allegedly high transaction costs is a serious challenge. The following lessons seem to emerge from the cases.

##### ***Coordination***

Coordination is seen as an intrinsically difficult issue in TrC (OECD 2013). Many of the chapters report that intensive discussions were conducted throughout the projects, and especially at the initial stage of the undertakings, and helped the projects to succeed. However, evaluating these remarks is difficult. Such arduous processes of coordination can be viewed in retrospect as having been useful if the project was successful. However, if the project achieved less-than-

satisfactory performance, these “transaction costs” would have been viewed as burdensome to project members. Thus the issues of coordination and transaction costs are beyond simple-minded judgment and needs systematic analysis and evaluation (See 5.3 below for a related discussion).

### ***Knowledge hub***

It helps to have a reliable knowledge hub working as a pivotal agency (See Chapter 4 for a discussion on Knowledge Hubs). These can be especially important when they possess sector-wise knowledge and information and function as liaisons between various actors, typically villagers and farmers, who may need help making their innovative solutions sustainable. This is clearly indicated by the examples cited in Chapters 3, 6, 7, and 8.

### ***Networking***

A center of excellence or other such knowledge base is not always necessary, as is demonstrated by the cases described in Chapters 9, 10, and 11. These cases relied more on active multi-node networking activities. This works well when networking is implemented by engaging highly motivated professionals, and provides opportunities for their continuous learning and enhancement. International organizations and bilateral actors have often been useful in these cases.

### ***ICT technologies and personal relationships***

Such network-oriented projects have devised various mechanisms to assure smooth networking and communication among their members. Examples include structured mechanisms for decision-making and coordination (see Chapters 6 and 11), or information sharing, such as the Project Space intranet platform (Chapter 9). Other projects have given awards for good practices (Chapter 10) and presented papers at symposia (Chapter 12). Ultimately what is most helpful is a core person/manager with strong networks of motivated key professionals, which is vividly illustrated in the case presented in Chapter 9. In spite of the development and convenience of IT technologies, many of the case reports have stressed the importance of personal contact and trust for success.

### ***Policy environment***

Projects supported with the commitment of the government are more



likely to succeed. Likewise TrC works particularly well when it works in conjunction with regional or global policy goals (see Chapters 7 and 12).

## **5. Rediscovering TrC**

So far, we have looked at TrC from various angles: its relationship to green economy, the knowledge necessary for its success, and effective methods for managing it. The following discussion looks at TrC from other angles.

### **5.1 TrC is open to anyone in any country**

The cases in this volume clearly demonstrate that TrC provides various opportunities for anybody in any country. These cases, in which participant roles are flexible, show that even smaller, “less advanced” countries can offer their experiences to bigger, “more advanced” countries. This is clearly demonstrated in cases like the TrC between the Caribbean and Pacific countries (Chapter 9), TrC among Pacific Island Countries (Chapter 10), and the cooperation among Benin, Bhutan, and Costa Rica (Chapter 11). Related to this is the idea that TrC does not have to be monopolized by middle income countries. It is, in fact, dangerous to assume only the middle-income countries can act as “pivotal” countries, as the view is tantamount to re-introducing vertical relationships—such as the traditional North-South—into SSC.

### **5.2 Cultural and linguistic proximities are not prerequisites**

Many of the chapters in this volume confirm the often mentioned advantage of TrC, that they can provide environments wherein people with similar cultural and linguistic backgrounds can work together to tackle developmental challenges common them.

However, the report on the TrC between Benin, Bhutan, and Costa Rica (Chapter 11) complicates this widely-accepted view. This project linked three distant countries with very different cultural, social, and linguistic backgrounds, and yet has produced remarkable outcomes leading to visible impacts. The report states that geographical distances have not been a problem, and that the cultural and other differences

have been a help rather than a hindrance.<sup>5</sup>

This experience might indicate that while having similar cultural, social, or linguistic conditions does help, it does not constitute a necessary condition for success. In other words, the fundamental factor for the success of TrC is, as discussed in Section 2, the burning desire of the people for useful knowledge; if that fundamental condition is in place, it can help overcome differences in culture, social customs, and languages.

### 5.3 Cost analysis and evaluation

TrC is said to be more cost effective than the traditional North-South cooperation. This claim has yet to be verified, and being unable to provide evidence-based discussion, here it is important only to note that the question of cost effectiveness must be addressed not just in terms of *monetary* costs and benefits. Possible transaction costs, such as the coordination of projects as previously discussed, must be considered. Likewise, intangible benefits that derive from TrC must be taken into consideration. Such benefits can include, among others, the long-term capacity development that takes place in the course of TrC (and SSC), and the personal bonds that are created (See Chapter 9, p.206, for example<sup>6</sup>).

This raises the issue of impact evaluation—a difficult challenge. Even among the successful cases, it seems difficult to evaluate the whole value of the impacts and costs of the endeavors, especially in numerical terms. Based on the observations contained in the volume, our view is that, given the absence of numerical data with which to evaluate tangible impacts and costs, we must look at the *process* of the projects—for example, the enthusiasm of the participants and their willingness to continue—as indicators of the success of the project.

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5. The reports states, “Language, culture, religion and geography are not barriers to cooperation. Although language and culture posed some difficulties at the start of the PSC, six months down the line these problems were long forgotten. None of the project coordinators or beneficiaries interviewed for this case study cited language as a problem in their project.” Containing many experiences that defy the conventional wisdom, this project offers much for development practitioners to explore (p.244).

6. “[A]n expert from St. Lucia elaborates on this point. “Many of the regions achievements are based on interpersonal interactions...when I go to a country to assist I am not seen as a stranger walking in but a friend known for year: such a bond is priceless and cannot be measured.”

## **6. Summary of Thematic Chapters**

### **Chapter 1: Multilateral support to South-South and triangular cooperation (Yiping Zhou)**

Written by the Director of the UNOSSC, a strong advocate of South-South and Triangular cooperation, this chapter highlights the potential of triangular arrangements in creating a “triple-win scenario” in international development. It starts with the review of the dramatic changes the world has gone through in recent years, and concludes that, “South-South is no longer just another idea or topic for discussion. It is a reality” (p.22). Director Zhou then traces how the international community and particularly the UN system have supported SSC and TrC. The chapter concludes with a list of “value propositions” for consideration by partners in development. Among other things, traditional partners are invited to stay engaged with MICs to leverage their capacities. These mid-income countries are called for to do more TrC, while low-income countries are expected to strengthen their partnerships with MICs. Finally, the author urges the UN system to do more to help bring MICs into the larger development value chain.

### **Chapter 2: Green economy set to strengthen South-South and triangular cooperation (Tomoko Nishimoto and Nick Nuttall)**

Starting with the premise that the global shift to a more inclusive and resource-efficient green economy is strengthening south-south and Triangular Cooperation, this chapter presents a number of illuminating examples of TrC. One salient example given in that context is the case of the E-waste African Programme, participated by a group of countries sharing the need for the protection of their environment in West Africa. The chapter goes on to introduce other, and quite encouraging, examples, including the ones by UN agencies like UNEP, FAO and UNDP.

### **Chapter 3: Catalyzing an inclusive green economy through South-South and triangular cooperation: Lessons learned from three relevant cases (Akio Hosono)**

This chapter contends that TrC can indeed contribute to the green economy. Its argument is based on the premise that inclusive green economy requires innovative solutions based on the wisdom and knowledge of local people, and supported by solid scientific research. Such innovative solutions are indispensable for green economy, as the poor in rural or mountainous areas cannot afford skills and technologies

from afar. TrC makes possible the creation and exchange of such locally available and applicable knowledge.

Local people alone, however, cannot develop such knowledge and skills in a sustainable manner; they need institutional and often long term support. Here again TrC serves to unite the efforts of the government and communities, and contribute resources to the effort. In this regard, the author emphasizes the importance of what he calls the Centers of Excellence (COEs).

**Chapter 4: Knowledge Hubs—Progress in practice since the Bali Communiqué (Tubagus A. Choesni and Nils-Sjard Schulz)**

This chapter traces the current development of Knowledge Hubs and the Community of Practice. The concept of Knowledge Hubs emanated from the recognition that “One of today’s limitations to knowledge exchange is that development solutions are often shared in an ad-hoc way and based on short-term projects rather than longer-term programs” (p.82). Hence a consensus emerged that knowledge exchange should be embedded in strong institutions. This argument seems to resonate with Hosono’s emphasis of the roles of the Centers of Excellence (Chapter 3 of this volume and Hosono 2013).

The latter half of the chapter introduces a variety of activities being promoted at the Community of Practice, aimed at providing a web-based space for champions to share their experiences creating and scaling up knowledge hubs.

**Chapter 5: The approaches and mechanisms of JICA’s triangular cooperation: An analysis (Shunichiro Honda)**

With increasing interest in TrC, there is a growing demand for information on how to formulate, manage, and evaluate TrC projects. This paper has been written to reduce the knowledge gap on how to manage TrC. Focusing on Japan, which is seen as a pioneer in promoting SSC and TrC, the essay covers such characteristics of Japan’s TrC system as the policy framework, current performance, patterns of cooperation, key instruments, and the processes of evaluation, staffing, and decision making. The author argues that JICA’s TrC system has evolved substantially to mobilize a variety of instruments. He also suggests, however, that to meet changing needs in the future, there must be further evolution from the system that is essentially based on its

bilateral cooperation systems and instruments.

## 7. Summary of Case Chapters

The cases included in Part II of this volume represent as wide a variety as possible in terms of contents, formats, actors, and regions. Contributed to a volume for the conference co-hosted by UNEP, they are largely projects that deal with environmental issues.

Ch.	Major Partners/Participants	Domain/Sector
6	Mexico, Bolivia, and Germany	Wastewater management
7	Turkey, its neighboring countries, and Japan	Energy conservation
8	Jordan, Palestine, and Japan	Science education using IT
9	Caribbean and Pacific countries, and UNDP	Disaster risk management and climate change adaptation
10	Pacific countries and Japan.	Solid waste management
11	Bhutan, Benin, Costa Rica, and the Netherlands	Sustainable development
12	Malaysia, Asia/Pacific, Africa, and Japan	Biodiversity conservation

### **Chapter 6: Climate change adaptation: Fomenting reuse of treated wastewater for agriculture and water protection in Bolivia — Triangular cooperation Mexico - Bolivia - Germany (Jürgen Baumann)**

Chapter 6 introduces the experiences of a Mexico-Bolivia cooperation supported by Germany, a country known as one of the active OECD members in promoting TrC (BMZ 2013). The presented project is based on a long-term (about 40 years!) collaboration between Germany and Mexico, and their shared understanding of the need for better waste water management in Bolivia. The three countries, each motivated by different incentives but working toward the shared goal, have pushed the project forward. Germany works as a financial, logistical, and sometimes technological supporter to the project. Mexico provides experts and technical expertise as well as financial support for coordination, organization, and mobilization of experts. Though the project is still in its early stage of implementation, it has realized various exchanges between Mexican and Bolivian experts.

**Chapter 7: A process of scaling up: Initiatives for energy conservation by Turkey and neighbouring countries (Yukimi Shimoda)**

This essay illustrates TrC project involving Turkey and Japan. This is a classic TrC, which takes advantage of the fruit of initial bilateral cooperation. The author argues that the project was successful because, *first*, Turkey and its neighboring countries shared a common target and motivation under similar socio-political circumstances; *second*, there was strong leadership by Turkey substantiated by the capacity of its energy agency, serving as COE; and *third*, there was long term support from external actors that contributed to the capacity development of the Turkish organization.

**Chapter 8: Enhancing the capacity of science teachers in Palestine: A case of triangular educational cooperation between Jordan, Palestine and Japan (Jun Kawaguchi)**

Here is another example of a classic TrC project, supported by Japan, which takes advantage of the success of a preceding project. The chapter argues that the success of this teacher training project for Palestine thus far can be attributed to several factors. First, there were shared development needs among the participating actors, Jordan, Palestine, and Japan. Second, there was strong political commitment by the respective governments. And third, the project incorporated many of the lessons learned during the Jordan-Japan bilateral project, which preceded the TrC project among the three countries.

**Chapter 9: Small islands, vast oceans and shared challenges: Linking Caribbean and Pacific SIDS through South-South and triangular cooperation (Karen Bernard and Lingxiao He)**

This essay illustrates the first-ever project that attempted to pilot inter-regional south-south cooperation, by linking the Pacific and Caribbean regions, which share similar geography and face common environmental threats. Initiated by a UNDP staff person who was transferred to the Pacific region after serving in the Caribbean Office, the project was formulated after a lengthy but deliberate process of discussions involving key partners. The person who initiated the process went on to serve as the project manager, which helped the networking process.

The project addressed the issue of disaster risk management and climate change adaptation between the Pacific and the Caribbean regions., and

has shown steady progress on each of its three goals.

**Chapter 10: J-PRISM: A case study of regional mutual learning and discovery towards an effective solid waste management in the Pacific (Hiromichi Kano and Shunichiro Honda)**

This essay showcases an interesting case of truly mutual learning among the Pacific and Asian countries and Japan. Originally set up as a platform for triangular cooperation, J-PRISM is unique in that it goes beyond the usual framework of one country acting as the sole pivotal partner. Instead it encourages multiple countries to act as pivotal partners in their respective fields of expertise and excellence.

Thus the project has taken full advantage of regional good practices, like landfill improvement in Samoa and Vanuatu, landfill improvement and recycling in Palau, and so on. Local experts from different countries, well-versed in these advanced practices, served as resource persons working as regional trainers and/or advisors. Likewise, different countries are offering training and mutual learning opportunities to share their good practices with other countries.

**Chapter 11: Promoting reciprocal learning in the South: A case study of South-South cooperation between Benin, Bhutan and Costa Rica (Nira Gautan, Mary Luz Moreno, Marianella Feoli and Carolina Reyes)**

This chapter details a project which received the 2010 UN Award for South-South Cooperation Partnership. The case is interesting in many senses, including the composition of its partners—Benin, Bhutan, and Costa Rica—located on different continents. Not only are they far apart geographically, but they are also different linguistically, (speaking, respectively, French, Bhutanese [English], and Spanish), and economically. Despite these differences—or, as the author argues, because of them<sup>7</sup>—this project has achieved remarkable results. After only four years and using a relatively small fund, the project has involved over 180 organizations, achieving more than 3000 direct beneficiaries, 692 new products, 179 new services, and the list goes on and on. (pp.238-239)

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7. The author argues: “Although skeptics might question the value of collaboration between such culturally and geographically distinct countries, it was precisely their differences that helped develop positive results.” (p.239)

**Chapter 12: Practical use of triangular cooperation as part of the capacity development process to strengthen a leader country on biodiversity conservation in a region: A case of the BBEC Programme in Sabah, Malaysia (Motohiro Hasegawa)**

This paper illustrates a case in Sabah, Malaysia, that has utilized TrC effectively to build up the regional capacity needed for the preservation of biodiversity in the region, based on the “Bornean Biodiversity and Ecosystems Conservation (BBEC) Programme.” It started as a bilateral cooperation project between Malaysia and Japan, which centered, in its Phase I, on conventional technology transfer for specialized Malaysian agencies. On the basis of that, Phase II the program, using TrC, sought to establish and strengthen regional biodiversity and ecosystem conservation. The author stresses that TrC’s usefulness could be further enhanced when it is aligned with internationally agreed-on goals, such as those outlined at the Ramsar Convention.



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## **Part I**

# *Concepts and Practice of Triangular Cooperation*

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# Chapter 1

## Multilateral Support to South-South and Triangular Cooperation

Yiping Zhou<sup>1</sup>

### Abstract

In the past two decades, the world's attention has been increasingly drawn to an unprecedented phenomenon: Economies within many developing countries have grown much faster than those in some transitioning countries. New patterns of trade, investment and other economic linkages among the countries of the global South are emerging rapidly, eroding the structures inherited from a colonial past. These new dynamics are dramatically changing the institutional and power structures of the South, presenting an entirely different landscape of South-South relations and, for that matter, South-North relations politically, economically, and even culturally. This paper illustrates the changing dynamism in South-South cooperation. It also highlights practical ways in which some traditional donor countries and United Nations agencies have supported South-South cooperation through triangular partnership arrangements. It then makes an attempt at offering a set of value propositions of triangular cooperation for consideration by traditional donor countries, middle-income countries, low-income countries, multilateral organizations, as well as other South-South partners, including those within the private sector and development-oriented civil society organizations.

### 1. Reading the New Dynamism in South-South Cooperation

Over the past decade, various forms of assistance among developing countries have emerged. With increasing financial resources and an enhanced awareness of interdependence among Southern countries, there are now prospects for increased development assistance among developing countries. In the global South new groups of countries and

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1. Yiping Zhou is the Director of the United Nations Office for South-South Cooperation. The views expressed in this article reflect the opinions of the author and not necessarily the official views of the United Nations.

the private sector, led by Southern multinationals and civil society organizations (CSOs), are entering the international development cooperation scene as new drivers of change.

On the economic front, despite the economic slowdown, South-South trade has grown to unprecedented levels. Intra-South trade is at a historic high, exceeding exports to the North. About 56 percent of developing country exports went to other developing countries in 2011.<sup>2</sup> Developing countries now provide 33 percent of global investments and are projected by the World Bank to account for more than half of total capital stock by 2030.<sup>3</sup> In 2012, global foreign direct investment (FDI) declined overall by 18 percent but flows to the LDCs rose by 20 percent to a record \$26 billion. Between 2001 and 2011, total trade (exports plus imports) between African and Brazil, Russia, India, and China (BRIC) grew from \$22.9 billion to \$267.9 billion. In 2011 the total trade among BRIC countries and Africa was 43.6 percent of the total trade between the Organisation for Economic Cooperation and Development (OECD) and Africa.<sup>4</sup> In March 2013, the fifth Brazil, Russia, India, China, and South Africa (BRICS) Summit decided to establish a development bank, a \$100 billion Contingency Reserve Arrangement, and a business council to address the financial, infrastructure, energy, and telecommunications needs of the South.

When it comes to South-South development cooperation, countries like Brazil, China, India, and South Africa are taking the lead. For example, South Africa recently co-financed the \$2 billion construction of the Mozal aluminium smelter in Mozambique. Brazilian cooperation with Africa now encompasses many areas, including agriculture, infrastructure, trade, and public administration. The country has also written off more than \$1 billion in debts of African countries. Most recently, Brazil decided to grant duty-free access to its market for products from the 50 Least Developed Countries (LDCs).

Commodity and energy producers in the South are looking more and more to these countries for new opportunities in trade, investment, and

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2. United Nations Conference on Trade and Development (UNCTAD), *South-South Trade Monitor*, No. 2, July 2013, 1.

3. World Bank, *Global Development Horizons: Capital for the Future – Saving and Investment in an Interdependent World*, (Washington, D.C., 2013).

4. Daniel Poon, *South-South Trade, Investment, and Aid Flows*, Policy Brief, (The North-South Institute, July 2013), 2.

the transfer of technologies. China, with foreign exchange reserves that reach \$1 trillion, not long ago cancelled the debt of 31 LDCs in Africa, totalling \$1.27 billion. In addition to doubling its assistance to Africa, China has provided \$5 billion in preferential loans and buyer's credit to the region and has created a \$5 billion China-Africa development fund to encourage Chinese firms to invest in Africa. This will increase the import of zero-tariff products from Africa from 190 to 440. India, too, has built up a significant balance of payment surpluses. Its commitment to Africa's development was underlined by its pledge to provide \$200 million for NEPAD and a credit line of \$500 million to the "Team Nine" initiative in West Africa, in addition to the cancellation of a substantial amount of debt owed by some LDCs, especially in Africa. Several other initiatives are in the pipeline.

Developing countries like Algeria, Argentina, Botswana, Chile, Columbia, Egypt, Ghana, Malaysia, Morocco, Nigeria, Peru, Singapore, Thailand, Tunisia, Venezuela, among others have also expanded linkages with other countries in the global South by sharing substantial technical capacities, trading potential and financial resources. Some have established themselves as regional centres of economic, commercial, and financial services. They are investors in other countries in terms of both direct investment and portfolio investment. Nigeria, for example, has provided \$400 million to a trust fund within the African Development Bank. Their stock markets are expanding and engaging a widening spectrum of small- and medium-scale investors.

The six members of the Gulf Cooperation Council (GCC) – Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates – command around \$1 trillion in resources, much of which is destined for investment in the South. These and other Organization of the Petroleum Exporting Countries (OPEC) countries has a track record of assistance going back to the mid-1970s. It is estimated that about \$2-3 billion annually has been provided from the GCC and other OPEC countries. Some of these countries have recently directed new resources to support South-South cooperation.

From the first United Nations Conference on Technical Cooperation among Developing Countries (TCDC) in Buenos Aires, Argentina, in September 1978 to the High-level United Nations Conference on South-South Cooperation (SSC) in Nairobi, Kenya in December 2009, and the

tenth United Nations Day for South-South Cooperation observed by the General Assembly on 12 September 2013, the world has undergone dramatic changes. South-South no longer just another idea or topic for discussion. It is a reality. It has become a worldwide phenomenon that is fast changing the ways in which development practitioners think, development organizations operate, development players interact, development effectiveness is measured, and the new development architecture is to be built.

## 2. Understanding the Premises of South-South Cooperation

In an opening address to the Twelfth Session of the Intergovernmental Follow-up and Coordination Committee on Economic Cooperation among Developing Countries that was held in Yamoussoukro, Côte d'Ivoire, 10 June 2008, the honorable W. Baldwin Spencer, Prime Minister of Antigua and Barbuda and Chairman of the Group of 77 and China stated that “the new South-South dynamics have not only enhanced the general sense of



H.E. W. Baldwin Spencer, Prime Minister of Antigua and Barbuda and Chairman of the Group of 77 and China, addressing the opening ceremony of the IFCC-XII in Yamoussoukro, Côte d'Ivoire, in 2008

confidence in self-development in the more successful countries, but also contextualized the aspirations for interdependence among all developing countries in an entirely different economic context. It is important to note that South-South cooperation is not aid. It is an expression of South-South solidarity and promotion of two-way learning and cooperation based on true partnership for mutual development.”

According to Spencer, “the rapid economic growth of some major developing countries has, indeed, dramatically improved the development prospects of neighboring countries, spurring economic growth, intra-South trade and investment, as well as technology transfer and exchanges. Today, all of the 130 member countries of the Group of 77 and China, regardless of their size or level of development, have accumulated varying degrees of capacities and experiences in development that can be shared on a South-South basis. Many of our countries have developed long-term strategies for inclusive growth and development that can be made available for intra-South peer learning



and demand-based application.” He further pointed out that “It is also clear that South-South cooperation cannot replace North-South cooperation, and should not replace North-South cooperation.” He went on to say that “the existing international development cooperation architecture is obviously built, conceptually, structurally, institutionally and operationally, to primarily support North-South cooperation and aid flows. In the absence of enlightened re-thinking and restructuring, this existing architecture will remain inadequate in responding to the new Southern dynamics, thus falling short of helping to realize the full potential of South-South cooperation, including triangular cooperation for development.”

To develop South-South cooperation to its fullest potential, it’s necessary to first understand the basic premises for such cooperation. South-South cooperation refers to all forms of collaboration between two or more developing countries in pursuit of their individual or collective development through exchanges of knowledge, skills, technologies and technical know-how, financial resources, and trade and investment opportunities. South-South programmes or projects must be initiated, organized, and managed by developing countries themselves, with their governments playing a lead role, while also involving public and private institutions, non-governmental organizations, and individuals. South-South cooperation is multidimensional in scope and can therefore include all sectors and all kinds of technical cooperation, whether bilateral or multilateral, sub-regional, regional, or inter-regional.<sup>5</sup>

In the Nairobi Outcome Document<sup>6</sup> of the High Level United Nations Conference on South-South Cooperation, held in Nairobi, Kenya from 1 to 3 December 2009, which was adopted by the United Nations General Assembly in its resolution 64/222 of 22 December 2009, Member States reaffirmed “that South-South cooperation is a common endeavour of peoples and countries of the South, born out of shared experiences and sympathies, based on their common objectives and solidarity, and guided by, inter alia, the principles of respect for national sovereignty and ownership, free from any policy conditionality. South-South cooperation should not be seen as official development assistance. It is a partnership among equals based on solidarity.” The document also acknowledged “the need to enhance the development effectiveness of

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5. TCDC/13/3, para. 8

6. General Assembly resolution 64/222

South-South cooperation by continuing to increase its mutual accountability and transparency, as well as coordinating its initiatives with other development projects and programmes on the ground, in accordance with national development plans and priorities.”

### **3. The Supporting Role of the Multilateral System**

In its Ministerial Declaration 2012, the Group of 77 stressed that the General Assembly High-level Committee on South-South Cooperation (HLC) is the central multilateral policy-making body in the United Nations system to review and assess global and system-wide progress on and support for South-South development cooperation, including triangular cooperation, and to provide overall guidance on future directions. The Ministers urged all partners interested in supporting South-South cooperation to be guided by the principles and objectives established in such internationally agreed documents as the Buenos Aires Plan of Action on Technical Cooperation among Developing Countries, adopted by General Assembly resolution 33/144 dated 19 December 1978, and the Nairobi Outcome Document on South-South Cooperation, endorsed by General Assembly resolution 64/222 dated 21 December 2009, as well as other relevant General Assembly resolutions. The Ministers, therefore, reiterated the Group’s position that any policy debate outside the United Nations system should be guided by the above agreed frameworks as well as the Yamoussoukro Consensus on South-South Cooperation.<sup>7</sup>

The United Nations’ system of agency-specific, region-focused, thematic or sectoral support to South-South cooperation is carried out by its various organizations, specialized agencies, regional commissions, as well as development funds and programmes, according to their respective mandates and areas of competence. For example, the United Nations Development Programme (UNDP) leads SSC in human development. Other United Nations organizations such as the United Nations Conference on Trade and Development (UNCTAD) leads the system’s support in promoting South-South trade and investment; United Nations Population Fund (UNFPA) SSC in population for development; United Nations Children’s Fund (UNICEF) in children; International Labour Organization (ILO) in social protection and decent work; International Fund for Agricultural Development (IFAD) in

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7. See [http://www.g77.org/ifcc12/Yamoussoukro\\_Consensus.pdf](http://www.g77.org/ifcc12/Yamoussoukro_Consensus.pdf)

financing agricultural development; Food and Agriculture Organization of the United Nations (FAO) in SSC in food security and agriculture; United Nations Educational, Scientific and Cultural Organization (UNESCO) SSC in education and culture; World Health Organization (WHO) SSC in health; United Nations Industrial Development Organization (UNIDO) in industrial development; United Nations Environment Programme (UNEP) in environment; United Nations Framework Convention on Climate Change (UNFCCC) in climate change; International Telecommunication Union (ITU) in telecommunication; the World Bank in facilitating South-South infrastructure financing, etc. Most of United Nations support to intra-regional SSC that is of a normative nature is provided by the regional commissions.

A number of United Nations agencies have also stepped up their efforts to further mainstream South-South cooperation in their policies, future strategic frameworks, operational activities, and budgets. UNDP's new Strategic Plan (2014-2017) has, for example, made South-South and triangular cooperation "core ways of working" in its programmes and operations at the global, regional, and country levels. The Medium Term Plan 2014-2017, the Programme of Work and Budget 2014-2015, and the new Strategic Framework of the FAO reflect South-South cooperation as a "key instrument for achieving organizational results." The Strategic Plan 2014-2017 of UNFPA includes South-South cooperation as a "focal strategy for development assistance." Similarly, South-South cooperation is emphasized in the new Strategic Framework: 2014-2017 of the United Nations Volunteers (UNV), incorporated into the ILO programme and budget for 2014-2015, and will be mainstreamed in the future programmes of UNIDO through its operational strategy.

In his recent report on South-South cooperation, the Secretary-General acknowledged the important role played by a number of United Nations specialized agencies, programmes, and funds in forging partnerships to scale up South-South cooperation. UNDP has continued to forge strategic partnerships with emerging economies and to establish centres for sharing South-South knowledge and experience. An innovative collaboration agreement signed between FAO, the Brazilian Agricultural Research Corporation (EMBRAPA) and the Brazilian Technical Cooperation Agency in 2013 has enabled experts from EMBRAPA to provide their technical expertise to developing countries

through FAO. UNEP has also scaled up its support to South-South cooperation in the context of the implementation of the Convention on Biological Diversity (CBD). UNEP launched its South-South Cooperation Exchange Mechanism that is linked with the CBD network of centres of excellence and supports the implementation of the Multi-Year Plan of Action for South-South Cooperation on Biodiversity for Development.

Paragraph 20(e) of the Nairobi Outcome Document requested United Nations funds, programmes and specialized agencies, as well as regional commissions, to help developing countries establish or strengthen existing South-South centres of excellence within their respective areas of competence, and enhance closer cooperation among such centres of excellence, especially at the regional and interregional levels, with a view to improving South-South knowledge-sharing, networking, mutual capacity-building, information and best practices exchanges, policy analysis, and coordinated action among developing countries on major issues of common concern. The same document encouraged such institutions and centres of excellence, as well as regional and sub-regional economic groupings, to establish closer links among themselves, with the support of the United Nations Office for South-South Cooperation, including its Global South-South Development Academy, Global South-South Development Expo, and South-South Global Assets and Technology Exchange.

The United Nations Office for South-South Cooperation (UNOSSC) is mandated by the General Assembly as a separate entity and coordinator for promoting and facilitating South-South and triangular cooperation for development on a global and United Nations system-wide basis. It has institutionalized its Multilateral South-South Support Architecture comprising the Global South-South Development Academy, the Global South-South Development Expo, and the South-South Global Assets and Technology Exchange



Global South-South Development Expo 2010, hosted by ILO in Geneva, Switzerland



H.E. John W. Ashe, Ambassador and Permanent Representative of Antigua and Barbuda to the United Nations and President of the seventeenth session of the High-level Committee on South-South Cooperation, addressing the opening segment of the Global South-South Development Expo 2012

(SS-GATE). The Academy, which provides knowledge products and services, has enabled development partners to gain access to more than 13,000 Southern experts and over 300 successful experiences in all areas of the Millennium Development Goals. With the co-sponsorship and active participation of 25 United Nations organizations, the 2012 Expo, hosted by UNIDO, once again served as a powerful United Nations system-wide platform for thinking as one, acting as one, and delivering as one when 1,000+ public- and private-sector South-South and triangular cooperation champions and practitioners showcased more than 60 successful and scalable solutions in sustainable development. The SS-GATE, with its current listing of over 4,000 transferable technologies in low-cost housing, agriculture, health, renewable energy, and the environment, has added a dedicated new service track to help match demand with supply of policy and technology solutions that could make significant contributions towards achieving the Millennium Development Goals and those to be set in the Post-2015 development agenda.



NERICA, or New Rice for Africa – a hybrid of Asian and African rice – is a high-yielding, drought-resistant and protein-rich variety that has contributed to food security and improved nutrition in several countries on the continent, including the Congo, Côte d'Ivoire, the Democratic Republic of the Congo, Guinea, Kenya, Mali, Nigeria, Togo and Uganda. Cultivating NERICA, farmers are able for the first time to produce enough rice to feed their families and turn a profit at market.

#### **4. Innovating Triangular Partnerships for Development**

The Nairobi Outcome Document also encouraged developed countries to support South-South cooperation under triangular cooperation through “direct support or cost-sharing arrangements, joint research and development projects, third-country training programmes and support for South-South centres, as well as by providing the necessary knowledge, experience and resources so as to assist other developing countries, in accordance with their national development priorities and strategies.”

Triangular cooperation involves Southern-driven partnerships between two or more developing countries supported by a developed country or countries, or multilateral organization(s) to implement development

cooperation programmes and projects. In many instances, Southern providers of development cooperation require the financial and technical support, and expertise of multilateral and/or developed-country partners in the course of assisting other developing countries. Developed countries are increasingly exhibiting strong support for this approach to development and a willingness to share their experience and lessons learned as long as the triangular cooperation process is led and owned by Southern actors in order to achieve development results.

The Japan International Cooperation Agency (JICA), for example, has a diversified portfolio of assistance programmes in all regions of the South, ranging from support for the Association of Southeast Asian Nations (ASEAN) University Network, to the development of earthquake-resistant housing in El Salvador and Mexico, to the strengthening of mathematics and science education in West, Central, East, and Southern Africa. The Asia-Africa Knowledge Co-Creation Program has grown steadily wider over the years. The Coalition for African Rice Development, a long-standing project that involves Japanese plant-breeding experts working with African scientists at several locations to develop breeds of rice suitable for prevailing conditions, will be strengthened in an ambitious effort to double the rice production in sub-Saharan Africa to 28 million tonnes over the next five years. The “Third Country Training Programme” in Malaysia is focused on “peace consolidation for multicultural nations.” At the fifth Tokyo International Conference on African Development held in June 2013, Japan reiterated its support for the economic growth of Africa by boosting trade, investment, and private-sector development with a combination of public and private resources worth approximately \$32 billion, including \$18 billion of ODA, in the next five years.

Under a triangular partnership modality, the United States Agency for International Development (USAID) committed \$5 million to the Sustainable Energy Fund for Africa, announced as part the USAID bid to free constraints on small businesses, most of which struggle with inadequate power. It also launched a major effort in January 2012 to move 30 percent of its funding to the private sector, entrepreneurs, and African CSOs. Other initiatives are aimed at supporting investment in African small and medium-sized enterprises (SMEs). This is part of an effort to promote private-sector-led development and to form innovative and high-impact public-private partnerships.

## **5. Concluding Remarks: Towards a Triple-win Scenario Moving Forward**

Through the Nairobi Outcome Document, developing countries have committed to developing their own “country-led systems to evaluate and assess the quality and impact of South-South and triangular cooperation programmes and improve data collection at the national level to promote cooperation in the development of methodologies and statistics to that end, as appropriate, and encourage all actors to support initiatives for information and data collection, coordination, dissemination and evaluation of South-South cooperation, upon the request of developing countries.” They also committed to enhancing their “national coordination mechanisms, as appropriate, in order to improve South-South and triangular cooperation through the dissemination of results, the sharing of lessons and good practices, and replication, including through the voluntary exchange of experiences for the benefit of developing countries, and according to their policies and priorities for development.”

In view of the above, developing countries would welcome the continued support from the United Nations system and traditional donor countries, through innovative triangular partnership arrangements, in order to (a) help developing countries, at their request and with their ownership and leadership, to develop capacities to maximize the benefits and impact of South-South and triangular cooperation in order to achieve their national development goals and internationally agreed development goals, including the Millennium Development Goals and beyond; (b) help enhance the capacities of developing countries to formulate development cooperation programmes, strengthen the capacities of regional and sub-regional organizations and conduct research to identify areas where South-South cooperation and triangular cooperation would have the greatest impact; (c) help developing countries establish or strengthen existing South-South centres of excellence, within their respective areas of competence, and enhance closer cooperation among such centres of excellence, especially at the regional and interregional levels, with a view to improving South-South knowledge-sharing, networking, mutual capacity-building, information and best practices exchanges, policy analysis, and coordinated action among developing countries on major issues of common concern; and (d) help such Southern national or regional centres of excellence and economic groupings establish closer

links among themselves, and with UNOSSC's Multilateral South-South Support Architecture.

In conclusion, the following value propositions are offered for consideration by partners in development in general and those committed to South-South cooperation and triangular cooperation in particular in realizing a triple-win scenario moving forward:

***Value propositions for traditional donors***

- Remain engaged with mid-income countries (MICs) to help them address internal inequality and common development challenges (MICs become positive forces for an inclusive globalization) – multilateralism;
- Be recognized part of the MIC's success (appealing to donor country's taxpayers);
- Leverage the institutional, technical, and human capacities in the MIC (of which they were part of their creation) and facilitate, also through leveraging MIC's own resources, the transfer of MIC capacities and experiences to low-income countries, to achieve economies of scale instead of reinventing the wheel;
- Help MICs to improve competitiveness in global economy and expand domestic market conditions to allow low-income countries to become part of their global market value chain.

***Value propositions for mid-income countries***

- Continue to receive official development assistance (ODA) under a new "aid provision": The Triangular Window (including money to help address international inequalities and other structural and systemic development challenges);
- Strengthen both institutional and management capacities of their development cooperation agencies and institutions to better deliver their global development cooperation;
- Market their successes, development solutions, expertise, and appropriate technologies to the global South and the larger international development community;
- Create new avenues and channels for South-South cooperation in the economic, social, and environmental fields;
- Achieve a wider outreach to the global South and greater visibility for their successes and development work.



***Value propositions for low-income countries***

- Receive a net gain of ODA from traditional donors channeled through the MICs;
- Receive a net gain of Southern grants and concessional resources from the MICs leveraged by traditional ODA;
- Gain more appropriate development knowledge and solutions, including appropriate technologies from the global South, especially from MICs;
- Access MIC markets (SS trade) and sources of financing (SS Foreign direct investment);
- Benefit from strong advocacy by MICs for more international assistance (“Towards Greater Solidarity” – beyond politics).

***Value propositions for the UN system and other multilateral institutions***

- Develop new legitimacy in MICs and rationale for new strategic partnerships with MICs;
- Continue to help MICs address internal inequality and other domestic development challenges;
- Bring the MICs into the larger development delivery value chain;
- Promote the MICs visibility and credibility in a multilateral setting;
- Help enhance the voice and role of the MICs in policy-making and governance of multilateral institutions;
- Make the MICs a strong ally in promoting and defending universal principles and values, including those enshrined in the United Nations Charter.

***Value proposition for other partners (private sector and civil society organizations)***

- Become a new conduit to exercise corporate social responsibility (CSR) domestically and internationally (helping to improve their branding and image);
- Improve knowledge of markets in other MICs and low-income countries (aimed to develop low-end supply chains);
- Improve knowledge and participation in domestic and international development initiatives (teamed up with peers in the North).

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# Chapter 2

## Green Economy Set to Strengthen South-South and Triangular Cooperation

Tomoko Nishimoto<sup>1</sup> and Nick Nuttall<sup>2</sup>

### 1. Introduction and Overview

There is increasing evidence that climate change and overfishing are threatening the survival of the ecologically rich coral reefs in the Asia-Pacific,<sup>3</sup> which in turn is having a ripple effect for the more than 360 million<sup>3</sup> people who depend on these resources for their food and livelihoods.

To address these challenges, countries in the region have sought advice and assistance from their neighbours, as well as international donors and organizations, and formed what is now known as the Coral Triangle Initiative on Coral Reefs, Fisheries, and Food Security. The six participating countries of this initiative — Indonesia, Malaysia,



An underwater scene from the Coral Triangle

Papua New Guinea, the Philippines, the Solomon Islands, and Timor Leste — are working together to promote marine protected areas, better fishing techniques, and sustainable tourism, work that is helping to safeguard their unique marine resources and future economies.

The Coral Triangle Initiative is just one example of how the global shift to a more inclusive and resource-efficient green economy is strengthening South-South and Triangular Cooperation, and how such partnerships are accelerating the transformation to a more sustainable society.

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1. Tomoko Nishimoto is Director and Special Adviser to the Executive Director on South-South Cooperation, UNEP.

2. Nick Nuttall is Director of Communications and Public Information, UNEP.

3. The Coral Triangle Initiative website: <http://www.coraltriangleinitiative.org>.

Whether it is a public-private initiative using the latest technologies to bring energy to the rural poor, or government-sponsored study tours demonstrating innovative strategies to promote sustainable agriculture, green economy activities are prospering as a result of South-South and Triangular Cooperation.

The United Nations system is dedicated to fostering these models of cooperation through knowledge sharing, best practices, and technical exchanges, as well as disseminating norms and standards. South-South and Triangular Cooperation often involves two or more developing countries coordinating with support or participation of a developed country or organization. As a result, developing and emerging countries in the South are creating new partnerships, capacities, efficiencies, and jobs as they develop their green economy pathways.

For example, the Global Efficient Lighting Partnership, “en.lighten,”<sup>4</sup> a public-private initiative in the South, involving all sectors of society — governments, civil society, academia, research organizations, international agencies, and the private sector — is successfully promoting sustainable practices that can be shared and adopted by other developing countries.

By transitioning to more energy-efficient lighting, countries can reduce carbon emissions and save billions of dollars in energy costs. Through regional cooperation and agreements, en.lighten is stimulating information exchange and policy alignment. For example, in Latin America and the Caribbean, it is estimated that 20 countries could save up to 4 per cent of their total electricity consumption by switching to compact fluorescent lamps, which could result in USD 4 billion per year savings for consumers in energy costs or the equivalent of carbon emissions from 4 million cars.

In the Middle East and North Africa, the en.lighten initiative secured the support of 16 countries to phase out general service incandescent lighting and transition to more efficient lighting products, which could save the region an estimated USD 3 billion a year in energy costs. In Southeast Asia, it is estimated such a move could save USD 1.6 billion a year.

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4. The Global Efficient Lighting Partnership website: <http://www.enlighten-initiative.org>.

Developing countries in the South are rapidly becoming major economic forces, and it is widely recognized that they have an opportunity to leapfrog their counterparts in developed countries, embracing the latest clean technologies and best practices, and avoiding investments in carbon-intensive infrastructures and wasteful production. The new green economy paradigm calls for a more inclusive and equitable society, and development cooperation is following these trends by expanding the cooperation models, capacity building, and knowledge sharing between Southern countries.

While such cooperation is not new, it is increasingly important in accelerating the greening of the global economy, as demonstrated at the BRICS Summit held in Durban in May 2013. There, Brazil, China, India, Russia, and South Africa further consolidated their economic relationship, which represents over USD 200 billion in trade value, and signalled their support for advancing toward a green economy.<sup>5</sup>

South-South trade represents nearly 40 per cent of global trade. Today, more than half of all developing countries trade with other developing countries, rather than developed countries, as in the past. This is a growing trend, up from 37 per cent in 2001.<sup>6</sup> It represents a huge opportunity for developing countries to benefit from new and greener market technologies and production processes, which can lead to the export of high-value goods and services, while avoiding the costly import of fossil fuels to satisfy their energy demand.

Furthermore, as many developing countries still have abundant natural resources, a shift toward a green economy will help them protect the resources on which they depend for food, energy, and their livelihoods. Recognizing this link, the United Nations Environment Programme (UNEP) and China's Ministry of Science and Technology are cooperating with several countries in Africa to promote better ecosystem management. By sponsoring training, scholarships, and studies, this tripartite programme is helping key stakeholders from Burundi, the Democratic Republic of Congo, Tanzania, and Zambia enhance their capacity for monitoring the shared water resources in Lake Tanganyika,

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5. Fifth BRICS Summit website: <http://www.brics5.co.za/>

6. World Bank, *Global Economic Prospects*, Vol. 7, June 2013.

which is threatened by pollution and intensive fishing.<sup>7</sup>

Likewise, by empowering local people, South-South and Triangular Cooperation is sparking a growing interest in sustainable development. The West African Regional Integrated Production and Pest Management Programme, which focuses on training facilitators to work with smallholder farmers to reduce their reliance on toxic pesticides, is further evidence of this approach. Coordinated by the Food and Agriculture Organization and funded by international donors, the programme has reached more than 100,000 farmers in Benin, Burkina Faso, Mali, and Senegal.<sup>8</sup>

Urban areas also present a challenge for South-South cooperation. The United Nations estimates that a majority of the population growth in the next 12 years will take place in developing countries. By 2050, 70 per cent of the global population will live in urban areas. Therefore, more cooperation, investment, and innovation are needed to create sustainable infrastructures that will support this growing population, including providing green jobs and sustainable transport, while using fewer resources. Because cities are centres of innovation and can be designed, planned, and managed to limit resource consumption and carbon emissions, urban areas will play a key role in the global green economy transition.<sup>9</sup>

As UNEP Executive Director Achim Steiner says, “Some of the most extraordinary answers and solutions to environmental sustainability and sustainable development in the 21<sup>st</sup> century are today emerging from the South.”<sup>10</sup>

Last year, the UN Conference on Sustainable Development (Rio+20) Outcome Document, *The Future We Want*, reiterated its support for such cooperation, highlighting “the positive experiences in some countries, including in developing countries, in adopting green economy policies

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7. UNEP-China Africa Cooperation on the Environment brochure:  
<http://www.unep.org/roa/portals/137/docs/UNEP-China%20flyer-WEB.pdf>.

8. SSC Mechanism website:  
<http://www.unep.org/south-south-cooperation/case/casedetails.aspx?csno=111>.

9. UN Department of Economic and Social Affairs (2012). *World Urbanization Prospects, the 2011 Revision*.

10. UNEP (2013). Website: <http://www.unep.org/south-south-cooperation/gssd/Default.aspx>.

... and welcomes the voluntary exchange of experiences as well as capacity building in the different areas of sustainable development.”<sup>11</sup>

The Rio+20 Summit also called on the United Nations to support interested countries in their transition to greener and more inclusive economies.

In response to this call for action, UNEP, together with the International Labor Organization, United Nations Industrial Development Organization, and United Nations Institute for Training and Research, created the Partnership for Action on Green Economy, or PAGE. The partnership aims to build on the existing initiatives and expertise of the four agencies to deliver a full range of integrated services and tools that will assist developing countries with their national green economy plans. This collective effort will also mobilize social awareness and training, foster policy development and implementation, and increase knowledge sharing and technological advances among developing countries.

Today, many southern countries are seizing the moment and leading the way to a green future. Their experiences and lessons to date will also be highlighted during the annual exposition on South-South and Triangular Cooperation, which is being hosted for the first time this year in a developing country — at UNEP headquarters in Nairobi, from 28 October to 1 November.<sup>12</sup>

Following are four examples of how UNEP is supporting South-South and Triangular Cooperation, in partnership with the public and private sector as well as non-government organisations, and targeting key economic sectors to advance the global green economy transition.

## **2. Case A: Creating Regional Capacity and Enforcement to Tackle E-waste in Africa**

### **2.1 Background**

In the past century, information and communications technologies (ICT) have enriched the way we live — from our health and education to our

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11. United Nations General Assembly. *The Future We Want – Outcome Document*. Adopted 27 July 2012 at the 123<sup>rd</sup> Plenary Meeting, New York.

12. UNEP website: <http://www.unep.org/south-south-cooperation/>.

governments and businesses. As a result, ICT has become an indicator of a country's economic and social development. While access to ICT has not always been equitable between developed and developing countries, evidence shows that developing nations are rapidly catching up.

In Africa, the use of electrical and electronic equipment is still low compared to other regions of the world, but it is growing at a staggering pace. The penetration rate of personal computers in Africa has increased by a factor of 10 in the last decade, while the number of mobile phone subscribers has increased by a factor of 100.<sup>13</sup> This demand for ICT has created new challenges, which need to be addressed and managed to ensure these countries receive the maximum benefits from this technology without causing additional threats to their environment and health.

A report by UNEP's International Resource Panel found global e-waste generation, such as dumped computers, printers, mobile phones, pagers, digital cameras, refrigerators, toys, and televisions, is growing by 20 to 50 million tons a year.<sup>14</sup> This electrical and electronic equipment can contain hazardous substances (e.g., heavy metals such as mercury and lead and endocrine-disrupting substances such as brominated flame retardants). Hazardous substances are released during various dismantling and disposal operations and are particularly severe during



E-waste dump sites

the burning of cables to liberate copper, and of plastics to reduce waste volumes. The open burning of cables is a major source of dioxin emissions, a persistent organic pollutant that travels over long distances that bio-accumulates in organisms up through the global food chain.

13. Secretariat of the Basel Convention (2011). *Where are WEEE in Africa?*

14. UNEP (2013). *Environmental Risks and Challenges of Anthropogenic Metals Flows and Cycles, A Report of the Working Group on the Global Metal Flows to the International Resource Panel.* Van der Voet, E; Salminen, R; Eckerman, M; Mudd, G; Norgate, T; Hischier, R.



In addition, the carbon dioxide emissions from the mining and production of the rare metals used in the equipment, alone, are estimated to be more than 23 million tons each year.

Electrical and electronic equipment also contains materials of strategic value, such as indium and palladium, and precious metals such as gold, copper, and silver. These can be recovered and recycled, thereby serving as a valuable source of secondary raw materials, reducing pressure on scarce natural resources, as well as minimizing the overall environmental footprint.

## **2.2 The E-waste Africa Programme**

In West Africa, countries lack the infrastructure and resources for the environmentally sound management (ESM) of e-waste, which arises when such imports reach their end-of-life. The United Nations estimates that domestic consumption makes up the majority (up to 85 percent) of e-waste produced in the region. The problem is further exacerbated by an ongoing stream of used equipment from industrialized countries, significant volumes of which prove unsuitable for re-use, and contribute further to the amount of e-waste generated locally.

To address these challenges, the Basel Convention, which regulates the trans-boundary movements of e-waste, initiated a four-year programme in West Africa to tackle the e-waste generated by electrical and electronic equipment (EEE). Through its efforts to build capacity and raise awareness at the national and regional level, this programme has also promoted South-South Cooperation, resulting in a Pan-African Call for Action.<sup>15</sup>

The Secretariat of the Basel Convention coordinated efforts with stakeholders in the region to enhance environmental governance and create favorable social and economic conditions for partnerships and small businesses in the recycling sector. More specifically, it focused on improving the level of information for decision-makers on flows of e-products and e-waste imported into West African countries; increasing the capacity of partner countries to manage the end-of-life

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15. Basel Convention, Pan-African Forum on E-waste, *Call for Action on E-waste in Africa*, March 2012. Website: <http://www.basel.int/Implementation/TechnicalAssistance/EWaste/EwasteAfricaProject/Workshops/PanAfricanForumonEwasteNairobiMarch2012/tabid/2656/Default.aspx>.

e-equipment and e-waste at the national level; investigating the feasibility of establishing environmentally sound materials recovery operations; and enhancing the capacity to monitor and control trans-boundary movements of e-waste and illegal traffic.

