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## EMERGING ECONOMIES AND THE CHANGING DYNAMICS OF DEVELOPMENT COOPERATION

Editors **Jing Gu** and  
**Naohiro Kitano**



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# Chains of Knowledge Creation in the Evolution of New Donors\*

Yasutami Shimomura<sup>1</sup> and Wang Ping<sup>2</sup>

**Abstract** This article highlights the importance of contributions of emerging donors based on their knowledge creation during the time they receive aid, focusing on the two-way interaction between donors and recipients. A hypothetical model was developed to illustrate the two-way interaction in the process of knowledge creation, combining local and foreign knowledge, or explicit and tacit knowledge. Drawing on three detailed case studies, the article shows how four former aid recipients – China, Indonesia, Japan, and Thailand – nurtured the acquired knowledge, developed their own approach to development cooperation, and applied it to other countries. The study emphasises that created knowledge is a source of strength for emerging donors and can contribute in a unique manner to the development agenda in the era of the Sustainable Development Goals, because traditional donors basically lack this knowledge.

**Keywords:** explicit knowledge, tacit knowledge, external knowledge, local knowledge, knowledge creation, aid receiving, two-way interaction, emerging donor.

## 1 Objective and analytical framework

So-called ‘emerging donors’ attract worldwide attention, as they rapidly expand their activities and make considerable changes in developing countries, as well as in the international aid community. Taking into account the recent trend, this article attempts to cast new light on the possible contributions of emerging donors based on their knowledge creation during periods of receiving aid.

One notable difference between traditional and emerging donors is their experience of receiving aid. Sharing the experiences of receiving aid with other developing countries could be a source of strength, because traditional donors essentially lack this source of influence. In this context, Japan is exceptional, as it received aid for a much longer period than Western donors did. Japan received external assistance for nearly 20 years, in the form of US assistance programmes of relief and rehabilitation between 1946 and 1951 and World Bank loans

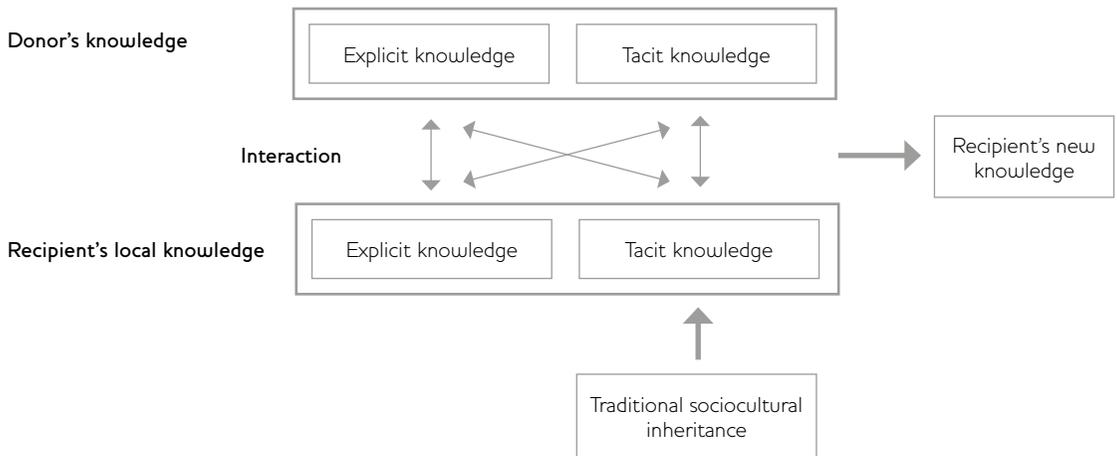
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Figure 1 The process of recipient's knowledge creation



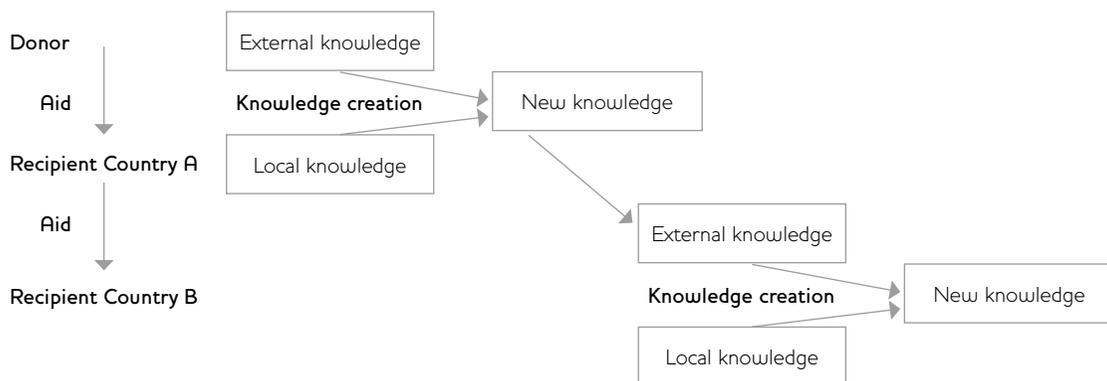
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between 1953 and 1965. In the meantime, Japan started its own aid programmes. Japan's participation in the Colombo Plan (1954) was a gateway into technical cooperation. In those days, Japan was an emerging donor as well