Numerous training workshops and outreach activities were organized between November 2009 and June 2012. At a regional kick-off meeting in Ghana, a needs assessment was undertaken on the capacity, cooperation, legal powers, and enforcement practices in Benin, Egypt, Ghana, Nigeria, and Tunisia. This resulted in a capacity-building programme to support the enforcement of relevant information and regional legislation related to the import of e-waste in African countries.

In 2010, a “train the trainers” programme on inspection and enforcement was held in Europe, in which 19 African officials, including many government officials, participated. Then, in 2011, national training workshops on inspection and enforcement were held with environment authorities, customs, police, and port authorities in select countries. Activities also highlighted the adverse impacts of illegal imports of e-waste on human health and the environment.

As a result, the participating countries decided to create a regional network to continue sharing information on enforcement. The first Pan-African Forum on E-waste was hosted by UNEP, in March 2012, with support from the Government of Kenya and private sector companies that included Dell, HP, Nokia, and Philips. The main objective of the Forum was to identify possible options for a sustainable solution to e-waste by developing a clear perspective on a framework approach for the environmentally sound management of e-waste applicable in the African context, as well as to acquire an understanding of needs for regulatory frameworks. The Forum sought to provide a platform to discuss ways to establish or strengthen national, regional, and international collaboration. It brought together 180 participants from over 35 countries, including representatives from 20 African countries, four countries outside of Africa, 13 intergovernmental organizations and UN agencies, 14 academic institutions, 22 civil society organizations, and 22 private companies.

The Forum adopted a *Call for Action on E-waste in Africa*, which outlines a common vision and set of priorities to support the development of a

regional approach for the legal trans-boundary movements and the environmentally sound management of e-waste for the African continent. This includes protecting human health and the environment, promoting opportunities for social and economic development, and establishing provisions to continue capacity building and training. At the Forum, UNEP Executive Director Achim Steiner stated:

“The effective management of the growing amount of e-waste generated in Africa and other parts of the world is an important part of the transition towards a low-carbon, resource-efficient green economy. We can grow Africa’s economies, generate decent employment and safeguard the environment by supporting sustainable e-waste management and recovering the valuable metals and other resources locked inside products that end up as e-waste.”

The four-year effort led by the Secretariat of the Basel Convention also involved its Regional Centres in Nigeria, Egypt, and Senegal, the Swiss Federal Laboratories for Materials Science and Technology (EMPA), the Institute for Applied Ecology (the Öko-Institut), the EU Network for Implementation and Enforcement of Environmental Law (IMPEL), and the Partnership for Action on Computing Equipment (PACE). Financial support was provided by the European Commission, Norway, and the United Kingdom, and the Dutch Recyclers Association (NVMP).

### **3. Case B: Building Capacities for National Satellite Forest Monitoring<sup>16</sup>**

#### **3.1 Background**

The UN-REDD Programme is the United Nations’ collaborative initiative on Reducing Emissions from Deforestation and forest Degradation (REDD)<sup>17</sup> in developing countries. Launched in 2008, the programme builds on the convening role and technical expertise of the Food and Agriculture Organization of the United Nations (FAO), the United Nations Development Programme (UNDP), and the United Nations Environment Programme (UNEP).

16. Inge Jonckheree of FAO and Alessandra Gomes of INPE contributed to this article.

<sup>2</sup>UN-REDD website: <http://www.un-redd.org/>.

<sup>3</sup>More information about this case study can be found on: <http://www.unep.org/south-south-cooperation/case/casedetails.aspx?csno=68>; and [http://www.un-redd.org/REDD\\_and\\_Green\\_Economy/tabid/55607/Default.aspx](http://www.un-redd.org/REDD_and_Green_Economy/tabid/55607/Default.aspx).

17. UN-REDD website: <http://www.un-redd.org/>.

The UN-REDD Programme supports nationally led REDD+ processes, and promotes the informed and meaningful involvement of all stakeholders, including Indigenous Peoples and other forest-dependent communities, in national and international REDD+ implementation. It is estimated that greenhouse gas (GHG) emissions from deforestation and forest degradation contribute up to 20 per cent of the world's carbon emissions. REDD+ includes the sustainable management of forests, and thus holds the promise of multiple benefits for climate, development, and conservation in the forest sector at national and global levels.

As countries advance their REDD+ readiness and develop national strategies to address drivers of deforestation and forest degradation, the cross linkages with the other sectors and themes within national development planning is clear. Thus, it is critical that REDD+ demonstrates links to sustainable development and poverty alleviation, for instance. Facilitating South-South Cooperation is also important, as evidenced by the UN-REDD's programme on National Forest Monitoring Systems Based on Remote Sensing and Geographic Information Systems.<sup>18</sup>

### **3.2 Scaling up national forest monitoring systems and capacity**

Since 2009, UN-REDD, FAO, and Brazil's National Institute for Space Research (INPE) have been working side-by-side to support the set-up of national satellite forest monitoring systems in interested UN-REDD countries. The concept took root in the framework of a Memorandum of Understanding signed between FAO and INPE, and has since included capacity building and joint training activities with numerous countries.

The implementation of REDD+ requires advanced methods for monitoring forest carbon stock changes. Current measuring, reporting, and verification (MRV) systems in many countries are not sufficiently accurate, or are simply non-existent. To this end, UN-REDD is collaborating with INPE to provide training and implementation assistance on forest monitoring technology, which was previously developed and deployed within Brazil. INPE's Amazon training center (CRA) in Belém, Brazil, is responsible for hosting the centralized joint trainings on the Brazilian satellite forest monitoring systems.

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18. More information about this case study can be found on: <http://www.unep.org/south-south-cooperation/case/casedetails.aspx?csno=68>; and [http://www.un-redd.org/REDD\\_and\\_Green\\_Economy/tabid/55607/Default.aspx](http://www.un-redd.org/REDD_and_Green_Economy/tabid/55607/Default.aspx).

The Brazilian satellite monitoring system is the only and most robust forest monitoring system in the world and has been providing official annual rates of gross deforestation to the Brazilian government since the late 1980s. In addition, since 2004, the system has provided monthly data on forest cover changes in Amazonia to the government control and enforcement agency, allowing appropriate regulating bodies to take early measures to prevent further non-authorized deforestation activities.

Training sessions with FAO began in October 2010, and subsequent technical meetings and training sessions followed in 2011, involving representatives from 30 to 40 countries. While INPE conducted the training on the Brazilian technologies, FAO has assisted with the in-country implementation.

South-South cooperation has been demonstrated at each stage of the project, and continues to be an important component in future plans to expand the initiative to partner countries.

For example, in October 2010, a pilot training course with representatives from Ecuador, Guyana, and Mexico was held at INPE's headquarters in São José dos Campos, Brazil, and focused on the applicability of the Brazilian satellite forest monitoring system, TerraAmazon, in partner countries. The goal of the collaboration in this capacity building effort was for the Brazilian trainers to teach the forestry and IT experts to use the TerraAmazon system, adapt it to their individual country needs, and ultimately enhance their existing national forest monitoring systems.

Another training course held in September 2011 involved representatives from the Democratic Republic of Congo, Papua New Guinea, and Vietnam, and consisted of computer science experts and GIS forestry specialists from national government institutions, who were responsible for the implementation of REDD+ and/or national forest monitoring. The course aimed to improve baseline knowledge of remote sensing, information technology and modelling techniques for a satellite-based forest monitoring system.

The curriculum included assessment of historical forest cover changes within their respective home countries. This dual discussion of Brazilian technologies alongside analysis of country-specific contexts

was particularly valuable for enhancing capacity to apply the technologies to a variety of regions and settings. In November 2011, a follow-up meeting with these countries was held in Rome.

Satellite forest monitoring systems are also valuable as part of the reporting of greenhouse gas emissions, and required under the Intergovernmental Panel on Climate Change (IPCC) Guidelines and Guidance. In this context, FAO, INPE, and UN-REDD have worked with the Democratic Republic of Congo and Papua New Guinea to launch their national forest monitoring systems in 2011. These portals allow all end-users to follow and access available forest data, which is frequently updated to reflect the national forest conditions within each country.

In 2012, FAO assisted with launching national satellite monitoring systems in Paraguay, Ecuador, and Zambia as well. Since 2013, FAO is also assisting Argentina, Cambodia, and Zambia. The ultimate goal of all these joint efforts is to build up the autonomous capacity of REDD+ countries to monitor their forest-related land cover, generating annual national data on deforestation, forest degradation, and forest conversions.

The joint collaboration with INPE has shown that capacity building in most of the REDD+ countries is essential. The transfer of technical skills, as well as the introduction of the national forest monitoring systems for REDD+, are a major challenge for these countries. However, this programme has helped to ensure that countries become autonomous in monitoring their forests for REDD+.

## **4. Case C: The Sino-Singapore Tianjin Eco-City: A Model for Sustainable Development<sup>19</sup>**

### **4.1 Background**

Urbanization has placed enormous pressure on our planet's resources and environment. With more than half the world's population living in urban areas and expected to grow, the need for sustainable urbanization has emerged as an economic and political imperative in both developed and developing countries.

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<sup>19</sup> More information about this case study can be found on: <http://www.unep.org/south-south-cooperation/case/casedetails.aspx?csno=114>.

It was against the backdrop of increasing international concern that the leaders of Singapore and China agreed to jointly develop an Eco-City, as a model for sustainable urbanization. This idea was first proposed by Singapore to China in 2007, and seven months later the countries' leaders signed a Framework Agreement to develop the Sino-Singapore Tianjin Eco-City.

Led by the two governments, the project has brought together the expertise and experience of Singapore and China in urban planning and sustainable development. At the same time, the development of the Eco-City is operated on a commercial basis by the private sector. This helps to ensure that this is a commercially viable project that can be easily replicated by other developing countries in other regions.

The short-term target is to complete a three-square km "start-up area" by 2013. The area selected was specifically chosen, as it was non-arable, short of freshwater, and included a 270-hectare wastewater pond. Developers wanted to ensure that it would not impede on existing farmland or biodiversity. When completed in the early to mid-2020s, it is envisioned that it will be a socially harmonious, environmentally friendly, and resource-efficient city for a population of about 350,000 people. Moreover, it is intended to serve as a practical model for sustainable development for other cities in China.

#### **4.2 Working in partnership to share best practices and costs: The Sino-Singapore Tianjin Eco-City**

China's rapid industrialization in recent decades has resulted in an equally rapid urbanization, as rural laborers seek new opportunities in the country's numerous cities. Yet, in tandem with China's new economic developments and rising living standards, environmental pressures, such as resource depletion, waste management, and, most noticeably, air pollution, have emerged. Given the



An image of the Tianjin Eco-City

increasing GHG emissions and the effects of climate change, the concept of eco-cities as a model of sustainable development has gained traction, and the Tianjin Eco-City project is one prominent example. Singapore's reputation as a clean, green Asian city, together with its track record of

close collaboration with China, made it a suitable partner for this undertaking.

As a government-to-government flagship project, Singaporean and Chinese officials regularly come together to share best practices in areas such as urban planning, environmental protection, water and waste management, and public housing. The following are a few examples of the cooperation that has developed between these two countries as a result of the Eco-City project, which can then be used as an example for further South-South cooperation around the region.

The Eco-City's master plan was jointly formulated by planning experts from the China Academy of Urban Planning and Design, the Tianjin Urban Planning and Design Institute, and the Singapore planning team led by the Urban Redevelopment Authority. The plan balances environmental, economic, and social needs when allocating land for various uses, and revolves around the principles of good land use and transportation planning. There has been no internationally agreed upon definition for what constitutes an eco-city.

To define the goals and measure the progress of the Eco-City, the Singapore and Chinese governments established a set of 22 quantitative and four qualitative Key Performance Indicators (KPIs), which cover various aspects of sustainable development. For example, they decided that 20 percent of energy utilization should come from renewable sources, such as wind, solar, and geothermal energy. KPIs related to the social aspects of building sustainable communities were also included. For instance, 20 per cent of the residential units will be developed as affordable public housing to cater to the lower income groups. This ensures that the Eco-City can provide affordable homes for all segments of society.

Another KPI in the Eco-City calls for 100 per cent of all buildings to be green. China and Singapore jointly developed a Green Building Evaluation Standard (GBES) to evaluate the buildings in the Eco-City. This combines the best features of Singapore's Green Mark and China's Green Star system. GBES buildings are designed with six principles in mind: to save energy, save materials and water, facilitate efficient operations and management, and provide a high quality and an eco-friendly environment, both indoors and outdoors.



In addition, Singapore's National Environment Agency (NEA) has worked closely with the Eco-City Administrative Committee (ECAC) to develop an integrated environmental and water quality monitoring system for the Eco-City. Both entities want to ensure that the Eco-City's various environmentally related KPIs, such as treatment of hazardous waste, noise pollution levels, ambient air quality, carbon emissions levels, and overall recycling rates, are met. Furthermore, a range of financial tools and incentives have been put in place to attract international companies to the Eco-City. For example, the Eco-City is the first and only city in China that enjoys voluntary foreign exchange settlement. This allows international companies to avoid financial losses from fluctuating exchange rates. International Enterprise Singapore, the government agency spearheading the overseas growth of Singapore-based companies and promoting international trade, has also committed USD 9.5 million from 2012 to 2016 to assist eligible Singapore and Singapore-based companies interested in investing in the Eco-City.

The Tianjin Eco-City is still a work in progress and it is too early to draw any conclusive lessons learned. However, it is increasingly recognized that sustainable cities are viable and attractive propositions, which do not need to be financially prohibitive for developing countries. There are many cost-effective solutions for developing Eco-Cities, if sustainability can be integrated into the city's development plans right from the start.

Beginning with a well thought out master plan can encourage residents to make choices that are environmentally friendly but not unnecessarily burdensome in the future. This could include building pleasant pedestrian walkways and making public transport convenient and efficient to reduce reliance on private vehicles, as well as help lower greenhouse gas emissions.

In constructing buildings, many passive design strategies can be adopted to make the buildings greener without adding much to costs. For example, the building form in the Eco-City will be kept compact to maximize spatial and energy efficiency. Through simulations, homes are oriented toward certain directions to ensure that they receive at least two hours of sunlight every day, even during the cold winter months. This not only saves electricity, since the use of heating/ lighting can be reduced, but it also ensures that users' comfort levels can be better met.

Also, the Tianjin Eco-City has demonstrated that public-private partnerships can be harnessed to develop practical and affordable urban environments, creating a winning situation for all. In order for such projects to be successful, however, it is important that they are backed by strong political leadership and a resolve to channel public resources so that they create the right conditions to enable private, green investment. The Tianjin Eco-City project has opted for cost-effective and practical improvements that can be scaled up and replicated by others.

### **5. Case D: Feed-in Tariffs Promote Biomass-based Cogeneration in East Africa<sup>20</sup>**

With support from the Cogen for Africa Project, the James Finley Ltd. Tea Estate is successfully running a biomass-based cogeneration plant to power its processing equipment, while using the heat from the facility to dry its tea. Excess electricity generated by the cogeneration plant is then used to provide electricity to its employees for their housing, medical, and educational facilities. In addition, sustainably managing the estate's wood plantation to feed the cogeneration plant requires a substantial workforce, creating jobs for the local community.

This case illustrates how new technologies are creating opportunities to build low-carbon, green economies, which contribute to sustainable development and poverty eradication.

Cogeneration, sometimes known as combined heat and power (CHP), is the use of a power plant to simultaneously generate electricity and thermal heat. In contrast to conventional power generation, which normally has fuel efficiency on the order of 35 per cent with the rest of the fuel lost as wasted heat energy, cogeneration captures this waste energy as useful heat. This increases the fuel use efficiency to over 80 per cent, thus enhancing the overall energy system efficiency and making it possible to export any excess-generated power to the national grid.

Power purchase agreements, or feed-in tariffs, create conditions for enterprises to sell independently generated electricity back to the grid, and in many cases receive a premium from the utility. Efforts to maximize electricity production output to the grid encourage enterprises

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20. More information about this case study can be found on: <http://www.unep.org/south-south-cooperation/case/casedetails.aspx?csno=56>.

to invest in larger cogeneration facilities, and also to increase efficiency.

The James Finley tea company illustrates how the Cogen initiative is helping private-sector agro-processing industries across East Africa realize the potential economic and environmental benefits of efficient cogeneration systems. In this case, the Cogen initiative provided technical support and financing for the installation of the cogeneration facility at the tea company, and is helping to assess the feasibility of a larger cogeneration plant so the facility can become grid-independent.

The Cogen for Africa initiative has drawn on the unique technical and policy expertise of Mauritius, where over half the nation's electricity comes from cogeneration facilities – a significant achievement for an island that consumes ten times more electricity per capita than Kenya.

One of the key drivers of the Mauritius cogeneration success was the introduction of a feed-in-tariff for excess electricity generated by the sugar companies and sold to the national grid. The successful deployment of cogeneration in Mauritius has provided confidence to prospective investors and policy makers considering similar efforts.

Building on an innovative South-South exchange platform, the Cogen for Africa project has been instrumental in promoting feed-in-tariffs for biomass-based cogeneration throughout the region. This positive experience has contributed to the development of feed-in-tariffs in Malawi, Tanzania, and Uganda, and Ethiopia is also considering implementing a similar model.

Since the project began, the Cogen initiative has assisted with the installation of the first-ever advanced model cogeneration facilities in Kenya's tea sector and in Uganda's sugar industry. In the case of Uganda, the cogeneration plant not only meets all the energy needs of the country's largest sugar factory, the Kakira Sugar Company, but also sells excess clean electricity to the national grid, which displaces higher priced and polluting fossil fuel-based electricity.

Thus, this experience demonstrates intrasectoral cooperation and knowledge sharing. As a result, there is growing interest in other sectors, such as the flower industry in Kenya, to also explore its use.

The Cogen for Africa initiative is supported by a group of international organizations, including the African Development Bank, Global Environment Facility and UNEP, as well as the Kenyan non-government organization, Energy, Environment and Development Network for Africa (AFREPREN/FWD),



Transmission lines in Kenya

and it has produced some important lessons for future public-private endeavours. For example, business transactions between countries in the South can result in significant technology transfer between firms, thus reducing costs and increasing competitiveness. Also, as we have seen, one innovating company within a sector may stimulate adoption of similar practices among other sectors and its competitors.

While countries can learn from the policy and technical successes of other countries, these connections are not always made by the markets or enterprises themselves. In this instance, the NGO, AFREPREN/FWD, has played a key role as a facilitator in sharing Mauritius's experience with stakeholders in Kenya and throughout the region.

In addition, the co-financing of feasibility studies has been instrumental in ensuring the support of these projects. By nature of their scale and clout, international organizations can help mobilize the resources required to start-up and scale-up these efforts. Furthermore, it has been shown that companies are more willing to invest in feasibility studies if they share some of the financial risk with an international institution or national partners.

Finally, closer interaction among African countries, particularly in the context of sub-regional groupings, such as the East African community and the Southern African Development Community (SADC), can provide a supportive environment for replicating innovative and well-documented policy measures in other countries, as demonstrated by the Cogen initiative.

## 6. Final Remark

All of these initiatives demonstrate the positive impact that South-South Cooperation and Triangular Cooperation is having on greening national

economies, as well as highlight the opportunities for these countries to achieve their sustainable development aspirations.

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# Chapter 3

## Catalyzing an Inclusive Green Economy through South-South and Triangular Cooperation: Lessons Learned from Three Relevant Cases

Akio Hosono

### 1. Introduction

In this paper, I contend that triangular cooperation (TrC) has considerable potential as a vehicle we can utilize in efforts toward realizing an “inclusive green economy.” This argument is supported by three sub-contentions. The first has to do with the understanding or definition of a green economy. Below, I contend that a green economy must be fundamentally defined as a pro-poor concept, and that it must inherently be an “*inclusive*’ green economy.” Second, I argue that the realization of an inclusive green economy requires innovative solutions, based on the wisdom and knowledge of local people, and yet supported by solid scientific knowledge and technological foundations. And third, I argue that for the creation of such innovative solutions leading to an inclusive green economy, TrC can provide the ideal opportunity for tapping our hidden potential for dealing with the challenges. I will demonstrate these claims by referring to three TrC projects: two in Latin America and one in Africa.

#### 1.1 Inclusive green economy

A ‘green economy’ is defined by the United Nations Environment Programme (UNEP) as one that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities (UNEP, 2010). Therefore, a ‘green economy’ is a pathway to sustainable development and poverty reduction as highlighted by UNEP’s report on the green economy prepared for the Rio+20 Conference in Rio de Janeiro in 2011 (UNEP, 2011).

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There is a close relation between the transition to a green economy and the eradication of poverty, as well as inclusive development. Productive sectors like agriculture, forestry, fishery and water management are sectors with high potential for poverty reduction as well as possible areas for a green economy. Nevertheless, the transition to a green economy will not automatically address all poverty issues. Or, in other words, the transition to a green economy will not be realized without people's support and cooperation, and hence it needs to contain a poverty-reduction orientation if it is to succeed. Thus, as UNEP correctly points out, "a pro-poor orientation must be superimposed on any green economy initiative" and, furthermore, "a green economy must not only be consistent with [the] objective [of MDGs], but must also ensure that policies and investments geared towards reducing environmental risks and scarcities are compatible and ameliorating global poverty and social inequality" (UNEP 2011, 20). Therefore this paper uses the term "inclusive green economy" to make explicit the inherent needs for a green economy to have a pro-poor orientation.<sup>1</sup>

## 1.2 The cases

This paper considers three projects broadly categorized as "sustainable and inclusive development" and related to the areas of agriculture, forestry and water management, to obtain insights into how to achieve the dual objective of reducing environmental risks and poverty and inequality or to realize, according to the definition given above, an inclusive green economy. This paper aims to analyze how a pro-poor orientation was superimposed on green economy initiatives in these projects. In particular, we will discuss how innovative solutions were created during the process toward the attainment of both these goals. We will also pay attention to the advantages of South–South/triangular cooperation in creating and sharing such solutions with other countries facing similar challenges.

All selected cases are related to forests in tropical regions, while they have different climatic and topographic conditions. Two cases, the Panama Canal watershed and the Amazon rainforest, are in the humid

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1. "Green economy" or "green growth" does not always include an inclusiveness and poverty reduction perspective. A study by the Asian Development Bank (ADB) and ADB Institute refers to "low-carbon green growth" as follows: "An avenue toward development that decouples economic growth from carbon emissions, pollution, and resource use, and promotes growth through the creation of new environment-friendly products, industries, and business models that also improve quality of life" (ADB and ADBI 2013, ix).



tropical zone, while the third case, in Kenya, is mainly located in an arid or semi-arid zone. Topographically, the Panama Canal watershed is in mountainous areas while the Amazon rainforest is located in low, flat land. In contrast to the other two cases Kenya contains both low and high lands. Hence, all these regions face different risks of environment deterioration. However, they face common challenges to achieve simultaneously the conservation of the environment and improvement of livelihoods of those who live in these regions.

### **1.3 Innovative solutions**

In this paper, “innovative solutions” are defined as ways and means to cope with the obstacles, constraints and other difficulties related to challenges to an “inclusive green economy,” including technological and institutional innovations, and good practices in the field to implement and disseminate such innovations. “Innovative solutions” could include a wide range of ideas, but this paper sees those as of particular importance that have been developed in the context of the South to address the challenges it faces and had not been available elsewhere.

In the Panama Canal watershed, innovative solutions were identified to promote the transition from slash-and-burn farming to sustainable farming to produce staple foods and to improve soil fertility. The solutions adopted included the use of paddy rice production (wet rice culture), organic agriculture, contour line cultivation, and alley cropping. Although most of these individual technologies and practices are not in themselves innovative, they are carefully structured combinations of them, coupled with institutional innovations, which resulted in innovative solutions. These ecologically friendly solutions enabled, through the increased production of staple foods and other crops, improvement of the livelihood of farmers and the alleviation of poverty. In the case of the Tomé-Açu agroforestry model in the Amazon rainforest, the key elements have included an innovative combination of crops and trees and the sequence in which they have been planted. The author regards this model as innovative, because it came up with a way to assure the coordinated succession of productive plants and trees, or healthy reforestation (by promoting the reproduction of plants) in such a way that water and nutrient absorption by different kinds of plants and trees is self-adjusted to be optimal, that shading of higher plants protects smaller plants, and that crops provide farmers steady annual income.

Throughout social forestry projects in Kenya, with the Kenya Forestry Research Institute (KEFRI) as an implementing agency, basic tree nursery and tree planting technologies in arid and semi-arid regions were developed and core farmers were fostered as the base for the extension of the model developed under the Kenya–Japan technical cooperation projects. For the extension of this model, the Farmers Field School (FFS) approach, an existing proven extension approach in the agricultural sector, was applied across the forestry sector through innovative adjustments to the methodology used. Through the FFS, techniques such as seedling production, fruit tree planting (mango, grevillea, and others), poultry raising, vegetable cultivation, utilization of compost, and creation of woodlots were disseminated.

#### **1.4 Inclusiveness through empowerment and social capital**

While, as discussed above, innovative solutions in terms of technology and institutions are important factors in achieving an inclusive green economy, they are not a sufficient condition for the achievement of our goal. To create a truly meaningful impact, they should be effectively practiced by farmers, foresters and community members with their capacity, ownership and social capital, if the goal is a transformational impact at the country level or a full-fledged scale-up.<sup>2</sup>

The corollary of this recognition is that the innovative solutions should be assured and enhanced through the empowerment of farmers and through their community and its organizations with enhanced social capital. This is related to both the capacity and ownership of farmers as the main actors in the green economy on the one hand and dissemination of innovative solutions on the other. Innovative solutions alone, if not practiced and disseminated, cannot address the challenges facing a green economy.

Such developments are apparent in each of the three case studies discussed in this paper. In the case of Panama, the spontaneous creation by farmers of the Farmers' Association of the Upper Panama Canal Watershed symbolizes the farmers' empowerment and their enhanced social capital. In the case of the Amazon rainforest, the social capital generated and maintained by an agricultural cooperative has been a critical component in the success of farmers. It has supported the process of development of the Tomé-Açu agroforestry model, especially

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2. Regarding this view on scaling-up, see Chandy et al. (2013), 7.

by serving as a forum for sharing knowledge and by marketing agroforestry products. In the case of Kenyan social forestry projects, the Farmer Field Schools (FFS) have developed ownership, strengthened communities, and increased farmers' capacity through knowledge about forestry.

### **1.5 The advantages of South–South and triangular cooperation**

Each of the three cases discussed below tackles areas which are affected by particularly severe development challenges and constraints. In these areas, the simple transfer of knowledge or technology developed in the North does not work. In these cases, in place of knowledge transfer from outside, an endogenous capacity development (CD) process must take place, based on the efforts of the local people to find solutions through mutual learning and knowledge co-creation. This process must be led by the initiatives of farmers and their communities, but can also include government organizations and research institutions as well as external actors, which can act as supporters to the local residents' initiatives.<sup>3</sup> In the three cases, innovative solutions have been achieved through this type of process, which depended on both knowledge co-creation in the field and academic research by supporting actors with a long-term commitment. Through such processes, the institutions that played a major supporting role gradually developed their own capacity, eventually growing into what can now be called Centers of Excellence (CoE) in their respective areas.

South–South cooperation and triangular cooperation (SSC/TrC) could provide an effective approach to promote the abovementioned innovative solution.<sup>4</sup> In this approach, CoEs, which have contributed much to the achievement of innovative solutions over a period of many years, played an important role. For example, pivotal countries' CoEs were quick to become acquainted with the conditions, environment, and challenges of partner countries, and establish stronger networks of professionals, researchers, and practitioners from countries participating in SSC/TrC. In this respect, CoEs in the South have great advantages over similar institutions in the North, which tend to lack such knowledge and relevant resources. Thus, the SSC/TrC modality assures mutual learning and trust among participants and the organizations to which they belong.

3. As for capacity development, see Hosono et al. (2011)

4. As for South–South and triangular cooperation, see Hosono (2013).

### **1.6 Structure of the paper**

The subsequent sections 2, 3 and 4 will look, respectively, at the cases of the Panama Canal watershed, the Amazon rainforest and Kenya's social forestry from the perspectives as outlined above. The sections will detail, in the case of each project, the challenges faced, innovative solutions developed, and factors observed related to inclusiveness, social capital and empowerment of poor communities in the process of efforts toward an inclusive green economy. Each section will then look at the features of South-South/triangular cooperation to see the contribution it made to sharing innovative solutions with other countries. Concluding remarks, based on the findings of these case studies, will be presented in section 5.

## **2. From Slash-and-burn Farming to Sustainable Agriculture: Panama Canal Watershed Conservation**

The case of Panama Canal watershed conservation is important from the abovementioned challenges to attain both conservation of the environment and inclusive development. In Panama, there had been concerns about water, a key natural capital, for the Panama Canal, and the problem of how to conserve the watershed in the area while reducing poverty at the same time became a critical issue for the country.

### **2.1 Challenges**

Land reclamation in the Panama Canal watershed is progressing because of recent increases in population in the area. Consequently, there are fears that forest degradation and a decline in the replenishment of water-source functions in the watershed will have an impact on the operation of the Panama Canal.

Since the 1950s, the Panama Canal watershed has been experiencing deforestation resulting from a number of factors, including expanding farmland and pasture, burning and subsequent extensive pasturage, clearing associated with slash-and-burn farming, and overexploitation. Forest degradation, as exemplified by deforestation, soil degradation, soil erosion, and the loss of biodiversity, is a major environmental concern on the development agenda for Panama. There are concerns that a fall in the capacity for water-source conservation/recharging as a result of forest degradation is affecting navigation along the Panama Canal.

El Niño in 1997 strongly raised concerns about environmental conservation and the Panama Canal navigation during the dry season. These circumstances prompted the Panamanian government in 1997 to establish a law concerning land use planning in the Panama Canal watershed. Among other targets, this law called for reducing the proportion of pasture from 39 percent in 1995 to 2 percent and increasing that of afforested land from 0.5 percent in 1995 to 23 percent for the purpose of forest conservation and appropriate land use.

## **2.2 Innovative solutions**

Attempts to achieve these targets led the National Environment Authority (ANAM), which was reorganized from the National Natural Resources Institute (INRENARE) in 1998, to formulate administrative guidelines on the relevant policy issues. The guidelines included a plan to promote participatory forest management whereby farmers in the watershed would understand the importance of forest conservation and practice appropriate land use. In this context, Panama–Japan technical cooperation on the Panama Canal Watershed Conservation Project (PROCCAPA) began in 2000.

According to a report on this project, the conversion from slash-and-burn farming to sustainable farming could be facilitated through the following three approaches (JICA 2004, 33): (1) converting to a more effective alternative farming method to produce staple foods; (2) increasing cash earnings to a level sufficient to purchase staple foods; and (3) abandoning agriculture completely. Of these alternatives, the project considered the first one to be the most realistic one. In this regard, paddy rice production (wet rice culture) was one of the most effective alternatives for farmers to turn from their slash-and-burn farming to more sustainable agriculture to produce their staple crops. At the same time it is crucial to improve and maintain soil fertility in order to produce considerable increases in the productivity of the land through the introduction of compost and a number of other improvement methods.

Forestation and reforestation were also promoted. This involved the planting of three types of trees: trees for timber, fruit trees and trees for medicinal use. The planting of trees for timber had a number of environmental benefits: the improvement of soil, the conservation of the watershed for small dams constructed by farmers, for the production of charcoal and the avoidance of landslides (JICA 2005, 26). Organic

agriculture was also encouraged, including the experimental introduction of several different materials: *bokashi* fertilizer, *mimizu* compost, natural insecticides and so forth. Environmentally friendly cultivation methods were also introduced, including contour line cultivation, alley cropping (different crops planted in parallel alleys), the combination of coffee with laurel trees and so on. Charcoal kilns and ponds for tilapia culture were also introduced.



Seed beds in a farmer's community  
(El cacao district, municipality of Capilla)



Preparation of contour line cultivation on farms  
(El cacao district, municipality of Capilla)



Training for rice planting  
(El cacao district, municipality of Capilla)



Training in burning wood to produce charcoal  
(El cacao district, municipality of Capilla)

### 2.3 Inclusiveness through social capital and empowerment

The adaptation of these technologies was carried out jointly by farmers and other stakeholders in the Panama–Japan project. However, the leading role was played by farmers. In this process, the empowerment and enhancement of consciousness of individual farmers and their organizations were remarkable, a point highlighted in the project's evaluation report (JICA 2005, 60): “the most significant impact is that the Farmers' Association of the Upper Panama Canal Watershed (APRODECA, in Spanish, Asociacion de Productores y Productoras de la Cuenca Alta del Canal de Panama) was created spontaneously by farmers.” In the words of the report: “Group organization strategy works as the mechanism for expansion of the techniques that is a part of farmers’

empowerment. For example, the magnitude of training was multiplied considerably by the group activities.” The report emphasized that group organization strategy contributed to the “creation of social capital.”

There was an increase in farmers’ consciousness of their situation. The report notes that: “they became aware of the importance of reforestation and are implementing small-scale tree planting in water source areas and for the production of firewood, charcoal and wood vinegar to improve the quality of their life. In addition, farmers become aware that practicing the new techniques instead of slash and burn contributes to the protection of their environment and watershed conservation” (ibid. 63). An empirical study highlighted: “Female group members developed more social capability than technical capability and male group members developed more technical capability than social capability. This may be caused by traditional responsibility sharing in farming and natural resources conservation activities” (Fujishiro and Amano 2008 55). The major activities to develop social capabilities were gender, self-esteem and mutual help, whereas the major activities to develop technical capabilities included agroforestry, organic agriculture and silviculture.

There were indeed increases in the level of women’s participation and their empowerment was attained throughout this project. The report drew attention to the active participation of women as equal partners in the groups (JICA 2004, 30). Also noteworthy was men’s help with household chores – something that was not common previously. This process is explained eloquently in an interview given in 2003 by a woman who participated in the project. “When slash and burn was practiced, farms were so far and steep that it was difficult for us, women, to participate in farming. Therefore, we depended on men for food production. In contrast, in paddy rice and other crop farming, which are promoted by the project, farms are located near our houses and the work is not so hard, so we women can participate. We would like to engage more in production work and improve our livelihood. Therefore, we want to introduce every possible improvement to our farms” (ibid., 30). The ANAM has properly evaluated the project outputs, studied an appropriate post-project framework, and formulated a plan to build on these outputs. Mass media such as TV programs, newspapers and radio introduced the PROCCAPA project on a nationwide basis. On a broader scale, *National Geographic*, which has a global reputation, has written about the project (JICA 2005. 60).

In the bulletin of the Panama Canal Authority (ACP), the administrator of ACP and other government officials all agreed that experience gained from the project could be put to good use in other parts of the Canal watershed. The ACP administrator was quoted as saying that was considering applying this model to other regions. The Panamanian government is considering granting land certificates to small farmers involved in the project through the Inter-institutional Commission of the Canal Watershed (CICH).

As one of the post-PROCCAPA projects, the Project for the Participatory Community Development and Integrated Management of the Alhajuela Lake Subwatershed (Alhajuela Project) was implemented by ANAM and JICA between 2006 and 2011.

#### **2.4 South–South/triangular cooperation**

Through SSC/TrC, Panama's experience and knowledge are shared with other countries that face similar challenges. For example, in Honduras, the watershed area of the El Cajon Dam was seriously affected by environment deterioration. The importance of this dam for this country is equal to that of the Panama Canal watershed for Panama, because the hydroelectric power generated by the El Cajon Dam covers 25 percent of electricity demand in Honduras. Therefore, the sustainability of the dam's watershed and the inclusive development of poor farmers remain urgent concerns.

In the El Cajon Dam watershed area, economic activities, especially agriculture and livestock production, have expanded, due to population increases. This has caused a reduction in forest coverage, a deterioration in water quality, soil deterioration and sediment accumulation. The challenge here is similar to that found in the Panama Canal watershed: to achieve an equilibrium between the environment and the improvement of the livelihood of communities and to avoid environmental deterioration.

Given the similarities between the El Cajon Dam watershed area and the Panama Canal, Panama's experience could prove very useful for Honduras. Experts from Panama who worked on PROCCAPA have participated in assessments of the Honduras case and in the formulation of a new project to address the challenges facing the El Cajon watershed area. In this process, the experience and technologies of Panama have



been taken into account.

In Paraguay, virtually all power supply comes from the generation of hydroelectric power. The oldest power plant in the country is the Acaray Power Plant, built in 1968, and which remains an important plant for Paraguay. In order to adjust the summer water levels for the Acaray Power Plant, the Yguazu Dam was built in 1976, leading to the formation of Lake Yguazu. The government of Paraguay plans to construct a hydroelectric power plant at this lake. However, “the destruction of ecosystem caused by deforestation in the Yguazu watershed attracted immigrants who began large-scale farming in the 1970s, making matters worse to the present day” (JICA 2012, 1). “There is an urgent need to address the problems of soil erosion due to deforestation, the environmental effects of sediment deposition into Lake Yguazu, and the negative impacts on the livelihoods of indigenous and small-scale farmers in its watershed” (ibid., 1). Efforts to address this challenge have included the formulation of the Project for Strengthening Integrated Management of Lake Yguazu Watershed.

As the challenges faced by the Lake Yguazu Watershed face are similar to those facing the Panama Canal Watershed, experience and innovative solutions were taken into account in the process of formulation of this project in Paraguay, especially as regards visions and directions of watershed management (JICA 2012, 2). Expert from Panama who worked on PROCCAPA has participated in assessing the Paraguay case and in the formulation of the project to address the challenges to the Lake Yguazu watershed area. Throughout this process, the experience and innovative solutions including technologies and good practice established in Panama have been taken into account.

In this way, two unique triangular cooperative activities, Panama/Honduras/Japan and Panama/Paraguay/Japan, took place, both of which took advantage of Panama’s expertise in this area, with the effective engagement of experts from Panama as “third country experts.”

### **3. Agriculture that Cultivates Trees and Forest: Innovative Agroforestry in the Amazon Rainforest**

#### **3.1 Challenges**

Tropical rainforests, a ‘natural capital’, are extremely important for a

green economy. They are very rich in biodiversity and function as huge reservoirs of carbon dioxide, but are now increasingly becoming endangered. Indeed, significant losses have already occurred worldwide. Challenges are at least threefold: (1) illegal logging be stopped to avoid further destruction of the rainforests; (2) sustainable and inclusive agroforestry be introduced and established; and (3) the lost forest be regenerated.

Brazil's forest area is 520 million hectares, where the 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.

One of the major turning points in Brazilian environmental policy was the incorporation of environmental issues into the new federal constitution formulated in 1988. In 2003, the "Action Plan for Protection and Control of Deforestation in the Amazon (PPCDAM)" was announced as a major policy and action plan. This aimed to reduce the deforestation ratio in the Amazon through initiating a partnership between federal organizations, state governments, and citizens' groups. Thanks to this policy and related efforts, there has been a decrease in the level of illegal deforestation in the Amazonian rainforest, which reached its lowest-ever point in the period between 2009 and 2011.<sup>5</sup>

On the other hand, regarding the other two challenges mentioned

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5. One major reason that illegal logging is difficult to stop is because rainforests are both vast and hard to access and patrol. However, Brazil's National Institute for Spatial Research, the Brazilian Institute of Environment and Renewable Natural Resources (IBAMA), the Japan Aerospace Exploration Agency (JAXA), and JICA have together achieved a great breakthrough in patrolling using satellite monitoring. Although the Brazilian satellite monitoring system was very advanced, since Brazil used optical sensors, observation was hindered by the heavy clouds often present during the rainy season, when most illegal logging took place. Since then, the observation system has improved dramatically with the use of Pulsar radar mounted on an advanced land-observing satellite (ALOS) of JAXA, a system that is unaffected by clouds and that operates 24 hours a day regardless of the weather. JAXA began providing satellite images to the Brazilian institute in 2007. The institute relays this information to the federal police and to the Chico Mendes Institute for Biodiversity Conservation, both of which are involved in monitoring and managing the Amazon. Thanks to improved real-time data, Amazon deforestation has been decreasing, reaching its lowest ever point from 2009 to 2011. See Hosono (2013). As for sharing Brazil's experiences and innovative solutions, based on Pulsar radar on the ALOS, with other countries that face similar challenges through SSC/TrC, see Aida and Kobayashi (2012).

above, important progress has also been achieved. Agroforestry has been a key to this progress, as is explained later. In the mid-1990s, when forest clearing sharply increased in the Amazon, agroforestry was often perceived as a way to slow deforestation by breaking the predominant slash-and-burn cycle practiced by most farmers in the region (Smith et al. 1998, 1). Shifting agriculture was thought to account for about one-third of the deforestation in Amazonia, while cattle ranching was responsible for at least half of the forest retreat in those years. (Serrao et al. 1996, cited by Smith et al. 1998) It was common practice for illegally deforested land to be used for a number of years as pasture for cattle ranching and for other purposes, and for the land then to be abandoned when its fertility is almost lost. Therefore, the establishment of sustainable and inclusive agroforestry for small farmers, on the one hand, and the regeneration of abandoned land, also by agroforestry, which can be defined as ‘an agriculture that cultivates trees and forest’, on the other, are major challenges in the Amazon rainforest.

### **3.2 Innovative solutions**

In Tomé-Açu, in the state of Para in the Amazon region, crop diversification and critical production experience have led to the development of important local ecological knowledge and an agroforestry model (hereinafter referred to in this article as the Tomé-Açu model) that is well suited to the Amazonian environment, according to, among others, a study by Jessica Piekielek (2010, 20). This study highlights the model’s main characteristics: “The basis of this model is that production is most successful when it mimics some of the important natural processes of the tropical forest. Crops are interplanted, grown with associated crops that complement each other by providing shade and that allow farmers to focus intensively on smaller plots of land. Crops are planted to establish a series of successive harvests. For example, a succession might begin with pepper and then be coupled with shade-giving crops like cacao and cupuacu. Among these crops, farmers plant slower-growing trees for high-quality timber. Combinations include native tropical fruits like açai, cacao and passion fruit, and cupuacu and imported crops like black pepper and African oil palm. Crops are intensely fertilized with a variety of organic compounds, including organic wastes, natural fertilizer compounds, charcoal, and *bokashi*, a type of fermented compost developed in Japan, to ensure that associated crops do not compete for nutrients” (ibid. 20).

In the Tomé-Açu model, key factors include a combination of crops and trees and the sequence for planting them. For example, cacao needs 40 percent shade, so banana is the ideal neighbor, because it grows faster than cacao and provides protection from direct sun, heavy rain and strong winds. Between the rows of banana and cacao, at 24-meter



“Agroforest” in an advanced phase

intervals, tabereba (*Spondias mombin*) fruit trees, açai palm trees, and/or mahogany can be planted. Among these tree species, corn and rice can also be planted. When planting diversified species, it is necessary to take particular care that the spacing between the different species should be appropriate. Perennial and arboreal species tend to compete against each other for space in which to grow. Some consume a lot of water while others need more fertilizer. Mr Michinori Konagano, one of the leaders of Tomé-Açu Multipurpose Agricultural Cooperative (CAMTA), who made a substantial contribution to the development of the Tomé-Açu model, has devised a long-term cultivation plan, featuring crop species that are all economically reliable.<sup>6</sup>

Here is a model case for the overall development process of an “agroforest”. The tropical climate encourages the rapid growth of plants. Rice is harvested in the first year, so farmers are sure of some income. In the second year, the banana and black pepper produce their fruits. From the third year, as the plants continue to grow, the farmland turns increasingly bushy. Banana plants bear fruit for several years. Cacao grows in the shade of the banana leaves. Black pepper increases production each year throughout their life span of about eight years. Tabereba, açai palm and mahogany grow quickly in their early years. Cacao starts to bear fruit from the third year. By the sixth year, cacao will have grown to a height of three meters, açai palms to five meters and tabereba and mahogany to more than eight meters. The farm becomes dense like a forest. Açai palm and tabereba are now ready for harvest. Cacao production begins to overtake that of pepper, giving farmers another source of revenue. Banana and black pepper plants die off after seven years. Cacao carries on producing in the shade of tall

6. This and the following paragraphs are based on information provided by JICA-Net (<http://jica-net.jica.go.jp/lib2/07PRDM008>, 2008).

tabereba and mahogany trees. At this point, the farm turns into a forest garden. In this way the agroforestry in Tomé-Açu allows a succession of productive plants, providing farmers with steady annual income. Which species are planted and when depends on the discretion of the farm and the farmer. Factors affecting the decision include location, soil condition, water availability, management efficiency and the optimum harvesting period.

**Figure 1. A model case of overall development process of an “agroforest” in Tomé-Açu**



Source: Yutaka Hongo

In their study Smith et al. (1998, 5) emphasize the commercial feasibility of the Tomé-Açu model: “Agroforestry is an ancient practice in Amazonia. Many indigenous peoples plant a mixture of tree and annual crops in their fields, and traditional, small-scale farmers usually maintain a rich assortment of tree, bush, and herbaceous plants in their home gardens.” However, the authors emphasize that commercial agroforestry in plots away from homegardens is the main focus of their study because it can play an especially important role in slowing deforestation and improving rural livelihoods (ibid., 7). The study puts it: “Tomé-Açu in Para, settled by Japanese immigrants in the late 1920s and early 1930s, became an innovative pole for agroforestry systems geared to markets starting in the 1970s” (ibid. 8).

The high feasibility of the Tomé-Açu model was confirmed by a study as follows: Income from 25 ha of agroforestry of this model is the same as cattle ranching of 1,000 ha. Therefore, the former’s income from 25 ha is 40 times that of the latter from the same extension of land. Moreover, the former creates jobs for 10–20 workers with 25 ha while the latter needs 50 to 75 ha to create a job for one worker (Yamada 2003, 105).

The origin of the Tomé-Açu model could be traced back to the traditional

practice of the indigenous people of the Amazon region and the “Satoyama model,” a traditional practice in Japan.<sup>7</sup> However, the process of finding innovative solutions has been incremental. Yamada and Osaqui (2006, 314) present the following interpretation: “Although the Tomé-Açu Multipurpose Agricultural Cooperatives (CAMTA) had experimental nurseries and the Japanese public agencies established local agricultural research stations to support emigrant farmers in the Amazon, the homegardens functioned as individual validation fields, where the farmers experimented with new crops. Homegardens were also used for improvement and propagation for nursery stock making them on-farm laboratories for adaptive research and extension. The immigrants with the traditional *tokuno* (master farmer) education of East Asia analyzed the local environment and ‘experimented’ with various plant associations and management techniques, which led to the evolution of the exceptionally successful and popular multistrata agroforestry systems in the Eastern Amazon region.”

In the Brazilian Agricultural Research Corporation (Embrapa) Eastern Amazon, there has been a considerable amount of research on the topic of agroforestry.<sup>8</sup> Economically viable species adapted to the local environment have been developed and distributed to farmers. In one of its recent research projects, Embrapa Eastern Amazon found striking similarities between the characteristics of local “agroforest” soils and those of the natural forest soil of the Amazon rainforest. This may imply resilience of the “agroforest” ecosystem in terms of not only flora but also fauna. In fact, as “agroforests” have grown over the years the number of observed bird species has increased, showing how agroforestry supports both ecosystem recovery in the Amazon and also farmers’ livelihood.

### **3.3 Inclusiveness through social capital and empowerment**

The Tomé-Açu model is intimately linked with the agricultural cooperative CAMTA. Piekielek mentions that the social capital generated and maintained by the cooperative has been a critical component in the success of Tomé-Açu farmers. It has supported the

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7. According to a lecture given by Mr Michinori Konagano, a member of the board of Tome Acu Multipurpose Agricultural Cooperative (CAMTA), at a seminar organized by Tokyo Noko University on January 30, 2012. On the other hand, Mr. Noboru Sakaguchi explained that he was inspired by indigenous people’s traditional practice (JICA-NET 2008).

8. Embrapa Eastern Amazon and JICA have implemented research cooperation projects on agroforestry.

process of development of an agroforestry model, especially by serving as a forum for sharing knowledge and by marketing agroforestry products (Piekielek 2010, 27). Since the mid-1990s, CAMTA board members have become active in transferring agroforestry techniques to non-Nikkei (Japanese Brazilian) family farms in the neighborhood.

In 2004, a local municipal office, CAMTA, Embrapa Eastern Amazon, Poverty and Environment in the Amazon Program (POEMA, carried out by a local non-governmental organization (NGO), POEMAR) and JICA launched a project in Tomé-Açu to establish an agroforestry training center for young owners of small family farms. In 2005, SAMBAZON, a US-based customer of CAMTA, facilitated the organic certification of açai products, which led in turn to a doubling of the capacity of the cooperative's fruit juice factory, and it encouraged CAMTA to disseminate agroforestry techniques among small family farmers of the region, teach them how to organize marketing cooperatives, and buy products from these cooperatives for processing at the CAMTA juice factory (Yamada and Osaqui, 2006, 315).

In acknowledgment of these efforts, on December 1, 2010, CAMTA was awarded the first "Brazil Regional Development Contribution" Prize by the Federal Government of Brazil; the prize was presented by President Luiz Inacio "Lula" da Silva to Mr Konagai, who was in charge of technology at CAMTA.

### 3.4 South–South/triangular cooperation



Lectures in the field during a third country training course: Agroforestry with black pepper, banana, and cupuacu (left) and with black pepper and other crops (right).

In 2006, JICA, along with Embrapa Eastern Amazon, launched the five-year Third Country Training Program (TCTP) to host seminars with the

intention of disseminating agroforestry skills to neighboring countries such as Venezuela, Colombia, Ecuador, Peru, and Bolivia. These seminars highlighted the Tomé-Açu model and included a visit to agroforestry fields in Tomé-Açu that region. Based on the experience of this TCTP, in 2011 Brazil and Japan launched a new TCTP program entitled the “International Training Course on Agroforestry Systems Technology” as part of the five-year Japan–Brazil Partnership Program (JBPP). This course constitutes a part of the Okada Green Initiative, announced by then Minister of Foreign Affairs Okada in 2010.

The overall goal of this new program is “to contribute, through the transfer of agroforestry systems technology, to the incorporation of systems of use of the earth that minimize the biophysical changes resulting from conventional farming in the beneficiary countries” (JICA 2011b). In this program, the basic characteristics of the previous program are maintained. Embrapa Eastern Amazon is becoming a CoE in the area of agroforestry in the Amazon region and Tomé-Açu is becoming one of the most important focal points for the program.

This South–South/triangular cooperation (SSC/TrC), which has been implemented for agroforestry in a humid tropical area with experience in the Amazon region, shares several basic features with many of the other SSC/TrC programs in which JICA has been participating: (1) knowledge sharing, especially innovative solutions developed through years of effort, among countries that face similar challenges; (2) the participation of a CoE such as Embrapa Eastern Amazon, which, through this SSC/TrC program, has strengthened its network of researchers, professionals, and practitioners in agroforestry, achieving its capacity development and institution building as a provider of SSC/TrC cooperation; (3) the coordination of the program is undertaken through JBPP, thereby avoiding higher transaction costs and improving the efficiency of SSC/TrC.

However, the program also has some unique features. One is the continued and strong engagement of leaders of Tomé-Açu, the pioneering focal point of agroforestry in the Amazon. Second is the synergy with parallel projects related to the program that are being carried out in the beneficiary countries. For example, in the northern regions of Bolivia, where there is a high rate of poverty, a project to increase the added value of the farmers’ products is carried out by



Bolivia, Brazil and Japan. In this project, Brazilian experts with experience in agroforestry are sent to Bolivia in order to share agroforestry technologies and practices, including those gained through the Tomé-Açu model.<sup>9</sup>

## **4. Fight against Desertification: Social Forestry in Semi-arid Kenya**

### **4.1 Challenges**

While about 83 percent of the total land surface of Kenya is covered by arid and semi-arid land (ASALs) that is vulnerable to global warming and climate change, this area is also characterized by a very high incidence of poverty. Therefore, one of the most serious challenges faced by the country is to cope with desertification of ASALs, preserving their ecology and environment, while at the same time reducing poverty in these regions. This means the introduction and consolidation of an “inclusive green economy” in this vast area.

Kenya relies on firewood and charcoal for more than 70 percent of its total energy consumption and around 90 percent of the energy consumption in homes. The increasing demand for firewood and charcoal, caused by a combination of a growing population that has doubled in the last 20 years, overgrazing, and disordered cultivation has devastated forest areas. This has caused not only great difficulty in supplying firewood and charcoal, but has also resulted in a decline in the productive capacity of the land, and the destruction of the natural environment (JICA 2003).

Moreover, the effects of climate change could aggravate ASALs' environment. It is estimated that between 1960 and 2006 the highest temperature in Kenya increased by 0.2–1.3 centigrade and the lowest temperature by 0.7–2.0 centigrade. The amount of rainfall has also been becoming more irregular in recent years. The drought of 2009 affected around 10 million people, one-fourth of the country's population, due to the decrease in the production of crops such as corn and sugar cane (Fujisawa 2013, 2). In 2011, another severe drought hit Kenya and neighboring countries.

In order to address these issues, in 1982, the Government of Kenya set

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9. Web Page, JICA Brazil office 20120207.

targets for the production of 200 million seedlings per year in a “Strategy and Focus on Rural Tree Development” established by a presidential order. In June 1986, the Kenya Forestry Research Institute (KEFRI) was established as a parastatal institution.<sup>10</sup> In 1994, the Ministry of Environment and Natural Resources of Kenya announced the Kenya Forestry Master Plan 1995–2000 (KEMP). This plan, along with the revised Kenya Forestry Development Policy, identifies farm forestry, one of the social forestry practices, as an important model for forestry development in the country. In addition, the Economic Recovery Strategy for Wealth and Employment Creation (2003–07) identified the development of ASALs as a key area for accelerated development.

#### **4.2 Innovative solutions**

Several innovative solutions to address the issues discussed above have been developed and brought into the mainstream. One of the most important of these is “Social Forestry,” which is defined as a “form of forestry which aims at both the improvement of the economy and the preservation of forest resources, by entrusting local people with the management and ownership of the forest resources” (JICA, 2003). It is a very similar concept to the inclusive green economy as a pathway to sustainable development and poverty reduction that was discussed in section 1. An effective instrument developed and disseminated to promote social forestry has been the “farm forest” as is explained below.

A period of more than twenty years has seen the introduction of three consecutive projects to strengthen social forestry in semi-arid areas of Kenya with remarkable results. The first of them, the Social Forestry Training Project (SFTP), was carried out from 1987 to 1997, and aimed to develop practical techniques for planting and tending trees for the establishment of a farm forest. In particular, the project focused on developing tree nursery and tree planting technologies in semi-arid areas as well as to provide social forestry training for farmers and government staff. The second project, the Social Forestry Extension Model Development Project (SOFEM, 1997–2002), saw the introduction of forestation nurturing technologies applicable to farmers and suitable for the local environment. “The Project developed systems such as a cost

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10. Through grant aid, the Government of Japan supported the construction of facilities at the KEFRI headquarters at Muguga and the KEFRI Kitui Centre from 1986 to 1988 (JICA 2009).

sharing system, seed/seedling plan information system, farmer to farmer extension method, and core farmer selecting method. Their effectiveness was proved through actual farm forestry preparation practice” (JICA 2003, 3). Therefore, the project effectively developed a social forestry extension model, which is based on the establishment of farm forests by local residents (JICA 2009, 9).

The third project, the Intensified Social Forestry Project (ISFP, 2004–9), consolidated the main lessons learned and key technologies acquired in the previous two projects. Although the previous two projects achieved their goals, neither of them was able to reach a substantial number of farmers (FAO, JICA and KFS 2011, 12). Therefore, ISFP applied, among others, a “Farmer Field School” (FFS) as a means to extend the social forestry. A total of 94 FFSs conducted by the Kenyan Forest Service (KFS) cultivated the abilities of a considerable number of farmer facilitators. Farmer-run FFSs utilizing farmer facilitators had the same effect as a FFS by KFS. The Evaluation Study Team on ISFP confirmed “high evaluation and acknowledgements of FFSs by those who not only introduced FFSs in the initial time of the Project but also by those who implemented, managed and operated FFSs including target groups” (JICA 2009, 14–15).

As such, building on the country’s past experiences, ISFP brought a new dimension to forestry extension, creating a systematic extension management system. The FFS methodology mentioned above was introduced with assistance from the United Nations’s Food and Agriculture Organization (FAO). Previously, the FFS methodology had been principally applied to agricultural extension service delivery in the country. The ISFP customized the FFSs to farm forestry, leading to the implementation of the Farm Forestry Field School (FFFS) approach. Currently, this approach has become the standard method for farm forestry extension in KFS and is widely used in other districts and projects in Kenya. With help from the FAO, KFS has further developed the Livelihood Farmer Field School, which was based on the FFFS (FAO, JICA and KFS 2011, 13).

In short, throughout social forestry projects in Kenya, with the Kenya Forestry Research Institute (KEFRI) as an implementing agency, basic tree nursery and tree planting technology in arid and semi-arid regions was developed and core farmers were developed as the base for the

extension of the model developed under the Kenya–Japan technical cooperation projects. For the extension of this model, the FFS approach, an existing proven extension approach in the agricultural sector was applied to the forestry sector through innovative adjustments to the methodology. Through the FFS, techniques such as seedling production, fruit tree planting (mango, grevillea, and others), poultry raising, vegetable cultivation, utilization of compost, and creation of woodlots were disseminated (JICA 2013).

As a result of all these measures, KFS, Kenya Forestry Research Institute, farmer facilitators and farmers, as well as JICA, have developed incrementally appropriate solutions to address the challenges mentioned above. They are based on a series of technological and institutional innovations and they have produced synergies to take full advantage of social forestry.



Learning Participatory Forest Management in Arabuko Sokoke forest in Mombasa



Learning seed germination test at KEFRI seed center



At a farmers plot in Kibwezi



Learning briquette making at KEFRI Karura center

Source: Kenya Forestry Research Institute, KEFRI

### **4.3 Inclusiveness through social capital and empowerment**

From their inception the three projects entrusted local people with the management and ownership of forest resources. This approach is the essence of social forestry. The FFS has developed ownership, strengthened communities, and farmers' capacity with knowledge about forestry (JICA 2009, 15). Through FFS individual farmers, farmers' groups, and the surrounding farmers are continuing to raise and produce seedlings and plant trees. They have started to sell social forestry products such as mangoes, seedlings, lumber, and firewood. Through these activities, farmers are increasing their awareness of methods to improve their livelihood. Wider extension activities related to social forestry are expected, as graduate farmers from FFS give advice about agriculture and social forestry to neighboring and surrounding area farmers, which indicates the creation of a network (ibid. 15–16). The most important achievement is that the growth of trees contributes to the improvement of the livelihood of farmers, attaining the overall goal of social forestry projects toward a green economy. It appears that social capital is strengthened and empowerment of the people achieved. As the final evaluation on IFSP emphasized dynamic group activities, including songs and dance celebrating FFS, the group plays a core role in assuming the continuation of activities, as it expresses a joy of solidified farmer groups working and studying together, and keeps farmers interested in FFS.

The Green Zone project of the African Development Bank adopted the FFS approach in its forestry preservation activities in areas of high potential.

### **4.4 South–South/triangular cooperation**

Efforts to share Kenya's innovative technological and institutional innovations with other African countries that face similar challenges were made as early as 1995, when the Regional Course of the Promotion of Social Forestry in Africa was launched. The second phase of this program was started in 2000. In its two phases this regional course aimed to promote social forestry in order to improve the livelihood of farmers and improve the environment, sharing technology and knowledge of social forestry. Kenya Forestry Research Institute (KEFRI) was in charge of implementing the program. The countries that benefited from this course were Angola, Burundi, Djibouti, Mozambique, Rwanda, Botswana, Ethiopia, Eritrea, Lesotho, Malawi,

Namibia, South Africa, Swaziland, Tanzania, Uganda, Zambia and Zimbabwe.

In 2005, the five-year “Enhancing Adaptation of Social Forestry” training project was launched. This training course placed increased focus on facilitation skills to disseminate agroforestry to farmers and other stakeholders, enhancing the knowledge related to development and the adaptation of technologies for social forestry. In 2010, a new program, the “Third Country Training on Mitigating Climate Change in Africa through Social Forestry,” was launched. In this program, issues related to climate change, including the recent progress of Reduced Emissions from Deforestation and forest Degradation (REDD) and other initiatives, are more focused. In other words, the program aims to mitigate climate change through social forestry in Africa.

The South–South/triangular cooperation implemented for social forestry in ASALs with experience in Kenya has several basic features that are common to many of the SSC/TrC programs in which JICA has been a participant: (1) knowledge sharing, especially innovative solutions developed through years of effort, among countries that face similar challenges; and (2) participation of a CoE such as the Kenya Forestry Research Institute, which, through these SSC/TrC programs mentioned above, has strengthened its network of researchers, professionals, and practitioners in social forestry, achieving its capacity development and institution building as a provider of SSC/TrC cooperation.

The United Nations Office for South–South Cooperation (UNOSSC) highlighted the achievement of social forestry projects as follows: “Environment resilience and improved quality of life are development issues that require regional cooperation. The entry point is social forestry or forestry for the people, as a participatory concept and tool which not only integrates biological and socio-economic diversity prevailing in the area, but is also responsive to the subsistence and development needs of rural and non-rural communities. It recognizes capacity building as key for growth among African countries to enhance awareness, understanding and actions.”<sup>11</sup>

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11. “Note on Kenya Japan Social forestry in Africa” posted on the UNOSSC home page.

## 5. Concluding Remarks

Upon a comparative analysis of the three cases of SSC/TrC for an inclusive green economy, we find several common advantages of SSC/TrC compared with conventional North–South cooperation. First, SSC/TrC is a very effective instrument when it addresses such issues as are faced by developing countries. Some countries in the South are forerunners for developing solutions to these issues after years of effort. Innovative solutions, including knowledge, technologies, and good practice, cannot be achieved overnight. Moreover, such knowledge is not available in traditional donor countries. On the other hand, many of the innovative solutions are based on academic research and the experience of practical application for dissemination. For example, agroforestry in the Amazon rainforest is supported by a large number of specialized research papers.<sup>12</sup> In the three case studies, all these features are predominant.

Second, one of the advantages of SSC/TrC is that through these modalities, the experience of countries with a strong motivation to address challenges, and therefore with valuable innovative solutions, can be shared with other countries facing similar challenges. These solutions could be highly effective, because they were achieved by projects supported by people and government organizations strongly committed to the idea. The urgent need to protect the Panama Canal watershed and reduce the levels of poverty in the area forced the government to address the issue seriously. The conservation of the Amazon rainforest has been always a major concern for the Brazilian government. The fight against deforestation and desertification initiated by Wangari Maathai strengthened the consciousness of the people and government of Kenya regarding the importance of the environment and poverty reduction (see Box). The experience of pioneer countries strongly committed to finding solutions is the most valuable base for SSC/TrC.

Third, another advantage of SSC/TrC is the possibility of taking full advantage of Centers of Excellence (CoE) as well as pioneering local organizations in specialized areas such as agroforestry in the South. They are developed in forerunner countries and could be key for successful SSC/TrC. On the other hand, CoE are able to develop their capacity and enhance their institution building through SSC/TrC as a

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12. They are available on JICA's Website.

cooperation provider, through accumulating practical capabilities to be in charge of such cooperation and to be networking hubs among researchers, professionals, and practitioners. This process has taken place in the Amazon agroforestry and Kenya Social Forestry cases.

As a result of our discussion above, after making an assessment of the impact of ongoing SSC/TrC programs on benefiting countries, we are able to confirm that SSC/TrC is one of the most effective approaches to catalyze an inclusive green economy.

**Box. Green Belt Movement initiated by Wangari Maathai**

From the “inclusive green economy” standpoint, the Green Belt Movement (GBM) in Kenya, the initiative of Wangari Maathai, a Nobel Peace Prize winner, calls for special attention, because it had both environmental and inclusiveness perspectives from the beginning. GBM planted 30 million trees in 30 years. But the achievement of the GBM was not just rural forestation and reforestation, but also creation of employment, awareness of the importance of the environment, and the empowerment of individuals and communities (Maathai 2003, 61).

Maathai recalls how the Green Belt Movement began in 1977:

“...I have always been interested in finding solutions. ... it just came to me: ‘Why not plant trees?’ The trees would provide a supply of wood that would enable women to cook nutritious foods. The trees would offer shade for humans and animals, protect watersheds and bind soil, and, if they were fruit trees, provide food. They would also heal the land by bringing back birds and small animals and regenerate the vitality of the earth” (Maathai 2006, 125).

The spirit of the Green Belt Movement (GBM) is summarized in the following committal recited at every tree-planting ceremony of GBM:

*“Being aware that Kenya is being threatened by the expansion of desert-like conditions; that desertification comes as a result of misuse of the land and by consequent soil erosion by the elements; and these actions result in drought, malnutrition, famine and death; we resolve to save our land by averting this same desertification through the planting of trees wherever possible. In pronouncing these words, we each make a personal commitment to save our country from actions and elements which would deprive present and future generations from reaping the bounty of resources which is the birthright and property of all.” (Maathai 2003. 20)*



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# Chapter 4

## Knowledge Hubs — Progress in Practice since the Bali Communiqué

Tubagus A. Choesni and Nils-Sjard Schulz

### 1. Knowledge Hubs in a Multipolar World

Since the beginning of the XXI century, global development has seen unprecedented advances with deep social and economic transformations in many countries. In turn, resources, expertise and ideas are available in almost any corner of the planet, based on practical experience and often resulting in successful poverty reduction and sustained economic growth. In this context, the growing family of emerging economies and middle-income countries is taking an increasingly proactive and self-confident role in the global fight against poverty.

Building up on decades-old South-South cooperation, the contributions of these countries are not only complementing conventional aid by DAC donors and multilateral institutions. The good news is that their cooperation also tends to enrich global development by triggering horizontal partnerships in both discourse and practice, rooted in trust, equity and mutual benefit. As a very concrete example, knowledge exchange, one of the signature features for emerging economies role in development cooperation, reflects this new horizontality.

Knowledge exchange entails the sharing of proven solutions developed and validated in a country or institution, which might be adapted and transferred to others. In knowledge exchange, practice-based expertise and successful solutions are shared to governments and institutions with scarce resources. For a world looking to accelerate development and to find fast tracks to improve people's life, knowledge exchange constitutes a historic opportunity for policy-makers and practitioners committed to effective development. The main reason is that it often enables a quick, yet sustainable development of national capacities, inspired and motivated by practice-proven success and experiences advanced by peer governments and institutions.

In the past years, this historic shift of how to accelerate development has been fully recognized in global policy arenas, including the United Nations Development Cooperation Forum,<sup>1</sup> the G20 development agenda,<sup>2</sup> and the Busan High-Level Forum on Aid Effectiveness.<sup>3</sup> At the same time, global policy-makers and on-the-ground practitioners share the idea that given its potential to speed up development results in an efficient way, knowledge exchange should be used much more extensively and systematically.

One of today's limitations to knowledge exchange is that development solutions are often shared in an ad-hoc way and based on short-term projects rather than longer-term programs.<sup>4</sup> However, governments and sector organizations around the world have started to create institutional and operational arrangements which enable a broader and more continued knowledge exchange. While these can take on many different forms – such as cooperation agencies, specific departments, specialized teams or online platforms – there is a clear consensus that knowledge exchange should be embedded in strong institutions that harness and package high-quality know-how and solutions, share these with partners, and ensure their effective contributions to development.

As a response to this need, the concept of knowledge hubs has emerged as a key reference for governments and institutions desiring to expand and sustain knowledge exchange over long periods of time. Launched

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1. ECOSOC (2013): Report on Conference of Southern Providers of South-South Cooperation – Issues and Emerging Challenges. Ver también Agencia Peruana de Cooperación Internacional (2013): Global Dialogue of Agencies and Ministries for International Cooperation and Development.

2. See for example G20 (2011): Scaling Up Knowledge Sharing for Development, A working paper for the G-20 Development Working Group, Pillar 9. Further background in G20 (2011): Emerging Lessons on Institutionalizing Country-Led Knowledge Sharing, Issues Paper prepared by World Bank Institute, as well as Freres, Christian; and Schulz, Nils-Sjard (2011): “Emerging Lessons on Institutionalizing Country-Led Knowledge Sharing - G20 Issues Paper”, World Bank Institute.

3. The Busan Partnership for Effective Development Co-operation (2011), paragraphs 30 and 31. As a follow up, the Global Partnership for Effective Development Co-operation (GPEDC) is currently preparing a concept note of Knowledge Sharing which utilizes Knowledge Hubs practices among the members. Additional information for the Asia-Pacific region can be found in Asian Development Bank (2013): Roundtable Conference On Building Effective Knowledge Sharing for Development: Lessons Learned and Regional Approaches in Asia and the Pacific.

4. For a key reference for good practices of South-South and triangular knowledge exchange, see Task Team on South-South Cooperation (2011): Good Practice Paper – Towards Effective South-South and Triangular Cooperation.

18 months ago as a contribution to the G20 development agenda, the idea of knowledge hubs has quickly evolved into a centerpiece of a global development landscape in full transformation. According to recent policy and practice discussions, a Knowledge Hub can be defined as “an organization or a network, dedicated to share and exchange development experiences and models with partners from other countries. Knowledge Hubs facilitate mutual learning about helpful and innovative approaches that may be adapted and scaled up elsewhere” (Bali Communiqué 2012, see box 1)

**Box 1. The Bali High-Level Meeting on Knowledge Hubs (July 2012)**

For the first time ever, policy-makers and practitioners gathered to promote Country-Led Knowledge Hubs (KH) in a High-Level Meeting co-organized by the Government of Indonesia, JICA, UNDP and the World Bank.

Based on emerging evidence, more than 300 participants from 46 countries engaged in a vivid and open debate on how to institutionalize and operationalize knowledge exchange. In-country lessons learned and next steps were discussed in five focused discussion panels and ten thematic roundtables.

In the outcome document, the Bali Communiqué, the participants agreed to establish a Community of Practice on Knowledge Hubs, deepen the analysis towards concrete options (of which this paper is part), and host a follow-up HLM in 2014, with a focus on specific institutional and operational challenges and solutions for KH.

For more details, see Annex 1.

Beyond its relevance for international policy-making, the idea of knowledge hubs is of primary value for national decision-makers and practitioners looking for concrete and practical guidance on how to create, scale up and consolidate knowledge exchange institutions. This has been vividly reflected in the First High-Level Meeting (HLM) on Country-Led Knowledge Hubs (see Box 1), prepared by the Government of Indonesia in partnership with JICA, UNDP and the World Bank. Held in Bali, Indonesia, on 10-12 July 2012, this HLM gathered more than 300 practitioners from 46 countries who discussed lessons learned and

emerging evidence on knowledge hubs.<sup>5</sup> Galvanized in the Bali Communiqué, this event generated a shared understanding of knowledge hubs, as well as a strong sense for action around specific options and challenges of institutionalizing and operationalizing knowledge exchange. Finally, the Bali HLM also gathered key decision-makers around a concrete demand to deepen analysis and enable in-depth exchange on the how-to's of knowledge hubs.

Embedded in this demand and responding to the clear mandate of the Bali Communiqué, the involved partners are working intensively on supporting the emergence and strengthening of knowledge hubs around the world. The following pages provide a quick overview on key initiatives, among them analytical efforts to map institutional and operational aspects of existing knowledge hubs and an online Community of Practice on Knowledge Hubs.

## **2. Overview of Current Experiences at National and Sector Level**

Many governments and organizations have set up institutional arrangements to participate actively in global development and share experiences with peers from other countries. In this dynamic context, knowledge hubs have emerged as a powerful institutional model to scale up knowledge exchange and help accelerate development through policy and institutional change in critical areas. Their key objective is to ensure that the practice-proven solutions fully contribute to sustainable development and effective poverty reduction not only through ad-hoc activities, but based on long-term programs and partnerships. As the Bali HLM has shown, using the model of knowledge hubs as a reference is very useful for policy-makers and practitioners committed to build and adapt institutions that channel solutions and experiences from one country to another, from institution to institution, and among practitioners and policy-makers.

However, knowledge hubs are a relatively new idea, and its concept is still evolving. As a consequence, systematization of experiences, models and practices remains scarce. To cover this gap and directly informing

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5. A quick summary of the HLM can be found in Schulz, Nils-Sjard (2012): Knowledge Hubs in Practice – The Bali Lessons, southsouth.info. All contents of the event are available in Government of Indonesia (2012): Proceedings - High Level Meeting “Towards Country Led Knowledge Hubs”

the Bali HLM, the World Bank Institute undertook a pilot analysis looking into 12 knowledge hubs, five of which were national entities, and seven thematic organizations.<sup>6</sup> This sample gathered the experience in six countries: Brazil, China, Indonesia, Mexico, Singapore and South Africa.



The study aimed to capture the following institutional and operational options for knowledge hubs:

Institutional arrangements: Among the key aspects, the study assessed the organizational models, the function and roles in developing partnerships, the coordination of external support, as well as the experiences with building KH within existing institutions (such as ministries).

Effective knowledge exchange operations: In this area, the analysis looked into the operational cycle of knowledge exchange, from validating and packing high-quality knowledge, as well as planning and implementing modalities for knowledge exchange, to financing options and monitoring and evaluating results achieved.

Importantly, the study differentiated between national and sector-level

6. World Bank Institute (2013): Knowledge Hubs Options – A review of institutional and operational practice in Brazil, China, Indonesia, Mexico, Singapore and South Africa; lead coordination by Nils-Sjard Schulz (MultiPolar)

knowledge hubs. National knowledge hubs are usually embedded in Ministries of Foreign Affairs and other ministries, such as Development Planning, which are in charge of negotiating and managing Official Development Assistance (ODA) and South-South Cooperation (SSC), particularly focusing on technical assistance and knowledge exchange. Typical examples include the Brazilian Cooperation Agency (ABC), created in 1987, and the Mexican Agency for International Development Cooperation (AMEXCID), launched in 2011. Both are hosted at their respective Ministries of Foreign Affairs. A substantial share of China's knowledge exchange is handled through the Department of Aid to Foreign Countries (DAFC) at the Ministry of Commerce (MOFCOM) which administers foreign trade and economic cooperation.

But there are also non-traditional models underway. In Indonesia, the four ministries in charge of South-South cooperation and knowledge exchange (Development Planning, Finance, Foreign Affairs, and State Secretariat) have established in 2010 a Coordinating Team (CT), which is hosted at BAPPENAS, the Ministry of National Development Planning. This helps connect knowledge exchange directly to national development policies. A similar 'mixed approach' was taken in Singapore, where the Ministries of Foreign Affairs, and Trade and Industry created in 2006 the Singapore Cooperation Enterprise (SCE), a public service organization in form of a limited guarantee company, which brokers highly specialized public sector and public-private expertise to international partners on a paid-for basis.

On the other hand, countries have set up knowledge hubs to address challenges in a very wide range of specific development themes, from climate change, disaster risk management to post-conflict public sector development. It is not surprising that these thematic knowledge hubs, hosted at or closely linked with ministries and specialized government agencies, are in full expansion around the globe. They often represent the very best of a country's commitment and capacities to fight against poverty, achieved over decades of development processes, and are bound to become key pillars of a national development system based on solutions and practical experience. This outstanding potential is now being fully recognized by line ministries and specialized government institutions, which are investing in their institutional and operational capacities to exchange their solutions on a larger scale.



Within the basic distinction between national and sector-level knowledge hub, the study came to a number of essential conclusions. In this line and fully recognizing the differences among institutions, it summarized the lessons learned for national knowledge hubs in the following way:

- Firstly, even though all the national knowledge hubs analyzed are active in knowledge exchange, they often do so under the umbrella of South-South cooperation and overall development cooperation, which in turn are related to foreign policy priorities. Practice-based expertise and solutions are still to be recognized as full-fledged pillars of the national development cooperation system. Here, China and Indonesia are pioneers who include knowledge exchange explicitly in both their national development policies, i.e. the 2011 White Paper on Foreign Aid and Grand Design on South-South Cooperation (2011-2025), respectively.
- Secondly, there is a clear commitment to two-way development cooperation, as a provider and receiver. However, when it comes to knowledge exchange activities, most national knowledge hubs still focus on the supply, that is, the ability to share and disseminate national solutions, rather than to receive experiences from abroad. Although the MFA-hosted agencies are often doorkeepers of traditional Official Development Assistance (ODA) and technical assistance, there are only limited experiences with managing the inflow of solutions from other countries. However, AMEXCID is moving into this direction through the modality of Joint Funds, piloted with Chile and recently launched with Uruguay. This modality enables a continuous ‘give and take’ of development solutions among the partners.
- Thirdly, national knowledge hubs fulfill a critical role in coordinating national institutions. In Brazil, there are at least 39 central government entities active in South-South knowledge exchange managed through ABC, and Indonesia’s ample portfolio, of more than 400 projects from 2000-2010, involves 15 ministries and government agencies. Mexico’s AMEXCID has recently launched a catalogue of high-quality solutions in 26

public institutions in five priority areas (agriculture, education, environment, health and public security). In Singapore, SCE connects the experience of all 15 ministries and 66 statutory boards of the government. SCE's focus on public-private partnership in urban planning helps strengthen ties among government institutions, in particular at the level of its board.

- Fourthly, organizationally the national knowledge hubs rely on rather small teams dedicated to knowledge exchange, an average of 15-20 persons.<sup>7</sup> There are often challenges related to insufficient staffing and high turnover rates, especially in hubs such as ABC and AMEXCID that are hosted at MFA and therefore using mostly “on-the-move” diplomatic personnel and consultants. More continuity is being ensured for Indonesia’s CT, which relies on the staff of the four ministries, seconded to the coordination mechanism. Overall, human resource management remains one of the key organizational challenges for national knowledge hubs.
- Finally, given their anchorage at ministries, national knowledge hubs are often better situated when it comes to predictable and sustainable budget allocations for knowledge exchange activities. However, financial resources are scarce in all cases, and institutional core budgets (for staffing and program management) tend to be very tight even in high-profile cases such as ABC and MOFCOM. Apart from SCE which has received some support from private foundations, funding schemes are still very rigid. Innovation, particularly around public-private partnerships and corporate social responsibility, is only slowly becoming part of longer-term reflections of decision-makers at national knowledge hubs, for example as part of Indonesia’s South-South policy, the proposed Grand Design 2011-2025. Overall, there is still a need to ensure adequate institutional finances, especially with a view to future scale up.<sup>8</sup>

On the other hand, thematic or sector-level knowledge hubs tend to share some of the following characteristics:

7. Agencies such as ABC and AMEXCID are staffed with around 200 professionals, of which only a relatively small part is dedicated to knowledge exchange specifically. In both cases, the institutions also manage incoming ODA.

8. To deepen the discussion on this specific topic, see Schulz, Nils-Sjard (2013): Financing knowledge hubs – Current modalities and opportunities, southsouth.info.

- Firstly, even where specific departments have been established, over time thematic knowledge hubs tend to mainstream knowledge exchange into their institutional and operational day-to-day business, that is, across teams. In cases such as Brazilian Agricultural Research Corporation (EMBRAPA), Brazil’s Oswaldo Cruz Foundation (FIOCRUZ), and the Mexican Ministries of Social Development (SEDESOL) and of Environment and Natural Resources (SEMARNAT), small Secretariats manage the knowledge activities and reach out to in-house specialists and practitioners, thereby taking advantage of the full human capital of the institution.
- Secondly, thematic cross-country networks and fora are an essential avenue for thematic knowledge hubs to exchange specialized solutions in multiple directions, while making sure that expertise from abroad is enriching and informing in-house capacities. For example, SEMARNAT is deeply involved in the platforms of the United Nations Reducing Emissions from Deforestation and Forest Degradation (UN-REDD+) Program, where solutions are flowing from and towards the Mexican ministry. Similarly, FIOCRUZ collaborates with a large number of peer institutions in the Latin American and Caribbean Association on Education in Public Health (ALAESp), both contributing and benefitting.
- Thirdly, because of their high degree of specialization, it is natural for thematic knowledge hubs to build in-country networks where solutions and expertise are gathered and validated. This permits to reach out to a diverse set of actors, including civil society, private sector and academia specializing in the same field. Brazil’s EMBRAPA and FIOCRUZ are pioneers in engaging with business in public-private partnerships, for example around technologies such as biotech laboratories or human milk banks. China’s AIBO and GSCASS work very closely with local authorities and industry companies, especially for field visits and on-spot experience exchange. Mexico’s SEDESOL and SEMARNAT both maintain vivid consultative committees which gather non-governmental actors, in particular civil society organizations which often are members of international thematic networks themselves, and are now increasingly partnering in

inter-governmental knowledge exchange.

- Fourthly, thematic knowledge hubs usually draw on specialized and well-connected practitioners to manage their knowledge exchange activities. For instance, FIOCRUZ benefits from experienced public health specialists who also bring in sound capacities of designing and managing international programs, including those at the World Health Organization (WHO). SEDESOL and SEMARNAT use similar approaches to involve experienced senior staff, who can also guarantee a high-quality visibility of the institution in the international arena. The ‘networkability’ of staff has been brought to another level at the Collaborative Africa Budget Reform Initiative (CABRI), where a multi-national staff, composed partly by secondees, reflects the diversity of partners involved in this cross-country platform hosted at the South African Treasury. In general terms, thematic knowledge hubs are not only aware of the critical value of high-quality staff, but also well positioned to attract and maintain the needed profiles on the longer run.
- Finally, finances for institutional and operational development are limited, but thematic knowledge hubs tend to have a broader margin and higher innovation when mobilizing resources. Hosted at, or closely connected to line ministries, while also involved in large-scale sector programs, available funding can be ‘stretched’, for example in the area of capacity development or technical assistance. Given their high-profile expertise, hubs such as FIOCRUZ can easily attract non-traditional funding, in this instance by the Bill and Melinda Gates Foundation, while Chinese Academy for International Business Officials (AIBO) and Graduate School of Chinese Academy of Social Sciences (GSCASS) have started to engage with local governments and private sector to mobilize resources. Apart from resources of South Africa’s National Treasury, CABRI uses its clear change narrative to mobilize direct institutional support from development partners such as Germany’s Agency for International Cooperation (GIZ) and the United Kingdom’s Department for International Development (DfID), in financial, staff and in-kind contributions. As a cross-country platform, CABRI is also pioneering self-funding through fees for institutional membership, which covers already

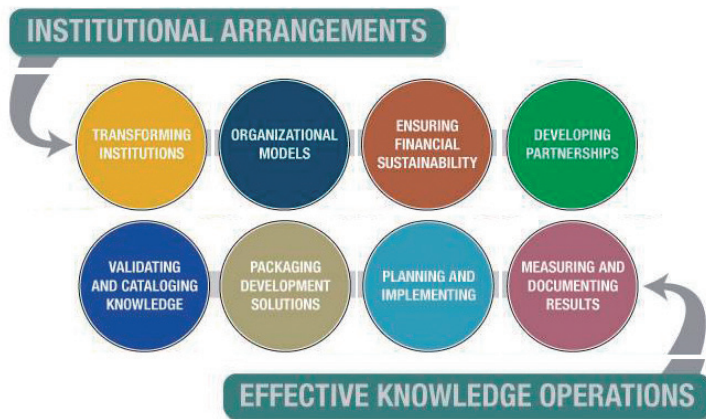
40% of the annual budget, and has generated a strong sense of co-ownership of participating government institutions. Overall, thematic knowledge hubs seem to be well placed to mobilize and scale up institutional finance in both conventional and innovative ways.

### **3. Mutual Learning in the Community of Practice**

One of the key outcomes of the Bali HLM was the need to “further facilitate a learning process that needs to be sustained over the coming years”, for which the Bali Communiqué calls to establish and nurture a Community of Practice on Knowledge Hubs. Fulfilling this demand, an alliance between the Government of Indonesia, ADB, JICA, UNDP and the World Bank launched in January 2013 the Knowledge Hub Community hosted at [www.knowledgehubs.org](http://www.knowledgehubs.org) which provides a privileged and dedicated web space for champions desiring to share experiences with creating and scaling up Knowledge Hubs in a practical way. It also desires to act as a repository galvanizing emerging analysis and information on the how-to’s of Knowledge Hubs, and to discuss emerging good practices and potential benchmarks. Overall and beyond its own activities, the Community of Practice also aspires to serve as a source to inform peer learning activities such as webinars, video conferences, regional meetings and follow-up events to the Bali HLM.

Key members are decision-makers and practitioners from knowledge exchange institutions of emerging economies and developing countries, who are joined by representatives from multilateral institutions, traditional bilateral development partners, civil society organizations and private sector companies. The Knowledge Hub Community of Practice is not only a direct consequence of the Bali HLM, but is also linked to other broader community activities around knowledge exchange, for example at the South-South Opportunity hosted at [southsouth.info](http://southsouth.info), which was launched in 2009.

To structure its collaborative work, the Knowledge Hub Community of Practice is designed around the main pillars analyzed by and emerging from the study outlined above. As a continued effort of learning and exchanging ideas, the community members look into the following institutional and operational components of Knowledge Hubs:



Within this learning framework, the Community has advanced substantially in its activities involving hundreds of members from around the globe. Among key results of immediate relevance for the practice Knowledge Hubs, the following stand out:

- Following the framework highlighted in the graphic, monthly themes look into specific opportunities and challenges of Knowledge Hubs, for example in the topics of “Transforming Institutions” (April 2013) “Planning and Implementing Knowledge Exchange” (May), “Learning from Failure” (June) and “Building and Sustaining Partnerships” (September). Inspired by private sector participants, these debates enabled important reflections around validation of solutions, the merit-based incentives for sharing these, as well as smart technological solutions. Focusing on specific issues has enabled the Community to gain traction around practical questions, and strengthen the cohesion of members resulting from shared challenges and solutions.
- Webinars with experts from public institutions and private sector have become a center piece of the Community’s assets. Facilitated by the World Bank Institute, the webinar series – closely linked to the thematic months (see above) – have generated a vivid debate by benefiting from insights of knowledge experts from institutions such as the Instituto Tecnológico y de Estudios Superiores de Monterrey (Mexico), the Asia-Pacific Finance and Development Center in Shanghai (China) and the National Aeronautics and

Space Administration, NASA (USA).

- While primarily engaging with members from government-led Knowledge Hubs, the Community has pioneered open discussions with private sector experts. The heavy investment of private companies in knowledge management is indeed an underexploited reference for public sector institutions. In this line, experts from companies such as 3M, Caterpillar and ConocoPhillips shared valuable lessons learned with setting up and adapting efficient and effective knowledge hubs within multinational companies relying on specialized staff spread around the globe.
- As one of the go-to places for Knowledge Hubs, the Community offers a platform for sharing ideas and launching debates around specialized blog posts. Apart from systematizing critical conclusions from the webinars, knowledge hub experts are sharing their expertise with the members, for example Ashley Good from Fail Forward (Canada) who described the benefits of learning from failures to find the best solutions, Sebastian Longhurst from Fluyt (Colombia) on result-oriented modalities, and Daan Boom from the Islamic Development Bank on the key role social media play for knowledge hubs.
- With the Community growing every day, members are also highlighting the need to create spaces for discussions in regional chapters, which can also help coordinate online or video-based exchanges without the limitations of huge time differences. Currently, there is an Asian-Pacific chapter being built up by the Asian Development Bank, which will be an integral pillar of the overall Community.
- For the near future, the Community will further diversify its services to host and disseminate ongoing initiatives to support Knowledge Hubs. As an example, the World Bank Institute is currently working closely to advise and assist Knowledge Hubs in countries such as Brazil (Association of Sanitary and Environmental Engineering), Colombia (National Administrative Department of Statistics), Indonesia (National Agency for Disaster Risk Management) and Nigeria (Lagos Metropolitan Area Transport Authority). The involved partners now plan to host these pilot

engagements in ‘living laboratories’ where lessons are shared and emerging solutions validated by the broader Community, thereby crowdsourcing the evolving learning around the practical how-to’s of Knowledge Hubs.

#### **4. What’s Next for Knowledge Hubs**

In the 12 months following the HLM on Country-Led Knowledge Hubs held in Bali (Indonesia), the proposals reflected in the Bali Communiqué have been put in practice through strong partnerships and a shared energy growing every day. Governments and countries’ institutions are engaging in pilot efforts to build or reform knowledge hubs, while sharing their lessons with peers and partners around the world. Colombia and Indonesia are key drivers at this stage, also taking the Knowledge Hub idea to other fora such as the G20 Development Working Group. Multilateral organizations are providing resources and spaces for learning and exchanging lessons, for example through the Community of Practice hosted at [www.knowledgehubs.org](http://www.knowledgehubs.org) and by providing pioneer analysis on institutional and operational options for Knowledge Hubs. Here, the World Bank Institute and partners at ADB and UNDP play a central role. Private sector specialists have come on board of the online Community, and might support the institutional and operational development of public sector Knowledge Hubs in the future.

This inspiring and energy-loaded context opens a wide horizon for all partners to work on concrete steps to support the emergence and strengthening of Knowledge Hubs at the national and sector level. The most important next steps include the following:

- Governments such as Brazil, Colombia, Indonesia and Nigeria are already pioneering efforts to set up and consolidate knowledge hubs, particularly at specific thematic areas where valuable solutions have been developed to fight poverty. These initiatives help scale up the institutional and operational capacities to capture, validate, package and share knowledge in a systematic and sustainable way.
- The Community of Practice will continue growing in membership, contents, and practical relevance for supporting



Knowledge Hubs around the world, with increased peer learning dynamics through a variety of channels (webinars, blog posts, face-to-face events, etc.).

- Practice-based tools for Knowledge Hub development are emerging, for example through self-assessment surveys and adaptable road maps currently being designed by the World Bank Institute as a service to countries and institutions interested in setting up Knowledge Hubs.
- Analytical work will inform country-led efforts to build and scale up Knowledge Hubs by identifying clear-cut options and pathways to invest in institutional and operational capacities, based on the practice and experiences of existing institutions.
- Pilot engagements by multilateral organizations such as the World Bank Institute will provide high-quality support to countries and sector institutions desiring to invest in their Knowledge Hubs in practical ways, while also learning from each other.
- Under country leadership, Knowledge Hub lessons can be shared in global fora, among them the G20 Development Working Group meetings, the UN-hosted Global South-South Development Expo as well the sessions of the Steering Committee of the Global Partnership for Effective Development Co-operation.
- A Second High-Level Meeting on Country-Led Knowledge Hubs is being planned for 2014, under the possible leadership of the government of Korea, bringing together the multi-faceted ongoing initiatives around Knowledge Hubs as pillars in a multipolar world.

**Annex 1**



EXECUTIVE SUMMARY OF THE HIGH-LEVEL MEETING ON  
COUNTRY-LED KNOWLEDGE HUBS

BALI (INDONESIA), 10-12 JULY 2013

*Why was the HLM so unique?*

For the first time ever, policy-makers and practitioners gathered to promote Country-Led Knowledge Hubs (KH) as pillars for a global development system that uses the full potential of knowledge exchange. Over the past years, developing countries have been investing in their institutional and operational capacities to share their successful experiences and practice-proven solutions. Building agencies, departments and specialized platforms, in particular middle-income countries take an increasingly proactive and self-confident role in the global fight against poverty, in line with the proposals suggested, among others, by the G20.

However, these efforts are often disconnected from each other, and there is still limited guidance and evidence on how to create KH that are effective and sustainable. In view of this gap, the Bali HLM – co-organized by the Government of Indonesia, JICA, UNDP and the World Bank, was a groundbreaking pilot with more than 300 highly motivated key decision-makers from 46 countries looking into the options to institutionalize mutual learning and equal partnerships through KH. Lesson learned and next steps were discussed in five focused discussion panels and ten thematic roundtables, in a vivid and open debate based on emerging evidence.

Launched by Indonesian Vice President Boediono, the event was guided by senior-level representatives such as Indonesian Minister of National Development Planning (BAPPENAS) Armida Salsiah Alisjahbana,

World Bank Managing Director Sri Mulyani Indrawati, JICA Vice President Hiroto Arakawa, and UN Assistant Secretary-General and UNDP Assistant Administrator, Ajay Chhibber.

During the HLM, practitioners shared their experiences with national and sector-specific KH models. These included, among many others, the Argentinean South-South Cooperation Fund (FO-AR), the Brazilian Agricultural Research Corporation (EMBRAPA), the Colombian Presidential Agency for International Cooperation (APC), the Indian Energy and Resources Institute (TERI), the Indonesian Coordinating Team, the Korea Development Institute (KDI), the Mexican Agency for International Development Cooperation (AMEXCID), the Singapore Cooperation Enterprise (SCE), and the Turkish International Cooperation and Development Agency (TIKA).

Against this inspiring background, the participants achieved a shared understanding of practical challenges and opportunities for KH to become a centerpiece of development cooperation and international relations. Opening up an intense work agenda for the next years, concrete next steps were outlined in the Bali Communiqué to inspire country processes and cross-country mutual learning.

*What were the main messages from the HLM?*

Based on the Bali Communiqué and the outcomes of the thematic roundtables, the key message from the HLM is that knowledge exchange is a vital complement to existing technical and financial cooperation in a multipolar world, which needs to be scaled up in order to fully contribute to sustainable development and poverty reduction. In this promising context, KH can help create an enabling environment helping take advantage of the development experiences and models proven successful in practice, particularly, although not exclusively, in middle-income countries.

Specific messages address the political, institutional and operational dimensions of KH:

*At the political level*, KH are now fully recognized as a critical pillar of the national and international architecture that takes advantage of knowledge as a public good to be exchanged openly. Their key functions include leveraging budget allocations and enable an efficient use of

limited financial resources; facilitating coordination both to share and receive knowledge; assuring quality, result orientation and accountability. In addition, KH play an essential role in formalizing international partnerships and embedding KE into an external affairs approach which is based on horizontality, mutual benefit, and 'soft power'. Building and sustaining KH require strong energy and commitment of all relevant national stakeholders, especially at the level of policy- and decision-makers, including those responsible for allocating financial and human resources.

*Institutional models* have emerged in sectors and countries, with many lessons on how KH can make best use of mandates and resources. In many cases, existing institutions, capacities and coordination mechanisms can be adapted in a flexible way, rather than creating additional bureaucracy. The Bali HLM highlighted the value of national umbrella KH capable of ensuring inclusive engagement of all relevant national actors beyond government and formalizing cross-country partnerships with a clear long-term perspective. Sector KH are coordinating from strong expertise, clear result orientation and thematic networks, often with outstanding impact and sustainability. Both national and sector KH can benefit from collaboration with multilateral organizations that offer brokering and 'match-making' services, help map and systematize high-quality knowledge, mainstream knowledge exchange in a blended mix of development operations, and increasingly support institutional development of KH in a direct way.

*Operational tools and solutions for KH* are advancing quickly, although in a rather fragmented way. The Bali HLM stressed the need to ensure that only high-quality knowledge is exchanged in a transparent way. Common, binding and verifiable criteria should be used to identify the 'right knowledge' which should be easily accessible through online knowledge catalogues hosted at KH. In regards to implementation, a wide range of modalities exist already (such as field visits, workshops and joint studies), and further opportunities emerge from low-cost communication technologies (e.g. videoconferences, file sharing, and social networks). A key responsibility for KH relates to ensuring continuous result orientation of larger-scale knowledge exchange, where low-cost monitoring and evaluation systems are emerging in a number of countries. Finally, financial sustainability can be ensured through KH using a mix of national resources, international support,

cost-sharing models and private sector engagements.

*Ways forward*

The Bali HLM launched a long-term process of bringing KH to the forefront of the international commitment with poverty reduction and inspiring countries to scale up their institutional and operational capacities to exchange and share high-quality knowledge. A key factor to success lies with continued mutual learning among governments and institutions. To advance this, the co-organizers of the Bali HLM have committed to:

- Until the end of 2012, establish a Community of Practice on Knowledge Hubs ('The KH Community') to create a knowledge repository on KH and to enable regular exchanges among policy-makers and practitioners from interested countries and multilateral partners.
- Over the next months, continue the ongoing analysis on experiences by governments and specialized institutions to create and sustain country-led KH, in order to inform the learning process with clear-cut options.
- Host a follow-up HLM in the next two years, with a focus on specific institutional and operational challenges and solutions for KH to become effective and sustainable.

Beyond the co-organizers, other governments and multilateral institutions are encouraged to join these efforts with specific contributions to mutual learning, analysis and events.

## **Annex 2**

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# Chapter 5

## The Approaches and Mechanisms of JICA's Triangular Cooperation: An Analysis

Shunichiro Honda

### 1. Introduction

Triangular cooperation (TrC)<sup>1</sup> is increasingly attracting global attention as a promising approach for development cooperation. This is in part a reflection of the changing global development landscape in which new development actors, such as non-DAC donors, have widened their activities while the aid from “traditional donors” has relatively declined. In spite of the growing interest in TrC, there is a dearth of information on how major bilateral donors are planning and managing TrC practices. This paper aims to address this by providing a description of the systems used by JICA, a recognized major bilateral aid agency in TrC. This paper outlines several key characteristics of JICA's approaches to TrC, their patterns, and operational mechanisms in place. Specifically, this paper examines the following points:

- TrC is firmly positioned in the key policy and planning documents of the Japanese Government and JICA, which include the national ODA Charter and JICA's medium term plan.
- Japan's commitment to South-South cooperation (SSC) and TrC has a long history; it started its TrC early in its history of international development, in 1974. Since then, Japan's TrC has increased steadily, and in 2012, there were over 3,500 participants from all over the world in JICA-supported triangular training programs—its main TrC instrument.

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1. Unless otherwise stated, this paper applies the widely-used UN definition throughout: “Triangular cooperation involves Southern-driven partnerships between two or more developing countries supported by a developed country (ies)/or multilateral organization(s) to implement development cooperation programs and projects (UN 2012, p.5).” This definition is broadly in line with the one that JICA currently apply. Until 2010, more descriptive phrases such as “the support to or the promotion of South-South Cooperation (SSC)” were widely used in the official documents and guidelines. The official use of TrC broadly in line with UN definition has been quite recent.

- The patterns of implementing TrC have widened and diversified, and range from the simple dissemination of knowledge from a pivotal country to other—usually neighboring—country(ies), to more complex patterns involving thematic networks for mutual learning among multiple stakeholders.
- Today, while JICA's main TrC instruments continue to be training and expert dispatch, other instruments such as the packaged technical cooperation projects have increasingly been applied.
- JICA's TrC management mechanism is broadly characterized by its decentralized structure, with country offices playing increasingly larger roles.
- JICA has continuously improved instruments and management structure, including the organization-wide knowledge management on TrCs.
- JICA collaborates with other international partners such as the United Nations Office for South-South Cooperation (UNOSSC). In this framework, JICA has supported the Global South-South Development (GSSD) Expo since 2008, and recently JICA and the UNOSSC launched a joint capacity building course for SSC/TrC practitioners.

These systems and practices are built on the forty-year evolution of JICA's bilateral and TrC operation. As this paper will detail, this operation is a well-developed mechanism of TrC engagement from planning to practice, with several practices and mechanisms worthy of particular attention.

## **2. Policies and Plans for JICA's TrC**

As is reported by the OECD/DAC study (OECD 2013b), DAC bilateral donors, with only a few exceptions, lack clearly stipulated TrC policies incorporated into their aid policy framework. Along with Spain and Germany, Japan is one of the few exceptional bilateral donors<sup>2</sup>. Japan's policy framework on TrC in particular and SSC in general is defined at the highest level by the ODA charter and at the operational level by JICA's policy document.

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2. Through various public documents, other donors such as Germany, Spain and Korea expressed their commitment to TrC or the promotion of SSC (OECD 2013b)



## 2.1 Japanese government policies guiding JICA's TrC practices<sup>3</sup>

The ODA charter of 2003, the highest official document defining the direction of Japan's ODA, has taken clear notes of the support to and promotion of SSC in one of the five basic ODA policies. It states:

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. (ODA Charter, Basic Principles (5) Partnership and collaboration with the international community)

Japan's Mid-term ODA plan of 2005, which translated the ODA charter into actionable policies, also underscored the above basic policy related to SSC.

Other frequently cited high-level policy documents are those adopted at the successive conferences of TICAD (Tokyo International Conference on Africa's Development), since the first TICAD held in 1993. While TICAD itself is a joint global policy process in support for African development, the Japanese government has played a central role in organizing the conferences in partnership with other co-organizers, including UNDP representing the UN Development Group, the World Bank, and the African Union.<sup>4</sup> The official declarations and action plans adopted at the conferences, which have repeatedly emphasized the SSC and Asia-Africa cooperation, have long guided JICA's TrC for Africa. The following statement is included in the Tokyo Declaration for African Development (1993):

We, the participants of TICAD, recognize that development achievement in East and South-East Asia have<sub>[sic]</sub> enhanced opportunities for South-South cooperation with Africa. We welcome the interest shown by some Asian and African countries in promoting this cooperation. (TICAD 1993, Paragraph 26)

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3. The operational structure of Japan's ODA is largely divided into two functions, policy and implementation, with the former under the responsibility of Ministry of Foreign Affairs (MoFA) as the central coordinating government body for ODA and the latter under JICA responsibility.

4. The African Union (AU) has officially become one of the co-organizers of TICAD, as of TICAD V.

## **2.2 JICA's organizational plan and the rationale on TrC**

### **(1) The rationale for engaging in TrC**

In its official brochure on TrC, JICA has made clear the rationale behind its active support of TrC (JICA 2013a)<sup>5</sup>. The brochure sets out two points. Firstly, JICA recognizes that SSC is an effective tool for developing countries that shares similar economic, social, and cultural conditions to exchange ideas for development. By combining the North-South and South-South cooperation through its flexible TrC, JICA aims to enhance the impact of SSC.

Secondly, in this brochure Japan recognizes its own past experiences as an “emerging donor.” Japan started its technical cooperation when it joined the Colombo Plan in 1954, while the country was still receiving a large volume of external assistance in rebuilding itself in the aftermath of World War II. This past experience having been an SSC actor has formed a basis of Japan as the active partner in TrC (JICA 2013; Watanabe 2013, pp. 151-157).

### **(2) TrC in the mid-term plan**

In accordance with the ODA policy and rationale, JICA has identified TrC in its current mid-term plan<sup>6</sup> as one of the key prioritized approaches of development cooperation (2012-2016).<sup>7</sup> As one of four actions towards the enhancement of strategic orientation and management of JICA's programs and projects, the document states that:

JICA strives to strategically engage in TrC in recognition for its relevance and effectiveness of development cooperation. JICA will also make an effort to take stock of JICA's experiences and lessons learned on TrC and share them with other interested international partners (JICA, 2013b, p 3, the author's translation).

### **(3) “Thematic Guideline on South-South Cooperation (Support to SSC)”**

JICA's operational documents include detailed guidance on how TrC

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5. In this specific brochure, JICA applies SSC support in place of TrC (JICA 2013).

6. JICA's mid-term plan is a statutory document which outlines the five year commitment of JICA as the independent administrative institution. The document requires the formal approval of the Minister of Foreign Affairs.

7. In line with the Japanese financial year, the duration of the mid-term plan is from 1<sup>st</sup> April 2012 to 31<sup>st</sup> March 2017. JICA also needs to prepare an annual plan within the framework of the current mid-term plan and then submit the annual performance report to the Minister of Foreign Affairs for scrutiny at the end of each Japanese fiscal year.

programs and projects are planned, implemented, and evaluated. Among these, the central document is the "Thematic Guideline on South-South cooperation (Support to SSC)" prepared in 2005 by JICA's working group on SSC,<sup>8</sup> established inside JICA (JICA 2005). To help JICA's practitioners in planning and implementing TrC, this document classified JICA's TrC practices according to their main objectives and functions, which this paper makes reference to in the following section on the JICA's TrC patterns. The two major categories by objectives are:

- 1) Support developing countries (pivotal countries) in implementing SSC
- 2) Mobilize southern knowledge to enrich the body of knowledge provided by JICA's bilateral assistance for better effectiveness and efficiency.

The guideline also establishes the regional direction and prioritized actions in TrC. They are broadly as follows:

- ASEAN region: The emphasis is placed on intra-regional cooperation to address disparities in development progress among ASEAN members;
- Latin America and the Caribbean: The prioritized actions include the effective application and combination of different TrC instruments and the capacity development (CD) support to SSC implementing agencies in pivotal countries;
- Sub-Saharan Africa (SSA): In keeping with the TICAD process, TrC in the region promotes both intra-regional and inter-regional cooperation, particularly between Asia and Africa; and
- Middle-East: Two priorities for TrC are to support efforts to restore peace in conflict-affected areas and foster partnerships among Arab countries.

The documents also makes reference to the remaining challenges facing JICA: 1) identifying the development themes and issues where in which the mobilization of southern knowledge resources will be most effective; 2) balancing the ownership of pivotal countries in their SSC activities (TrC) and the development needs of the beneficiary countries; 3) identifying strategies to select main southern partners for JICA's CD

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8. In spite of organizational and other changes, this guideline continues to be used as the key reference document with other newer supplementary materials.

support of their SSC; and 4) outlining exit strategies for the CD support of SSC and deciding how long such CD support should continue.

Following the publication of the guideline, JICA has built on these recommendations, preparing and issuing operational manuals for key TrC instruments. These guidelines and manuals prepared during the second half of 2000s are key documents informing JICA's TrC practices until now.

### 3. JICA's Current TrC Practices: A Short Overview of Trends and Patterns

Below is a quick glance of what JICA's global TrC engagement looks like.

#### 3.1 The current status of JICA's TrC

Table 1 below illustrates the current trends and characteristics of JICA's triangular training program by region (Third Country Training Program/TCTP in JICA terminology). In terms of magnitude, JICA assisted its southern partners to accept a total of about 3,600 training participants during the Japanese fiscal year of 2011.

**Table1. The number of TCTP participants (by region in 2011)**

		Number of TCTP Participants sent (by regional origin)					
		<i>Asia-Pacific</i>	<i>LAC</i>	<i>Middle-East*</i>	<i>Europe</i>	<i>SSA</i>	<i>Total</i>
Number of TCTP Participants received	<i>Asia-Pacific</i>	885	15	50	0	279	1229
	<i>LAC</i>	16	598	0	0	96	710
	<i>Middle-East*</i>	78	0	647	0	472	1,197
	<i>Europe</i>	30	0	28	6	0	64
	<i>SSA</i>	0	0	0	0	381	381
	<i>Total</i>	1009	613	725	6	1,228	3,581

\*Note: Middle-East here includes North Africa according to the JICA's regional classification for its operation.

Source: JICA 2011

The table illustrates several general features. First and not surprisingly, roughly two thirds of TCTP participants receive training within their respective regions, with a country in the region working as a provider in

support of other countries in the region (Asia-Pacific 885, LAC 598, Middle-East 647, SSA 381).

Second, JICA's main TrC engagements occur in the Asia-Pacific region.<sup>9</sup> The countries in this region have accepted the largest number of trainees (1229).<sup>10</sup>

The Middle-East region has provided the second largest number of trainees (1197), of which over half come from the same region. Here again, the SSA region is the second largest beneficiary (472) of training programs taking place in the Middle-East. This is due to the presence of Egypt and Maghreb countries, which have been very active in providing knowledge opportunities to SSA participants (Honda, Kato and Shimoda 2013).

Latin America and the Caribbean (LAC) is another region active in JICA-supported TrC. Though the total number of TCTP activities is smaller than in other regions such as Asia-Pacific (710), LAC countries with JICA support have undertaken a number of good regional knowledge exchange practices in broad areas including health, disaster prevention, sustainable agriculture, and the environment. Such a high commitment to regional exchanges in part reflects the similarities in languages, geographical features, and cultural and historical heritage.

Sub-Saharan Africa (SSA) received the largest number of trainees (1228). The fact that nearly 300 of these SSA participants (279) were trained in Asia-Pacific Region underscores the importance placed on the promotion of Asia-Africa cooperation through the TICAD process. It is also interesting to note that quite a large number of SSA participants (381) were trained in other SSA countries, demonstrating an active inter-regional exchange. Another notable trend is the increasingly active exchanges between SSA and Latin America (96), the sizable portion of which seems to be the exchange between Brazil and Lusophone African countries, according to other sources (Honda, Kato and Shimoda. 2013).

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9. An analysis of the past trends shows that the proportion of SSA trainees has consistently increased over the years, whereas those in the Asia-Pacific have been decreasing (JICA 2011). LAC has consistently engaged in large numbers of TrC practices.

10. Though not shown in the table, the general trend within the South-East Asia sub-region is that more advanced ASEAN countries including Thailand, Indonesia, and Malaysia support CLMV (Cambodia, Laos, Myanmar, and Vietnam) in lower income brackets (JICA2012b).

The above table illustrates the global coverage of JICA's TrC partnerships, extending from Asia-Pacific, which has been the traditional focus of Japan's ODA, to other regions of SSA, Middle-East and LAC. This implies that a quite large number of JICA's divisions, offices, and personnel are engaged in TrCs in one way or another, forming a backdrop of JICA's TrC mechanism.

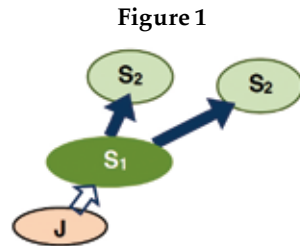
**3.2 Patterns of JICA's triangular cooperation<sup>11</sup>**

JICA's TrC is implemented in a variety of forms. In the early years, it was mostly limited to the support of training programs offered by southern countries and the dispatch of a small number of southern experts. During that time, the objectives were also generally confined to the dissemination of knowledge initially developed through JICA's prior bilateral technical cooperation. Since the 1990s, however, JICA's TrC practices have diversified. In order to respond to the variety of development needs in developing countries, JICA has introduced more complex patterns of TrC practices such as the regional multi-stakeholders' networks on specific themes. It also began to provide assistance to the capacity development (CD) efforts of southern partners in their SSC planning and management. The following section depicts some discernible patterns of JICA's current TrC. The first four are patterns of TrC, while the last two are related to JICA's support of CD efforts by pivotal countries.<sup>12</sup>

*Key patterns of triangular cooperation*

**a) Dissemination of excellent practices (Figure 1)**

This has been the most standard form of JICA's TrC. This framework allows the dissemination of knowledge co-created through prior technical cooperation between southern partner(s) and JICA to other beneficiary countries in the South. Training and the dispatch of experts are the usual instruments used for this pattern. This pattern often develops into a regional network as in



11. The patterns illustrated in this section are based on the patterns set out by JICA's thematic guideline on South-South Cooperation (JICA 2006), with some author's additions and changes.

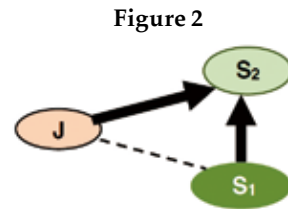
12. In the diagrams included in this section, J stands for Japan and S stands for Southern partners. Arrows explain the flow of personnel, equipment, materials, and other input. Areas enclosed with dotted red lines indicate the scope of JICA's direct engagement.

pattern d) below.

Examples of this type of cooperation abound in JICA's TrC practices. The Kenya Forestry Research Institute (KEFRI) in collaboration with JICA has organized a triangular training program on social forestry, which was previously developed through bilateral technical cooperation between Kenya and Japan.<sup>13</sup> Senegal's Vocational Training Center (CFPT) actively hosts vocational training programs for instructors and trainers from French-speaking African countries in the field of industrial development, building on its strengthened capacity through bilateral cooperation with Japan (Honda, Kato, and Shimoda 2013).

### b) Collaborative support among Japan and southern development partners (Figure 2)

This is another pattern in which JICA and southern partner(s) jointly support a beneficiary country through strategic collaboration as equal partners. As many developing countries have developed into middle-income countries with unique technological and managerial strengths, it has become more beneficial to partner with these emerging countries in seeking for the synergy of knowledge from both Japan and partner country(ies).



One notable example of this pattern is the joint support by Brazil and Japan for capacity building of Angola's Josina Machel Hospital, the national reference hospital in the country's capital Luanda that was rehabilitated with the Japanese capital grant aid (Task Team on South-South Cooperation, 2011). The project was the first full partnership launched in 2007 between Brazil and Japan under the Japan-Brazil Partnership Program (JBPP).<sup>14</sup> In organizing twelve training programs for over 700 medical and health staff of the hospital during the three-year period, the government of Brazil with the Brazilian Cooperation Agency (ABC) and its Embassy in Angola has shared Brazilian expertise, fully taking advantage of the language and cultural

13. See chapter 4 of this volume by Akio Hosono for more details of the case.

14. The success of this partnership then led to subsequent joint cooperation on a larger scale to help strengthen the human resources for the Angolan health sector called "Project of Health Sector Human Resource Development in ANGOLA – ProFORSA." The ProFORSA is currently ongoing.

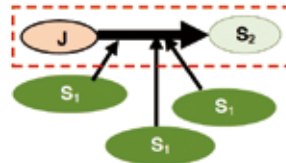
similarities between the two countries.

Another example of this pattern is Project *Taishin* (a Japanese word meaning “quake resistant”) or “Enhancement of Technology for the Construction of Popular Earthquake-resistant Housing,” which was implemented from 2003 to 2008 with the aim of alleviating the disaster risk for residents in the popular low-cost housing in El Salvador. The project was a collaborative response by Mexico and Japan to help El Salvador recover from the two successive tragic earthquakes in 2001 and rebuild the country. In the initiative, the National Center for Disaster Prevention (CENAPRED) provided capacity development assistance to El Salvadorian counterpart organizations, while the Mexican Agency for International Development Cooperation (AMEXICAD) oversaw the support from Mexico to El Salvador at a policy level. JICA helped facilitate the triangular initiative while also providing technical advice, financial assistance, and equipment (Saito 2012a).

### c) Bilateral TrC integrating southern knowledge (Figure 3)

For the objective of enhancing the impact of JICA’s bilateral TrC project, JICA mobilizes knowledge resources from southern partners either through TCTP or TCED (“third country expert dispatch”) in the field where Japan may not have a comparative advantage or readily available good practices relevant to the beneficiary country under concern.

Figure 3



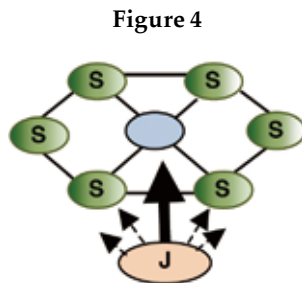
For example, the technical cooperation project “Capacity Development for Public Administration” in Ghana, sought expertise not only from Japan but also from a number of other countries including Singapore, Malaysia, and South Africa to enhance the training programs in ethical leadership and quality improvement at the Ghana’s Civil Service Training Centre (CSTC). The project design was based on the belief that the expertise from other commonwealth countries, which share many common features with Ghana, would add to the Japanese experiences in civil service management (Honda, Kato, and Shimoda 2013).

### d) Network / platform among southern partners (Figure 4)

More complex forms of networks or platforms have been applied in recent years. In many of these patterns, no single southern partner



assumes the role of central knowledge dispenser,<sup>15</sup> rather, the alliance comprises a number of interested parties interacting among themselves, each bringing their own strengths and unique experiences. In other cases, the network mechanism may be introduced with the aim of connecting already ongoing and established practices in similar fields within the country.

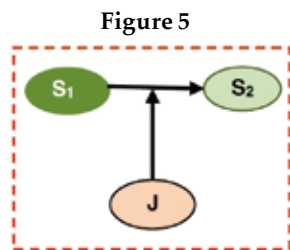


This has increasingly become one of the standard patterns of JICA's larger scale TrC projects, being implemented in various sectors and regions. In the field of solid waste management, the case of the promotion for improved solid waste among the Pacific states, J-PRISM, is a notable example.<sup>16</sup> Likewise, the Coalition for African Rice Development (CARD) with its secretariat in Kenya is an example within the agricultural sector (Kubota 2013). This project strives to connect broad stakeholders ranging from government organizations, academic institutions, NGOs, and private sector and international donors, in the form of a multilateral knowledge platform for the development of the rice crop sector in Africa. In the education sector, Kenya played a key role as the knowledge hub for the Strengthening of Mathematics and Science Education project in Western, Eastern, Central, and Southern Africa (SMASE-WECSA). The project has developed into an even more horizontal network in which various countries are starting to share their own student-centered teaching methods in mathematics and science education (Ishihara 2012).

**JICA's CD support for TCDC: Indirect TrC engagement**

**e) Support for technical cooperation among developing countries (TCDC) (Figure 5)**

Apart from TrC types described above, JICA has also extended complementary support of technical cooperation among developing countries (previously termed generally as TCDC). The objectives of this support of TCDC are twofold. Firstly, it allows JICA to collaborate with southern



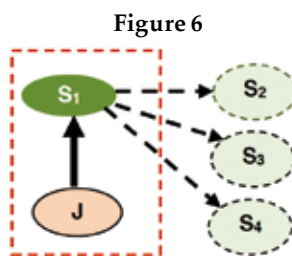
15. A central secretariat may be established to coordinate and facilitate the knowledge exchange activities among the network members.

16. See Chapter 10 of this volume for more details of the case.

partners even in fields where Japan may not have an absolute comparative advantage. Second, it provides Japan with opportunities to support the southern partners' CD through the complementary support of their TCDC practices.

#### f) Support for SSC organizational capacity development (Figure 6)

JICA has also assisted the CD efforts of southern partners more directly, dispatching a number of technical cooperation experts to share Japanese ODA experiences and practical approaches to planning and managing cooperation activities. It has also accepted key personnel to CD workshops for SSC in Japan and elsewhere.



One ongoing practice is JICA's support of the Indonesian efforts in strengthening capacity to deliver more effective SSC. JICA has been assisting Indonesia to this end, in close collaboration with other international organizations like UNDP and the World Bank (Shimoda and Nakazawa 2012).

### 3.3 Systematization of TrC planning and execution

Parallel to the diversification of TrC approaches described above, JICA and the Japanese government have introduced and experimented with several institutional approaches for systematizing its TrC practices. Two such notable exercises are Partnership Programs (PP) and the JICA-ASEAN Regional Cooperation Meeting (JARCOM), the latter of which has now been reorganized and aligned to the Initiative of ASEAN Integration (IAI).

#### (1) Partnership Programs (PP)

In response to rapidly expanding and more complex TrC practices, the Japanese government introduced the "Partnership Programs (PPs). PPs are a bilateral cooperation framework between Japan and the key TrC partners.<sup>17</sup> The two main objectives of PPs are first to provide a platform for systematic joint programming and implementing of TrC, and second to share Japanese experiences on aid management with some of the

17. The conclusion of PP generally takes the form of formal memorandum of discussions signed by the high level representatives of both countries, many of which were signed by Foreign Ministers.

counterpart organizations. An example of the latter is the dispatch of experts to the Chilean International Cooperation Agency (AGCI) in the mid-2000s. Since the launch of the first PP with Thailand in 1994, twelve PPs have been concluded throughout the Asian, African, and Latin American regions.

**Table2. Currently operational Partnership Programs**

Region	Countries	Launch year
Asia	Singapore	1994
	Thailand	1994
	Philippine	2002
	Indonesia	2003
Latin America and the Caribbean	Chile	1999
	Brazil	2000
	Argentina	2001
	Mexico	2003
Middle-East and North Africa	Egypt	1998
	Tunisia	1999
	Morocco	2003
	Jordan	2004

Source: JICA (2012a)

PPs generally start with the signing of documents or statements of commitment to the partnership which include the cost-sharing principle among the two parties,<sup>18</sup> the forms of triangular technical cooperation, and the annual joint planning cycle. Some PPs spell out priority areas for joint activities. Among the PPs, the Japan-Chile Partnership Program (JCPP), launched in 1999 and operating under strong Chilean leadership to which Japan extended catalytic support, has been the most active (Yamada 2007; JICA 2009b).

In spite of such notable good practices, PPs are not without their problems. For example, several past evaluations pointed out that the intensity of activities differs quite widely among PPs (Nomura Research Institute 2013). Given the rapidly changing global development landscape, some revisions of the design of PPs may be in order so as to make full use of the model as a unifying framework for increasingly voluminous and complex TrC practices, especially in key pivotal countries.

18. Some PPs specify the exact cost-sharing ratio in the document.

## **(2) JARCOM and its successor initiatives**

Another attempt at systemizing TrC practices was the JICA-ASEAN Regional Cooperation Meeting (JARCOM) launched in 2002. JARCOM is a multi-country, multi-sector process and mechanism to effectively meet the knowledge and capacity buildings needs of ASEAN countries.<sup>19</sup> It also represents JICA's conscious efforts at promoting more demand-driven, effective TrC. In JARCOM, CLMV countries<sup>20</sup> first submit a list of areas in need of support. This list is then carefully matched with the potential knowledge provider(s) in more advanced ASEAN countries such as Thailand and Indonesia, using various channels such as bilateral and multilateral meetings, fact-finding missions, and seminars organized under the auspices of JARCOM (JICA Thailand Office and UNDP Regional Centre in Bangkok 2009).

Building on the achievement of JARCOM, the needs matching system further evolved into what is called J-SEAM (Japan-Southeast Asian Meeting for South-South Cooperation), which puts more emphasis on the quality of knowledge exchange as well as the network building. To further enhance the alignment of JICA-assisted regional TrC coordination efforts, JICA then dissolved J-SEAM, incorporating some of its constituent activities into the Initiative for ASEAN Integration (IAI) under the auspices of ASEAN. To extend necessary support to IAI, JICA, ASEAN Secretariat, and Laos, for example, are currently implementing the Laos Pilot Program for Narrowing the Development Gap toward ASEAN Integration with the focus on green economy and clean environment (JICA 2012b).

## **4. JICA's TrC Operation: Instruments, Management Mechanisms, and Organizational Structure**

Managing TrC is no easy task as it inevitably involves multiple stakeholders from multiple countries (OECD 2013a). As a long-standing bilateral donor in TrC, JICA has made continuous efforts to improve its institutional and organizational mechanism over the years.<sup>21</sup> This section provides a snapshot of the instruments, management

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19. The several related actions began in the late 1990s, culminating in the launch of JARCOM process in 2002.

20. CLMV denotes the lower-income group of ASEAN countries including Cambodia, Laos, Myanmar, and Vietnam.

21. These moves have been influenced and accelerated by Japan's recent ODA reform, in which JICA was re-established as an autonomous public aid agency handling three aid modalities of concessional loan, capital grant aid, and technical cooperation.

mechanisms, and organizational structure of JICA's TrC in its current form.

In what follows, we will have a look at JICA's TrC instrument and mechanisms, whose major characteristics can be summarized as follows:

- JICA's main TrC instruments remain the conventional training programs and expert dispatch. Recently, however, other instruments such as the packaged technical cooperation projects have increasingly been applied.
- JICA's TrC management mechanism is basically decentralized, with its country offices increasingly taking on larger or leading roles.
- JICA has continuously improved instruments and management structure, which include the organization-wide knowledge management on TrC.
- JICA actively collaborates with other international partners such as the United Nations Office for South-South Cooperation (UNOSSC) in various fields such as joint capacity building.

#### **4.1 Key TrC instruments<sup>22</sup>**

The main modalities are training programs, the dispatch of experts, and TrC in project form.

##### **(1) Third Country Training Program (TCTP)**

The large part of triangular training programs, forming the core of JICA's TrC, has been supported through what it calls the Third Country Training Program (TCTP) scheme. TCTP has been the main instruments for the TrC pattern a) described in section 3-2 above, and has also been widely deployed in other patterns.<sup>23</sup> TCTP is undertaken through cost-sharing between JICA and the host country, the details of which will be explained in the later section on planning and implementation. It includes open or semi-open training programs ("group training" in JICA operational term) and the tailor-made training, specifically designed for a specific country or organization ("individual training" by

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22. TCTP and TCED are frequently complemented with other auxiliary instruments including the supply of equipment and the dispatch of Japanese experts to provide additional expertise to enrich TCTP training courses.

23. TCTP may be implemented in organizations of southern partners without any prior cooperation from JICA if the program specifically addresses the priority global and regional issues.

JICA's term).<sup>24</sup> Usually, one training program lasts for one to two months per year over for a period of three years<sup>25</sup>.

## **(2) Third Country Expert Dispatch (TCED)**

JICA's assistance to the southern experts dispatch has been through the scheme called Third Country Experts Dispatch (TCED).<sup>26</sup>

In comparison to TCTP, the total number of dispatched TCED personnel has been relatively limited, lingering at a little over one hundred in 2011 (JICA 2011). The detailed composition of TCED in terms of region and country of origin as well as beneficiary countries in 2011 is provided in the Table 3 below. Under the TCED scheme most experts come from middle-income countries. The LAC countries, such as Mexico and Brazil dispatched relatively high numbers of experts; these countries are important partners for Japan, where, through bilateral cooperation, useful practices and knowledge have been created and accumulated. These LAC countries are also where JICA has been actively engaged in promoting TrC.

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24. The beneficiaries of the latter are usually the counterpart organizations of JICA's ongoing bilateral technical cooperation.

25. An extension for another three years (2<sup>nd</sup> phase) may be granted upon the terminal evaluation of the expected impact of the first phase and assessment of the continuing needs and relevance of the program.

26. In the scheme, there are generally two sub-types: 1) TCED integrated into JICA's bilateral project and 2) stand-alone TCED with the main objective of disseminating knowledge and skills of southern country experts previously acquired through JICA's bilateral technical cooperation.

**Table3. The composition of TCED by country in 2011<sup>27</sup>**

Regional origins	Country Origin (# of experts in total)	Beneficiary countries	Number of TCED
Asia	Indonesia (2)	Madagascar	2
	Philippines (4)	Cambodia	2
		Tanzania	2
	Vietnam (10)	Mozambique	10
Latin America and the Caribbean (LAC)	Argentina (22)	Costa Rica	1
		Paraguay	21
	Chile (8)	Paraguay	8
	Brazil (31)	Angola	1
		Cambodia	3
		Nicaragua	2
		Paraguay	16
		Bolivia	1
		Mozambique	8
		El Salvador	3
	Mexico (26)	Guatemala	1
		Haiti	2
		Paraguay	3
		Honduras	13
<b>Total</b>			<b>99</b>

Source: JICA 2011

TCED can be used in multiple patterns with varied objectives. For example, in the project addressing regional solid waste management in the Pacific (Chapter 10), local experts in the Pacific are actively engaged in the regional initiative as advisers to share local experiences with other countries within the region. Other than this specific mobilization of TCED within the particular region, there are also cases of inter-regional dispatch from one region to another. For instance, Ghana's Civil Service Training Centre (CSTC) accepted experts from Civil Service College (CSC) of Singapore in various themes including quality and productivity improvement as part of JICA-supported bilateral technical cooperation project.<sup>28</sup>

### **(3) Triangular cooperation in project form**

In order to provide more systematic and flexible assistance to address

27. This figure mostly represents those of stand-alone TCED and excludes TCED dispatched as part of larger technical cooperation projects. JICA has not yet consolidated all data of TCED in various forms.

28. See Honda, Kato and Shimoda (2013) for details.

development challenges, programming TrC in a project form, called the “Technical Cooperation Project/TCP” in JICA’s operational terminology, is becoming increasingly common. TCP is a multi-year TrC scheme which can package ranges of technical cooperation instruments including the dispatch of experts, training, equipment, and complementary financial assistance. There are some variations in the way TCP is applied for TrC practices. One clear-cut approach are the projects specifically designed to promote TrC engagement, an example of which is the project for livestock hygiene improvement in South America, which aimed to develop and enhance the regional network of university-based veterinary professionals (Inamura 2012). Another noticeable variation is the case of TCP as described in pattern (c) of the section 3-2 above, in which a bilateral project incorporates TrC sub-components to take advantage of knowledge available in southern countries. The Project for Improvement of Maternal, Newborn and Child Health Service in Madagascar, for instance, incorporated the learning opportunities in Brazil on the advanced practice of humanized care in maternity clinics into JICA-assisted bilateral cooperation involving Japanese advisers (JICA 2010).

#### **(4) TrC consisting of multiple programs and projects**

Often, a single project or program cannot effectively manage and coordinate continuous activities of knowledge sharing and dialogue among multiple stakeholders from multiple countries. Therefore, gradually, JICA began to form more extensive initiatives, consisting of multiple projects and programs. The “Better Hospital Services Program” (BHSP) in Africa is such a case. It is an inter-regional multi-country triangular cooperation connecting Sri Lanka, Japan, and 17 African countries to promote management change in African hospital services, applying the knowledge package for management called 5S-KAIZEN-TQM.<sup>29</sup> BHSP provides a broad cooperation framework which flexibly binds projects and programs using diverse modalities such as TCTP, TCED, and bilateral technical cooperation projects in the beneficiary countries for effective knowledge exchange. This BHSP approach has already resulted in the localization and institutional scale-up of the management change approach in Tanzania, which has come to play a role as a regional knowledge provider in Africa in recent years (Honda 2013).

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29. 5S-KAIZEN-TQM is the acronym of three inter-connected but distinct management change approaches of 1) 5S (“Sort,” “Set,” “Shine,” “Standardize,” and “Sustain”), 2) KAIZEN and 3) Total Quality Management (TQM).



## 4.2 Planning and implementation

Under JICA's approach to TrC, a project can be initiated by pivotal countries or by the beneficiary countries, or by a combination of both.

However a project begins, the planning and implementation facilitated by JICA is largely decentralized to country offices which increasingly play key roles in helping partner countries to formulate and execute TrC programs.<sup>30</sup> The greater weight is now placed on the opinions and recommendations of the country offices in the formal approval process, while the headquarters is taking on more supportive roles. The final authority over new projects and programs does still rest with the headquarters.<sup>31</sup>

As an example, we can examine a triangular training program (TCTP), the major form of JICA's TrC. Figure 7 is a stylized image of the process.

Figure 7. TrC planning and implementation: A stylized image in the case of TCTP<sup>32</sup>



30. Such general characteristics of JICA's TrC planning have been further reinforced by the recent institutional and organizational reform of Japan's ODA and JICA, moving more towards the country-based planning and implementation, and the closer dialogue with the partner country governments.

31. The authority of the very final authorization lies with the International Cooperation Bureau of MoFA, which receives the official request through its diplomatic channel in parallel with the internal transaction within JICA. This is to ensure the effective diplomatic communication among TrC stakeholders whenever any matter arises.

32. In the above figure, EoJ denotes Embassy of Japan.

Suppose that the planning process starts at JICA's partner organization(s), which decides that it would like to share their expertise with other countries. If JICA is ready to support such an initiative, the preparation process then usually starts with a quick needs survey (conducted jointly by JICA and its partner country/organizations) for the proposed subject area among the potential beneficiary countries (Arrow *i* in Figure 7). If necessary, JICA also conducts a capacity assessment of the organization proposing a TrC, to see if it is adequately equipped to plan and manage the proposed TrC. After these preparatory surveys, an official request of support containing the details of the proposed training program is then sent to the JICA headquarters for consideration (Arrow *ii* in Figure 7).

When the request is approved, the counterpart organization then goes on to further concretize the program design with support from JICA's country team (Arrow *iii* in Figure 7). They also develop the curriculum of the program, and go through the administrative procedures pertaining to the program, including the preparation of course information. Once preparatory works are completed, the host organization invites applications to the course from the target countries through its own diplomatic channels (Arrow *iii* in Figure 7). JICA also helps facilitate the process of application by sharing the course information through its country office's network (Arrow *iv* in Figure 7).

Following the selection of applicants using the agreed criteria, the host organization then actually organizes the training.

The costs of organizing TCTPs are usually shared by JICA and its partner countries. In the case of standard TCTP, southern partners are expected to provide appropriate venues and facilities, develop and prepare curriculum, select participants, and organize the actual training. JICA provides, as matching contributions, its partners with various resources, including the advisory support to develop curriculum and select participants, and the complementary financial contributions including travel and accommodation expenses of the participants and honoraria for guest instructors from overseas. The proportion of the required contributions from the southern partners is determined through dialogue, taking into account their financial capacity and other factors.

The specific allocation of JICA's matching contributions to TrC will depend on the TrC pattern and instruments used. Most of the TCTP budget is allocated to country offices within the pivotal country where host organizations are located. In other cases, such as when a TrC sub-component constitutes part of larger project, the cost of sourcing southern expertise is usually budgeted at a JICA office in the beneficiary country.

### **4.3 Evaluation**

#### **(1) Operational evaluations**

In line with the result-based management of Japan's ODA and JICA's operation, JICA conducts operational evaluations of all TrC programs and projects. The evaluation is conducted at different places and focuses on different aspects of TrC, depending on the type of TrC. For example, in the case of standard TCTP, the focus of the operational evaluation is usually on how effectively the partner organization has conducted the program, and the evaluation is therefore conducted in the pivotal country. On the other hand, in case of tailor-made TCTP programs for the specific needs of groups of people or organizations of beneficiary countries, stronger attention is paid to the impact on the beneficiary countries and how the program has contributed to actual problem-solving.

Though JICA applies differentiated evaluation methods and approaches depending on the instruments used and the size of operation, they are all in line with the general evaluation rules for bilateral cooperation. For most TrC practices, which are largely small operations, simplified evaluation methods are applied.<sup>33</sup> For a limited number of large scale operations, JICA applies the full-scale evaluation methods based on the five DAC evaluation criteria through the project cycle.<sup>34</sup> In conducting the evaluation, JICA's thematic guideline on SSC advises that counterpart organization and the government should be appropriately

33. According to JICA's evaluation guideline published in 2010, the projects with the total planned input of 200 million yen or less for the entire duration can be evaluated in simplified methods (JICA 2010). In such case, the main focus of the evaluation is usually placed on the three criteria of relevance, effectiveness and efficiency out of five DAC evaluation criteria though other two items of sustainability and impact may also be included depending on the nature of the program.

34. JICA undertakes evaluation exercises with the view to the continuous cycle of learning and feedback in the form of PDCA (Plan, Do, Check and Action). In the case of full scale evaluation, JICA conducts series of exercises including ex-ante, mid-term review, terminal and post-project.

consulted in all the steps of the evaluation exercise.<sup>35</sup> For instance, in the case of a small-scale triangular training program, JICA set a general rule that the host organization, JICA, and the participants hold an interactive evaluation session on the relevance and usefulness of training toward the end of each training course, at which point the course participants submit their evaluation sheets. The findings and recommendations from these are then used as the key referential information for the improvement of the next round of training. For example, the JICA-supported triangular training project organized by the Dominican Republic illustrates a case where the project made continuous improvement in response to the opinions gathered at the course evaluation workshop (Saito 2012).

For the objective of drawing lessons for further program improvement, JICA has also conducted ex-post evaluations of the past triangular training programs at the pivotal country level in collaboration with partner governments.<sup>36</sup> These studies usually consist of questionnaire surveys and field interviews to the ex-participants as well as other stakeholders including the government organs in the beneficiary countries.

## **(2) In-depth evaluation studies**

Beyond these operational evaluation exercises, JICA has also undertaken a series of in-depth evaluation studies on triangular cooperation. They include thematic evaluations of the broader impact of JICA's support of South-South cooperation as well as the series of country-level evaluations over the triangular training programs. The Ministry of Foreign Affairs (MoFA), the policy making body of Japan's ODA, has also undertaken evaluation studies on the effectiveness of Japan's SSC Support/TrC in 2003 and a third-party evaluation in 2012.<sup>37</sup> The scope and some of the key findings from major in-depth evaluation

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35. In the case of stand-alone dispatch of short-term third country experts, the evaluation is usually substituted by the submission of completion report by the experts to partner organization that received the expert and JICA offices of both in the beneficiary country and pivotal country.

36. Recent country-levels evaluations of TCTP include Egypt (2007), Morocco (2010), and the Philippines (2010).

37. MoFA has also conducted studies on the trend of "emerging" donors with reference to South-South and Triangular Cooperation. The recent studies include "The Study on Current State and Prospect of South-South and Triangular Cooperation by ASEAN Emerging Donors" (MoFA 2011) and "Effective Utilization of Asia's Resources in Africa: Potential for South-South Cooperation and Triangular Cooperation" (MoFA 2012).

studies are summarized in the Table 4 below;

**Table 4. The scope and key findings of major in-depth evaluation studies on TrC**

Year	Done by	Type of Evaluation	Scope and Findings
2001	JICA	Thematic Evaluation	<ul style="list-style-type: none"> <li>· The study focused on the two TrC instruments of TCTP and TCED conducted between 1994 and 1999 by Singapore and Thailand.</li> <li>· The report identified several challenges including goals and objectives not clearly defined and practices and procedures which tended to be tedious and supply-driven. It also found several promising results such as the contribution to the capacity building of the beneficiary countries' professionals in fields such as health.</li> <li>· Based on the findings, the study recommended the move towards more equal partnership between JICA and pivotal countries, an increased focus on the demand, and a more systematic, streamlined and flexible operation.</li> </ul>
2003	MoFA	Thematic Evaluation	<ul style="list-style-type: none"> <li>· The study analyzed the broad spectrum of Japanese TrC covering not only TCTP and TCED but also other assistance including the Japan Human Resources Development Fund (JHRDF), a UNDP-administered trust fund, part of which is earmarked for SSC.</li> <li>· The evaluation positively assessed the Japanese long-term commitment and achievements to SSC both in terms of Japan's global diplomacy and its developmental impact. It also made several recommendations, including strengthening partnership programs, engaging in closer communication with beneficiary countries, and providing extra support to the CD efforts of pivotal countries for SSC implementation.</li> <li>· While assessing favorably the impacts of SSC Support and TrC by Japan, it made recommendations for enhancing the strategic orientation of Japan's support including the expansion of Partnership Program to other pivotal countries and the CD support to pivotal countries.</li> </ul>

2006	JICA	Third Party Thematic Evaluation	<ul style="list-style-type: none"> <li>· The study covered selected case studies, questionnaire surveys, and cross-regional analysis of JICA's TrC covering Asia, Latin America, and Sub-Saharan Africa.</li> <li>· This evaluation found several key success factors of TrC. These included the presence of leading organizations, the engagement of stakeholders, and the clear roles assigned to each partner engaged in the TrC. It also pointed out some impeding factors like the lack of communication between the pivotal and beneficiary countries, and the misalignment of program contents with the exact needs of recipients. One challenge was that often TrC was not fully aligned to the development strategies of the beneficiary countries.</li> <li>· It made reference to the wide-range of patterns and instruments at JICA's disposal as its advantage in TrC.</li> <li>· The evaluation made comparisons that demonstrated variances among regions.</li> <li>· Based on these findings, it recommended stronger alignment of TrC into country policies and systems, deeper partnerships among TrC partners including more information sharing, and further enhancement of TrC implementation mechanisms including the strengthening of follow-up mechanisms.</li> </ul>
2012	MoFA	Third Party Thematic Evaluation	<ul style="list-style-type: none"> <li>· The study revisited historical pathways, policies and plans, and instruments and mechanism of TrC mainly conducted by JICA. In the analysis, special emphasis was placed on the aspect of Asia and Africa Cooperation with a concrete case study on the TrC knowledge exchange on export promotion between Malaysia and Zambia.</li> <li>· The evaluation found Japan's past TrC to be effective and relevant to policy, specifically in terms of the coherence with the Japanese government policy, the high global recognition on Japan's past contribution in TrC, and its refined procedures.</li> </ul>

		<ul style="list-style-type: none"> <li>· It also suggests a few potential areas for further improvements, including strengthening Japan's TrC strategy with a view to the context of the changing global development landscape, and a more strategic selection of key partners with which Japan should further deepen its partnership.</li> <li>· It made five key recommendations: 1) align the use and definition of TrC in Japan's ODA mechanism, 2) create a stronger strategic orientation of its planning and implementation, 3) rationalize further the use of TrC instruments, 4) revisit the partnership strategy including partnership program, and 5) strengthen TrC policies and systems to more effectively utilize TrC as one of the key diplomatic instruments.</li> </ul>
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Many of the findings and recommendations from these studies have been incorporated into the TrC instruments and mechanisms. Some of the actions that have already been taken to address issues, which were recommended by previous evaluations, include the following:

- Introduce indicative TrC patterns with clearer objectives to promote systematization of TrC planning, implementation, and evaluation following the launch of the thematic guideline on SSC in 2005;
- Incorporate regional orientation into TrC, which can result in more projects in the form of region-wide networks including the solid waste management in the Pacific through the project of J-PRISM in the Pacific (Chapter 10 of this volume), the region-wide rice development initiative of CARD (Kubota 2013; Honda, Kato and Shimoda. 2013) and, professional network building among specialists in livestock hygiene in South America (Inamura 2012);
- Streamline and simplify procedures for TrC practices, such as the promotion of multi-year planning in TCTP to reduce the transaction cost of annual official requests and approval procedures; and
- Strengthen the communication between JICA offices engaged in TrC practices by, among other things, holding regional staff workshops in south-south/triangular cooperation in the LAC region for the objective of sharing experiences and establishing

consensus towards the further enhancement of TrC effectiveness.<sup>38</sup>

#### **4.4 Organizational management**

To strengthen the capacity of its country offices to manage TrC, JICA has instituted several support mechanism.

##### **(1) Staffing**

First, it has strengthened its country offices, especially those in key southern partner countries, by reinforcing the staff in charge. It assigned dedicated staff to its Malaysia and Indonesia offices, for instance, to help their counterpart organizations coordinate JICA-supported TrC activities.<sup>39</sup> Other actions for staffing include the nomination of the TrC focal point in the country offices of key TrC partner countries. Nationally-recruited staffs have also played a critical role in supporting the planning and execution of TrC in all country offices.<sup>40</sup>

Second, JICA has been trying to strengthen the intra-organizational network among country offices, in response to the recommendations by JICA's successive thematic evaluations on TrC (SSC support) on the necessity of further strengthening communications among country offices. To that end JICA has organized regional meetings of staff in charge of TrC including national staff to provide face-to-face opportunities to reinforce the human network within the organization.

##### **(2) Knowledge management**

In the mid-2000s, JICA established an internal cross-functional working

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38. The team responsible for the third-party thematic evaluation of TrC under the auspices of MoFA discovered that staffs working at the headquarters and overseas offices in LAC countries, for instance, consciously engage in systematic communication among themselves so as to ensure the needs-driven aspect of TrC with more of a focus on results. It also reported that JICA offices in ASEAN countries are closely communicating with each other and with IAI secretariat of ASEAN, especially during the formulation process of TrC programs (Nomura Research Institute 2013).

39. In Indonesia, JICA recently started to dispatch a Japanese expert to BAPPENAS, the Indonesian Development Planning Agency, to help further build capacity in SSC planning and management.

40. For example, in the JICA Indonesia office, a senior Indonesian staff in the position of Deputy Chief Representative oversees the entire triangular cooperation programs in Indonesia.



group on SSC/TrC at its headquarters.<sup>41</sup> The main activities included taking stock of JICA's globally-spread and increasingly diverse TrC practices and thinking of ways to systematize and improve the approaches and instruments. Following the launch, the working group has produced the Thematic Guideline on South-South Cooperation, which, along with manuals for SSC support<sup>42</sup>, has been the key document for JICA's TrC operation. The group has also compiled cases of good practices as support materials for JICA staff and experts. It also uploaded the key TrC data and reports from country offices and other HQs departments onto a dedicated website for SSC (mostly in Japanese). In the last few years, JICA has also started to reinvigorate its knowledge management activities on SSC/TrC.

### **(3) International partnership for TrC promotion**

JICA, through its Office of the Global Development Partnership, has also collaborated with other bilateral and multilateral organizations. One example is a collaborative learning and dialogue program hosted by JICA in Tokyo which aims to help develop capacity in pivotal countries to effectively organize international training. Participants in the program came from Indonesia, Brazil, Mexico, Egypt, and Kenya, among others countries,<sup>43</sup> and included resource persons from German GIZ, International Labour Organization, and UNDP,<sup>44</sup> along with JICA specialists. Another example is a joint CD program addressing the management of SSC/TrC planning and operations among the Brazilian Cooperation Agency of the Ministry of External Relations (ABC), UNOSSC, and JICA. It aims to create spaces for sharing knowledge and experiences among the government staff in SSC/TrC technical cooperation. In March 2013, its first "international training course on management of South-South and Triangular Technical Cooperation"

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41. The working group was launched as an integral part of the organization-wide move to form sector and thematic networks cutting across the formal divisions as part of the JICA's knowledge management. The secretariat of group was initially placed in Latin American and the Caribbean Department, which was instrumental in its establishment and where SSC support (TrC) was proportionately the most significant in the regional operation. Later, the secretariat moved to the Operations Strategy Department.

42. Here, SSC means "JICA's support to SSC", which then implies that the guideline and manuals are on JICA's TrC in the current use of terminology.

43. Three programs were organized between 2009 and 2011.

44. A resource person was invited from the then Special Unit for South-South Cooperation, the predecessor of the current UNOSSC.

was held in Brasilia<sup>45</sup> as part of the three-year initiative. The concrete topics discussed during the course included legal and institutional framework, human resources and project management, information sharing, and partnership building among others, all in connection with SSC/TrC.<sup>46</sup> Through such partnership, it is expected that JICA will also learn about the excellent practices of other international partners.

## 5. Concluding Remarks

This paper has attempted to provide an overview of JICA's policies and plans, mechanisms, and instruments for the management of its TrC. As was shown, the mechanism and instruments have evolved into a quite complex array of patterns with a broad range of instruments under the commitment of both Japanese Government and JICA. This is a result in large part of JICA's response to increasingly diverse development needs in its partner countries.

The current mechanism can also be understood as a product of JICA's continuous endeavor to balance the two aspects of both the ownership of southern partners, especially of pivotal countries, and the development impact at the beneficiary countries. Fulfilling both aspects in TrC can be a challenging one especially if the southern knowledge provider is very new to the act of international cooperation and has not fully established the systematic management mechanism for international cooperation.

This paper demonstrates that JICA has already made a number of efforts to address such TrC challenges through many of its innovative practices and mechanisms, with reasonable results as assessed by a series of thematic evaluations. The progressive decentralization of the planning and implementation of TrC practices into country offices both in pivotal and beneficiary countries is one action that has enabled JICA to get

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45. The target countries of the course include both middle-income countries, such as Brazil, acting mainly as SSC/TrC providers, and low-income countries, which are mainly beneficiaries. A total of 39 practitioners from 36 countries participated in the inaugural course.

46. Most of the lectures and presentations can be viewed from the dedicated space of Global South-South Development Academy in the UNOSSC web page at: <http://academy.ssc.undp.org/GSSDAcademy/video/default.aspx>. Also, UNOSSC, ABC, and JICA are currently compiling a study report on the management of SSC/TrC based on the information shared and discussion results during the course, which is expected to be available at the GSSD EXPO 2013 in Nairobi.

closer to both the source of knowledge and its beneficiary for better knowledge exchange facilitation. Closer communication between country offices is expected to provide complementary actions to help match the needs and supply of southern knowledge. JICA's support of an increasing number of regional networks is also a manifestation of JICA's efforts to enhance the virtuous cycle of the continuous mutual learning process among member stakeholders. JICA's past and current assistance with capacity development in pivotal countries, undertaken within the framework of Partnership Programs in most cases, can be also viewed in this light as the attempt to improve the quality of TrC practices under southern ownership.

Such generally positive assessments of JICA's current TrC mechanism, however, do not imply that its mechanism is in perfect shape. The author is of the view that it is an opportune moment for JICA to undertake another serious review of its TrC in light of the changing operational environment. The author recommends several actions in this regard. The first is to reinforce the data collection of JICA's TrC, which has not still been able to fully capture the entirety of TrC actions. The second is to undertake more systematic and comparative case analysis of JICA's TrC with reference to both global discussions on SSC/TrC and the latest practices by other major international donors. The case documentation exercises recently started at the JICA Research Institute might form the basis of such action. Third, the activation of JICA's organizational learning on TrC practice is lacking. Improved data and the results of systematic case analysis will inform the learning process. Last but not the least, the author would like to emphasize the importance of JICA's continuous and enhanced engagement in the global and regional learning on TrC practices, and hopes that this paper will be a modest contribution to such an endeavor.

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\*Publications with an asterisk above can all be downloaded from the web page of JICA Research Institute: <http://jica-ri.jica.go.jp/index.html>.

\*\*Publications with double asterisks can be downloaded from JICA's main web page: <http://www.jica.go.jp/english/index.html>.

**Part II**  
*Case Studies*

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# **Chapter 6**

## **Climate Change Adaptation: Fomenting Reuse of Treated Wastewater for Agriculture and Water Protection in Bolivia — Triangular Cooperation Mexico - Bolivia - Germany**

Jürgen Baumann

### **Abstract**

In August 2011 the German Federal Ministry for Economic Cooperation and Development (BMZ) approved a triangular cooperation project between Mexico, Bolivia, and Germany. Funds derive from BMZ's Regional Fund for Triangular Cooperation in Latin America and the Caribbean, which focuses on the "Support for improved wastewater treatment and reuse and protection of water bodies through a climate change adaptation approach." Mexico and Bolivia are both promoting the importance of water at the international level as both countries recognize the necessity to establish Climate Change adaptation measures in the sector. Within the triangular cooperation, Bolivia is highly interested to learn from Mexico as a regional leader in the water sector, in order to strengthen its institutional and technical capacities in the country. On the other side, Mexico is promoting its presence as a dual co-operation actor, offering technical advice to beneficiary countries in the LAC-region. Germany in contrast offers leadership of this initiative, applying its longstanding experience and expertise in the water sector in both countries.

### **1. Introduction**

Triangular cooperation as an innovative form of cooperation complements North-South and South-South cooperation schemes. It has been seen in recent years that there are many opportunities for the development and implementation of triangular cooperation projects together with the partners in the south. Therefore it continues to gain importance in the context of international cooperation development.

Within the German development policy, triangular cooperation is defined as a “cooperation project that is jointly planned, financed and implemented by an established DAC donor, an emerging economy and a beneficiary country” (BMZ, 2013).

To support the implementation of triangular cooperation projects between Germany and Latin American emerging countries, the German Federal Ministry for Economic Cooperation and Development (BMZ) set up the Regional Fund for Triangular Cooperation in Latin America countries (LAC). This fund is the first and so far only regional fund for triangular cooperation by the German government. Twice a year BMZ revises and approves submitted project proposals and also promotes and funds regional dialogues, exchanges of lessons learnt, and measures for building human capacity.

Triangular cooperation in this context means implementing joint development activities in beneficiary countries in the LAC region, in which each of the partners provides a specific contribution. It includes Germany as a ‘traditional’ donor, a Latin-American emerging country, and a third beneficiary country. The objective of the project should be consistent with the development agenda of the beneficiary country and comply with the development guidelines of both Germany and the emerging country.

The projects are technical cooperation (TC) measures, planned and implemented jointly with the beneficiary country and consisting of consulting, training, and to a lesser extent financial grants or subsidies. It has been shown that these triangular cooperation projects have been mostly successful when the topics addressed by the project corresponded with the needs of the beneficiary country (Langendorf and Mueller, 2011).

The following paper sheds light on the triangular cooperation project between Bolivia, Mexico, and Germany and explains the benefits for each partner within the triangular cooperation scheme. The project is developed within the water and wastewater sector and acts within a very sensitive context, where social and socio-cultural aspects have a high priority.

## **2. About the Project**

The following chapter will give an overview of the beginnings of the initiative, the importance of the project for the partners, the institutions involved, each partner's specific and mutual interests, and their technical and financial responsibilities.

### **2.1 The origin of the project**

In 2009, the Mexican National Water Commission (Conagua) received a delegation from the Bolivian Ministry for Water and Environment (MMAyA) and a representative from GIZ Bolivia, to explore the possibilities for cooperation within a triangular mechanism (Conagua, 2009). This first approach led to the participation of three representatives of the Mexican National Water Commission at the workshop *“Strategies and instruments for the multiple use of water towards climate change adaptation,”* which was held in 2010 in Bolivia (EPB, MMAyA, GIZ, 2011). Among the Mexican delegation sent by Conagua was the former International Affairs Manager, who used the opportunity to move toward the establishment of a formal triangular cooperation.

Finally, in 2011 Mexico together with Bolivia submitted the application via the German embassies in both countries to BMZ. When Mexico received the formal project approval, Conagua together with the Mexican Agency for International Development Cooperation (AMEXCID) started to organize the triangular cooperation kick-off seminar, *“Support for improved wastewater treatment and reuse and protection of water bodies through a climate change adaptation approach,”* which was held in Mexico City in November 2011. From the points of view of Conagua and AMEXCID the seminar was very productive in that it enabled them to more precisely understand the key concerns of the Bolivian partner related to the project. This provided the bases to define and formulate a concrete working plan (GIZ, 2012).

### **2.2 Project topic and its importance for the partners**

The Bolivian Ministry for Environment and Water is focused on the improvement and fomentation of wastewater treatment, and water reuse on departmental and municipal levels. At the end of 2008, only 50% of the Bolivian population had access to wastewater disposal facilities, a very low figure compared to general Latin American standards. If criteria such as the treatment of wastewater are also taken into account, those figures drop to an estimated 20%. The National Plan

for Basic Sanitation 2008—2015 (EPB y MMAyA, 2009) defined strategic objectives to improve this situation, which focus on (a) a policy of integrated water use management, (b) the efficient use of services within a climate change adaptation approach, and (c) the reuse of residual waters. The “Strategic Institutional Plan 2009—2013” (EMAGUA, 2009) established the mechanisms for necessary investment to improve the water, sanitation, and treatment sectors. The need to strengthen technical and institutional capacities and the framework of the legal sector, and for technical assistance and training in the water and waste water sector prevailed.

Mexico, in contrast, has a well-developed water sector and is considered to be a regional leader in Latin America. Mexico has a long history of institutional development in the water sector, as well as in water legislation. In 1992, Mexico established the National Waters Law (LAN, 1992), which was modified in 2004. The reform defined watersheds as the central water planning and management unit. Beyond this, Mexico is a country with a great hydraulic tradition, with the world’s sixth largest area under irrigation, and the 19th highest per capita storage capacity in dams. A good overview on the historical development of Mexican water sector and its achievements is given by Conagua (2011). Mexico has also emerged as a global climate change leader, and considers the water sector a key area through which to address climate change, particularly with respect to vulnerability and adaptation issues (World Bank, 2013).

For those reasons, it is evident that Bolivia will be able to greatly benefit from Mexico’s experience in the water sector. Thanks to Mexico’s technological prominence and legal expertise, Bolivia is well assisted in its attempt to develop institutional and professional capacities by means of knowledge and technology transfer.

Germany has had a roughly 40-year development cooperation partnership in Bolivia in the water sector, in which the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) as the implementing agency has accumulated a lot of experience and established a broad sector network in Bolivia (GIZ, 2013a, GIZ, 2013b).

In Mexico, Germany has supported the National Water Commission since 1997 through the CIM-Program, which offers technical advisors in

the fields of integrated watershed management, groundwater monitoring, irrigation, and decentralized small water treatment systems. Hence, in both countries German experts are equipped with in-depth knowledge of the sectors and enjoy a well-established network of partners on the ground.

### **2.3 Institutions involved**

Within the triangular cooperation GIZ is acting mainly as a technical and institutional facilitator, providing networks and instruments, and supporting communication and coordination. Furthermore it promotes a common understanding of cooperation in LAC and documents the experience of triangular cooperation in the field under a variety of cooperation settings.

The main actors within the initiative in Mexico are AMEXCID and the National Water Commission. The AMEXCID, a decentralized body of the Mexican Secretariat of Foreign Affairs (SRE), was created on September 28, 2011, and provided with specific powers to deal with matters relating to international development cooperation. The AMEXCID also assumes a donor's role within regional development cooperation. The National Water Commission provides partial financing of the activities, technical and logistical assistance, and experience and knowledge of Mexican water sector institutions.

The Office for International Cooperation of the National Water Commission assigned a responsible person to facilitate the internal administrative management of the technical areas, as well as the communications with AMEXCID and the Bolivian Ministry for Environment and Water in Bolivia. Besides the Mexican Agency for International Development Cooperation and the National Water Commission in Mexico, a broad array of actors on federal, state, and municipal levels, and the investigations center are participating in the project. Due to Conagua's position as the main water institution in Mexico at the national and regional levels, it is able to mobilize the participation of state authorities, district entities, and municipal water operators.

The Bolivian Ministry for Environment and Water is the principal actor in Bolivia within the initiative, In particular, the Deputy Ministry for Potable Water and Basic Sanitation (VMAPSB) and the Deputy Ministry

for Water Resources and Irrigation (VRHR) assume the responsibilities to develop, promote, and coordinate the project in Bolivia. At the beginning of the project, they integrated the “comisión mixta” (mixed task) in coordination with GIZ as an appropriate institutional arrangement on the technical level to develop and manage the inter-sector approach of this project. For the coordination of the overall project activities, the Minister appointed the General Director of the Planning Unit of the MMAyA. Broad participation on the Bolivian side was thus attained thanks to the multi-level design of the project.

#### **2.4 Partners’ specific and mutual interests in triangular cooperation**

Germany’s (BMZ / GIZ) interest and strategic objective is to complement the already existing Bolivian water and irrigation programmes, which did not consider the specific focus on water reuse. Germany is also interested in supporting Mexico in its new role as a donor country and promoting a mutual understanding of cooperation in Latin America. Both Germany and Mexico are interested in developing new forms of visible cooperation in water management and water technology.

The project presents a good opportunity for GIZ to efficiently develop a triangular cooperation, as Mexico is eager to emerge as a dual co-operation actor and strengthen the capacities of developing countries. Mexican institutions also provide a large experience on this topic. Triangular cooperation, considered an innovative alternative for cooperation between three nations ready to improve the efficiency of aid for development, allows Mexico to introduce itself as an emerging strategic partner in the direct execution of projects derived from the necessities of the recipient third country. There is especially a mutual interest with Bolivia in cooperative projects in the water sector, because both countries recognize the strategic importance of water conservation and climate change adaptation measures in the sector. Bolivia and Mexico promote the water theme at international level (Semarnat, 2010; Herron, C.A., 2012). This mutual interest provided the opportunity for the two countries to develop triangular cooperation (GIZ, 2012).

The common objective of all three partners on the sector level was to provide efficient technical assistance and key elements of capacity development to improve the treatment and reuse of domestic wastewater in Bolivia in order to protect scarce water resources. The

Bolivian Ministry for Environment and Water and the lower federal and departmental water institutions and authorities, such as the Executive Entity for Environment and Water (EMAGUA) and the National Service for the Sustainability of Basic Sanitation Services (SENASBA), have provided advice on the legal framework and regulations on water quality, tariff systems, and subsidies and incentives. There was also a broad agreement to develop processes and benefits on the local and regional levels, which led to strong support of selected urban and rural municipalities on the technical aspects of selecting, implementing, and rehabilitating waste water treatment plants and reuse systems. So far there have been activities and technical visits in the municipalities of Cochabamba, Sacaba, Tarija, La Paz, Aiquile and Comarapa.

Beyond meeting these technical objectives, the project also focused on cultural and organizational issues. Social and socio-cultural aspects have a high priority within water topics, and are often considered more important than the technical aspects of the issue. Most of water and wastewater projects at the department and municipal levels provoke conflicts between users and the local authorities, or between different user groups, and the establishment of wastewater treatment plants (WTP) is often highly conflictive. Due to negative experiences in the past with such projects (a lot of existing WTPs do not work well and have negative effects), the population and the users oppose these projects. Therefore, Bolivian partners requested Mexican experts with a broad experience on social conflict management within water and wastewater projects.

## 2.5 Technical and financial responsibilities

The technical and financial responsibilities of each partner are defined in the “Record of Discussions” (Registro de Discusiones). Mexico strongly fostered the ratification of the paper to have a clear framework for each partner’s contribution within project activities.



Sign of the Record of Discussions by the representatives of AMEXCID, Conagua and GIZ-Mexico.

Mexico provides experts and technical expertise, as well as financial support for coordination, organization and mobilization of experts. Furthermore it offers the integration of an

institutional and expert network for capacity building activities. Total countable value of the Mexican contribution equals an amount of about 300000 Euro.

Germany offers financial support for mobilising experts and participants from all parties, as well as logistic support in Bolivia. Additionally it offers a technical network on the national and sub national level for capacity building activities and the provision of experts where appropriate or demanded (technical and methodological). This means that Germany could provide in exceptional cases the participation of German experts on specific thematic issues when it is explicitly desired by the partners. Furthermore Germany supports project coordination. In Mexico, where Germany does not have any specific water programme within bilateral cooperation, GIZ contracted a former CIM-expert who is well familiar with the Mexican water sector and who serves as a liaison between GIZ and Conagua, as well as with the Bolivian partners. The total economic contribution of Germany is about 300000 Euros.

Bolivia secured the participation of technicians and authorities in the different project activity and is responsible for their organization in the country. The countable value for Bolivian contribution equals an amount of about 75000 Euro.

### **3. Progress and Achievements**

This section first presents the project activities during 2012, the results of the mid-term evaluation, and the working plan and activities for 2013, which incorporated the findings and recommendations of the evaluation results. By tracing these activities, this section aims to illustrate the learning process among multi-stakeholders taking place in this initiative.

#### **3.1 Progress and achievements in 2012**

In March 2012 Bolivia, Mexico, and Germany together accorded the working program for 2012. The program included four main activities, consisting of two missions to provide technical advice by Conagua experts in Bolivia, and two seminars including technical tours in Mexico, addressed to officials from governmental institutions, municipal authorities, and water operator organizations. During the 2012



activities, the Mexican National Water Commission sent six high-level national experts to Bolivia to provide technical advice. Another 24 Mexican experts participated in the seminars and technical tours. Conagua also organized the participation of five Local Water Directions of the Federal States of Queretaro, Guanajuato, Puebla, Tlaxcala, and Mexico, as well as of seven State and Municipal Water Operators. Additionally two high level officials from the Bolivian Ministry of Environment and Water were invited to participate at the “*IV Coloquio Jurídico Internacional del Agua*” (4<sup>th</sup> International Colloquium on Water Legal Framework), which was organized by Conagua (Baumann et.al., 2013).

**Table 1. Main activities realized in 2012**

Activity	Country	Subject
Technical mission	Bolivia	Advice on the design of wastewater treatment plants, and irrigation systems for treated wastewater reuse in agriculture.
Course	Bolivia	Integrated water management and adaptation measures on climate change in the water sector.
Seminar and technical tours	Mexico	Potential for treated wastewater reuse in agriculture irrigation systems.
Seminar and technical tours	Mexico	Water policy planning and legal water framework

The activities completed in 2012 gave Conagua a detailed knowledge of the Bolivian water sector and the status quo of wastewater treatment and water reuse, as well as of the institutional framework in Bolivia. Furthermore, Bolivia developed a clear idea of Mexican technological and administrative progress, and institutional, organizational, and administrative advances in the water sector, especially in the field of wastewater treatment and reuse.



Technical visit to the Tula Irrigation District, Mexico, guided by Conaguas's officer in chief

The 2012 activities developed in both countries strengthen the inter-institutional relationship, especially between the Mexican National Water Commission and the Bolivian Ministry for Environment and Water, and are a key element for the successful and efficient execution of the ongoing cooperation project.

It should be pointed out that five Municipalities in Bolivia received technical advice by Mexican experts for the improvement and rehabilitation of existing wastewater treatment plants. In the municipality of Comarapa the recommendations of the Mexican experts were successfully implemented and led to the rehabilitation of the municipal water treatment plant.



Rehabilitated wastewater treatment ponds in the Municipality of Comarapa, Bolivia

### 3.2 Mid-term evaluation

In March 2013 a midterm evaluation workshop took place in La Paz, Bolivia. The goal of this workshop was to learn about the existing communication and coordination structure, and the impact of the activities completed in 2012.

The workshop aimed to:

- Evaluate project development and activities completed in 2012;
- Determine whether the project was providing what originally had been proposed (appropriateness), whether the activities were orientated to reach the project goals (effectiveness), and to what extent the project contributed to the solution of the problem in Bolivia (relevance);
- Analyze the project's level of achievement according to the indicators that were established for each goal in the application;
- Evaluate project management, communication, and coordination mechanisms;
- Evaluate the level of involvement of the different actors and their compliance with the commitment they took on;
- Plan and agree on activities for 2013.

The workshop was directed to responsible persons from the three partners and representatives from different beneficiary institutions at

the national, departmental and municipal levels in Bolivia. Thirty two high level public servants and water sector experts attended the workshop. From Mexico, representatives from Aconcagua, the AMEXCID, and the Mexican Embassy in Bolivia participated. From Germany, GIZ experts of the PROAGRO and PROAPAC programs attended. The Bolivian Viceminister for Water Resources and Irrigation, the Viceminister for Potable Water and Basic Sanitation participated, along with directors from the National Service for Basic Sanitation (SENASBA), EMAGUA, and the Authorities for Inquiry and Social Control for Potable Water Basic Sanitation (AAPS, regulatory entity).

### **(1) Usefulness of activities**

The first step was the evaluation of the usefulness of the four main activities completed in 2012. Therefore the participants were requested to identify concrete and specific examples of implementation of the knowledge obtained by training and technical advice. The main conclusions were:

- The direct advice by Mexican experts from Conagua, which focused on the “Support on the design of waste water treatment plants, and irrigation systems for treated wastewater reuse in agriculture” achieved the most direct results, leading to the implementation of concrete measures for the rehabilitation of existing wastewater treatment plants in three municipalities.
- The visit of Bolivian authorities and experts to Mexico to obtain support for the development of a legal and regulatory framework in the field of water quality, attends a seminar on water policy planning, was considered useful and improved the draft of a new water law which is currently being discussed in Bolivia.
- The seminar titled *“Integrated wa2ter management and adaptation measures to climate change in the water sector”* was of minor usefulness. The course was not linked to concrete activities in Bolivia, and most of the knowledge could not be applied. There was a discrepancy between the very broad focus of the course and the more specific needs of the more technical participants. Finally, there were no follow up and no multiplying of knowledge, as had been previously agreed.
- The seminar about the *“Potential for treated wastewater reuse in agriculture irrigation systems”* and the technical tours in Mexico were useful for understanding new wastewater treatment technologies and the opportunities to increase agriculture yields by water reuse.

Furthermore, the participants learned about new financing and investment models for wastewater treatment plants, as well as different strategies for the multiple reuse of treated wastewater at municipal and district levels. Despite this information, participants stressed that the acquired knowledge has not been anchored at the institutional level in Bolivia, but the activity has impacted personal motivation and increased awareness about the theme.

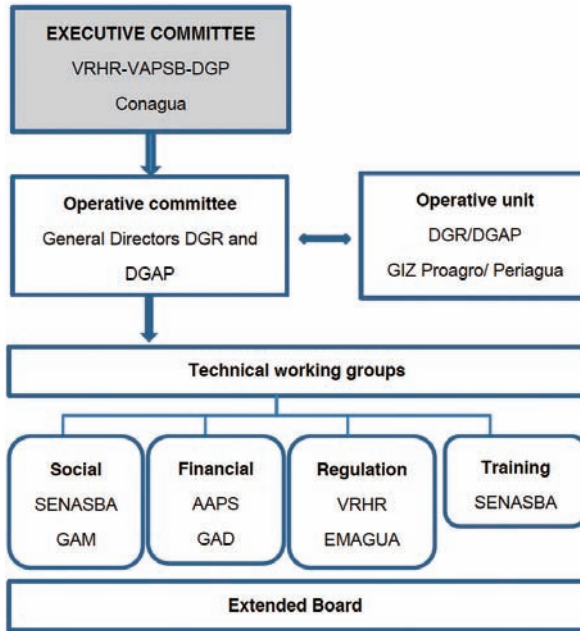
In general, the can be considered broadly on track according to the expected output and results. The number of participants at seminars, workshops, on technical tours was greater than expected. The activities which were completed in 2012 are also considered highly appropriate and relevant, taking into account the high policy priority placed on the subject of wastewater treatment and reuse. Therefore, it is expected that the project could contribute significantly to the ongoing governmental initiatives to improve wastewater treatment and reuse in Bolivia.

On the other hand, the capacities built and the knowledge generated has been less than expected or desired. There are mainly two reasons for this low performance: Firstly, the persons and technicians who participated in the different activities were not well selected in all cases; secondly, the Bolivian institutions (beneficiaries) did not take enough advantage of the learning or apply it systematically. The efficiency of the measures in many cases had been good, but could be better in the future.

## **(2) Adjustments to project management structures**

An important recommendation based on the findings of the mid-term evaluation was to strengthen the project management and coordination structure. The following figure shows how the management structure was improved to ensure successful project development and implementation of activities in the future.

**Figure 1. Organization structure for project management and execution**  
(See Table 2 for abbreviations in this diagram)



Source: GIZ, 2013

**Executive committee:** The executive committee establishes the agreements about project strategy and ensures the financing of the activities. It meets once a year and includes the Deputy Minister for Water Resources and Irrigation (VRHR), the Deputy Minister for Potable Water and Basic Sanitation (VAPSB), and the General Director for Planning (DGP) from Bolivia, the International Cooperation Manager from Conagua, the Deputy Director for Trilateral Cooperation from AMEXCID, and two representatives from GIZ.

**Operative committee:** The operative committee monitors the project and keeps track of the activities. It increases the responsibilities of the institutions and helps to resolve operational problems. The operative committee is composed of the General Directors for Irrigation and Potable Water, and representatives of Conagua, AMEXCID, and GIZ. The committee members meet whenever is necessary to solve operational problems.

**Operative unit:** The operative unit works continuously to coordinate concrete activities. It guarantees the integration of the Terms of Reference for each activity in coordination with the Operative Committee.

**Working groups:** Working groups are responsible for the execution of the activities and the selection of the participants at workshops and seminars. There are four working groups, organized according to the main thematic topics: Social, Financial, Regulation, and Training. Each working group shall be composed of representatives of the institutions and authorities that are involved in a specific topic.

**Extended board:** The extended board integrates members of all parties and involved institutions, and is responsible for final evaluations and participatory planning.

**Table 2. Bolivian institutions and their mandates**

Institution	Mandate
DGR, Directorate-General for Irrigation DGAP, Directorate-General for Potable Water	Planning sector management, development of policies, guidelines and norms, evaluation of projects
SENASBA, National Service for the Sustainability of Basic Sanitation Services	Technical assistance to Water Operators and institutional strengthening
EMAGUA, Executive Entity for Environment and Water	Planning, execution, and administration of infrastructure projects
AAPS: Authority for Inquiry and Social Control of Potable Water and Basic Sanitation	Regulation, control, and inspection, and setting of tariff structure
GAD: Autonomous Departmental Government	Departmental administration
GAM: Autonomous Municipal Government	Municipal administration

### 3.3 Working plan and activities 2013: Building on the mid-term evaluation results

The results of the mid-term evaluation led to both a prioritization of thematic measures and a definition of the type of activities for 2013.

Taking these into account, four main activities were agreed upon to ensure the efficiency of the overall project. Considering the importance and higher efficiency of “in the field” measures in Bolivia, two technical visits and workshops were planned. It was also considered important to implement intensive measures in Mexico, like one month internships for technicians at selected water operators (Table 3).

**Table 3. Working program and main activities in 2013**

Activity	Country	Subject/Topic
Course/workshop	Bolivia	Design, operation, and maintenance of wastewater treatment plants
Course/workshop	Bolivia	Regulations of water quality for reuse
Practical training/ internship	Mexico	Design, operation, and maintenance of wastewater treatment plants
Advisory	Mexico	Advisory on the topic of tariff-systems, incentives, and subsidies

In addition to these programs, Conagua requested a technical visit to Germany to take advantage of German technological leadership in the water and wastewater sector. Therefore, GIZ organized a one week study trip to Germany under the topic of “*Innovative technologies for wastewater and sludge treatment, constructed wetlands and water reuse in agriculture.*” The program of study for the trip established according to the requirements expressed by Mexican and Bolivian counterparts. This complementary activity was only addressed to high level decision makers from Conagua, the Bolivian Ministry for Environment and Water, and the Directors of Departmental and Municipal Water Operators from both countries.

The study trip to Germany was undertaken in July 2013 and was very successful for several reasons: Firstly, it became a powerful motivation for the Mexican partners to remain engaged in the project and continue their commitment to support future activities; secondly, it fomented the personal and institutional relationship and confidence between Mexican and Bolivian partners; and thirdly, it strengthened the mutual understanding of triangular cooperation. In other words, the trip provided an excellent opportunity to firm up the partnership for further cooperation in this initiative.

#### **4. Conclusion**

At governmental levels the topic of this project is a high priority in the field of environmental and climate change policy in Bolivia and Mexico. This mutual concern fosters the interest in the project at both sides, guarantees political support, and foments positive synergy effects.

Mexico as the emerging donor country has a clear development edge over Bolivia in the water sector and the Mexican institutions possess high levels of professionalism, and operational and management capacities. Therefore, the interest and the expectations of Bolivia to take advantage of the cooperation are very high — a key element for a successful development of the project. Germany's longstanding experience in bilateral cooperation in both partner countries has proved to be of great advantage, and allows Germany to act as a project facilitator in a very efficient way.

The water and wastewater sector exists within a very sensitive context, where social and socio-cultural aspects have a high priority. Mexico and Bolivia's linguistic similarities and the common understanding of cultural idiosyncrasies are thereby advantages, increasing the project's efficiency within the context of triangular cooperation.

The mid-term evaluation allowed an assessment of the efficiency of current measures and activities, the level of identification and project adoption by the partners, and the detection of deficiencies in the management and communication structures. This led to necessary adjustments at the right time to guarantee a successful development of the next phase of the project.

Though this project is ongoing, it has already started to record good progresses in Bolivia, including the rehabilitation of existing wastewater treatment plants in three municipalities and the improvement of the draft of a new water law currently under government discussion. To further improve its effectiveness, the project continues to evolve. Section 3-2 and 3-3 above illustrate the project's adaptations in scope and design based on the recommendations of the mid-term evaluation, including focus of the activities and implementation structure. This case study thus provides a useful good practice of how a TrC can connect the partner organizations in Mexico, Bolivia, and Germany to improve wastewater treatment and reuse in



Bolivia. It further demonstrates how partners in a TrC initiative can continuously learn and adapt to better respond to the complex and changing development needs by systematically incorporating joint evaluation exercises in its activities.

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# Chapter 7

## A Process of Scaling Up: Initiatives for Energy Conservation by Turkey and Neighbouring Countries

Yukimi Shimoda

### 1. Introduction

As triangular cooperation (TrC) is increasingly recognised as an important vehicle of international development cooperation in the twenty-first century, there is a greater requirement for development practitioners to devise methods to implement it effectively and also to scale up its development impact. However, although successful case studies have been reported in recent international meetings and in publications, the processes and mechanisms that have led to success do not seem to have been adequately examined. To reduce the gap, this paper attempts to illustrate a case of scaling up TrC activities across national boundaries and to identify the factors that lie behind them. Specifically, this paper examines how Turkey, in cooperation with external actors such as Japan, developed their knowledge and skills in relation to energy conservation in order to improve their levels of energy efficiency, and to share them among its neighbouring countries. This paper focuses, in particular, on how Turkey fostered the capacity of the National Energy Conservation Centre (NECC), to which it assigned responsibilities for enhancing energy efficiency, with the aim of becoming a regional centre of excellence (COE).

Section 2 outlines the major TrC activities (for example, international training and workshops) that have been implemented by Turkey and its neighbouring countries, with the support of Japan and some international organisations. It then looks back at the development of bilateral cooperation between Turkey and Japan, which has formed the basis for the evolution of current TrC activities. Sections 3 and 4 identify the most successful TrC activities, and draw lessons learned from the TrC activities, respectively. Finally, section 5 concludes by discussing the importance of COEs for effective TrC.

## **2. Cross-Border Cooperation for Energy Conservation and its Origin**

Currently, advanced knowledge and skills in the area of energy conservation are being transferred from Turkey to its neighbouring countries. Overcoming their social, economic, and cultural differences, these countries are working together in pursuit of the enhancement of energy efficiency through the promotion of energy conservation. Energy conservation, particularly in the industrial sector, which is a huge consumer of energy, is becoming one of the main areas of concern for those countries who do not possess abundant energy resources and who have been dependent on imported energy. The global trend towards environmental concerns has also become a push factor for many countries. The knowledge and skills transfer is being carried out through international training courses and workshops in collaboration with Japan and some international organisations.

### **2.1 Transferring knowledge and skills through triangular cooperation**

The beginning of the 2000s saw the introduction in Turkey of international TrC training courses involving three distinct participants: Turkey, which had the capacity to conduct training courses on energy conservation; its neighbouring countries, which needed to improve their levels of energy efficiency; and Japan, which had experience and advanced knowledge as well as skills in the area of energy conservation, together with some international organisations. In parallel with the commencement of the TrC training courses, during the current decade Turkey has also organised international workshops for the member countries of the Black Sea Economic Cooperation (BSEC). These international training courses and workshops have involved countries in Western and Central Asia, the Black Sea Region, and Eastern Europe. The training participants were engineers who held engineering degrees and who had worked for energy-related ministries and/or state-owned companies in their respective countries for a period of at least three years.

Several key actors were involved in the TrC activities. In Turkey, this involved three principal actors: two involved in the implementation and one in the coordination. For the implementation, the General Directorate of Electrical Power Resources Survey and Development Administration

(EIE),<sup>1</sup> under the control of the Ministry of Energy and Natural Resources, was in charge of the country's energy sector and had been playing a key role in overseeing the TrC activities. Similarly, the responsibility for the implementation of the training courses was given to NECC. It was established within EIE to provide training on energy management to engineers from both Turkey and other countries (GDRE 2012a, 4). The coordinating role was played by the Turkish International Cooperation and Coordination Agency (in Turkish the Türk İşbirliği ve Koordinasyon Ajansı Başkanlığı or TİKA). Established in 1992, TİKA is an agency that, through its projects and activities, provides development assistance to partner countries. In this instance, its coordinating role with participating countries has facilitated the effective and smooth implementation of the training courses and workshops. Japan, through the Japan International Cooperation Agency (JICA), supported Turkey's activities by allocating complementary Japanese experts and making financial contributions. TİKA and JICA had formed a good partnership, and this was consolidated through the signing, in February 2012, of a Memorandum of Understanding (MOU) for Joint Development Cooperation particularly in the countries of the Middle East, Central Asia, the Caucasus, the Balkans and Africa.

As at the time of writing in August 2013, EIE/NECC has organised several international training courses and workshops for energy managers in cooperation with Japan and some international organisations, which are summarised in Table 1. These courses and workshops have taken full advantage of the fruits of the bilateral technical cooperation project between Turkey and Japan, such as the knowledge and skills of energy conservation, the know-how about how to conduct training, and the establishment of training facilities (for example, a mini-plant).

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1. IE was founded in 1935. It was abolished through the implementation of the Decree Law issued on 2 November 2011, being renamed the General Directorate of Renewable Energy (GDRE) under the Ministry of Energy and Natural Resources (GDRE 2012a, 4).

**Table 1. International training courses and workshops implemented by EIE/NECC**

Year (JFY)	Training Courses/ Workshops	Target Countries	No. of Participants	Actors
2002	International Practical Training Course for Energy Managers	Kazakhstan, Kyrgyzstan, Tajikistan, Uzbekistan, Georgia, Iran, Azerbaijan, Turkey	32	EIE/NECC, UN-ESCAP (JICA experts)
2003	International Practical Training Course for Energy Managers of Industry from Countries in Western and Central Asia and Black Sea Region	Kazakhstan, Kyrgyzstan, Tajikistan, Uzbekistan, Georgia, Bulgaria, Romania, Iran, Turkey	18	ECO <sup>2</sup> , TIKA, JICA
2004-2006	Practical Training Course for Energy Managers of Industry	About 20 countries from the Middle East, Eastern Europe, Central Asia, the area of the Black Sea	57	EIE/NECC, JICA
2007-2009	Energy Efficiency and Management Industry	About 20 countries from the Middle East, Eastern Europe, Central Asia, the area of the Black Sea	55	EIE/NECC, JICA
2011	Workshops on How to Implement Energy Management Standards in Black Sea Economic Cooperation (BSEC) Countries	Albania, Azerbaijan, Georgia, Moldova, Rumania	5	EIE, JICA, TIKA
2012	Workshops on How to Implement Energy Management in Black Sea Economic Cooperation (BSEC) Countries	Azerbaijan, Georgia, Moldova, Albania, Ukraine, Serbia	9	EIE, TIKA, JICA
2010-2012	Energy Efficiency and Management in Industry	Central Asian countries	35	EIE, TIKA, JICA

Source: Compiled from various reports (JICA 2005; GDRE 2012a; GDRE 2012b) by the author.

2. The Economic Cooperation Organization (ECO) is an intergovernmental organisation established in 1985 to promote economic, technical and cultural cooperation among Iran, Pakistan and Turkey. It has subsequently expanded ten member countries, incorporating seven additional members (Afghanistan, Azerbaijan, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan).



The aim of the training courses was to provide opportunities for participants from the neighbouring countries to acquire knowledge and techniques in the areas of energy conservation and the reduction of carbon dioxide emissions, as well as to foster good relationships among them. For the participants the greatest interest was in the practical

part of these courses (GDRE 2012a, 8). Using training units for steam boilers, combustion furnaces, steam traps, compressed air systems, lighting, fans, and pumps, the participants learned how to implement and evaluate various energy conservation measures. This allowed them to distinguish between efficient and inefficient ways of using energy-consuming equipment (GDRE 2012a, 7). Japanese experts provided lectures and shared knowledge and experience related, for instance, to energy saving measures and energy conservation policies in Japan (Yoshida et al. 2005, 16, 19). At the end of each training course, participants presented action plans to formulate activities at their organisations employing the knowledge and skills they had acquired during training.

Over the years various efforts have been made to improve the quality of the training courses. Course contents were well prepared, combining classroom lectures (lasting about one week) at NECC and on-site practical training (again about one week) through a range of field trips. The contents of the international training courses were structured in

a similar manner to the national training courses, which EIE/NECC would offer to Turkish participants. EIE/NECC made special arrangements for participants on the international training courses: the period of the practical training was extended; new subjects were added,



Practical training  
in an international training course



Practical training  
in an international training course

including industrial energy efficiency, engineering change order,<sup>3</sup> the environment, the International Organization for Standardization (ISO), and conservation; external lecturers were invited, including those from universities and the private sector, who could teach both new and conventional subjects (for example, management, heat insulation, audit, air pressure, lighting); and finally the courses included field visits to leading factories in the area of energy conservation (JICA 2003, 137). Although the main training language was English, training manuals were provided in both Russian and English, and arrangements were also made for Russian–English–Turkish simultaneous interpretation during lectures. EIE/NECC took the initiative in introducing these arrangements.

The two workshops carried out in 2011 and 2012 were intended to promote the introduction of energy management standards in the BSEC region (GDRE 2012b). The workshops permitted participants could acquire both experience and knowledge from the Turkish Standards Institution (TSE) and the real world example of



The 2012 Workshop

a Turkish ceramic factory with a certification of the Energy Management Standard (TS EN 16001). They also benefitted from the input of a lecturer dispatched from the Netherlands' Energy Agency. In addition, field visits were organised to teach the participants to learn how to implement training and certification programs for energy managers. The participants observed ways to prepare to obtain an Energy Management System certificate (TS EN ISO 50001) in a washing machine factory, which had taken some energy conservation measures following an energy audit conducted by EIE/NECC in 2004 (Yoshida et al. 2005, Annex 21).

The workshops were introduced in response to the needs of the member countries of the BSEC, which had been established in 1992. This organisation saw energy efficiency as one of the key areas for cooperation, and set up a working group to deal with the issue (BSEC n.d.). In the second meeting of the Ministers of Energy of the BSEC

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3. It is to change specifications, components, assembly, and/or documents related to processes and work instructions in order to, for instance, correct errors and adapt to some changes in customers' requests and materials.

countries in 2010, a Task Force was established to “explore ways to promote Green Energy investments with an emphasis on energy efficiency, renewable energy sources and environmentally friendly energy technologies” (GDRE 2012b, 7). At the end of the 2012 workshop, the participating countries drafted the “Declaration on the Promotion of the Implementation of Energy Management Standard”, which identified some barriers to the promotion of energy efficiency and the implementation of energy management standards in the region, and went on to make some recommendations for the future. This declaration would support each country’s efforts to promote the improvement of energy efficiency across the region.



Site visit during the 2012 Workshop

Through the training courses and workshops outlined in this section, EIE/NECC has been able to prove their ability to play a leading role as a core regional institution in the promotion of energy conservation in the region.

## **2.2 Process towards the improvement of energy efficiency in Turkey**

As shown above, in recent years Turkey has been actively transferring its knowledge and skills to its neighbouring countries, in service of their shared development agenda—energy efficiency. However, Turkey’s capacity in this respect did not emerge overnight. It has been fostered gradually as the result of its long-term efforts, supported by external partners. This section considers the ways in which Turkey has been making efforts to improve energy efficiency.

Turkey is highly dependent on imported energy,<sup>4</sup> and consequently it has adopted policies to prioritise the enhancement of energy efficiency. Specifically, it aimed to: 1) establish energy security, 2) reduce the risks posed by import dependence, and 3) take effective measures against climate change (ETKB n.d., 20). The intention behind the introduction of all these measures was for Turkey to become a regional leader in the energy field (ETKB n.d., 10).

4. Turkey’s dependence on imported energy resources is expected to reach 80% of its total energy consumption by 2020 (JICA 2005).

Turkey has been actively promoting energy conservation since the two energy crises in the 1970s. Since 1981, EIE has played a key role in energy conservation. In December 1992, the Energy Resources Supply Department,<sup>5</sup> under the auspices of EIE, was institutionalised as NECC. In 1982 the country also inaugurated an Energy Conservation Week to enhance the awareness of energy conservation among the general public (Yoshida et al. 2005, 8).

Turkey's attempts to enhance energy conservation were supported by international organisations and donors. The United Nations Industrial Development Organization (UNIDO) in 1980 and the World Bank in 1982–1984 and 1988–1991 helped EIE purchase vehicles (buses) with the necessary equipment for implementing energy efficiency audits and providing mobile energy conservation training courses in the industrial sector (for example, textiles, steel making) (JICA 2000, 15; Yamaguchi & Sakoda 2008, 16–17).

As a bilateral donor, Japan has been a principal partner, giving active support to Turkey for almost a quarter of a century. This cooperation began in 1989, when the Energy Conservation Center, Japan (ECCJ) organised a seminar in Ankara with the aim of disseminating energy conservation techniques. Since then, JICA has also been extending technical cooperation to Turkey in various forms, such as providing international training courses in Japan, dispatching experts, and conducting research activities.<sup>6</sup>

The implementation of the Regulations on Measures to Be Taken to Increase Energy Efficiency in Industrial Establishments in 1995 accelerated the movement of energy conservation. It regulated the establishment of an energy management system by either setting up an energy control committee or assigning an energy manager with an 'Energy Manager Certificate' in those factories with an annual energy

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5. The Energy Resources and Survey Development was formed after a request from the State Planning Organization (SPO) and the Ministry of Energy and Natural Resources (MENR) in 1981 (Yoshida et al. 2005, 9).

6. In the period from 1990 to 2001 EIE staff members attended training courses related to energy conservation in Japan on 13 separate occasions (JICA 2005, the summary of the evaluation).

consumption equal to 2,000 ton oil equivalent (toe) or more.<sup>7</sup> EIE/NECC was mandated to support about 500 factories, which were obligated to follow the regulations.

However, it proved difficult for Turkey to achieve the levels of energy conservation it was expected to as a result of domestic and international obligations in such a short period. Despite the efforts of EIE/NECC to promote energy conservation and enhance public awareness mentioned above, the country had not reached its expected goal due to the current weakness of its structure and techniques for implementation (JICA 2005). Therefore, in 1997, they requested support from Japan, a country which had reached one of the highest levels of energy conservation in the aftermath of the energy crises of the 1970s.

### **2.3 Strengthening the capacity of EIE/NECC through bilateral cooperation between Turkey and Japan**

The Turkey–Japan Project on Energy Conservation began in August 2000 after a careful study of energy usage in the industrial sector in Turkey. This project aimed to strengthen the function of EIE/NECC. It consists of three main activities: 1) providing training courses, 2) conducting energy audits, and 3) making and promoting policies to enhance energy conservation. Turkey's initiative was supported by Japan through the despatch of a number of Japanese long- and short-term experts, the provision of a mini plant and equipment<sup>8</sup> for training and energy audits, and the organisation of training courses in Japan (Yoshida et al. 2005, 10).

The construction of the mini-plant allowed EIE/NECC to conduct practical training courses without disturbing the production processes

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7. There were no penalties for factories that did not have energy managers (Yamaguchi & Sakoda 2008, note 13). The legal structure of this regulation is similar to that of Japan's energy conservation law, reflecting the fact that staff members of EIE, who had participated in the ECCJ field trip and training course(s) in Japan, collected information and prepared the draft (Yoshida et al. 2005, 8).

8. This mini-plant consisted of, for instance, an industrial furnace, boiler, steam-trap training unit, rotating machinery (fan and pump), compressed-air training unit, and lighting training unit. These units were well adjusted to fit the purpose of energy conservation training (Yoshida et al. 2005, 14).

in real factories.<sup>9</sup> It made it possible to implement and place the emphasis on various practical training subjects; from the operation and maintenance of equipment and the organisation of training programs to the collection/processing of data, the methods of case selection/analysis for audit, and simulation.<sup>10</sup> The mini-plant became the location for the international training courses that were run for the benefit of Turkey's neighbouring countries.

Through the combination of these three main activities, EIE/NECC was able to help factories to develop their capacities for energy conservation. First, EIE/NECC became able to provide a number of energy conservation training courses for energy managers of factories, as well as short-term training courses for energy technicians. A post-training evaluation survey indicated the improvement and value of the training courses (Yoshida et al. 2005, 32–33). In the eight-year period from 1997, when EIE/NECC began to provide energy manager training courses, managers in 410 factories have been awarded certificates by EIE/NECC. This represented 78% of the 520 factories with an annual energy consumption equal to 2,000 toe or more, which were obliged to have energy managers following the passing of the 1995 regulation, marking a substantial contribution to the reduction of their energy consumption (Yoshida et al. 2005, 14).

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9. Before the construction of the mini-plant, the EIE/NECC's training course was mainly conducted in classrooms. Although practical training was conducted by using operating machines in real factories, it took a long time for the preparation of training and transportation of participants (JICA 2003, 20). As a result of this experience, staff members of EIE/NECC fully understood the validity of introducing the mini-plant and actively learnt the operation and maintenance of the mini-plant (JICA 2003, 21).

10. Training equipment of the mini-plant was limited to that which had versatility. For instance, the types and functions of production-related equipment were diverse, which tended to cause arguments about the selection of equipment (JICA 2003, 133–136).

11. *Monthly JICA*, December 2006.

**Box. Reduced energy consumption in a sanitary ware factory in Turkey<sup>11</sup>**

VitrA is a sanitary ware factory that produces wash and lavatory bowls. The factory, which is a very heavy consumer of energy, had been undertaking energy conservation activities for a considerable period. To further their efforts, their energy managers participated in the national training courses offered by EIE/NECC, which proved an eye-opener for the managers. In the words of one of the participants: "We became able to see things that we had not realised." They improved energy efficiency by making improvements in 24 separate areas; for instance, the improvement of the waste heat recovery of a heating furnace, the introduction of partial lighting, and the utilisation of the waste heat of a compressor for a shower in a company dormitory. In total, they could successfully reduce 25.4% of their energy consumption over the last five years.

Second, through the provision of on-the-job training, EIE/NECC developed their knowledge and acquired the techniques required for various industries to adopt more comprehensive and detailed energy audits and consultations. They visited factories throughout the country, concentrating in particular on the textile, iron and steel, food, ceramics, and paper and pulp industries. They made recommendations to managers in these plants about the areas in which they could undertake and implement effective energy efficiency measures. These experiences, with support from Japanese experts, allowed them to acquire practical know-how on energy audits and consultation by utilising actual processes and equipment in individual factories.

In their energy audits, EIE/NECC's central principle was to teach ways in which factories would be able to improve energy efficiency at either 'no or low cost' (involving, for example, actions such as replacing electricity-consuming fluorescent lighting with higher-efficiency lighting, and preventing the leakage of both water and electricity). During the project, EIE/NECC conducted energy audits in around 130 factories throughout the country. In their follow-up survey, of the 23 factories they had previously visited, it was found that 19 had taken the necessary measures to improve energy efficiency following their advice, contributing to a reduction in energy consumption of 46,295.1 toe/year, equivalent to 9.52% of the total energy consumption of all factories with

annual energy consumption levels of 2,000 toe or more (JICA 2005, 18). EIE/NECC's energy audits contributed to an increased awareness of energy conservation in factories (JICA 2008, 3–5).

Third, the project helped EIE/NECC develop their own capacity to make and promote the policy for enhancing energy conservation throughout society. For example, the General Director of EIE in 2001, and the Assistant General Director in 2003 and 2004, have each participated in training courses in Japan. This allowed them to obtain the latest information on energy conservation and to understand energy conservation policies and laws, through visits to ECCJ and other governmental organisations. A Japanese energy expert who was invited to the 2003 international training in Turkey gave lectures and exchanged views about strengthening the energy conservation system with the General Director of EIE (JICA 2005, 11). Later, these activities indirectly contributed to the enactment of their Energy Efficiency Law<sup>12</sup> in 2007. This Law was part of the fulfilment of energy-related legal systems required for membership of the European Union (EU) (JICA 2008, 3-6). Under the Law, factories with annual energy consumption of 1,000 toe or more, which accounted for the consumption of more than 80% of the energy in the industrial sector, were obliged to allocate energy managers and submit annual reports detailing their energy consumption information and assessments (GOT 2007; Yamaguchi & Sakoda 2008, 18). The introduction of the Law emphasised EIE's responsibility for the promotion of energy efficiency and accelerated the increase of training participants by penalising defaulting factories, that did not allocate certified managers (Yamaguchi & Sakoda 2008, 18).<sup>13</sup>

The governmental policy of energy conservation was also promoted among the wider general public. Some of the outputs of the Energy Conservation Week (for example, a painting competition among schoolchildren) were disseminated throughout the country in the form

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12. The Energy Efficiency Law aimed to reduce energy costs and implement climate control by enhancing the awareness of energy conservation, constructing an administrative system for its promotion, and promoting renewable energy. EIE became a secretariat of the Energy Conservation Coordination Board formed under the 2007 Energy Efficiency Law (Yamaguchi & Sakoda 2008, 17-18).

13. Not only JICA, but also the French Environment and Energy Management Agency (ADEME) and the Netherlands Agency for Energy and Environment (NOVEM) have supported the development of a legal system for energy conservation since 2005 (Yamaguchi & Sakoda 2008, 18).



of calendars. A promotional video highlighting the energy conservation activities of the project was distributed to local media, and the public relations activities of EIE/NECC were strengthened by a Japanese expert.

It is worth noting that several training courses in Japan also provided them with good opportunities to acquire experience, knowledge, and skills in both the public and private sectors. These courses in Japan were specifically arranged for counterparts of EIE/NICC from director to engineer level.

As a result of all of these measures, bilateral cooperation between Turkey and Japan developed EIE/NECC's capacity to the extent that they became confident at transferring knowledge and skills to Turkey's neighbouring countries. In particular, experience and knowledge related to energy conservation and audits, which had been gained through the first and second activities, were incorporated in the international training courses and workshops.

### **3. Success Factors**

As seen above, the steady development of EIE/NECC's capacity laid the foundation for the successful implementation of the international training courses and workshops under TrC among the three participants: Turkey, its neighbouring countries, and Japan. This capacity development of EIE/NECC, however, would not have been sufficient to ensure the success of the TrC activities. It was helped by several additional favourable factors. Among them, the following three seem to be particularly prominent: common motivation, the leadership of Turkey, and the support of external actors.

#### *Common target and motivation under similar socio-political circumstances*

The participants in the TrC activities all shared a similar target of and motivation for improving energy efficiency through enhancing energy conservation. For all of the participating countries, energy conservation is an important issue. Turkey was affected by the energy crises and its energy dependency on other countries had been a significant incentive in pursuing energy efficiency. Many of its neighbouring countries were in a similar situation and have had little choice but to promote and tackle the issue of energy conservation.

What assisted these countries in harmonising and crystallising their shared will towards the promotion of energy efficiency was the existence of political frameworks that directly addressed the issue. Of the utmost importance in this regard was the BSEC, which has identified energy as one of the important issues in the region, identifying the enhancement of energy efficiency as an agenda of its member countries. The membership of the EU might also have worked as a driving force for those who were seeking it. As the EU requires incoming member states to have an energy policy and law that is in line with the EU environmental standards in each country, it was the responsibility of each of the prospective member countries to deal with energy issues and take some concrete steps towards improving energy efficiency to fulfil EU's requirements. These socio-political circumstances motivated Turkey and its neighbouring countries to respectively organise and participate in the TrC training courses and workshops to obtain knowledge and skills related to energy conservation in order to improve their levels of energy efficiency.

*The leadership of Turkey and the existence of a regional centre of excellence*

Turkey had a strong sense of leadership in the energy area, which is clearly expressed in a recent political statement.<sup>14</sup> Since the experiences of the two energy crises in the 1970s, the country had been tackling the issue of improving energy efficiency in order to increase energy security. Their practical activities had accelerated through cooperation with a series of external partners, including Japan. Their long-term efforts towards the improvement of energy efficiency enhanced their confidence that they could provide training courses and workshops for neighbouring countries. The establishment of TIKA indicated their strong commitment to support other countries, although its activities were not limited to the energy sector. In fact, the effective support from TIKA made it possible to facilitate communication among EIE/NECC, participating countries, and JICA, which contributed to the smooth implementation of the training courses.

The combination of Turkey's sense of leadership and the accompanying and well-developed capacity of EIE/NECC enabled them to act as a COE in the region by the time the neighbouring countries became motivated

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14. The mission stated in the Ministry of Energy and Natural Resources Strategic Plan 2010–2014 (ETKB n.d. 10) is 'to make our country the leader of its region in energy and natural resources'.

to improve their energy efficiency. With support from Japan and other external partners over a number of years, EIE/NECC had been equipped with appropriate capabilities to provide effective practical training based upon the accumulated experience and advanced knowledge and skills required in the industrial sector. Their impacts are starting to be observed, for instance, in the reduction of energy consumption in the factories, whose staff members participated in the EIE/NECC training courses, like the ceramic factory in Turkey illustrated in the above box.

As a regional COE, EIE/NECC made great efforts to conduct international training courses effectively through employing its acquired experience and knowledge. As explained earlier, adjustments were made to the contents of the international training courses and the length of practical training, in accordance with the needs of the overseas participants and the training experience of the Turkish organisations. Where necessary, translation and interpretation for Russian, English, and Turkish languages was also arranged for those from different cultural backgrounds. The successful implementation of the TrC activities has fostered EIE/NECC's confidence in its ability to act as a COE, which motivates them to continue providing international training courses.

#### *Long-term support from external actors*

The existence of external partners played an indispensable role in the realisation of the training courses and workshops for its neighbouring countries, as well as the development of Turkey's capacity as a regional COE in the energy area. For instance, in recent decades international organisations such as UNIDO, the World Bank, UN-ESCAP, and ECO have all provided assistance to Turkey to allow it to improve its energy efficiency.

Japan has also been a significant external partner. Japan's advanced knowledge and skills were transferred indirectly to the neighbouring countries through Turkey, which had benefitted from bilateral cooperation. The participants in the 2012 international training course benefited in particular from the operations of a practical training unit, the Energy Efficiency Training Unit. This unit provided them, for instance, with audit techniques by using measuring devices and taking measurements on energy-consuming equipment. In their course feedback participants stated that the training course had helped them

develop their knowledge on energy efficiency and the ways in which they could identify and realise feasible reductions in energy costs (GDRE 2012a, 8). Such cost-effective energy reduction techniques were in part the fruits of the bilateral technical cooperation project outlined above, in which EIE/NECC had acquired the techniques for improving energy efficiency at either 'no or low cost'. In 2012, TIKA and JICA signed a Memorandum of Understanding (MoU) on the joint development cooperation for the former's neighbouring countries. This MoU enables the two countries to cooperate more smoothly and effectively.

The above cooperation has both directly and indirectly contributed to raising the capacity of Turkey and its neighbouring countries to improve energy efficiency. Thus, the long-term commitments of the external partners were one of the keys for the success of the TrC activities.

#### **4. Lessons Learned**

This case suggests some lessons learned for future TrC.

##### *The importance of nurturing the capacity of pivotal countries/COEs*

While TrC could take a variety of forms, one effective way to design it is to identify a capable pivotal country/organisation. Such countries/organisations could be nurtured, for example, by focusing on and providing assistance to those who had the potential to become key institutions and countries in a region. This case study of Turkey and its neighbouring countries illustrates just such an example. The international training courses, on which this paper has focused, were made possible by the robust body of knowledge and skills accumulated in EIE/NECC, a result of the long-term commitment of Turkey and supported by the cooperation from external partners including Japan, who found EIE/NECC an organisation that was capable of being a regional COE. Through years of efforts to develop its capacity, Turkey, through EIE/NECC, which had raised the level of their knowledge on energy efficiency, assumed the leadership role to support their neighbouring countries in their efforts to improve energy efficiency.

##### *Not missing the right moment*

Finding the right timing for emerging appropriate social, economic, and political environments among stakeholders, which would be appropriate to deal with common issues, is important for the implementation of

effective TrC. The time when the BSEC placed emphasis on energy efficiency for 'green energy' was, for instance, rightly matched with the development of Turkey's capacity for conducting regional cooperation. For other neighbouring countries, energy consumption had been an important agenda. Turkey (EIE/NECC), as a leader, also desired to expand their activities to neighbouring countries and contribute to the development of energy efficiency in the region. The needs and demands of development partners were well linked with each other. What was vital was the existence and role of 'catalysts' (Hosono et al. 2011, 184-185), namely external partners, who timely could extend support for their attempts and efforts towards the enhancement of energy efficiency in the region.

#### *The utilisation of existing networks*

It is effective to utilise existing networks, which have been connecting countries and individuals based upon geographical locations and/or areas of common interest. Members of such networks had already formed bonds with each other regarding their common aims and have often fostered mutual trust among themselves, which would provide a foundation for the formation of cooperative activities. For instance, the 2011 and 2012 workshops were organised for BSEC member countries, which had determined to cooperate with each other in order to improve, for instance, their energy efficiency.

## **5. Conclusion**

This paper has demonstrated the ways in which Turkey, in cooperation with its external partners, has been supporting its neighbours to improve energy efficiency in the region by disseminating the experience, knowledge, and skills it has developed in relation to energy conservation. As stated, common motivation, the leadership of Turkey, and the support of external partners combined to make their regional cooperation successful. Of these factors, the strong leadership of Turkey, and the capacity of EIE/NECC as a regional COE, might have been the most significant. The development of EIE/NECC's capacity was partly a result of Turkey's continuous, long-term efforts to develop its human resources capacity, and partly the fruit of its cooperation with international partners, including Japan, over the past few decades. The TrC activities presented in this case are an entry point for regionally scaling up energy conservation activities across national boundaries.

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# Chapter 8

## Enhancing the Capacity of Science Teachers in Palestine: A Case of Triangular Educational Cooperation between Jordan, Palestine and Japan

Jun Kawaguchi

### 1. Introduction

This chapter shares the experience of a successful triangular educational cooperation project between Jordan, Palestine and Japan. Intended to enhance the capacity of primary school science teachers in Palestine, the project has promoted activities designed to improve the teachers' capacity to encourage pro-active attitudes in their pupils, so that they think independently and try science experiments on their own, rather than simply listening to and absorbing the teachers' instructions.

In my view the project has been successful, and its achievements have been made possible by three distinctive features. First, the project was designed so that it brought together the development interests of the participating countries. On the one hand, Jordan and Palestine were eager to accumulate advanced human capital as a basis for sustainable economic growth,<sup>1</sup> while on the other hand, Japan wanted to share its experiences in developing human resources for student-centred education. Secondly, this project was carried out within a favourable policy environment. Official support from their governments served to encourage the teachers and staff members participating in the project. And thirdly, this triangular cooperation took advantage of many important lessons learned from a previous bilateral educational project, implemented by Jordan and Japan. We will look at these features in turn.

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1. Jordan and Palestine do not possess enough valuable natural resources, by comparison with neighbouring countries. Therefore, historically, both governments have based economic growth policy on developing human capital (Yousef 2003).

## **2. Background and Programme Overview**

### **2.1 Educational needs in Palestine and usable resources in Jordan**

Around the time when the idea of this triangular cooperation project came to be discussed, education in Palestine was facing enormous challenges. Although it had achieved remarkable strides in the 2000s, during which period the net primary education enrolment rate reached more than 95 per cent, the quality of education displayed various deficiencies (JICA 2009). It had been negatively affected by the rapid expansion of the primary school population and the prolonged regional conflict, which had resulted in serious shortages of well-trained teachers and adequate facilities. Recognizing these pressing educational challenges, the Palestinian Ministry of Education and Higher Education had already taken a number of actions including facilities improvement,<sup>2</sup> strengthening teacher training and curriculum revisions.<sup>3</sup> To further these efforts, the Palestinian government decided to seek innovative approaches to bring about a more fundamental change in science teaching in the country. At that time, primary school education depended primarily on the traditional 'chalk and talk' method of teaching that emphasizes rote learning. The teachers gave little emphasis to hands-on experiments and faced difficulties in introducing other teaching methods and tools such as information, communication and telecommunication (ICT) technologies for effective schooling because of a lack of human and/or financial resources (Alkhawaldeh 2010).

Recognizing these needs in the Palestinian education sector, JICA worked as an intermediary to connect these needs with potentially useful – and usable – resources available in Jordan. Having worked with Jordan, JICA was aware that the know-how to disseminate good and innovative practices in science teaching was already in place, particularly at the Queen Rania Al Abdullah Centre for Educational Technology (QRC), whose capacity had been developed through JICA-supported technical cooperation from 2006 until 2009. The JICA offices in Jordan and Palestine decided to facilitate an opportunity for Palestinian officials to visit QRC, observe the practices there and exchange ideas with QRC's professionals. During the visit that took place in 2012, the QRC side in Jordan under the leadership of Director Dr Majali expressed their willingness to share their expertise and experiences with the

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2. The government of Japan, through JICA, has provided a series of capital grants for the rehabilitation of primary schools in Palestine.

3. The current sector strategy is the Education Sector and Cross-Sector Strategy 2011–2013.

Palestinian side. Following this exchange, the idea of Jordan's QRC hosting a training programme for science teacher education for Palestine started to emerge. This process was facilitated by the bilateral cooperation framework of the Japan–Jordan Partnership Programme (JJPP).<sup>4</sup>

## 2.2 Programme overview

Through continuous dialogue, the three parties reached agreement in 2012 that they would cooperate in organizing a joint training course. The training course is entitled 'Capacity Development for Science Education utilizing ICT in Palestine' and falls under the third country training programmes (TCTP) scheme within JICA's operations. The programme aimed to share the core knowledge that had been developed and operationalized in Jordan through the earlier Jordan–Japan programme of 'Science Education Enhancement and Development' (SEED). Hence the triangular training programme in Palestine was referred to as TCTP-SEED.

Under TCTP-SEED, Jordan's QRC, under the Jordanian Ministry of Education,<sup>5</sup> served as the main host organization. The main Palestinian counterpart organization was the Ministry of Education and Higher Education. The main target group of the programme was Palestinian science teachers for 1st to 4th grades.<sup>6</sup>

In view of the Palestinian needs, it was decided that TCTP-SEED's objective would be to help Palestinian teachers acquire new teaching skills to empower students to think and try experiments by themselves in the classroom. Under this objective, TCTP-SEED set out to achieve three main outcomes:

- a. Training selected science teachers as core trainers who would then train other science teachers to understand the concept of the new teaching skills and to utilize these skills to empower students to think and try experiments by themselves;
- b. Capacity development of supervisors and staff in the Ministry of Education to monitor and advise the core trainers; and

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4. The JJPP was constituted in 2004 between the two countries to encourage closer and more systematic collaboration in triangular cooperation with Jordan as the pivotal country. For a general discussion on such partnership programmes, see Chapter 5 of this volume.

5. The headquarters of QRC is located in Amman, the capital of the Hashemite Kingdom of Jordan.

6. Belgian Technical Cooperation has implemented a similar project for 7th to 10th grade teachers.

- c. Implementing the new teaching methodology through trained science teachers at classroom level.

In addition to these three objectives, the Palestine Authority has requested new technical support from JICA to achieve three further outcomes:

- a. Strengthening an institutional framework and system of science teachers' in-service training (INSET), in order to develop the capacity of teachers as well as their trainers (i.e., core instructors of the SEED approach, who themselves are teachers) in effective science teaching;
- b. Developing, maintaining and monitoring INSET teachers' training courses in learner-centred science education at core schools in the region, designated as Science Resource Centres; and
- c. Developing the capacity of the Palestinian Curriculum Developing Centre to design an efficient curriculum for effective science education.

As the list above indicates, TCTP-SEED was designed to attain a wide range of outcomes that were not necessarily limited to the development of narrowly defined teaching methods. Thus the programme contents developed by QRC and the Palestine Ministry of Education consisted of multiple modules.

Another notable aspect of TCTP-SEED's programme was its active utilization of ICT as a supplementary teaching aid, as has been the practice with SEED in Jordan. To support activities within the component, JICA provided QRC with the necessary ICT equipment,<sup>7</sup> which was subsequently handed over to the Palestinian side for follow-up actions throughout the country.

### **2.3 The SEED approach: The core knowledge of the programme**

As mentioned previously, the basis and core element of this triangular programme comes from a project developed and widely applied in Jordan through a JICA-supported bilateral cooperation between 2006 and 2009. Prior to this project, Jordan faced a similar situation to that which Palestine is now striving to overcome; that is, science teachers in Jordan were spending most of the time teaching theories using textbooks while offering little or no chance for students to conduct

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7. The equipment includes PCs as well other computer accessories.

experiments on their own in the classroom. In its quest to develop capable human resources to contribute to national growth, the Jordanian government decided to adopt a learner-centred approach in science teaching, and sought Japan's support. Through a four-year bilateral technical cooperation project with JICA, Jordan, with QRC as the main partner organization, succeeded in adapting and operationalizing student-centred teaching methods, and developed an effective approach for disseminating these methods nationally through the governmental administrative structure. The entire package comprising this body of new teaching methods and the systems for scaling-up the approach was named 'Science Education Enhancement and Development' (SEED), as part of a national communication strategy to enhance its recognition.

What is interesting about SEED in the context of south–south knowledge sharing is that its core knowledge is largely built on concepts and approaches developed in the South, namely in Kenya, where the bulk of the knowledge had been developed in a science teacher training initiative supported by JICA called 'Strengthening Mathematics and Science in Secondary Education' (SMASSE). At the core of the body of knowledge developed in SMASSE was a concept known as ASEI–PDSI – Activity, Student-centred, Experiment and Improvisation – Plan, Do, See and Improve. Recognizing the applicability of the knowledge and systems of SMASSE to Jordan, QRC adapted it to suit its own country (JICA 2012).

The SEED package contains three key elements. First was the learner-centred teaching method which forms the very core of SEED. Rather than developing a wholly new approach from scratch, QRC decided to employ the ASEI–PDSI approach of SMASSE. It is an approach that drives a fundamental shift of teaching away from a teacher-centred method, with heavy bias towards knowledge content, and towards a student-centred one with more emphasis on hands-on practice and experiments. ASEI–PDSI is complemented by the idea of locally available materials, which aims to utilize easily available everyday items for science experiments.

The second element of SEED was the frequent use of ICT in preparing teaching materials, which was in line with the Jordanian government's priority on the active use of ICT in education. This was also a strength of

QRC.<sup>8</sup> SEED encouraged teachers to use ICT (e.g. flash, movies and animation), rather than relying on textbook teaching alone, to help students deepen their understanding of concepts and theories. Active use of ICT in classes was also expected to further foster students' interest in science. Simulated science experiments using computers were expected to be an effective alternative to real experiments in classrooms and laboratories, which are not easy to conduct in most schools in Jordan and Palestine because of various constraints.

The third element was the strategy of widely disseminating learner-centred teaching methods. Learning from SMASSE, SEED employed the cascade system.<sup>9</sup> Under this system, Jordanian experts first trained Palestinian science teachers to become core trainers. These Palestinian core trainers then imparted what they had learned to other primary school science teachers. The science teachers who participated in these trainings then shared the knowledge and skills they had acquired with their colleagues at their schools, by giving demo lessons in their classrooms. After finishing the cycle of training in the cascade system, designated Science Resource Centres monitored and supported teachers to continue implementing effective science education.

These are the components of the knowledge shared with Palestinian teachers through TCTP-SEED. They had been developed based on the projects that had been implemented between Jordan and Japan, with necessary modifications.



Left: Palestinian trainers observe pupils learning ICT skills in a primary school in Jordan.  
Right: A seen from a school in Palestine.  
Source: JICA

8. This is an original element in SEED which was not borrowed from the SMASSE approach. In Jordan, universities and technical vocational colleges have been making efforts to attract international students for their ICT degree programmes, with resultant rising numbers of international students.

9. In SMASSE, core teachers' training lasted only one week, whereas the period of core teachers' training in SEED was two months. This is one example that shows how SEED has not simply imported the practices of SMASSE but has actively adapted and localized these to suit the context of both Jordan and Palestine.

### 3. Progress Report

#### 3.1 Current state of progress

TCTP-SEED has progressed in two phases as shown below:

##### **First Phase: June 2012–May 2013**

A total of 39 Palestinian core members (9 members from the technical management team mainly consisting of Ministry of Education staff, 19 members from the core training group including teachers and supervisors and 11 IT professionals) made study trips to Jordan. A total of 19 Palestinian core trainers and supervisors and 11 Palestinian IT experts participated in the trainers of trainers (ToT) training in Palestine three times during this period.

##### **Second Phase: May 2013–July 2014**

Twenty-five selected core trainers who had been trained in the first phase will participate in two training sessions in Palestine and start the implementation of cascade training in their own district. Another 24 new participants will participate in ToT training four times in Palestine to prepare for cascade training in the following year. The expected total number of participants by the end of the project is 154.

The Palestinian Authority recognizes the importance of this project, knowing that the method has been tried in Jordan and has been successful and which meets Palestinian educational sector needs shifting to student-centered learning. Thus the Palestinian Ministry of Education is currently planning to introduce this teacher developing model based on SEED all over the country and to provide training opportunities for all science teachers from 1st to 4th grade. The Ministry of Education's decision to allocate finance to expand the SEED approach nationally indicates a government commitment.<sup>10</sup> To ensure success of the efforts, the Palestinian Authority has requested from the government of Japan further support for a forthcoming national scaling-up exercise as a new technical cooperation project.

The Ministry of Education's request for a new technical cooperation project includes two new activities closely linked to TCTP-SEED. One is to develop a system to monitor and evaluate the achievement of teachers in order to ensure its sustainability. The other has to do with the curriculum. The Ministry of Education is planning to review science

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10. The Ministry of Education in Palestine is planning to go further in mainstreaming the new teaching methods into national in-service teacher training programmes.

curricula and supplementary materials, and to provide advice to and training opportunities for staff members of the Palestinian Curriculum Centre of the Ministry of Education as well as to science teachers, in order to redesign and improve their curriculum to be more in line with the recommended teaching methods.

### **3.2 Prospective outcomes from the assessment results of the SEED initiative in Jordan**

As the actual implementation of TCTP-SEED begun only in 2012 and is still ongoing, it is too early to make any full assessment of this triangular initiative. Given this limitation, we will, instead of looking directly at the impact in Palestine, look at the performance of SEED in Jordan, to approximate what we can reasonably expect from TCTP-SEED.

According to a questionnaire survey undertaken at the final evaluation of the SEED project in Jordan, over 95 per cent of the participants were satisfied with the contents of the training. The survey of the QRC staff members involved in SEED also reported that SEED was effective in upgrading the competence of teachers in learner-centred teaching to the extent that the teachers are now capable of applying the acquired knowledge and skills in the classroom. JICA's evaluation report also found that more than 75 per cent of the schools were satisfied with the training outcomes, saying that their teachers improved their teaching skills after participating in the SEED training (JICA 2009). Other evaluation reports suggest that students in the target areas of SEED have expressed greater interest in science than those in other areas in Jordan. These evaluation results indicate that the teachers who participated in the SEED training are actually practising what they have learned in order to improve students' satisfaction. This might sound obvious, but it is actually noteworthy in the sense that, in reality, teachers often fail to practise what they have learned during training programmes for various reasons. These tangible results from SEED have thus been highly regarded by the Jordanian stakeholders.<sup>11</sup>

Despite its encouraging performance thus far, as an on-going project TCTP-SEED needs to be monitored further to see if it will lead to a real

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11. After the satisfactory results of the bilateral initiative in Jordan, QRC currently plans to apply this cascade training system to other other teacher training programmes, such as one for talented children. ICT utilization methods could also be used for other training.



change in science teaching in Palestine, as the programme's ultimate goal is to develop pupils' ability to nurture their scientific thinking by actively conducting more science experiments. In particular, as the Palestinian Authority is now gradually trying to move forward to the second stage of national scaling-up, we have to carefully monitor to what extent the initiative will contribute to a significant transformation of science teaching methods in Palestine.

## **4. Key Factors Contributing to Good Progress**

### **4.1 Ownership and commitment**

Strong ownership in both Jordan, as the pivotal country, and Palestine, as the beneficiary country, has been instrumental in encouraging the progress thus far of this triangular initiative. First, the Jordanian government and QRC were strongly committed to this enterprise. Behind such strong ownership in Jordan may have been its sense of commitment to contributing to the region's peace and prosperity, as the most politically stable country in the region. As such, Jordan has historically received a large number of refugees from neighbouring countries, including Palestine.<sup>12</sup> This sense of commitment has provided a firm basis for the cooperation demonstrated by Jordan.

Secondly, there is a shared ownership between the two countries in this triangular cooperation, which is largely influenced by their common challenges. Unlike other resource-rich Middle Eastern countries, Jordan and Palestine are endowed with only limited natural resources, and the development of well-trained human capital had been a longstanding challenge for both of them. Strongly recognizing the urgency of promoting innovation and furthering technological advancement to accelerate and sustain their economic growth, the two countries have prioritized education and human resources development over the years.<sup>13</sup> Thanks to their past and recent endeavours, the level of education in the two countries, measured by such parameters as school enrolment and literacy, are relatively good compared with most other countries in the region. However, they wanted to go further. The Palestine government demonstrated this by making a swift political

12. In 2012, for instance, Jordan received about a half million refugees from Syria.

13. Thanks to the government's commitment and the enthusiasm for education among Jordanians, the country has already attained a high quality of education in the region, which is well known among its neighboring countries. Jordan spends the highest proportion of its GDP on education of any country in this region.

decision coupled with generous budget allocations to integrate learner-centred teaching methods into its regular in-service teacher training.

This shared sense of ownership and commitment to education have certainly helped the effective collaboration between the two countries.

#### **4.2 Knowledge adaptation and localization**

With JICA's support, QRC took the utmost care in designing the contents of TCTP-SEED so as to ensure the relevance of the programme. First, QRC staff recognized the importance of tailoring teacher education materials to suit the Palestinian context. In fact, this was what the Jordanian specialists in QRC themselves had gone through during their cooperation project with Japan. Hence, QRC experts consciously provided opportunities and space for Palestinian teachers to prepare the teaching materials. With Jordan's support, Palestinian teachers were thus encouraged to improvise the useful teaching materials and teaching guidebook taking into account the local context, with the fresh skills and knowledge they had acquired during the triangular training programme.

Secondly, localizing the contents of teacher training, as was the case in SEED, worked also in TCTP-SEED. In the training courses in SEED, QRC staff members used not only ICT, but also locally available materials. The localization of teaching materials was initiated also in TCTP-SEED, as introduced by the core trained teachers, and was adapted to the situation of primary schools in Palestine, most of which did not yet have computer facilities.

#### **4.3 Practical orientation**

TCTP-SEED focused on providing participating Palestinian teachers with practical methods of making teaching materials during the training. In the training periods, TCTP-SEED provided practical opportunities for teachers to develop teaching materials on their own. These practical approaches took more time than simply giving lectures. However, as a result of this relatively long period of training, the Palestinian teachers were able to develop their knowledge and skills robustly and apply these for the benefit of their pupils in the classroom.

#### **4.4 Leadership, ownership and support**

Jordan's efficient leadership and Palestine's strong ownership created a

situation in which JICA's support also worked well as a catalyst. JICA did not send any experts to take part in TCTP-SEED; Jordanian experts and staff have taken these roles by utilizing the experience and knowledge derived from the bilateral SEED project. Thus, JICA was able to focus on playing a catalytic role in supporting the smooth progress of the project. Concretely, JICA has offered coordination and advice on the use of SEED to the Palestine Ministry of Education in terms of long-term education development.

Moreover, the JICA office network in the region and the close relationship between QRC and JICA that was developed over the years of the earlier bilateral project have enabled JICA to provide timely and flexible support for TCTP-SEED. This relationship and division of roles has obviously provided effective project implementation.

## **5. Concluding Remarks**

### **5.1 The importance of capacity development for and through triangular cooperation**

Along with strong ownership and commitment to triangular cooperation on the part of both countries, the relatively high capacity for knowledge acquisition not only in Jordan but also in Palestine was also instrumental. During the bilateral cooperation implemented previously, QRC staff members had demonstrated their high capability to acquire new knowledge and adapt and apply this in their practice. These abilities were instrumental in implementing TCTP-SEED; the QRC professionals took advantage of what they had experienced during the bilateral cooperation and applied it to the triangular project. In fact, those who took leadership roles in the implementation of TCTP-SEED were the core trainers and management staff members of QRC who had received practical training in Japan during the preceding bilateral project. This helped their Palestine counterparts to do likewise.

Triangular cooperation benefited not only the Palestinians but also the Jordanian professionals. Through teaching, they could deepen and systematize their understanding of the subject, which is expected to lead to improved quality in their subsequent activities. Likewise, by actually managing training programmes, QRC enhanced its capacity as a knowledge centre. Thus the experiences of this triangular cooperation have contributed to Jordan, and particularly to QRC, by enabling it to

enhance its organizational and staff capacity as an effective training centre.

### **5.2 Remaining challenges**

For educational development cooperation projects to succeed, especially those that aim at the improvement of teaching methodology, a holistic approach which aims not only at the introduction of new teaching methodologies, but also at the revision of curriculum monitoring systems and textbook production, is indispensable. These other factors are essential if the outputs of teacher training programmes are to be maintained and take root. For teachers to use newly acquired teaching skills and knowledge in their classes, they need appropriate textbooks, but not only that, they need appropriate curriculum and teaching environments. Therefore, a holistic approach is important to ensure the effectiveness of a project. Such a holistic approach was a guiding principle of SEED in Jordan, and Palestinian Authority recognized the importance of this holistic approach.

As mentioned earlier, as of 2013 the Palestinian Authority has acknowledged the worth of TCTP-SEED and is planning to scale it up throughout the country. One must be cautious, however, about the prospects for the national scaling-up process; in many similar projects aimed at improving teaching skills, it often happens that teachers face difficulties in actually using the new teaching methods in their classes, as other systems such as the national curriculum and national exams are not made compatible with the new teaching skills. In the case of Jordan, its core trainers and QRC staff have recognized the importance of revising the teaching environment while simultaneously providing enabling conditions for utilizing the new teaching skills. The importance of recognizing this has been conveyed to Palestine. The Palestine Authority is already planning to develop a monitoring system for teachers and to revise its science curriculum. This revised curriculum would align with new teaching skills, and would encourage teachers to utilize the new skills in the classrooms. Though TCTP-SEED is essentially a teacher-training project, its impact and influence will be more widespread in other education sectors, rather than simply the area of teaching skills improvement. It remains to be seen how this triangular educational cooperation project will help Palestine to deal with all its daunting challenges.

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# **Chapter 9**

## **Small Islands, Vast Oceans and Shared Challenges: Linking Caribbean and Pacific SIDS through South–South and Triangular Cooperation**

Karen Bernard and Lingxiao He

### **ABSTRACT**

One of the first projects to attempt to pilot inter-regional south–south cooperation was ‘South–South Cooperation Between Pacific and Caribbean SIDS (Small Island Developing States) on Climate Change Adaptation and Disaster Risk Management’. This project engaged and linked regional agencies in both regions that held a mandate from government to address these risks, and the overall project was facilitated by the UNDP Pacific Centre. The project focused on common SIDS climate-risk and disaster-management issues, and the sharing of appropriate practices and methodologies for managing risk, which have worked well in a number of these island countries. In its three-year time frame, this project initiated significant institutional relationships between these regions and exposed both sides to the key players and their expertise, thus establishing the foundations for several ongoing sustainable partnerships. This initiative can be considered to have been quite successful and has provided insights about how best to enable south–south cooperation, as well as knowledge about the challenges faced; however, a follow-up phase is needed and has been unanimously signaled by all partners. The triangular dimensions of this cooperation provided timely and essential resources and long-term support, and helped to bridge cultural differences, all of which proved to be success factors.

### **1. About the Initiative**

#### **1.1 The context of the initiative**

With the greatest concentration of small island states in the world, both the Pacific and the Caribbean regions face common threats based on

their similar geography, accelerating climate change and the increasing frequency and intensity of related disasters; tropical cyclones and seawater flooding in particular are annual occurrences, with consequent damage and setbacks to human development. Seismic risk is also a substantial concern in both regions, with an incidence of tsunamis as well as active above-ground and underwater volcanoes in several locations. Populations and key infrastructure concentrated heavily in coastal zones are exposed to recurrent flooding and sea level rise induced by climate change. The social and economic vulnerabilities common to SIDS are apparent in both the Caribbean and the Pacific as a result of their small scale and limited economic diversification, which hamper the resilience of such states and their populations for post-disaster recovery.

However, SIDS countries and local communities also have a range of capacities and practices for effective disaster prevention and management, as well as for coping with and adapting to climate change. Some of these techniques are based on traditional practices which have stood the test of time and proven remarkably resilient, whereas others involve the use of new technologies suited for developing countries with SIDS characteristics and limited resources. There is great potential for exchange of ideas, experiences and best practices between SIDS in the Pacific and the Caribbean, in order to find suitable solutions and replicate best practices to address the various threats posed by climate change and disasters. The way forward for SIDS countries also entails the harmonization of disaster risk management and climate change science, for a more integrated approach that grasps the critical linkages between these fields of work.

Previously, exchanges between Pacific and Caribbean SIDS to address common climate change adaptation and disaster management issues had been sporadic, with interest repeatedly expressed in various fora but insufficient follow-up to capitalize on opportunities to identify and share southern solutions. Under this initiative, as a neutral broker, UNDP, with its long-term presence on the ground in both regions and their member countries played a facilitation role in laying the groundwork for sustained south–south cooperation on these urgent development issues. Beyond these two key regions, issues and experiences from the Maldives and East Timor were also integrated as far as possible as being relevant to the SIDS risk panorama.



## **1.2 The parties involved and their roles**

In view of the shared challenges faced by SIDS as outlined above, a project entitled ‘South–South Cooperation Between Pacific and Caribbean SIDS on Climate Change Adaptation and Disaster Risk Management’ was developed in a consultative manner and coordinated by the UNDP Pacific Centre, with extensive support from the regional UNDP programme Caribbean Risk Management Initiative (CRMI).

It is worth considering the way in which this project was initially conceived and formulated, as this also highlights the decisive role often played by the triangular cooperation actor – in this case UNDP. The idea first arose when a UNDP staff member who had been managing a regional project on disaster risk management in the Caribbean was transferred to the Pacific region, to work on similar topics and also from a regional perspective. On the eve of her transfer, regional Caribbean partners—the Caribbean Disaster and Emergency Management Agency (CDEMA) and the CARICOM Climate Change Centre (CCCC)—expressed their interest in establishing cooperation with Pacific colleagues on risk issues of common concern, and requested her to explore this possibility. When she arrived in the Pacific, the key regional organizations the South Pacific Regional Environmental Programme (SPREP) and the Pacific Islands Applied Geo-Science Commission (SOPAC) also confirmed their enthusiasm to establish such cooperation. Accordingly, the UNDP staff member drafted a project proposal to kick-start discussions. Given the modest funds, it was not possible to convene a large formal consultation, so the UNDP staff member met in Fiji with the Pacific regional organizations based there, and liaised with other colleagues by e-mail. Any opportunities to piggyback on existing regional meetings of the relevant stakeholders were taken; during the Pacific Platform and Comprehensive Disaster Management meetings, for example, given that the national stakeholders for this new south–south cooperation were in attendance already, a side meeting was scheduled to discuss and refine the project proposal. Various partners began to rewrite and draft sections of the project proposal. After a series of such impromptu consultations, supplemented by e-mail exchanges, the document had gone through 14 drafts, and finally all parties were satisfied with its formulation. This process took about eight months, and at that point it was submitted to funders for consideration.

It should be noted that this was a lengthy process, but the deliberate and

repeated involvement of the key partners ultimately led to their solid commitment to and identification with the project. The triangular partner, UNDP, was critical in pulling all this together by structuring and facilitating discussion between partners in two distant regions who did not previously have systematic contact.

One of the success factors in the project formulation process was the fact that the UNDP staff member who facilitated this process – who later went on to become the project manager – is a ‘networker’ who knows many people working in this field at all levels, and actively expands this network. This is similar to the profile that UNDP had adopted for its Solutions Exchange systems, in which the project manager is required to demonstrate a ‘networker’ profile. It should also be noted that substantial support was provided by another networker in UNDP on the Caribbean side, who was the project manager of CRMI. The UN’s neutrality and credibility, combined with individuals with networking skills, allowed this person to overcome any petty rivalries or personality conflicts, and when UNDP convened meetings to work on the project formulation, its convening power was respected and effective.

Key regional partners mandated by government to lead the sub-regional strategies in these areas were designated in the project’s governance structure and led the implementation of various activities – these included CDEMA, CCCCC and the University of the West Indies from the Caribbean region. Key partners from the Pacific region included the Pacific Islands Applied Geo-Science Commission (SOPAC), the South Pacific Regional Environmental Programme (SPREP), the Secretariat of the Pacific Community and the University of the South Pacific. Depending on the activities, a range of actors from various levels were involved. For example, as speakers at regional meetings, high-level figures such as ministers or deputy ministers participated. However, in other activities, such as meteorological training, the participants were technical practitioners.

### **1.3 Triangular cooperation component**

The largest portion of the funding for the project was kindly provided by the UNDP–Japan Partnership Fund. This funding contribution was allocated as a result of Japan’s sensitivity to SIDS risk issues, based in part on its own experience as a country comprised of several islands, and at times hit by devastating disasters such as the recent tsunami and

earthquake.

Japanese colleagues and JICA in particular also provided support to the project by periodically engaging in discussions and sharing expertise on relevant topics. Several meetings to exchange information and compare development strategies were held with JICA staff and consultants and with Japanese embassy officials. The discussions focused on JICA's technical support projects for flood-warning systems in Fiji and the Solomon Islands (including a site visit to Ba, Fiji), as well as a briefing on a forthcoming south–south and triangular project supported by Japan to facilitate Fijian technical expertise in less developed Pacific countries.

At the field level, a local Japanese embassy representative made an informative speech during the Pacific exchange visit to Cuba, at the UNDP office in Havana. A Japanese expert was invited to join a field visit to Kiribati along with Caribbean experts, but he was not available. However, he gave a presentation to the group during the pre-departure briefing in Suva, Fiji (May 2010), on the innovative foraminifer project under way in Tuvalu to regenerate sand for fragile coastal areas affected by erosion and rising sea levels.

UNDP's role in the project as triangular actor was as convener, facilitator, networker, resource mobilizer and translator (across cultural differences). Arguably this triangular support is what ultimately enabled the project to get off the ground, catalyzing the interest and goodwill that had long existed but that was insufficient to lead to actual collaboration. UNDP, and in particular the United Nations Office for South-South Cooperation, also played an invaluable role by securing funding for this project, once it had been formulated collectively. UNDP had the credibility and familiarity with the partners to play this facilitation role, given its extensive network of country offices, as well as regional centers, which have programs in numerous SIDS countries for decades. Also, UNDP enabled the partners to develop a shared vision of this project, given the UN's well-known neutrality; UNDP was not advocating any specific focus for the project, but rather was willing to support what the partners determined as their priorities.

#### **1.4 Outlines of the initiative**

The project's overall objective was to strengthen the safety and resilience of Pacific and Caribbean SIDS communities to a range of

natural hazards by facilitating and supporting the strengthening of climate change adaptation and disaster risk reduction capacity in SIDS, based on the transfer of appropriate 'southern' expertise and technologies. The initiative was designed to catalyze the great potential for exchange of ideas, experiences and best practices between SIDS in the Pacific and the Caribbean, in order to find suitable solutions and replicate best practices for addressing the various threats posed by climate change and disasters.

The project's approach encompassed three broad aspects:

- 1) Identification, documentation and dissemination of best practices on integrated climate change adaptation and disaster management specific to the SIDS context.
- 2) Transfer and exchange of technologies currently being used by SIDS for effective, equitable and appropriate disaster risk management and climate change adaptation, between the Pacific and the Caribbean regions.
- 3) Disaster risk management and climate change adaptation within the broader development agenda through support for national action planning, mainstreaming and advocacy work in the Pacific and Caribbean regions and countries.

### **1.5 Knowledge shared and transferred**

Overall, the exchange of experiences, best practices and suitable solutions was to a large extent achieved. These outputs are seen by all partners as assets, and will also enable scaling up and further replication of best practices in the project's next phase. Based on the success of the activities carried out under the project, partners such as SOPAC, CDEMA and the World Meteorological Organization (WMO) have already mobilized extra funding from other donors, including the African, Caribbean and Pacific Group of States–European Union (ACP-EU) and the Canadian International Development Agency to build on the partnerships and pilot activities established in this project.

Feedback from partners through training evaluations and through the external project evaluations showed that the new knowledge gained from other SIDS contexts was largely in five areas: 1) establishment of agro-meteorology systems; 2) quality control for climate observations; 3) mainstreaming disaster risk reduction and climate change concerns in development planning across sectors; 4) gender mainstreaming in

disaster risk management in SIDS; and 5) methodologies for post-disaster needs assessment.

Throughout the life of the project, the requirements and the gaps to be addressed were discussed and agreed in consultation with the key partners and stakeholders, in a similar way to the periodic engagement that occurred during the project formulation process. For specific activities, the partner most specialized in those activities determined the knowledge that should be transferred and the best way to do this. For example, the need for training of mid-level meteorology technicians, or climate observers, was first raised in the biannual meeting of the meteorology directors from the Pacific. In discussions with Caribbean partners, it was noted that the Caribbean Institute of Meteorology and Hydrology (CIMH) would be the best source of this training, and SPREP as the Pacific regional partner in charge of climate risk assessment determined that the best modality for Pacific islanders to acquire these skills was to send national meteorology staff members to study in Barbados for eight months to learn these skills and obtain certification. This would be followed by a two-month detail assignment in a Caribbean island country to see how such skills are applied on a day-to-day basis in a small island meteorology office.

For post-disaster needs assessment, the Pacific organizations felt that this methodology needed to be simplified and adapted to the realities of a SIDS country. Therefore, they requested that the trainer should be from the Caribbean, as her experience would be most relevant and she would be familiar with SIDS circumstances and limitations.

One constant feature of the knowledge transfer was the need for face-to-face interaction, as people from small islands value personal relationships above all. In addition, the Pacific is very much an oral culture, with little reliance on written or electronic communication, and people learn best in informal environments. Barriers such as language and cultural differences were overcome by attention to these potential concerns. They were addressed in briefings prior to activities, debriefings afterwards, and by UNDP's role as intermediary to clarify any issues and offer support during the activities.

## 2. Outputs, Outcomes and Impact

### 2.1 Selected outputs

Some highlights of the outputs achieved under the project's three main areas are detailed here.

**Output 1** Identification, documentation and dissemination of best practices on integrated climate change adaptation and disaster management specific to the SIDS context.

This output consists mainly of the following: 1) knowledge products, 2) knowledge sharing and dissemination and 3) cross-regional exchange opportunities.

#### *Knowledge products*

Key knowledge products prepared and disseminated under the project include a checklist on how to mainstream gender into disaster risk management in SIDS. This publication was launched at the regional Pacific Platform meeting in September 2012, which was held in New Caledonia. Demand has been high so far and feedback very positive, with numerous requests for copies from disaster managers, regional agencies, UN agencies and donors. The checklist has been used as a key resource in training activities in Belize, Vanuatu and other countries. A detailed distribution list has been kept and updated, so that in-depth follow-up can be done later on how it was used, and to obtain feedback on its perceived usefulness.

This checklist was conceived and coordinated by the CRMI project manager and the south-south project manager, both of whom were UNDP staff members, given the UN mandate to promote gender equality as essential for human development. These coordinators agreed to hire a Caribbean researcher and a Pacific researcher to jointly prepare the checklist. Accordingly, an expert from Trinidad and one from Samoa were hired, and they worked together to bring the SIDS perspective from both regions into one single guidance document, which was then peer reviewed by experts in the area.

In addition to a specialized manual and models, the internationally renowned experts in agro-meteorology brought over from Cuba to lead the agro-meteorology training prepared a detailed guidance note in

response to students' inquiries. This guidance note focuses on 'logical steps for assessment of climate change impacts on agriculture'. The Pacific technical staff members who undertook this training were from the agricultural department and the meteorology department of each country, as it was decided by SPREP and the Fiji Meteorology Service in



A visit to a demonstration farm in Fiji during agro-meteorology training

its regional training role that this would be the best way to motivate these two departments to work together under the new field of agro-meteorology. Much of the climate impact analysis in the Pacific had been done by Australia or New Zealand, with limited emphasis on building capacity in Pacific island colleagues. Therefore, the Cuban trainers noted that even basic skills such as setting up a database for tracking data on climate variables were sometimes lacking. The trainees were enthusiastic about what they had learned in terms of monitoring climate impacts on specific staple crops which were important to their national diet, such as cassava, taro and breadfruit, so as to select varieties which would be better suited to future climate conditions. However, they also noted that this field was still new to them and they would greatly benefit from some subsequent in-country assistance from the trainers.

An Issue Brief<sup>1</sup> on lessons learned about the mainstreaming of disaster risk management (DRM) in SIDS was developed through a series of meetings with SPREP and SOPAC, and consultation with the regional thematic working group. Noting that the mainstreaming of DRM had been under way in the Pacific for five years, it was considered timely to pinpoint the lessons learned which could prove useful to other SIDS countries in the Caribbean and the Indian Ocean who were just starting to embark on this process.

### *Knowledge sharing and dissemination*

A project space on UNDP's Teamworks intranet was set up as a platform for sharing the project outputs and results and discussing and engaging

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1. An Issue Brief, in UNDP terminology, is written for national and international development partners, as well as UN practitioners. It is designed to bring practitioners up to date on key issues and development practices in specific areas, drawing on research and international best practice.

with interested parties. As of March 2013, this project space had showcased the following content and traffic: 43 members, 19 discussion topics (with 158 views), 15 blog postings (with 93 views), 51 files, 40 pictures (with 47 views), and 14 articles (with 46 views). This is considered an active and successful site.

Contributions were made to electronic networks. There were two contributions made to the Pacific Solution Exchange online discussion on 'climate change and gender': 1) to announce the launch of the gender checklist for SIDS and 2) to present a synopsis of the main findings (as yet unpublished) from case studies on gendered approaches to climate change adaptation in SIDS.

### *Cross-regional exchange opportunities*

Presentations were given at international fora: the project manager gave a presentation at the Asia-Pacific Forum on Climate Change Adaptation (Bangkok, March 2012) to share lessons learned from the project on how to undertake south–south cooperation among SIDS for climate change adaptation. The national disaster manager from the Solomon Islands participated in a high-level forum on aid effectiveness in Busan (Korea, November 2011) to highlight how the south–south cooperation project had enabled policy and practice discussions between the Pacific and the Caribbean regions on common SIDS issues.

There was also cross-regional participation in meetings: Pacific experts and high-level political representatives were invited to participate in the Comprehensive Disaster Management annual Caribbean-wide meeting of disaster managers and stakeholders for three consecutive years during the project. The Pacific experts spoke on the following topics by request of the meeting organizers and in keeping with the meeting themes: traditional food preservation techniques in preparation for cyclone season; how to read the natural signs of incoming cyclones; initiative in the Cook Islands to establish a trust fund for disaster recovery; systems for tracking national investment in DRM and for developing DRM investment profiles; and the mobilization of youth for DRM.



Disaster managers from Barbados and Palau met and discussed cyclone preparedness.



In a reciprocal exchange, Caribbean experts and high-level political representatives were also invited to participate in the Pacific Platform for Disaster Risk Management annual Pacific-wide meeting of disaster managers and stakeholders for three years during the project. The Caribbean experts spoke on the following topics by request of the meeting organizers and in keeping with the meeting themes: the Caribbean experience with pooled catastrophe risk insurance; how to engage rural communities for more effective disaster preparedness; natural vs. engineered coastal protection measures; and structures and institutions in the Caribbean which coordinate climate change adaptation actions.

**Output 2** Transfer and exchange of technologies currently being used by SIDS for effective, equitable and appropriate disaster risk management and climate change adaptation, between the Pacific and the Caribbean regions.

This output consists mainly of the following: 1) training programs and 2) exchange and field visits.

### *Training programs*

A group of 29 technical staff members from meteorology services and agricultural departments from all the Pacific islands as well as the Maldives and East Timor were trained in agro-meteorology for the first time (Nadi, Fiji, May 2011), as a step towards building the capacity of the islands to independently assess climate change impacts on the agricultural sector. In the workshop evaluation, participants indicated that the most useful information that they had acquired related to crop models and climate models, and how to apply these to staple crops exposed to climate change in their respective countries. Trainees found this particularly useful in terms of setting up systems under which they could gather data in their own country – rather than relying on external sources – and update this to ensure that they planted the right varieties of the food crops which were essential to their national diet in the face of a changing climate.

Training on gender mainstreaming in DRM was provided by a senior Caribbean expert to all 14 Pacific disaster managers (Suva, Fiji, August 2010) as a part of their annual professional development closed session,

resulting in evidence of their better grasp of this issue. The disaster managers learned the importance of ensuring gender balance in all decision-making regarding disaster risk, and ways to surmount obstacles common in SIDS countries which tended to exclude and undermine women. They also learned how to take into account women's traditional knowledge for disaster preparedness, and to acknowledge the value of unpaid work done mainly by women and girl child during disaster recovery.

A senior Caribbean expert was identified to collaborate with SOPAC, the UN Economic Commission for Latin America and the Caribbean and the International Union for the Conservation of Nature to design and conduct regional training on post-disaster needs assessment (PDNA) for Pacific stakeholders (Vanuatu, September 2010), integrating best practice from both regions using macro- and micro-level assessment methodologies. Subsequently, the same Caribbean expert was brought by the World Bank to lead the first ever PDNA to be conducted in Fiji (and only the second in the Pacific region), following Cyclone Evan. Among other aspects, the Caribbean expert explained how to overcome the lack of data common to small countries, and provided a methodology for conducting post-disaster social impact surveys in the context of remote and tiny island groups.

Four Pacific island students from Samoa, Vanuatu, the Solomon Islands and Papua New Guinea completed an eight-month mid-level meteorology technician training course at CIMH in Barbados (September 2011 to May 2012), the first time ever that Pacific students had studied at this high-level institute. The course was planned to improve the capacity of Pacific island countries, especially remote locations, in order to provide quality data inputs for weather forecasting and climate projections, and to provide WMO certification enabling countries to meet quality management standards for the aviation industry. The students are planning to replicate this training nationally and regionally in the Pacific.

In addition, a provincial disaster manager from the Solomon Islands travelled to Cuba to facilitate climate risk management training for Caribbean practitioners (Havana, Cuba, June 2010), emphasizing traditional coping practices used in Pacific outer islands.

### *Exchange and field visits*

A Pacific delegation of national and regional representatives undertook an exchange visit (July 2010) to four Caribbean countries which were leading in effective DRM practices: Barbados, Cuba, Jamaica and St Lucia. A film documenting this Caribbean-Pacific exchange visit, with initial reflections on the relevance and reliability of best



Looking at calibration equipment at CIMH during an exchange visit.

practice, was produced and launched in both regions to generate discussion. Beyond this discussion, a Caribbean delegation undertook a field trip to the Yasawas islands in Fiji (August 2010) to see how a remote island community implemented community-based disaster preparedness in the Pacific with minimal resources.

Following a field visit by Caribbean water sector experts to Kiribati, two spin-off projects for on-the-ground south–south technical cooperation in Kiribati were formulated and submitted to the Global Environment Facility (GEF) Small Grants Programme as ‘strategic projects’ seeking triple funding. Areas of collaboration were non-invasive mapping of groundwater resources and eco-friendly agriculture techniques for soil conservation. As a result of the field visit by the Caribbean experts, they identified opportunities to apply an approach used successfully in the Caribbean, which had not been tested in atoll conditions but could prove very effective. The Caribbean experts saw this as a learning opportunity and an experiment, while the Kiribati government viewed it as a way to address an urgent water shortage.

Based on contacts established under the project, proposals have been submitted to GEF for the transfer of Cuban practices in ecological farming, with regard to land degradation and SIDS-appropriate climate change adaptation. The project assisted in formulating the proposals, which had been submitted by Fiji, Kiribati, Niue and the Solomon Islands and would probably be initiated in late 2013. The Pacific Organic and Ethical Trade Community, POETCom had heard of the innovative Cuban experiences in ecological farming – such as urban agriculture and biological pest control – but did not have any direct contacts or details on these practices. There was a gap to be filled, as the Ministers of

Lands for all Pacific islands had noted in their triennial meeting in 2012, inasmuch as the Pacific wished to advance in organic agriculture but required much technical assistance. POETCom was given the mandate to lead on this, in affiliation with the Secretariat of the Pacific Community. Given UNDP's profile in promoting south–south linkages as a result of this project, POETCom approached the project manager at UNDP, who was able to provide the missing details and contacts, enabling this project to be formulated. Again, it was the triangular role of UNDP that transformed general interest and good intentions into actual collaboration. The GEF Small Grants Programme immediately saw the validity of this proposal and promptly approved it for funding.

**Output 3** Disaster risk management and climate change adaptation included in the broader development agenda through support for national action planning, mainstreaming and advocacy work in the Pacific and Caribbean regions and countries.

Apart from the 'lessons learned' issue brief developed to guide the process for mainstreaming DRM into development planning across sectors based on the experiences from the Pacific, it must be noted that limited progress has been made on this output, compared to the others.

## **2.2 Emerging impacts**

Systematic exchange at regional meetings established institutional relationships and dialogue between regional bodies with similar mandates in the Pacific and the Caribbean – such as CDEMA and SOPAC, SPREP and CIMH, and others – which did not exist prior to the project. This enabled the participating agencies to become more familiar with each other's mandates and realms of action, as well as their key technical staff members and representatives. As a result, the SIDS position at international forums became more unified and more clearly articulated, which outside observers saw as a positive development. Also, this allowed the regional partners to leverage funding from ACP–EU to continue this cross-regional participation at regional meetings, as it was considered essential for networking and knowledge sharing. It has now become a routine practice for the regional agencies involved. Acknowledgement of the importance of south–south exchange on common SIDS concerns has also been included in the official declarations from these sub-regional meetings.

Another indication of the project's impact is the interest of regional and global partners who were not initially involved in joining the project and delivering activities; these partners have expressed their keen interest in being key partners for the second phase. New partners include CIMH, the Coastal Zone Management Unit of Barbados, and the Fiji Meteorology Service, a sub-regional service provider. Flexibility in the project design allowed incorporation of these new partners during the ongoing implementation. As this was such a ground-breaking project, constituting perhaps the first time that south–south cooperation had been attempted between two regions (rather than between two countries), the project manager insisted on maintaining an iterative, flexible approach which encouraged at all times the leadership of the regional organizations, and allowed priorities to emerge through discussion. Collaboration between these two regions was unfamiliar territory and had to be explored step by step.

The project has generally advanced support for south–south cooperation as a valid development approach and has been a reference point for greater awareness of south–south cooperation regionally and even globally. Additional spin-off projects may be anticipated in the near future, depending on resource mobilization.

There are several signs of the sustainability of the project's achievements, such as continued participation in cross-regional meetings and take-up of PDNA based on Caribbean expertise, as well as spin-off projects which have been formulated and submitted to GEF. South–south cooperation between these two regions on such activities will continue and will probably flourish on these foundations, eventually without UNDP's facilitation. At the same time, follow-up on project activities are ongoing, such as a survey currently being conducted to follow up on the application of agro-meteorology training with the participating countries, and the distribution and use of the gender checklist, so further progress is expected in the next few years.

Project partners noted that, for better sustainability, further resource support and continued UNDP facilitation to scale up south–south cooperation among Caribbean and Pacific SIDS was still indispensable. During the project's external evaluation, all parties interviewed expressed unanimous support for a second phase of this project with insightful feedback.

### **3. Success Factors and Lessons Learned**

#### **3.1 Success factors**

Some success factors of this project were identified by an external evaluation at the project's conclusion. Additional success factors and lessons learned were observed during an online discussion forum hosted by the project coordinator on the Pacific Solutions Exchange, which engaged many participants in various project activities, as well as other key players in the Caribbean and Pacific regions.

The following success factors have been noted:

- a) The project had a clear focus as a result of the extensive consultation process during its formulation, which gradually sharpened the focus;
- b) The project concept was beneficial in terms of the networking opportunities for technical exchange and technology transfer between two geographical areas.
- c) Implementation of the project was efficient, given the wide range of activities implemented with a modest budget;
- d) Budget analyses indicated that long-term (i.e. several months') training courses were cost-effective in comparison to regional workshops. More detailed reflection and follow-up planning was also evident from those trained on the long-term course;
- e) The project contributed to the development of stronger relationships, awareness and understanding between the regional organizations involved upon which future cooperation could build;
- f) There were significant demand and a reasonable level of support for the project from the relevant regional organizations, thus minimizing the 'transaction costs' of negotiating with partners. The high level of ownership and enthusiasm from the regional partners smoothed the transactions; and
- g) There was strong commitment and vision from the project manager, who played a convening and networking role.

#### **3.2 Lessons learned**

While the project's success has been acknowledged, at the same time the high number of outputs and activities made the project difficult to manage and led to disproportionate efforts going into implementation of the numerous activities, at the expense of time that could have been

dedicated to more follow-up and evaluation of activities. A second phase of the project should focus in more depth on a limited number of SIDS issues and address each selected issue at the policy, national and local levels for better impact.

In addition, due to limited project resources, staff time for project monitoring and follow-up was not adequate. One consideration from a human resources viewpoint is that it would be advantageous to assign full-time volunteers to form part of the staff team. In addition to ensuring sufficient staff members, this would enhance visibility for any government supporting through bilateral funding, facilitate ongoing communications between partners and help to integrate contributions more systematically.

In addition, instead of exploring more new technologies and practices, a second phase of the project should go further in ensuring transfer of the practices already identified as addressing gaps under the previous outcomes, such as agro-meteorology applications and support for climate change impact analysis. At the same time, modest co-funding should be sought from regional and national partners to foster greater commitment and ownership. To expand inclusion and influence, social media and electronic platforms should be better utilized, including consideration of establishing an informal online chat function to enable discussion among SIDS colleagues.

Some lessons learned from experience about how to undertake effective south–south cooperation more generally have been offered by colleagues in an online forum:

*Logic of commonality* – for south–south cooperation to have foundation, there must be common issues, concerns or characteristics shared by the southern partners. In the project mentioned, the climate risk concerns affected SIDS in different regions. It was noted for example that ‘Barbados and Jamaica share the same weather patterns’ (Williams Worworkon, in Vakalalabure et al. 2013). Some social development issues were also found to be comparable among SIDS, as one researcher working in both the Caribbean and Pacific regions noted that the inter-regional research conducted under the project ‘was a very useful exercise highlighting similarities in organization of communities, societal perceptions and approaches to development,

people's worldview, barriers and challenges, general gender perceptions and traditional norms' (Aliti Vunisea, in Vakalalabure et al. 2013).

*Personal contacts and trust* – an expert from St Lucia elaborated on this point. 'Many of the region's achievements are based on interpersonal interactions... when I go to a country to assist I am not seen as a stranger walking in but a friend known for years; such a bond is priceless and cannot be measured' (Dawn French, in Vakalalabure et al. 2013).

Specific and appropriate southern approaches or methodologies – one commentator noted there had to be 'something to share' (Taito Nakalevu, in Vakalalabure et al. 2013).

*Long time frame* – for a south–south partnership to flourish, a certain amount of time is required to institutionalize the partnership and anchor it. South–south cooperation is not a quick fix. A Fijian participant explained, 'the relationships established via the south–south project are still relatively new, and will require time to mature' (Paula Holland, in Vakalalabure et al. 2013). St Lucia mentioned a specific instance: it borrowed the Mass Crowd Events guidelines from Barbados, which were adapted 'over the course of six years and with many consultations' (Dawn French, in Vakalalabure et al. 2013). This long-term commitment is facilitated by triangular partners such as UNDP, which have a permanent in-country presence and can therefore provide support over the long term.

*High-level commitment* – commentators are adamant that 'political will must be asserted' by governments to maintain south–south cooperation (Roger Rivero, in Vakalalabure et al. 2013) and this must be secured 'by both host country officials and recipient country' (Jacinda Fairholm, in Vakalalabure et al. 2013). In the exchange visits, ministers and deputy ministers participated to share policy directions at the highest national and regional levels, showing their political will to advance SIDS risk issues. These high-level representatives would then meet at international meetings in Brussels or Geneva, and prepare joint negotiating positions based on their previous exchange and familiarity, which had been facilitated by the project.

*Mutual respect among partners* – engagement between southern partners must be respectful, horizontal and reciprocal. 'It should be a



given that all counterparts have the effective capacity to understand and to play an active, creative role, contributing to the success of collaboration among equals’ (Roger Rivero, in Vakalalabure et al. 2013).

*Role of facilitator or triangular partner* – the facilitating partner should be familiar with the models, methodologies and primary actors on both sides, ‘particularly in the case of working across diverse language, political and economic structures’ (Jacinda Fairholm, in Vakalalabure et al. 2013). The triangular partner can then better explain the context and history of these models or methodologies, and assess whether they can be recommended for another SIDS region.

### **3.3 Challenges for south–south cooperation**

Interlocutors also noted some recurring challenges that south–south cooperation had to overcome:

*Intermittent funding* – this is signaled by many as an ‘undeniable challenge, but also the greatest opportunity for exploring triangular partnerships’ (Litia Mawi, in Vakalalabure et al. 2013). ‘Resources are needed to nurture these relationships over the years, until such a time that they become natural and are fully embedded in the development activities of the country’ (Paula Holland, in Vakalalabure et al. 2013). In the project profiled in this article, many of those who consulted mentioned the need to secure resources for follow-up activities and in-country support.

*Keeping activities going* – as with teamwork in general, ‘if there are no common activities, the partnership will recede’ (Taito Nakalevu, in Vakalalabure et al. 2013). SPREP and CCCCC keep up the momentum of their partnership by regularly holding joint side events at COPs.

Cultural and language differences – even with common ground agreed on, cultural differences are formidable and routinely impede understanding and communication. These cultural differences have many facets including ‘cultural heritage’ and ‘community calendars’ (Dawn French, in Vakalalabure et al. 2013). Language differences require translation and are taxing, and even differences in dialects and accents cause stress and miscommunication, in addition to grappling with time zone differences and long-haul flights. Here the role of triangular actors is very valuable in acting as facilitators in all of these aspects. One participant even stated the need for ‘cultural orientation for foreigners’

(Sakiusa Tubuna, in Vakalalabure et al. 2013) to ensure that collaborators were ‘respectful to other cultures’.

*Thinking beyond vulnerability* – south–south cooperation can go farthest by focusing on strengths rather than by sharing commiseration on vulnerabilities. One colleague advocated ‘the need to shift Pacific SIDS mindset away from a focus on vulnerability into more positive and alternative visions for development... which would ensure inclusiveness and self-sufficiency’ (Litia Mawi, in Vakalalabure et al. 2013).

#### **4. Conclusion**

Ultimately, this project was found to be highly relevant to UNDP and to the entire UN system, as the recent Human Development Report 2012 emphasizes the ‘rise of the south’ and the related increasing importance of south–south cooperation as a development approach. This was the first inter-regional SIDS south–south cooperation project, and in that regard was quite ambitious and gained high visibility, with comments and suggestions even from the UNDP Administrator. Partners in the region have been unanimous in their enthusiasm for the project, even while proposing adjustments and improvements to the project design for its next phase.

In the recent online survey canvassing experiences in south–south cooperation which was conducted on the Pacific Solutions Exchange, many contributors noted that south–south cooperation needed the participation of northern development partners to secure meaningful partnership opportunities and collaboration. This confirms the enduring value of the triangular dimension of south–south cooperation, in which the UN system and key bilateral donors such as Japan can help to frame southern exchanges and facilitate network building, dialogue and partnerships with the view to overarching development issues.

As the balance of power shifts globally, we are witnessing the ‘rise of the south’ and the reconfiguration of partnerships for development and these partnerships are just beginning to explore what triangular cooperation can offer.

## References

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# Chapter 10

## J-PRISM: A Case Study of Regional Mutual Learning and Discovery towards an Effective Solid Waste Management in the Pacific

Hiromichi Kano and Shunichiro Honda

### 1. Introduction

This paper intends to highlight the main features of a triangular cooperation project in waste management in the Pacific called the J-PRISM<sup>1</sup> project. Originally set up as a platform for triangular cooperation, J-PRISM is unique in that it goes beyond the usual framework of triangular cooperation in which a specific country acts as a sole pivotal partner, and instead encourages multiple countries to act as pivotal partners in their respective fields of expertise. In the project, all beneficiary countries are actively engaged in multilateral partnerships to exchange and learn about the best or advanced practices.

For maximum effectiveness and efficiency, J-PRISM has taken full advantage of the regional good practices accumulated over the past ten years. They include, for example, landfill improvements in Samoa and Vanuatu; landfill improvement and recycling in Palau; promotion of 3R (Reduce, Reuse, and Recycle) and ongoing school educational programs on the appropriate waste minimization in Fiji. By using such good practices as benchmark models, the project has been supporting capacity development at multiple levels from individuals, groups, organizations, and society at large in eleven countries during its five-year duration.

J-PRISM has also adopted a differentiated approach depending on the level of country in waste management. For countries with notably good practices, the project support has aimed to further strengthen the existing capacities; whereas for other countries with less experience, the project has aimed to first build up the capability to adequately manage their solid waste.

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1. The Japanese Technical Cooperation Project for Promotion of Regional Initiative on Solid Waste Management in Pacific Island Countries

In the two and a half years since the start of the project, the participating countries have recorded the remarkable progress in human and organizational development for more effective solid waste management. Some of the emerging achievements include landfill improvements in Tonga and the states of Yap (underway as of September 2013), Chuuk (ongoing), and Pohnpei (ongoing) of the Federated States of Micronesia (FSM); waste education in schools and expansion of 3R activities in Tonga, Solomon Islands, Vanuatu, and Kiribati; and waste data management through the introduction of weighbridges (scales for weighing waste) in Fiji, Samoa, and Papua New Guinea (planned). While still ongoing, this initiative of regional knowledge exchange and practices is expected to lead to the further advancement of the sustained solid waste management in the region.

## **2. Context of the Initiative**

Effective waste management has become an increasingly pressing issue among Pacific island countries. In recent years, countries in the region have seen a rapid expansion of volumes of the solid waste along with the growing variety of wastes due to the modernization of lifestyles and urbanization. If left unaddressed, these changes will bring about a serious degradation of environment, including worsening public health and hygiene, with potential damage to its scarce water resources, beautiful island, and coastlines.

The challenge in these island countries is further intensified by their geographical isolation, highly limited land areas, and social traditions, such as systems of land ownership.

To support the efforts of the countries in the region to address such enormous solid waste issues, since 2000, JICA has closely cooperated with the members of the Pacific Islands Forum, comprising fourteen countries and territories. The preparation for the support started with the development of a medium and long-term vision for regional cooperation in solid waste management. As an initial step toward full-scale cooperation, waste management specialists<sup>2</sup> were dispatched by JICA in 2000 to the Secretariat of the Pacific Regional Environment Programme (SPREP), an inter-governmental organization based in

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2. Mr. Shiro Amano, current J-PRISM Chief Advisor, and his successor, Mr. Takeo Tashiro, Fukuoka City.

Samoa responsible for coordinating and supporting actions to protect the environment and resources for sustainable development in the region. From a regional perspective, the initial work done by JICA, laid the groundwork for the regional triangular cooperation that later came to fruition.

The development of full-scale triangular cooperation took several steps. In Samoa, a novel collaboration started around this time and attracted regional attention. In the initiative, JICA assisted Samoa in introducing a semi-aerobic landfill structure, an innovative cost-effective approach for landfills developed in Japan,<sup>3</sup> and the first of its kind in the Pacific.

Subsequently, JICA started to implement several regional and bilateral cooperation projects to further promote landfill improvements and 3R, including projects in Samoa, Palau, Vanuatu, and Fiji.<sup>4</sup>

During this period, however, these projects did not set out to mainstream the elements of triangular cooperation. Thus, although part of the projects' objectives included the establishment of practicable models (e.g., landfill improvements, promotion of 3R) for the Pacific region, the outcomes of their cooperation were mostly confined to individual target countries.

Nevertheless, in the meantime, the countries in the region moved toward the formulation of regional waste management strategies with SPREP functioning as the focal organization, for which process Japan and JICA also provided support. A ten-year vision for the Solid Waste Management Strategy for the Pacific Region (SWMS) was first

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3. This waste management approach using semi-aerobic landfill is popularly known as "Fukuoka Method," reflecting the fact that the method was developed in the Fukuoka City of Kyushu Region in Japan.

4 The project details are as follows:

- Solid Waste Management Project for the Oceania Region (SWAMPP; 2006 – 2010): A technical cooperation project in partnership with SPREP for the region with Samoa as a focal country
- The Project for Improvement of Solid Waste Management in Palau (2005 – 2008): A technical cooperation project to support landfill improvements and help formulate a National Waste Management Plan
- The Project on Improvement of Buffer Landfill in Vanuatu (2006 – 2008): A technical cooperation project to support landfill improvement and development of a draft Solid Waste Management Plan for Port Vila Municipality
- Waste Minimization and Recycling Promotion Project in Fiji (2008 – 2012): A technical Cooperation project to reduce waste disposal and promote recycle.

formulated by SPREP in 2005, and following it, the Pacific Regional Solid Waste Management Strategy 2010-2015 (RS2010), a revised version of the SWMS, was launched in 2009.<sup>5</sup>

It was against this backdrop that the eleven Pacific countries and Japan formed a regional partnership. Taking fully into account the lessons learned from prior cooperation that strongly pointed to the efficacy of regional approach, JICA and its partner countries then agreed to bundle together the eleven separate proposals into a single region wide project, entitled the Japanese Technical Cooperation Project for Promotion of Regional Initiative on Solid Waste Management in Pacific Island Countries (J-PRISM) spanning five years between February 2011 and February 2016.

### **3. J-PRISM: A Regional Knowledge Network for Solid Waste Management**

#### **3.1 Overall project design and structure**

Learning from its experiences of past interventions with insufficient regional dimension, JICA designed a workable framework to promote regional collaboration, while ensuring that whatever support specified in the framework would adequately respond to the diverse local needs of each beneficiary country.

##### **(1) General project design**

J-PRISM's aim was twofold: first, to strengthen the national waste management mechanisms in each country with their concomitant capacity development; and second, to promote the regional sharing of knowledge and expertise. National projects were designed and implemented to address the priority needs for each country in line with national waste management plans.<sup>6</sup> The activities at the regional level, on the other hand, provided space for sharing outcomes and best practices among the Pacific countries. Knowledge and expertise gained

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5. There was also another positive movement for regional actions in solid waste management. At the Fifth Pacific Islands Leaders Meeting (PALM5) in 2009, the joint declaration (Islanders' Hokkaido Declaration) stated that cooperation in waste management would continue to be promoted and strengthened in the future, and promised to support the efforts of the Pacific island countries including the effective utilization of 3R-based resources within the framework of regional waste management strategies.

6. The formulation of most of these national waste management plans had been supported by JICA's prior cooperation in collaboration with SPREP.



from regional activities were then fed back to national projects for further improvements in individual countries. In other words, J-PRISM was designed to promote a spiral process of learning and capacity development through the closely intertwined activities at both the national and regional levels.

## **(2) Project implementation structure**

The main participating organizations of J-PRISM are national waste management authorities in each country and SPREP.

To formalize the partnership, SPREP and JICA concluded a memorandum of understanding (MoU), which clarifies roles and responsibilities, including the contributions of each side, as well as the design and goals of the project. In line with the MoU, JICA set up a central coordination office (hereinafter referred to as the Project Office) at the SPREP headquarters in Samoa for the overall facilitation and support of both the regional and national activities. In addition to these arrangements, JICA also dispatched experts from Japan to each country in the region to augment the implementation of national activities.

### **Box. SPREP and the regional environmental cooperation in the Pacific**

SPREP has been playing the role of implementer as well as coordinator for the regional donor-assisted environmental projects and as such has been receiving international support from a variety of actors other than JICA. Below are some of major collaborators in terms of waste management.

- L'Agence Française de Développement (AFD): It has partnered with SPREP to carry out a regional project for a period of four years from 2011, developing and implementing education and training programs for regional waste managers at Fiji National University, and building waste oil collection systems in the region.
- Global Environment Facility (GEF) and UNEP: SPREP will implement a five-year regional project targeting the reduction of adverse impact from persistent organic pollutants in 2013.
- European Union (EU): With the assistance of EU, SPREP will also start implementing a regional project for tackling e-waste (electric and electronic waste), medical (health-care) waste, and asbestos. It is expected to launch during 2013.

All major regional environmental projects physically place their central coordination units within the office of SPREP. Such coordination efforts have further enhanced communication among the donors. As a pioneering project in solid waste management, J-PRISM has actively engaged in the regional coordination through timely sharing of the resources and data generated by the project with other ongoing regional projects for further enhancing regional impacts.

### **(3) Partnerships with other international organizations**

J-PRISM has been formulating partnerships with other international bodies. One major example is the International Labour Organization (ILO). Building on the past collaboration in Fiji with ILO prior to the launch of J-PRISM, ILO and JICA have signed an agreement to further continue and expand the achievements of past collaborations to the whole region. Listed below are some examples of specific cooperation.

- ✓ Occupational safety and health in waste management (Green Job, decent work)
- ✓ Training in Fiji in 2010, Papua New Guinea in 2011, and Samoa in 2013
- ✓ Contributing to improving productivity by including occupational safety and health perspectives

Based on these carefully designed programs and implementation structures, J-PRISM has undertaken a series of triangular cooperation activities linking actions at country and regional levels.

### **3.2 Regional exchange and capacity development through TrC: J-PRISM in action**

To promote regional exchanges of knowledge, expertise, and experiences among Pacific island countries and territories in solid waste management, J-PRISM has used a variety of tools and instruments. The following sections depict its major activities, in which such tools and instruments were utilized.

#### **(1) Dispatching local experts**

Local experts who gained technical skills through previous JICA projects have been playing a key role in J-PRISM. Recruited mainly from the participating organizations of the previous projects, these local experts have been working for J-PRISM as experts and playing various roles including those of facilitators and trainers for national and regional activities. Often, they are teamed up with Japanese experts to provide advice on the implementation and management of individual projects in several countries. They also worked as catalysts presenting their experiences of improvements in regional waste management at international conferences, including those held in Japan. Some examples of activities by local experts are listed below.

The type of local experts	The role and activities
A former officer and project counterpart at the Ministry of Natural Resources & Environment, Samoa, current J-PRISM Assistant Chief Advisor (local consultant)	<ul style="list-style-type: none"> <li><input type="checkbox"/> Individual project management (Samoa, Tonga, PNG, Solomon Islands, Vanuatu, Micronesia)</li> <li><input type="checkbox"/> Regional trainer (landfill operation and management)</li> <li><input type="checkbox"/> Presentations at symposiums in Japan and the region (Okinawa Eco-Island Symposium etc.)</li> </ul>
Current landfill supervisor at a city council, Vanuatu (former counterpart for bilateral technical program)	<ul style="list-style-type: none"> <li><input type="checkbox"/> Regional trainer (landfill operation and management)</li> <li><input type="checkbox"/> Accept and advise country attachments (landfill operation and management)</li> </ul>
Current city council officer, Fiji (former counterpart for bilateral technical program)	<ul style="list-style-type: none"> <li><input type="checkbox"/> Accept and advise country attachments (waste collection operation and management, 3R)</li> <li><input type="checkbox"/> Regional trainer (3R, OSH training)</li> </ul>
Current city council officer, Fiji (former counterpart for bilateral technical program)	<ul style="list-style-type: none"> <li><input type="checkbox"/> Accept and advise country attachments (waste collection and management, 3R)</li> <li><input type="checkbox"/> Regional trainer (3R)</li> <li><input type="checkbox"/> Presentations at international conferences in Japan (SWAPI)</li> </ul>
Current town council officer, Fiji (former counterpart for bilateral technical program)	<ul style="list-style-type: none"> <li><input type="checkbox"/> Visiting lecturer (clean school program)</li> <li><input type="checkbox"/> Regional trainer (3R)</li> </ul>

## (2) Training programs (regional, sub-regional, and in-country training/ workshop)

Group training has also been implemented using local human resources and facilities/sites with the aim of providing technologies, expertise and solutions for the issues common to the whole region, or to subsets of countries. For some programs, trainees are invited from the entire region (including the sub-regions of Micronesia, Melanesia, and Polynesia), while some programs limit the invited participants to particular sub-regions. In most programs, the host country is encouraged to invite participants not only from the municipality where



A scene of training in FSM Participants from FSM and Palau are listening to the instructions by trainers from Samoa and Vanuatu

the pilot project is being implemented but also from other municipalities with the aim of enhancing knowledge and expertise across the whole host country. Such program design thus necessitates adequate management capacity of the host organization.

	<b>Training</b>	<b>Host location</b>	<b>Participants</b>
1	Landfill operation and management training (2011)	Vanuatu	Samoa, Fiji, Solomon Islands, PNG, Vanuatu, other local governments
2	Occupational safety and health training for waste collection and disposal in collaboration with ILO (2011)	PNG	Port Moresby capital area (local government, private waste collection companies)
3	3R training in collaboration with other JICA partnership program (2011)	Fiji	Other municipalities in Fiji
4	Educational programs in schools (2012)	Fiji	Tonga, Solomon Islands, other municipalities in Fiji
5	Clean Pacific Campaign training in collaboration with SPREP (2012)	Fiji	Fiji, Kiribati, Palau, PNG, Tonga, Vanuatu, Cook Islands, Nauru, Tokelau
6	3R Training in collaboration with other JICA partnership program (2012)	Fiji	Marshall Islands, Samoa, Solomon Islands, Vanuatu, other municipalities in Fiji
7	Landfill operation and management training (2013)	Federated States of Micronesia (FSM)	Palau, 4 states of FSM
8	Landfill operation and management practical training through pilot demonstration project (2013)	FSM	Marshall Islands, 4 states of FSM
9	Occupational safety and health regional training for waste management (2013)	Samoa	Fiji, Nauru, PNG, Samoa, Solomon Islands, Vanuatu  (Government officials and private companies )
10	3R training (planned for November 2013)	Palau	FSM, Marshall Islands, Kiribati, Samoa

### (3) Country attachment, study visit, and trainers dispatch

#### *Country attachments*

J-PRISM introduced what it called “the Country Attachment (C/A) program.” It is a program in which staff members working for a waste-management related organization in a target (beneficiary) country are sent to a counterpart organization in another country for a period of about one to two weeks, to learn specific skills, knowledge, and expertise through on-the-job training (OJT). Unlike classroom training programs, the C/A program can provide opportunities for the direct exposure to concrete field practices, and for engaging in collaborative activities in day-to-day tasks. As well as conveying technology, skills, and expertise in the field, the program also provides the beneficiaries with an opportunity to observe the work ethics of the receiving individuals and organization through the day-to-day training.

	Program Description	Trainee	Destination (Resource)
1	Landfill operation and management (C/A)	Solomon Islands	Vanuatu
2	Landfill operation and management (C/A)	PNG	Samoa, Fiji, Vanuatu
3	Waste collection, 3R (C/A)	Tuvalu	Fiji (Lautoka)

#### *Study visits*

Another program aimed at exchange on site is what the project called “Study Visits” (S/V), a program through which the host country organization plans a range of site visits and lectures that respond to the needs of the partner countries. This was used as a short and convenient means of familiarization, though the On the Job Training element is generally limited compared to that of the C/A, given its short duration for a few days.

	Program Description	Trainee	Destination (Resource)
1	Landfill weighing scales operation and management, 3R (S/V)	Samoa	Fiji (Lautoka)
2	Landfill operation and management (S/V)	PNG	Samoa, Fiji
3	3R, educational programs (S/V)	Solomon Islands, Tonga	Fiji (Nadi)

***Trainer dispatch program***

The Trainer Dispatch programs (T/D) is to dispatch experts from resource countries to target countries to introduce programs or provide technical advice and coaching.

	<b>Program Description</b>	<b>Trainers (Resource)</b>	<b>Destination</b>
1	Educational programs at school (Teachers' workshop)	Fiji (Nadi Town Council staff and JOCV)	Kiribati
2	Landfill operation and management	Vanuatu (Port Vial municipal council staff)	FSM
3	Educational programs at school (Teachers' workshop)	Fiji (2 Nadi Town council staff)	Solomon Islands

**(4) Committees and the awards system for counterparts**

A meeting is held once a year to bring together project directors at the level of vice-ministers and bureau directors at the ministries for the environment in all project target countries. The main purpose of the meeting is to share overall project progress, and to discuss directions for future activities. In addition J-PRISM has instituted the following mechanisms to promote the sharing of best practices and mutual learning among all countries.

As of 2012, the project has launched the Best Team and Best Counterpart awards for the member organizations or individuals that made notable progress and produced best practices in the preceding year. The award recipients are invited to the steering committee meetings for the awards ceremony. The award-winning local experts are given an opportunity to present their achievements during the meeting, and share specific examples of best practices in front of the high-level government officials from other countries in the region. However, such experience-sharing opportunities are not limited only to those awardees. When the Project Office identifies any worthy practices with good outcomes, the Project Office may invite organizations or individuals to present their experiences at the meeting. Such conscious programming of knowledge sharing opportunities at the regular high-level meetings has helped raise the motivations of local practitioners.

Moreover, the steering committee meetings are strategically scheduled

as side events during the annual general meeting of SPREP. In so doing, other stakeholders including donor organizations are enabled to participate in the J-PRISM steering committee as observers while attending SPREP annual meetings. Such programming has helped not only to reduce the transaction cost for partners of SPREP but has also to raise the understanding and interest of the other stakeholders on the activities and achievements of J-PRISM initiatives.

### **Awardees and special invitees at the past steering committee meetings**

	<b>Host</b>	<b>Awards</b>	<b>Invited</b>
No. 1 September, 2011	Samoa	—	—
No. 2 September 2012	New Caledonia	<input type="checkbox"/> Best Team: Solomon Islands <input type="checkbox"/> Best Counterpart: Landfill supervisor, Port Vila municipality, Vanuatu	<input type="checkbox"/> Fiji, Lautoka City Council <input type="checkbox"/> Fiji, Nadi Town Council
No. 3 September 2013	Samoa	<input type="checkbox"/> Best Team: Tonga <input type="checkbox"/> Best Counterpart: Director, Yap State Environmental Protection Agency (EPA), FSM	<input type="checkbox"/> Marshall Islands, Majuro Atoll Waste Company

The above illustration of the activities of J-PRISM has proven the feasibility, relevance and advantages of the triangular approach with a region-wide scope. Above all, such substantial incorporation of triangular cooperation elements to the project have helped reduce the cost of the project more than solely relying on the Japanese specialists in the region.

The experiences of J-PRISM also have indicated that the triangular cooperation approach has been found to be both costs efficient and effective. The close similarity in geographical, environmental, and cultural features among island states meant the exchange of knowledge and expertise within the region was very useful. The numerous opportunities of seminars, workshops, and training have promoted the sharing of experiences and ideas as well as trust-building among the counterparts in the region. Providing opportunities for local experts to present their good practices and contribute to the project as the instructors and lecturers has also deepened their understanding on the

issue and strengthened their commitment to better solid waste management.

### **(5) Going beyond J-PRISM: Engagement in the international opportunities**

Another key activity of J-PRISM is its active engagement in international opportunities beyond the scope of the Pacific. Through such engagements, the J-PRISM team, consisting of local and Japanese experts, has been able to share its successful experiences in the Pacific with other parts of the world and also learn from other regions. Such joint activities of the team have also led to deeper understanding of the waste management issues and mutual trust among the J-PRISM counterparts.

One such occasion was when, in May 2012, J-PRISM members comprising Fiji, FSM, Palau, Samoa, and Tonga, as well as project experts, participated in the Okinawa Eco-Island Symposium. It was a symposium jointly sponsored by JICA and Okinawa Prefecture as a side event to PALM6. There, the team introduced J-PRISM's initiatives and exchanged opinions on the preservation of island environments.

Another occasion came in March 2013, when J-PRISM provided full-scale support for participation from the Pacific nations in the Regional 3R Forum in Asia, a high-level international meeting held in Hanoi, Vietnam. At a session for the island nations, the Project Office and representatives from Fiji, Palau, and Tonga highlighted the importance of 3R issues in the island nations through showcase presentations that were well-received by the participants. The discussion results from the session were then widely shared at the plenary of the same symposium and contributed greatly to raising the profile of the Pacific nations.

## **3.3 Achievements and challenges**

### **(1) Outputs and outcomes thus far**

Through a variety of actions taken and outputs produced on capacity development for human resources through TrC approach mentioned above, the projects have already helped realize the following concrete improvements in waste management practices at national levels. These achievements have been realized through internalizing what they have learned through triangular cooperation.



### *Landfill improvements*

- ✓ Full completion: Tonga
- ✓ Ongoing with partial completion: Yap / Pohnpei / Chuuk
- ✓ Improvement work launched: Papua New Guinea / Solomon Islands
- ✓ Preparation process ongoing<sup>7</sup>: Samoa

### *3R Activities*

- ✓ Roll-out of educational programs about waste at schools: Fiji
- ✓ Spread of market waste composting: Fiji
- ✓ Launch of educational programs about waste in schools: Tonga / Solomon Islands / Vanuatu / Kiribati
- ✓ Introduction of deposit fee program for beverage containers (planned): Fiji / Samoa

### **(2) Some remaining challenges**

In spite of the achievements and good lessons from J-PRISM, there remain two major challenges.

The first challenge is how to systematically but meaningfully evaluate the value of its outcomes brought about by this highly process-oriented triangular cooperation. By developing and applying such evaluation approach with a process perspective, the evaluation exercise with an appropriate feed-back will help stakeholders get a clearer sense of the real benefits out of triangular cooperation. In the current absence of such methods, the awardee system illustrated above is one of the complementary actions to fill such learning gap by providing useful opportunities to help enhance their awareness of the real benefits of triangular cooperation. Through stronger regional learning process with the development of more appropriate evaluation approach, it is expected that the Pacific states will gradually become able to regionally source effective solutions and expertise without much dependence on external resources beyond the Pacific.

The other challenge is the high turn-over of the well-trained counterpart personnel partly due to the region's high mobility of workers and reliance on overseas remittances. The most talented human resources often leave looking for greener pastures in industrialized countries,

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<sup>7</sup> In preparation for the start of improvement work, collection and analysis of waste volume data using a weighbridge has started.

including Australia, New Zealand, and the United States. While the J-PRISM team has made efforts to rectify this situation, this “brain drain” will continue to pose a challenge with the view to the long-term sustainability of the initiative.

#### **4. Lessons Learned and the Way Forward**

We now turn to look at what has contributed to the performance of the project. We will first try to see the factors that have been at work, and then discuss what role an external actor—in this case JICA—has been playing for the project’s performance.

##### **4.1 Factors of success**

As the authors see it, there have been two factors that have contributed to the thus-far successful performance of J-PRISM. They are, first, a favorable environment in which the project was operated, and second, the factors that the project created for itself through its careful project design.

##### **(1) Favorable environment**

There were two underlying factors for J-PRISM’s successes, which are ownership and the presence of the regional and country policy framework at the start of the J-PRISM.

##### *Ownership*

First, there was reasonably strong sense of ownership and commitment among partners including regional organizations such as SPREP and the partner countries and territories. As we saw in Section 1, the management of rapidly increasing volume and diversity of the solid waste in these small island states has become a priority for the region. Such a sense of urgency certainly has worked to push the initiative forward. External support from the international community, including that of Japan, only reinforced this already existing sense of the strong ownership and commitment among the stakeholders of the region.

##### *Policy frameworks*

The second underlying factor was the presence of regional and country policy frameworks. At the time of the launch of the J-PRISM, the basic regional policy frameworks, including RS2010, were already in place, with support from JICA and other partners. Within the regional policy

framework, countries and territories in the region have also formulated their own country policy and planning frameworks. Such policy frameworks have underpinned the ownership.

## **(2) Project design**

### ***Regional scope in project approach***

With the backdrop of strong ownership and policy frameworks, a well-crafted project design has contributed to the good progress of J-PRISM so far. The backbone of the project design can be broadly summated to its effective and creative combination of regional approach and country-level follow-up mechanism, which are interconnected by the continuous cycle (or feedback loop) of learning and actions. Such a continuous learning process is then further complemented by the regional or sub-regional capacity development opportunities.

Informed by the lessons of the past cooperation projects in the region, JICA, SPREP, and partner countries have decided to form a single framework of projects covering all the eleven target countries with the central project office located in the SPREP headquarters in Samoa. Within the regional framework, J-PRISM has taken full advantage of the regionally available expertise for human resources development activities such as training, the dispatch of experts within the region, and exchange visits.

J-PRISM's engagement in regional policy-making processes helped raise the regional stature of J-PRISM among the key policy makers in the field. Such engagement included those with SPREP (through the steering committee meetings at the annual general meeting of SPREP) and the Pacific Islands Leaders' Meeting (by organizing side-events at the sixth summit in 2012 (Okinawa)). Also useful was the collaboration with multilateral organs like the United Nations Center for Regional Development.

### ***Field practices within the regional framework***

One notable design of J-PRISM is its combination of support to the local concrete practices along with the above-said regional actions. Though the island states in the Pacific share many common characteristics, there are also notable differences among countries when looking in greater detail. Such diversity can be found not only in the demographic, geographical, and socio-economic conditions but also in the way the

governments have acted on the waste management issues and their level of expertise. J-PRISM has responded flexibly to these situations, individually setting the targeted outputs and activities that were believed to match the needs of each country. Within the country framework, pilot country projects are then formulated to address the specific situation and needs of solid waste management in each country. Activities at the regional level are thus designed to provide complementary assistance to such country efforts through the provision of locally unavailable skills and knowledge.



Training participants from Samoa are learning about the data management of collected garbage at a waste disposal site in Fiji

#### *Development of regional expertise in medium- and long-term perspective*

The approach of regional triangular cooperation in J-PRISM rests on the regionally available expertise in solid waste management. Such possibility, however, did not automatically come about. It was made possible largely through the past and continuing efforts of human resource development in this particular field through both J-PRISM and its preceding cooperation. In such an endeavor, JICA has not only supported the training opportunities but has also consciously ensured that these regional experts were engaged in various project activities, as advisers and specialists, so they could further enhance their capabilities. Such efforts with medium- and long-term perspectives have provided an essential base for the good progress of J-PRISM.

These favorable environments, which were further reinforced with the assistance of international support and the carefully prepared project design, have together contributed to the achievements of J-PRISM thus far.

#### **4.2 The JICA's role and approaches in support for regional triangular initiative**

In discussing the effectiveness and efficiency of TrC, roles of external actors (which are often "Northern" actors) have been a subject of discussion, and in the remaining pages, the authors would like to address that issue. Based on the observations from this project, the authors would like to suggest three key roles, which JICA has played.

### **(1) Knowledge resource**

Japan through JICA has acted as one of the key knowledge resources for effective solid waste management in the region. One notable example of sharing Japanese innovative practices was the introduction and adaptation of the “Fukuoka” waste management approach using semi-aerobic landfill in several Pacific states. As described in the previous section, JICA’s knowledge support to the Pacific was not



Training participants from Marshall Islands and FSM are observing “Fukuoka methods” in Samoa

only limited to the sharing of concrete technology and skills but has also extended to the development of policy and visions at higher policy level. This JICA/Japan’s role as the knowledge provider was quite prominent during the JICA’s bilateral assistance prior to the J-PRISM, but it continued to play a role even under the region-wide initiative of J-PRISM. The provision of Japanese knowledge and expertise helped trigger the long-term process of strengthening solid waste management practices in the region.

### **(2) Knowledge facilitator**

By building on the successes of local adaptation and development of good pilot models in a number of countries in the Pacific states, the regional initiative of J-PRISM then acted as the facilitator of knowledge among these countries. In establishing a more sustainable mechanism, J-PRISM has helped institute a variety of opportunities and spaces with concomitant capacity development for continuous regional dialogue and knowledge exchanges. The examples of such spaces are illustrated in the above section, such as the regional training, study visits, country attachments, steering committee meetings with opportunities for awards and good practice presentations. These arrangements have not only helped the exchange of knowledge and experiences but also built mutual trust among stakeholders and motivate practitioners working in the field.

### **(3) “Coach” for continuing regional and country practices**

JICA through J-PRISM has played the role of “coach” both at the regional level with SPREP and the service frontline. In support of country-based activities of J-PRISM, JICA programmed the dispatch of Japanese technical experts to project partner countries rather than concentrating

all the specialists in the Project Office in Samoa. These Japanese advisers helped facilitate the efforts of continuous improvements at the country level, including the service frontlines and also provided concrete and timely technical advice to the staff members of the participating organizations as the coach. Such coaching activities at the country level were further underpinned by the resident advisers in the Project Office located within SPREP in Samoa.

**(4) Medium- and long-term commitment with the process of learning**

The hallmark of J-PRISM was the concurrent and coordinated efforts of these multiple actions at multiple levels, instituting mutual learning mechanism at the regional level while ensuring the translation of the knowledge into practice at each country level.

In retrospect, JICA did not grow to be able to play these roles overnight. The authors are of the view that this has been a learning process not only for the countries in the Pacific but also for JICA.

In fact, the process of preparation and the implementation of this challenging regional project would be best characterized as trial and error by the Pacific partners and JICA. As an effort to ensure a better project design, JICA has thus taken time and great care in project preparation. Since the early 2000s, it took sufficient time to study regional and country contexts in good depth. It has also ensured consensus among the interested countries. Such a process of careful preparation with the good engagement of partners in the region has ensured the regional legitimacy of the project and also enabled the close partnership with key regional organization such as SPREP and other international organizations active in the region.

Another point worth noting is that a mobilization of various resources enabled JICA to play various roles in such a way that is possible to meet the specific needs of its partners. The presence of committed Japanese experts and local counterparts has also been very instrumental in the successes of J-PRISM and the preceding collaboration from the early 2000s. Among them, two key individuals have played critical roles. They are Mr. Shiro Amano, JICA's Waste Management Specialist and the current J-PRISM Chief Advisor, and Dr. Kunitoshi Sakurai,<sup>8</sup> the Project

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8. Dr. Sakurai has been Professor at the Okinawa University since 2000.

Formulation Adviser for solid waste management in the Pacific in 2000<sup>9</sup> and later assumed the position of the chairman of the Japan advisory committee for J-PRISM. These two specialists and other Japanese experts,<sup>10</sup> who are highly knowledgeable both in global waste management practices, including those of Japan and the international cooperation work, have played a catalytic role in connecting Japanese and global good practices to the Pacific. The combination of resident JICA experts in both J-PRISM project offices in Samoa and partner countries, as well as the extensive JICA offices network in the region,<sup>11</sup> have enabled JICA to provide timely and flexible support for ranges of J-PRISM activities, which are regional in scope.

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9. Dr. Sakurai's work as the project formulation adviser has helped formulate the regional medium and long term for the regional solid waste management.

10. JICA has carefully selected experts, who are sufficiently equipped with the expertise in the waste management field with some prior knowledge and experiences in the Pacific Region. In addition, JICA has also made efforts of developing a pool of human resources for future dispatch.

11. JICA has nine offices in the Pacific Region.

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# Chapter 11

## Promoting Reciprocal Learning in the South: A Case Study of South–South Cooperation between Benin, Bhutan and Costa Rica

Nira Gautam, Mary Luz Moreno, Marianella Feoli and Carolina Reyes<sup>1</sup>

### Abstract

The Programme for South–South Cooperation between Benin, Bhutan, Costa Rica and the Netherlands (PSC) grew out of bilateral Sustainable Development Agreements signed in 1994 between the Netherlands and each individual country. In 2005, based on the priorities agreed at the World Summit of Sustainable Development (Johannesburg) and the Millennium Development Goals, Costa Rica, Benin and Bhutan came under the umbrella of South–South cooperation, with a US\$13.2 million grant from the Netherlands. The PSC was established to execute reciprocal projects of common interest between 2007 and 2011, focusing on four components of sustainable development: economic development, social development, environmental protection and gender equality. The objectives of the PSC were to contribute towards the eradication of poverty, change in patterns of production and non-sustainable consumption, improvements in sustainable tourism, efficient use of energy and management and protection of natural resources. Gender equality was a cross-cutting theme throughout all the projects, since this was a major concern in all partner countries. The PSC strove to function as a political, administrative and financial framework to develop South–South cooperation with the intention of making this a replicable model.

The unique nature of this collaboration between countries in three different continents with vastly distinct languages, cultures and geographical settings has raised many eyebrows, but the PSC has shown that with the right kind of planning, commitment, partners and reciprocal respect this sort of South–South collaboration can produce

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1. Copyrights of this paper are reserved for the Programme for South-South Cooperation on Sustainable Development between the Republic of Benin, the Kingdom of Bhutan and the Republic of Costa Rica and the Kingdom of the Netherlands (PSC).

impressive results on a very small budget.

## **1. Context and Background**

The Netherlands (representing ‘the North’) and a limited number of selected ‘South’ countries, namely Bhutan (Asia), Benin (Africa) and Costa Rica (Latin America) joined hands to embark on an ambitious triangular pilot initiative. By 2007, National Mechanisms were designated in each country: Fundecooperación para el Desarrollo Sostenible in Costa Rica, Centre de Partenariat et d’Expertise pour le Développement Durable (CePED) in Benin and the Sustainable Development Secretariat (SDS) in Bhutan, to act as coordinators and to serve as platforms to articulate promising initiatives for sustainable development. It was hoped that this partnership would 1) bridge the gap between four world regions; 2) inspire the clustering of many similar small partnerships and real commitment between other countries; and 3) promote alliances between a wide array of local, national and international stakeholders.

### **1.1 The establishment of the Programme of South–South Cooperation**

Despite marked geographical, cultural and religious differences, the three countries had collaborated successfully since 1994. In the wake of the UN Conference on Environment and Development (1992) in Rio de Janeiro, Benin, Bhutan and Costa Rica separately entered into bilateral sustainable development agreements with the Netherlands, which were formalized in 1994. During the World Summit on Sustainable Development in Johannesburg in 2002 the countries reaffirmed their commitment to pursuing sustainable development goals and mutual cooperation. Benin, Bhutan and Costa Rica signed a strategic partnership agreement with the Netherlands. What followed was a decade of promoting and supporting hundreds of projects in the three countries, delivering joint declarations at multilateral forums and debating policies towards achieving sustainable development.

Over the years they had developed bonds of trust and understanding that had enabled them to contribute to each other’s national development strategies. Mechanisms were in place to facilitate South–South cooperation not just through the National Mechanisms, but also governments, educational institutions, civil society and the private sector. Instead of terminating their relationship, then, the Netherlands,

Costa Rica, Benin and Bhutan in 2005 established a Programme for South–South Cooperation on Sustainable Development (PSC). This initiative would create an innovative framework of collaboration based on equality, reciprocity and participation that would re-imagine the traditional North–South relationship in development cooperation. The Netherlands agreed to transfer funds up to US\$13.2 million to support the PSC, and it was decided that Fundecooperación para el Desarrollo Sostenible, the Costa Rican National Mechanism, would act as the Secretariat and administrator for this PSC fund.

The PSC was adopted into the foreign policy and national plans of each partner country by the respective high-level representatives. This set the stage for each government to incorporate South–South cooperation into their international relations agendas. In Bhutan this agenda was included in the Five-year Development Plan, Benin adopted it into its national policy and Costa Rica incorporated South–South cooperation into its National Development Plan and state policy in 2007.

### **1.2 Sustainable impact: the PSC results go beyond the program**

At the time of writing all the projects are continuing and most are being expanded, though the funding from the PSC has ended. For example, one project that was initially started to commercialize indigenous art and handicrafts in Costa Rica and Bhutan (Project code 24-B-08) was then expanded into Benin with the coordinators' own funds, independent of PSC funding. A similar situation occurred at the local level in Costa Rica, where a project that aimed to develop local capacities and environmentally friendly agricultural technologies through knowledge management processes between Bhutan and Costa Rica (Project code 05-B-07) set the stage for a change in the agricultural practices of small farmers. The project has been successfully replicated in different local contexts, adapted to a national scale; a new project was formulated with the intention of following up and replicating the results. The ease and success of these adaptations can be attributed to the simple but ingenious methodology of South–South cooperation that includes key aspects such as reciprocity, multi-stakeholder participation and equality of participants.

## **2. The PSC as A Mechanism for Reciprocal Learning**

### **2.1 Structure, roles and responsibilities**

The nucleus of the PSC program was formed by the National Mechanisms

in each partner country (see Figure 1). The National Mechanisms were designated by the governments of Benin, Bhutan and Costa Rica and were responsible for the daily running of the program in their respective countries. The National Mechanisms became the main link between grassroots projects and the PSC and it was their responsibility to present proposals to the management board for approval and funding decisions. Each National Mechanism had its own administrative budget for the implementation of the program. In order to guarantee the efficient management of the program, a Checklist for Organisational Capacity Assessment was applied to Fundecooperación and the other National Mechanisms; a positive evaluation of its capacities in effective and efficient implementation was received. Nonetheless, the program invested in quality management improvement that included continuous capacity building across all staff levels. National Mechanism staff members participated in training programs, workshops, study visits and national seminars in order to enhance their technical knowledge or general management skills.

The overall administration of the PSC was the responsibility of the Secretariat, run by Fundecooperación in Costa Rica. The management board was the highest decision-making body and included three directors or formally appointed representatives of the three National Mechanisms. The board jointly decided policies governing the PSC, approved projects presented and allocated funds to PSC projects and components. Each partner country had one vote and had equal standing on the management board. At the very top was the joint committee of the PSC, which was composed of high-level government and civil representatives from each partner country providing political support and policy direction to enhance the implementation of the PSC. The Embassy of the Netherlands in Costa Rica received financial and technical reports and was often consulted by PSC staff members in Costa Rica for advice or opinions.

## **2.2 Purpose, goals and expected results**

The PSC identified four specific development goals that it would work towards.

- 1) To develop reciprocal projects that would generate knowledge and empower stakeholders. The results of these projects would be used as inputs for sector strategies and policy making.
- 2) To mobilize national governments, civil society and the academic

and private sectors in partner countries to renew and reinforce commitment to sustainable development.

- 3) To contribute to sustainable development and poverty reduction in partner countries, taking into account environmental, economic and cultural idiosyncrasies.
- 4) To explore the potential of South–South partnership to promote international commitments and mutual cooperation for sustainable development and experiment with a new north–South–South model of development cooperation.

These goals were set around four thematic areas: 1) sustainable tourism, 2) sustainable production and consumption chains, 3) conservation and sustainable use of biodiversity and 4) access to sustainable energy and efficient energy use. Gender equality and female empowerment was a cross-cutting theme emphasized in all PSC projects.

Reciprocal projects developed under these thematic areas were expected to generate results that would empower local communities but also provide inputs for national policies. In areas where grassroots initiatives were already well developed, the PSC hoped to start second-phase projects that would form a bridge between micro- and macro-level implementation. The PSC was aiming to initiate grassroots and micro-level projects, the results of which would inform multi-stakeholder policy dialogue in the three partner countries. PSC projects were also expected to facilitate policy dialogue between the private and public sectors. The PSC would also streamline and systematize knowledge transfer and best practices generated by the projects to allow for ease of transfer to beneficiaries within and outside the projects.

### **2.3 A bumpy road to success**

All the National Mechanism representatives interviewed for this case study admit that the initial logistical coordination was a challenge. To begin with there were the language and culture issues. All three organizations selected as National Mechanisms used English, but often the same word could be interpreted differently in each country.

Language differences were further exacerbated by cultural differences. ‘When we want to say something negative in Costa Rica we use an indirect way, we use many euphemisms. The Bhutanese are a lot more direct while the Beninese are also indirect, like us,’ explained Mauricio

Castro, the head of the Costa Rica management board delegation. Such cultural norms were bound to create misunderstandings and hurt feelings, and the partners decided to attend a three-day communications workshop in Bangkok to address these language and cultural barriers.

Interestingly, language and cultural disparities were an issue only for project coordinators. None of the 43 project beneficiaries and coordinators mentioned language as a barrier. When prompted to talk about any language difficulties, all mentioned that they had had no problems. While most project coordinators helped as translators, this was often not needed. Cecilia Mora, a project coordinator who began by translating between the Costa Rican indigenous communities and Bhutanese artisans, soon realized that they were communicating without her. 'They understood each other perfectly through signs and signals. After the introductions, they didn't need me anymore, they easily expressed their common knowledge on what they were doing.'

Another challenge that the PSC had to overcome during its nascent stage was the difference in time and technological infrastructure. There is a 12-hour time difference between Costa Rica and Bhutan and a 7-hour time difference between Costa Rica and Benin. Conference calls and any other type of communication had to be scheduled accordingly, which meant that coordinators had to often work late into the night to accommodate another partner country. Long-distance communication was also hindered by technological differences.

All these challenges notwithstanding, by the end of the first six months the PSC was off the ground and successfully working towards achieving its goals.

### **3. Program Results**

#### **3.1 Facts and figures**

The value of allowing the southern partners take ownership of the PSC is reflected in the impressive results achieved to date. After only four years, by 2011 and with a relatively small fund of US\$13.2 million, the PSC has involved over 180 organizations and has achieved the following results:

- more than 3,000 direct beneficiaries



- 692 new products
- 179 new services
- 2,354 people working in a productive activity related to the training
- 1,100 women involved in decision making
- more than 140 new enterprises
- more than 400 people with augmented literacy skills
- more than 200 teenagers at social risk trained in technical skills and managerial capacity
- more than 200 community based organizations benefited

The results obtained by each of the projects exceeded the indicators that were set out at the beginning of the program. All interviewees stressed the positive impact that the PSC projects have had on their lives.

### **3.2 Knowledge exchange among countries**

Although skeptics might question the value of collaboration between such culturally and geographically distinct countries, it was precisely their differences that helped develop positive results. Due to their first-hand familiarity with the problems on the ground, actors have been more efficient and effective in identifying and implementing solutions. For example, Beninese farmers learned from their Costa Rican counterparts how to grow organic pineapples while Costa Ricans learned from colleagues in Benin how to use edible insects to feed their cattle. ‘Since the beginning of our cooperation we managed to help Beninese farmers doubling their pineapple production,’ explained one interviewee, a Costa Rican farmer helping Beninese farmers. ‘But the most interesting thing is that this project builds long lasting capacities and leads the way to short and long term sustainability.’

The active participation of beneficiaries was achieved because the three countries have important similarities that have supported the effective exchange of experiences, knowledge and skills. This is partly due to the fact that the partners who linked up operate in similar contexts, have similar levels of income (no use of expensive northern consultants) and understand each other better than would be the case in a north–south transfer of concepts, knowledge and skills. As an important factor, a prior evaluation of executing agencies in order to look for reciprocity among the projects and complementarity among organizations was made.

The contributions of the 43 projects to more than 3,000 beneficiaries in the three countries have been not only financial but also technical, including services (training, technical assistance, information and business development services), market access, technology transfer, research and others. This was made possible by adapting to the national reality of each of the partners and the knowledge and the techniques exchanged. For example, the project that investigated the socio-economic benefits of national parks and protected natural areas established a basic methodology to determine the previous benefits of these areas in Costa Rica, and following several training sessions, the project has now been successfully replicated in different local contexts, adapted to a national scale and internationally transferred to Bhutan and Benin. The South–South cooperation between these countries did not simply permit the export of a Costa Rican methodology, but also provided the feedback, through monitoring and evaluation needed to ensure a successful national scale-up. In these cases, scaling up a local level project to the national level is an endeavor that cannot be accomplished without structural support from laws and policies. This is true in Costa Rica as well as around the world. The scaling up of the project was realized within the context of strong policy initiatives taken by the government of Costa Rica, and the international transfer of the project was facilitated by supportive national policies in Benin and Bhutan. The learning and knowledge sharing that resulted from this PSC partnership was largely responsible for the success of the program in each country.

### **3.3 Sustainability**

Counterpart organizations and stakeholders were willing and able to implement a specific project with reciprocal characteristics. The PSC recognized that the participation of local and community organizations ensured project continuation in the medium- and long-term, by creating a strong sense of ownership among the stakeholders. In order to be eligible for PSC funding, the projects had to establish their sustainability in three ways:

- **Organizational:** each project described the organizational structure that would be in place when the contractual relationship (between the PSC and the organization) ended. Roles and responsibilities and the authority and control that would be exercised over the operations in each participating country were clarified at the outset.

- Economic: each project was expected to develop mechanisms that allowed actions to continue once the funding from the PSC ended. These mechanisms included the development of new commercial products and services, income generation, new job options, the improvement of efficiency in micro-enterprises and the development of new micro-enterprises.
- Environmental: each of the projects was required to efficiently manage water resources, energy, solid and liquid waste, and CO<sub>2</sub> emissions during project implementation.

The PSC catalyzed the transition to sustainability by supporting innovation in policies, seeding initiatives, replicating successes, establishing new partnerships between civil society organizations in the partner countries and disseminating information.

## **4. Success Factors**

### **4.1 More equal relationships**

With the PSC came a change in relationships between the providing and receiving partners. The Netherlands provided funds, but otherwise withdrew from the collaboration to an observant role. This permitted the southern partners flexibility that they had not had before. All the National Mechanism representatives as well as the Dutch Ambassador to Costa Rica agreed that the PSC had allowed the southern partners to take ownership of the projects. Instead of having solutions handed to them by the providing partner, the PSC programme allowed the partner countries to define on their own what the main problems were, where their priorities lay and what strategies should be adopted. PSC projects were proposed by the local community which identified the problem and proposed a project for its solution. The three National Mechanisms had a collective way in project approval, ensuring that problems were defined and solved collectively by the partners, with counterparts in each country sharing their knowledge and experience. This has led to a more equal relationship between the provider and the receiving partners.

### **4.2 Fostering mutual ownership**

All the interviewees for this case study agreed that South–South cooperation has helped create a much greater sense of ownership. The biggest impact has been in the change of attitude of the receiving party. Traditional North–South relationships engender an expectation in the

beneficiaries that the North will always give them money as a 'gift'. So when the funding runs out, projects stop because the beneficiaries expect the donor to give them more money and to tell them what to do with it. The role of the beneficiary is that of a passive recipient, so there is very little hope for project sustainability.

By creating a sense of ownership, South–South cooperation has made the southern partners a lot more active in their projects. '[Our relationship] went from one partner only giving and the other partner only taking to a relationship of give-and-take', explains one interviewee. 'Giving' for the southern partners in this case took the form of teaching or sharing their knowledge and best practices with other partners. The opportunity to teach has forced the partners to play a much more active role in projects, since they know that the quality of the information passed on to the other partners depends entirely on how much efforts they put into the venture.

#### **4.3 Fostering mutual accountability**

Perhaps even more impressive than the results and benefits that the PSC has achieved is the program's stringent financial accountability. Realizing the enormous impact that even the smallest financial stimuli can have on the lives of local communities, the PSC has been very careful with how and where it invests the funds provided by the Netherlands. Each project went through a strict auditing process, submitting six-month and final financial and technical reports to the corresponding National Mechanisms. To further ensure transparency and accountability, the PSC decided to involve the North as an independent third party monitoring body. To that end it presented its results and accounted for the use of funds at several international forums including the European Parliament, the Dutch Parliament, External Cooperation Infopoint, European Development Days (Brussels) and the Third Annual Global South–South Development Expo (Geneva). 'Our auditors are very happy with how Fundecooperacion has used the funds', confirms the Dutch Ambassador of Costa Rica.

#### **4.4 The 'North' role in the PSC**

Although the PSC was the brainchild of Dr. Jan Pronk,<sup>2</sup> the providing country chose to take the backseat in this venture. To a large extent the PSC is run by the receiving countries. The Netherlands as the North

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2. Minister of Development Cooperation of the Netherlands at the time of inception.

partner only serves a monitoring function. It receives annual technical and financial reports on all PSC activities and is invited to all management board and joint committee meetings, although it does not have the right to vote. Any representative of the Netherlands is free to solicit information from the PSC or to provide suggestions when they see fit, but it does not play an active role in the decision-making processes of the PSC.

All the stakeholders interviewed for this case study expressed great satisfaction with this set-up. Donor countries have a lot of priorities and often cannot afford to babysit every project that they fund. The horizontal accountability and individual ownership that the PSC provides reduce the amount of donor attention that would have been required by a traditional program of similar magnitude. This not only decreases monitoring costs but also permits the Netherlands to concentrate on other concerns while continuing to promote social and economic development in partner countries.

#### **4.5 Exploiting comparative advantages**

Many beneficiaries pointed out that it was easier to identify with their southern counterparts while engaging in a knowledge exchange project. South–South cooperation has a comparative advantage through the partners' in-depth knowledge of the situation and needs on the ground. Only South–South cooperation partners can correctly define and identify the most pressing development problems in their countries, and ample past experience has shown that the best solutions come from the grassroots and the beneficiaries themselves. Given the southern partners closer grassroots connections, South–South cooperation is more likely to develop solutions that the local communities can identify with and will hence be more likely to take ownership of.

That being said, all the interviewees agreed that a reciprocal relationship with the North was relevant. While the grassroots beneficiaries find it easier to identify with their counterparts from the South, the overall coordination of projects can only be successful if it brings together the comparative advantages of North–South and South–South collaborations. Development projects often benefit from outside perspectives. The North can often shed new light on a problem or offer creative solutions that southern partners might not have considered before, but this has to be done in an environment of mutual trust and respect.

#### **4.6 Successful technical cooperation**

The success formula of the PSC was independence from donors, emphasis on real reciprocity and equality between members. Through the PSC the three countries came together to share skills and knowledge on agriculture, environmental issues, efficient use of energy and much more. The reciprocal knowledge exchange and mutual learning strengthened sectors such as academic, governmental and non-governmental organizations, private and civil society, and at the same time increased cost effectiveness, promoted transfer of appropriate technologies and ensured local ownership, leadership and capacity building. This experience has shown that South–South cooperation can help developing nations overcome constricting donor–recipient relationships and learn best practices from each other.

#### **5. Lessons Learned**

In conclusion, the PSC experience highlights several very important lessons for future South–South cooperation activity and for North–South–South triangular relationships.

*Language, culture, religion and geography are not barriers to cooperation.* Although language and culture posed some difficulties at the start of the PSC, six months down the line these problems were long forgotten. None of the project coordinators or beneficiaries interviewed for this case study cited language as a problem in their project. If anything, experiences from the PSC projects have shown that language ceases to be an issue at the grassroots level where beneficiaries learn through hands-on experience. All the interviewees were eager to learn about the culture of their partners and most projects involved cultural learning along with technology and skill transfers.

*Permitting greater autonomy and responsibility among southern partners leads to a strong sense of ownership and accountability and hence more efficient results.* The PSC has shown that when the providing partner is willing to allow the receiving partners to make their own decisions, the receiving partners take on responsibility for the project's success. They become accountable not only to their constituencies and to the provider, but also to each other. This horizontal accountability serves several purposes. First, it allows the providing partner to concentrate on more pressing issues, knowing that the project

will be managed well. Secondly, it permits the receiving partners to identify and solve concerns that are most relevant to them. Finally, it ensures more efficient fund management by the receiving parties thanks to the effective decision-making structure, accountable mainly to key southern stakeholders committed to this initiative. The fact that many outcomes of PSC projects have been used and incorporated by the national governments of the corresponding countries is proof that the autonomy of southern partners produces results that are useful on a macro-level.

*Technology and knowledge transfer is most efficient when counterparts identify with each other.* A common theme mentioned in all the interviews with beneficiaries and project coordinators was the comfortable learning environment that existed between southern counterparts. Many beneficiaries mentioned that it would have been different if they had been taught, for instance, organic farming skills by ‘experts’ who had developed techniques in a laboratory but had never implemented them in real life. Being able to see firsthand the success of other farmers or producers using the same techniques that they were teaching proved to be a lot more convincing for beneficiaries than any amount of empirical evidence. The hands-on learning experience also allowed them to retain more, and all the beneficiaries mentioned that they use, to varying degrees, the skills that they learned during the projects.

*South–South cooperation has to be based on reciprocity, equality and participation in order to succeed.* The absence of any one of these pillars would distort South–South cooperation, hampering the comfortable and conducive environment that allows partners to freely express their views. The PSC’s experience shows that it is best to include these principles in the agreement document that the partners sign at the beginning of the collaboration. This ensures that all partners are on the same page and everyone knows that they have the right to complain if they feel that one of these principles is violated. While the PSC has not had any problems in this context, it is a measure that all partners appreciate.

*Professionalism and systematization need to be prioritized and can be learned from the North.* While the PSC has been praised internationally for its impressive project organization and fund

management, this is something that the National Mechanisms had to learn the hard way. The first six months of the program were dedicated entirely to strengthening the organizational capacities of the National Mechanisms and to professionalizing their institutions. Today this has paid off and all agree that this investment was imperative for the program's success. Following the mid-term review of the PSC, it became apparent that the program did not use indicators to predict its success. This prevented the PSC from comparing actual results with expected results. Following the review this was corrected, and it served as a valuable lesson for the PSC. These are techniques that the North has used extensively in its vast development experience and is one of the things that South–South cooperation can learn from the North.

*The North need not be afraid of being excluded from South–South cooperation.* The PSC's north–South–South collaboration shows that development will only be possible if both the North and the South come together in a respectful and reciprocal partnership that makes the best of each other's comparative advantages and allows each partner to put in the greatest effort. Each partner has a lot to learn from the other and achieving development goals without help from the North would be impossible. The North has a vital role to play in South–South cooperation, provided that this role permits the southern partners the autonomy needed to carve out their own paths towards development.

#### Scenes from the PSC activities



Source: PSC



## Appendix: List of Interviewees

<b>Name</b>	<b>Affiliation</b>	<b>Interview date</b>
Sonia Garcia Morale	Beneficiary, Project 05-B-07	1 July, 2011
Rogelio Martinez	Beneficiary, Project 05-B-07	1 July, 2011
Martin Kelber Salazar	Beneficiary, Project 16-P2-07	6 July, 2011
Isaac Gutierrez Funez	Beneficiary, Project 06-P2-07	7 July, 2011
Giselle Bianco Cordoba	Beneficiary, Project 06-P2-07	7 July, 2011
Eduardo Barroso	Beneficiary, Project 06-P2-07	7 July, 2011
Osvaldo Calvo Rodriguez	Beneficiary, Project 05-B-07	7 July, 2011
Alberto Chinchilla	Coordinator, Project 03-B-07	11 July, 2011
Jorge Sanchez	Coordinator, Project 03-B-08	12 July, 2011
Marilu Villalobos	Beneficiary, Project 04-P2-07	12 July, 2011
Mauricio Castro	National Mechanism, Costa Rica	13 July, 2011
Mathias Pofagi	National Mechanism, Benin	14 July, 2011
Marianella Feoli	PSC Secretariat, Costa Rica	14 July, 2011
Cecilia Mora	Coordinator, Project 24-B-08	14 July, 2011
Bernardo Aguilar	Coordinator, Project 06-P2-07	15 July, 2011
Maria Luisa	Beneficiary, Project 05-B-07	19 July, 2011
‘La negrita’	Beneficiary, Project 05-B-07	19 July, 2011
Dawa Penjor	Coordinator, Project 02-T-07	19 July, 2011
Dema Dolkar	Beneficiary, Project 02-T-07	19 July, 2011
Lawang Norbu	Beneficiary, Project 02-T-07	19 July, 2011
Kinga Wangdi	Coordinator, Project 04-B-07	20 July, 2011
Sanjay Rinchen	Beneficiary, Project 04-B-07	20 July, 2011
Matthijs van Bonzel	Dutch Ambassador to Costa Rica	4 August, 2011
Josea S. Dossou-Bodjrenou	Coordinator, Project 05-T-08	2 August, 2011
AMEGANKPOE Claudia	Coordinator, Project 06-P2-07	2 August, 2011
Clement D. Gnonlonfoun	Beneficiary, Project 05-T-08	2 August, 2011
Goglagonou Peirre	Beneficiary, Project 05-T-08	2 August, 2011
Rinchen Wangdi	National Mechanism, Bhutan	2 July, 2011

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# **Chapter 12**

## **Practical Use of Triangular Cooperation as Part of the Capacity Development Process to Strengthen a Leader Country on Biodiversity Conservation in a Region: A Case of the BBEC Programme in Sabah, Malaysia**

Motohiro Hasegawa

### **1. Introduction**

#### **1.1 International trends in biodiversity conservation**

Biological diversity is the source of many ecosystem goods such as food, water, genetic resources and so on and therefore its loss poses serious threats to human security and well-being. It affects a variety of ecosystem services such as provisioning (food, water and medicine), regulating (flood and disease control), cultural (spiritual, recreational and religious values) and supporting (nutrient cycle and global climate) services, and increases the difficulty in achieving international targets such as the Millennium Development Goals (MDGs) (MA, 2005).

Despite such interrelation between biodiversity and social issues, it was noted at the tenth meeting of the Conference of the Parties (COP 10) to the Convention of Biological Diversity (CBD) in 2010 that there had been insufficient attempts to integrate biodiversity issues into broader policies, strategies and programs (SCBD 2010). In response to this call for international action, at the CBD COP 10 in October 2010 the global community adopted the Strategic Plan for Biodiversity and Aichi Biodiversity Targets, and then, at a meeting of the General Assembly in March 2011, the United Nations declared the United Nations Decade on Biodiversity (2011–2020), aiming for an intensive implementation of the Strategic Plan to attain the targets by 2020 (United Nations 2011). Recognizing the lack of public awareness about biodiversity conservation being one of the most fundamental and serious environmental issues, the Strategic Plan and Targets highlighted the importance of mainstreaming biodiversity concerns not only in governments but also

in other sectors of the society through communication, education, awareness raising, appropriate incentive measures, and institutional change.

### **1.2 Objective of the case study in Sabah, Malaysia**

This case study aims to discuss the significance and effects of South-South and triangular cooperation based on the outcome of the Bornean Biodiversity and Ecosystems Conservation (BBEC) Programme implemented in Sabah, Malaysia between 2002 and 2012. The BBEC Programme consisted of technical assistance provided by the Japan International Cooperation Agency (JICA) under the umbrella of Japan's Official Development Assistance (ODA). It comprised two distinct phases: technology transfer in BBEC I (2002–2007); and policy assistance in BBEC II (2007–2012).

The two-phased BBEC Programme employed a practical approach to the operation of capacity development (CD), highlighting a variety of activities in which the counterparts<sup>1</sup> would receive international recognition that could increase their confidence and raise their levels of self-esteem in practicing conservation in Sabah. On the basis of the conventional technology transfer on biodiversity conservation in the first phase, BBEC II proposed and practiced extended activities, including the registration of specific ecosystems of Sabah under international initiatives such as the Ramsar Convention and the Man and the Biosphere (MAB) Programme of the United Nations Educational, Scientific and Cultural Organization's (UNESCO). The registration processes were Sabah's collective effort to strengthen their conservation capacity, and such empirical learning process was shared with other countries through triangular cooperation programs such as the third country training program (TCTP) and an international symposium in Sabah, the Asian Wetland Symposium (AWS). This paper illustrates the potential for triangular cooperation, using the BBEC Programme as its case study in the context of the CD process in conditions of bilateral cooperation.

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1. Biodiversity-related Sabah state agencies and the Institute for Tropical Biology and Conservation (ITBC) of Universiti Malaysia Sabah (UMS).

## **2. Regional Approach to Biodiversity Conservation: CD Focused on Potential Regional Leader Countries**

While biodiversity varies across both time and space, it does share some key characteristics in geographical ranges irrespective of national boundaries. These similarities can be identified using physical (topographic features), climatic (latitudinal variation and seasonal ranges), ecological (forest types), and cultural (tradition and lifestyle) features. International assistance would be effective if potential leader countries in the area of biodiversity conservation in the South are selected for a program of intensive capacity development with the long-term aim of knowledge sharing to assist other developing countries through a policy of triangular cooperation, particularly within their regions (regional approach).

The primary objective of the BBEC Programme was to strengthen Sabah's conservation capacity by developing an integrated and durable system for the implementation of biodiversity and ecosystem conservation (BBEC II Secretariat 2008). To develop a state-wide conservation system integrating various management activities on different ecological elements such as land, water, forests, and wildlife, several responsible agencies needed to be coordinated in a synergistic collective decision-making process. In the development of such a process, the creation of an interagency platform was crucial for the smooth operation of cross-sectoral activities.

### **2.1 CD process of the BBEC Programme**

CD is generally defined as a process in which individuals, organizations/institutions and societies develop abilities, either individually or collectively, to perform functions, solve problems, and achieve objectives by counterparts without outsiders' assistance (JICA 2004). The concept of CD is based on holistic and systematic perspectives of international cooperation rather than on an individual activity or project focusing on particular technical skills and needs. The main approach of JICA's CD process is to emphasize actions by motivating various stakeholders to facilitate spontaneous self-help efforts, while an outside aid agent is expected to play catalytic roles in strengthening the capacity of the counterparts. To promote the practical application of the basic concept of CD, the BBEC Programme took a step-wise program approach, where capacity building on the basic skills and knowledge required in conservation practice were transferred from individual to

organizational/institutional levels for the key agencies during BBEC I, thereby paving the way for more challenging BBEC II which aimed to integrate all of the biodiversity-related agencies in Sabah.

In BBEC II, the focus shifted to policy assistance to create a state-wide conservation platform for interagency collaboration through the establishment of the Sabah Biodiversity Council (Council) and the Sabah Biodiversity Centre (SaBC) as stipulated in the Sabah Biodiversity Enactment 2000 (SBE 2000). The Council is an ad hoc state decision-making body composed of the heads of biodiversity-related agencies which is intended to function as the state conservation platform with the remit of managing Sabah's biological resources of Sabah. SaBC is expected to function as the Secretariat for the Council with its vital role of organizing council meetings and initiating programs for the sustainable use of biological resources. Therefore, the strengthening of SaBC's capacity to coordinate biodiversity-related agencies for synergy was one of the core activities in the CD process of BBEC II.

## **2.2 Overview of the BBEC Programme**

BBEC I aimed to develop a conservation approach as a mid-term goal, working closely with the four key agencies listed in Table 1 (component-based approach). By contrast, BBEC II had a long-term goal to develop a state-wide conservation system with all biodiversity-related agencies. Under BBEC II, much of the focus was given to conservation actions that addressed common interests for stakeholders such as the international registration of specific ecosystems under the Ramsar Convention and UNESCO's MAB Programme. The registration process required extensive interagency coordination and was regarded as a shared task for a number of agencies. The progress of the process was coordinated, supported, and monitored by SaBC through the conservation platform, with the Council playing a part in the CD process to enhance the state's capacity to administer interagency collaboration for integrated conservation (task-based approach).

**Table 1. The basic setup of BBEC I and BBEC II**

	<b>BBEC I (2002–2007) Component-based Approach</b>	<b>BBEC II (2007–2012) Task-based Approach</b>
1. Purpose	To establish a comprehensive and sustainable approach of conservation	To establish and strengthen a conservation system for biodiversity and ecosystems in Sabah and nurture the state's knowledge sharing capacity within the region
2. Approach & Counterpart Agencies	Component-oriented technology transfer mainly to the following agencies: (1) Research and Education Component (REC): Institute for Tropical Biology and Conservation (ITBC), Universiti Malaysia Sabah (UMS) (2) Park Management Component (PMC): Sabah Parks (SPs) (3) Habitat Management Component (HMC): Sabah Wildlife Department (SWD) (4) Public Awareness Component (PAC): Unit of Science and Technology (UST)	Task-oriented policy assistance with incentives such as international registration with the Ramsar Convention and UNESCO's Man and the Biosphere (MAB) Programme to the following biodiversity-related agencies: (1) The four agencies in Phase I (2) Natural Resources Office (NRO) (3) Sabah Biodiversity Centre (SaBC) (4) Sabah Forestry Department (SFD) (5) Other biodiversity-related state agencies (Dept. of Irrigation and Drainage, Environment Protection Department, etc.)

### **(1) BBEC I: Technology transfer**

Technology transfer is usually a resource-intensive process since it requires full-time advisors to provide day-to-day technical support to counterpart personnel. BBEC I provided it mainly to the four key counterpart agencies (Table 1). For example, JICA dispatched long-term ( $\geq 1$  year) Japanese advisors to the respective leading agencies of the four components for a period of five years. A variety of short-term advisors ( $< 1$  year) were also sent in to address specific technical requests. In total, 52 advisors (approximately 400 person-month) including 19 long-term advisors were dispatched to Sabah under BBEC I (JICA 2006). The output of the four components is summarized as follows (JICA, 2008).

The Research and Education Component (REC) of BBEC I concentrated on strengthening technical skills, including the methodology of field data collection, taxonomy, and the establishment of permanent ecological monitoring plots through joint fieldwork. A total of five major scientific expeditions to protected rainforests and other ecosystems were conducted under the leadership of the Institute for Tropical Biology and Conservation of Universiti Malaysia Sabah (ITBC-UMS). These resulted in the collection of approximately 35,000 specimens of plants and animals, and the publication of at least 29 papers (JICA 2008).

In the Park Management Component (PMC), Sabah Parks (SPs) carried out substantial activities in the Crocker Range Park (CRP) with one of the key outcomes being the development of basic skills in social surveys and the understanding of a community-based approach in the protected area (that is, park) management. JICA provided technical assistance to SPs in the preparation of a CRP management plan (Sabah Parks 2006).

In the Habitat Management Component (HMC), Sabah Wildlife Department (SWD) selected key wildlife species (i.e. the Orang-utan, the Bornean pigmy elephant, the Banteng (Tembadau), and the Proboscis monkey) for intensive conservation actions. SWD strengthened their survey and analytical skills in relation to population dynamics, wildlife behavior, and habitats. The participation of local communities in conservation activity was enhanced by the establishment of links between ecotourism and an honorary wildlife warden system, with local villagers being certified as temporary wildlife rangers or game wardens and assigned to conduct management actions in remote areas.

The Public Awareness Component (PAC) was headed by the Unit of Science and Technology (UST) who worked closely with schoolteachers and journalists to develop a practitioners' network called the Sabah Environmental Education Network (SEEN). One key outcome of this collaboration was the drafting of the Sabah Environmental Education Policy.

The final evaluation of BBEC I concluded that the component-based approach delivered satisfactory outcomes (JICA 2006). However, it also highlighted that the management committee was an interim setup designed solely for the purpose of managing the program or project, suggesting that a legitimate and more durable entity be developed as



part of a conservation system to coordinate cross-sectoral management actions.

## (2) BBEC II: Policy assistance

JICA's input in BBEC II was much less than it had been in BBEC I, as the former focused more on policy implementation than on resource-intensive technology transfer. In total, six long-term advisors and nine short-term advisors were sent to Sabah under BBEC II.

Output 1 of BBEC II functioned as the overall framework for developing an integrated conservation system, and Outputs 2 and 3 worked as pilot actions intended to strengthen the system based on SBE 2000 (Table 2). The Council's first meeting took place in December 2007, seven years after the adoption of SBE 2000, in which the Council members agreed that SaBC should be established promptly and officially under the purview of the Natural Resources Office (NRO). SaBC was officially launched under NRO in May 2008 with six officers. As a legitimate state agency with the explicit intention of operating interagency coordination in handling cross-cutting issues of biodiversity conservation in Sabah, SaBC became one of JICA's main counterpart agencies under BBEC II (BBEC II Secretariat 2012).

**Table 2. Brief summary of the outputs and major activities of BBEC II**

Outputs	Activities
<p><u>Output 1</u> The capacity of the Sabah State strengthened in planning, coordinating, and promoting biodiversity and ecosystem conservation activities</p>	<p>Establishment of the Council and SaBC as a conservation platform and strengthening of its institutional capacity through interagency coordination to implement the pilot actions of Outputs 2 and 3</p>
<p><u>Output 2</u> The capacity of Sabah state agencies and UMS enhanced in implementing biodiversity and ecosystem conservation activities for protected areas such as state parks, wildlife conservation areas, and forest reserves</p>	<p>(1) River Basin Management: Registration of a wetland under the Ramsar Convention (2) Integrated Protected Area Management : Registration of Crocker Range Park with surrounding areas under UNESCO's MAB Programme</p>
<p><u>Output 3</u> The capacity of Sabah State agencies and ITBC-UMS enhanced in providing training on biodiversity and ecosystem conservations</p>	<p>Third country training programme (TCTP)</p>

In consideration of a key factor in Output 2, delivering institutional benefits to all counterpart agencies, actions were strategically aligned towards the common interests of all agencies. International registration under the Ramsar Convention and UNESCO's MAB Programme functioned as an incentive for many agencies, mostly because of its high-profile recognition and because they marked the first such attempts in Sabah (Table 3). SaBC took charge of coordinating all the counterpart agencies with respective roles and functions in the context of river basin management (including the Ramsar designation) and integrated protected area management (including the MAB nomination). The registration process with SaBC's interagency coordination was considered a strategy to strengthen their institutional capacity; it functioned as a learning experience not only for the counterpart agencies but also for JICA as a facilitator/catalyst in BBEC II.

**Table 3. Brief summary of the activities related to the Ramsar Convention and UNESCO's MAB Programme**

	Ramsar Convention	UNESCO's MAB Programme
2008	1 <sup>st</sup> Ramsar site, Lower Kinabatangan-Segama Wetlands, registered at the Ramsar COP 10 in Korea	1 <sup>st</sup> study tour to an MAB site in Indonesia (joined by SaBC and SPs)
2009–2010	Management planning with approximately 15 agencies	<ul style="list-style-type: none"> <li>• Working committee for the 1<sup>st</sup> MAB nomination established (approximately 17 agencies participated)</li> <li>• Preparation of nomination form</li> </ul>
2011	Management Plan for the Ramsar site approved by the Council and State Cabinet of Sabah	<ul style="list-style-type: none"> <li>• Public consultation participated by heads of 257 villages, approximately 65% of the villages within the whole MAB area</li> <li>• 1<sup>st</sup> nomination form approved by the State cabinet of Sabah &amp; submitted to the Federal Government of Malaysia</li> </ul>

Output 3 of BBEC II reflected two objectives of triangular cooperation: (1) to share the experience and knowledge gained from the BBEC Programme with other countries through TCTP, and (2) to deepen

counterparts' understanding of integrated biodiversity conservation in the teaching and sharing process. TCTP worked as an efficient mode of bilateral cooperation by extending impact to multiple countries. The counterparts were observed to contemplate on what they had learned since 2002 and increased their confidence in their knowledge and conservation actions in Sabah.

### **3. Triangular Cooperation through the BBEC Programme in Sabah, Malaysia**

Triangular cooperation to extend the impacts of the bilateral CD process to other countries was practiced through TCTP and AWS in Sabah as part of the BBEC Programme. Experience shows that replication of a similar CD process can be used in other parts of the world as an effective strategy for bilateral aid agencies to make global contributions.

#### **3.1 Third Country Training Program (TCTP)**

A third country training program (TCTP) is a group-style training offered jointly by JICA and a partner country on a cost-sharing basis. It aims to transfer learning experience and knowledge accumulated in economically advanced ODA recipient countries such as Malaysia (the second country) to other countries (the third country). The idea is to use the traditional North-South cooperation method to promote the South-South learning process by enhancing the leading capacity of a pivotal country in a region, which would then extend its assistance to other countries. To this end, TCTP in the CD process of the BBEC Programme was expected to function as:

- (1) An effective strategy in which the ODA recipient counterpart (that is, Sabah) will strengthen ownership/confidence and refine their knowledge on biodiversity conservation in the process of passing it on to others; and
- (2) An efficient mechanism/platform for knowledge sharing with other countries, particularly those within the region due to their likely similarities in language, culture, climate, environment in terms of biodiversity and ecosystems (regional approach).

TCTP was conducted in the latter half of the BBEC Programme, drawing heavily on the basis of knowledge that the counterparts had obtained during BBEC I. BBEC II originally launched TCTP with the aim of enhancing the training capacity of the counterpart agencies as part of

Output 3 (Table 2). TCTP of BBEC II was implemented according to the aspirations of the Federal Government of Malaysia through its national focal point, initially the Federal Economic Planning Unit and later shifting to the Ministry of Foreign Affairs (MOFA). The cost of implementing TCTP under BBEC II was shared equally between Japan (JICA) and Malaysia (MOFA).

ITBC-UMS was in charge of the implementation of TCTP with the support of other BBEC II member agencies including SaBC. The outline of TCTP with five modules is listed in Table 4. The main message delivered in the training course was the importance of “integration” of various activities in biodiversity conservation. It was composed of lectures, seminars, and field visits to various types of ecosystem, with different agencies introducing a variety of practical conservation activities. Throughout the training, the importance of developing a durable mechanism for interagency coordination for synergy was addressed. A total of 55 trainees from 16 countries were invited to Sabah in three years.



TCTP in October 2011  
(participants from 11 countries)



Lecture in a classroom

**Table 4. Outline of TCTP in Sabah, Malaysia**

1. Title	Integrated Biodiversity and Ecosystem Management
2. Duration	Approximately three weeks, once a year in 2009, 2010 and 2011
3. Target participants	Middle-level management officers of government departments and agencies, who work on biodiversity and ecosystem conservation
4. Training modules	(1) Research and education, (2) Park management, (3) Habitat management, (4) Public awareness and (5) Integrated approach in conservation

5. Invited countries	<p><u>2009:</u> (1) Cambodia, (2) Laos, (3) Sri Lanka, and (4) Kenya</p> <p><u>2010:</u> (1) Indonesia, (2) Philippines, (3) Papua New Guinea, (4) Vietnam, (5) Tanzania, and (6) Sarawak, Johor and Selangor (Malaysia)</p> <p><u>2011:</u> (1) Brunei Darussalam, (2) Indonesia, (3) Myanmar, (4) Thailand, (5) India, (6) Mali, (7) Uganda, (8) Zambia, (9) Tanzania, (10) Kenya, and (11) Papua New Guinea</p>
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While the participants of TCTP varied from year to year, approximately half of them were from ASEAN countries (all ASEAN members but one, Singapore, participated), reflecting the emphasis on the regional approach in triangular cooperation. In this respect, each year a lecturer was invited from the ASEAN Centre for Biodiversity (ACB) to promote regional linkages among the ASEAN member states within the existing framework on biodiversity conservation. Countries outside the region were selected on the basis of their experience in implementing conservation-related projects with JICA. Training participants from other states of Malaysia (Sarawak, Johor and Selangor) were also invited in the second year of TCTP. It is noteworthy that Indonesia clearly found its participation quite useful in 2010, sending trainees at its own expense in 2011.

TCTP required approximately seven months for its preparation each year, during which more than ten interagency meetings were organized to develop a curriculum, make logistics arrangements, and so on. The preparatory work included a fact-finding mission to visit the countries prior to invitation, such as Kenya, Sri Lanka, Cambodia and Laos. The mission proved to be successful in recruiting enthusiastic participants and motivating the implementing agencies in Sabah.

In the third year of TCTP, training participants from Kenya, Papua New Guinea and Tanzania who had participated in the first and second years of TCTP were invited to Sabah as resource persons to share their experiences of how they had applied their learning experience of TCTP in practice in their home countries. They highlighted the importance and difficulty of implementing joint actions of multiple agencies, linking management actions between the protected areas and their

surroundings, and community participation in conservation. All of these issues were addressed in TCTP but no simple or universal solutions were found for them. One of the ex-participants said that “creating an opportunity (such as TCTP) to bring researchers and practitioners together from different countries to share experience and knowledge on the ground gives us a great encouragement.”

Each year a questionnaire survey was conducted at the end of the training to measure the satisfaction level, which showed that over three years 87% of all participants (48 out of 55 trainees) rated TCTP as highly practical. The survey indicated that the participants felt that they learned effectively from close communication with the instructors who shared their practical knowledge obtained in their experience in the field. The program also offered a unique opportunity that has exposed the participants to the reality of challenges in conservation practice, for instance, around the Ramsar site in Kinabatangan where they observed the wildlife habitats almost surrounded by oil palm plantations. One of the objectives in conservation practice is to achieve win-win solutions in maintaining the quality of ecosystems and economic growth, and the training participants encountered some realistic examples which reflected the complexity of the issues under consideration.

### **3.2 Asian Wetland Symposium Sabah (AWS Sabah): Face-to-face learning opportunity**

BBEC II participated in international platforms, one example of which was the Asian Wetland Symposium (AWA). AWS is a series of international symposia aimed at providing a regional platform for active discussions on conservation and the wise-use of wetland resources in Asia. It was internationally recognized in Resolution IX.19, adopted at the COP 9 of the Ramsar Convention in Uganda in 2005. The AWS symposia have been held in Japan (1992), Malaysia (2001), India (2005), and Vietnam (2008), and the Sabah State Government hosted it in 2011, with technical and financial support from JICA, under BBEC II.

All sessions were managed by the corresponding leading agencies of Sabah (BBEC II counterparts) who screened papers, presided over sessions, summarized the outcomes, and reported back to the plenary session as part of the CD process under BBEC II (Table 5). A total of 42 papers from 14 countries were presented in six sessions, with an additional special presentation, jointly organized by all the organizing

agencies in Sabah, on how the symposium theme “Integrated biodiversity conservation: Linking forests and wetlands” had been put into practice in Sabah. The symposium received 324 participants from 24 countries, and resulted in the publication of the “Sabah call for Action” (Sabah State Government 2011).

**Table 5. Main sessions of the AWS Sabah 2011 (18-20 July)**

Session	Leading Agency	Number of Papers Presented (42 papers from 14 countries)
1. Ramsar and CBD	Sabah Biodiversity Centre (SaBC)	Nine papers: Philippines (×2), Japan (×2), Bangladesh, Sri Lanka, India (×2), Malaysia
2. Regional approach to advance the implementation of the Ramsar and CBD	Institute for Tropical Biology and Conservation, Universiti Malaysia Sabah (ITBC -UMS)	Nine papers: Nepal, Malaysia (×2), Brunei, Japan (×2), Australia, Taiwan, Korea
3. Forests and wetlands	Sabah Forestry Department (SFD)	Eight papers: Australia, India, Malaysia (×2), Bangladesh, Japan, Philippines, Singapore
4. Business and biodiversity for wetland conservation	Sabah Wildlife Department (SWD)	Eight papers: Sri Lanka, Malaysia (×3), Indonesia, Philippines, Japan (×2)
5. CEPA for wetlands and biodiversity	Environment Protection Department (EPD)	Eight papers: Malaysia, Japan (×3), India (×2), Korea, China
6. Cultural heritage in forests and wetlands	Sabah Parks (SPs)	Eight papers: Nepal, Indonesia, Malaysia (×3), Thailand, Japan, Korea
7. Special Session for Sabah entitled “Many Players One Vision”	Department of Irrigation and Drainage (DID)	Sabah’s joint session including all state agencies

#### **4. Implications and Lessons Learned**

To deal with the complexity and dynamics of global issues, including

the loss of biodiversity, international cooperation (on either a bilateral or a multilateral basis) needs to work within the broad perspectives of contributing to internationally shared targets such as the MDGs and the Aichi Biodiversity Targets. While the conventional CD process is to strengthen individual, organizational and social capacity, the CD adopted by the BBEC Programme, combining technology transfer (BBEC I) and policy assistance (BBEC II) under a single program (program approach), uplifted the conservation capacity of Sabah to be able to make contributions to other countries. The two “tools,” triangular cooperation and international initiatives with shared targets, were found to be particularly useful in this CD process in terms of raising the outcome of the bilateral cooperation to an international standard (Figure 1).

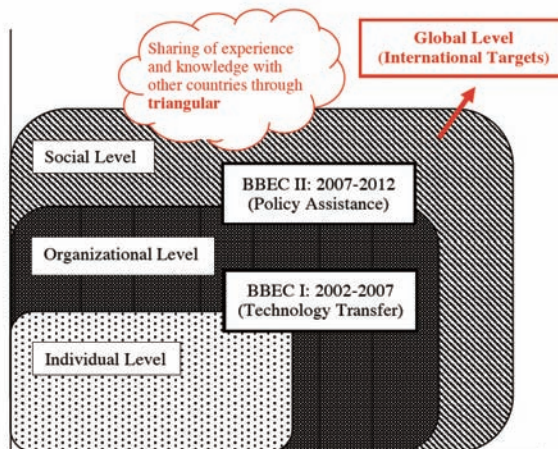
First, the use of international initiatives such as the Ramsar Convention and UNESCO’s MAB Programme was effective in attracting attention and uniting a variety of stakeholders behind a common goal. Second, triangular cooperation such as TCTP and AWS was found to be an efficient learning process for the Malaysian counterparts as well as the stakeholders of other countries (Figure 1). However, it should be noted that the use of international initiatives and triangular cooperation may be considered as an advanced form or strategy of bilateral CD process to scale up the impacts because BBEC II with those tools was based on the conventional technology transfer of BBEC I. Hence, the traditional approach, such as adopted in BBEC I, is still valid and important, particularly at the initial stage of the CD process on biodiversity conservation.

To take effective actions on trans-boundary issues such as biodiversity conservation, the global community needs to identify more leading pivotal countries in regions with biodiversity hotspots (Figure 2). It has been recognized that countries with a higher income (those with GDP ranging from US\$5,000 to US\$8,000) have greater capacity to control deforestation based on the Environmental Kuznets Curve hypothesis (Lopez and Galinato 2005). The economic status of the developing countries may help identify potential leader countries for intensive capacity development in various regions. For example, those countries listed as Upper Middle-Income Countries in the Development Assistance Committee (DAC) List of ODA Recipients of the Organization for Economic Co-operation and Development (OECD)



may hold relatively higher potentials for south-south and triangular cooperation, since they are able to share their knowledge with other countries in regions that share biodiversity hotspots. It is, therefore, suggested that a regional strategy to strengthen the capacity of potential leader countries in triangular cooperation be prioritized as an efficient approach of international cooperation and also to expand the impact to a global level, contributing to international targets such as the MDGs and Aichi Biodiversity Targets (Figure 1).

**Figure 1. The role of triangular cooperation in the CD process of the BBEC Programme**

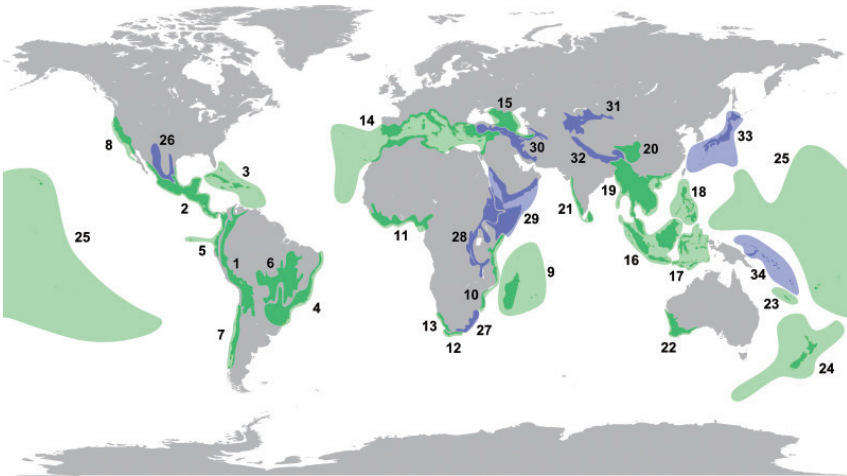


Source: Three levels in CD of JICA (modified from JICA 2004)

In conclusion, triangular cooperation has the potential to provide a variety of benefits for all concerned parties. First, bilateral aid agencies can use triangular cooperation to increase the significance and impacts of their assistance to a global level with minimum resources. Second, ODA recipient countries can enhance their knowledge and confidence by playing the provider's role in south-south and triangular cooperation. Third, individual participants (beneficiary) from various countries can be exposed to practical and tested knowledge and feasible actions of countries with similar conditions (for example, economic status, environment and culture). Last but not least, triangular cooperation and south-south cooperation can help the global community by assisting various regions to pursue international agreements (for example, the

Aichi Biodiversity Targets). The advantage of triangular cooperation and south-south cooperation cannot be overemphasized in cross-border issues such as biodiversity conservation, an area in which stakeholders usually work with limited resources.

**Figure 2. The 34 hotspots as priority conservation areas**



The 25 biodiversity hotspots (green) as indicated in Myers, N., *et al.* (2000)

1. The Tropical Andes	14. The Mediterranean Basin
2. Mesoamerica	15. The Caucasus
3. The Caribbean Islands	16. Sundaland
4. The Atlantic Forest	17. Wallacea
5. Tumbes–Chocó–Magdalena	18. The Philippines
6. The Cerrado	19. Indo-Burma
7. Chilean Winter Rainfall-Valdivian Forests	20. The Mountains of Southwest China
8. The California Floristic Province	21. Western Ghats and Sri Lanka
9. Madagascar and the Indian Ocean Islands	22. Southwest Australia
10. The Coastal Forests of Eastern Africa	23. New Caledonia
11. The Guinean Forests of West Africa	24. New Zealand
12. The Cape Floristic Region	25. Polynesia and Micronesia
13. The Succulent Karoo	

An additional nine hotspots (blue) have since been added: Lamoreux, J. F., *et al.* (2006)

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26. The Madrean Pine-Oak Woodlands	31. The Mountains of Central Asia
27. Maputaland-Pondoland-Albany	32. Eastern Himalaya
28. The Eastern Afromontane	33. Japan
29. The Horn of Africa	34. East Melanesian Islands
30. The Irano-Anatolian	

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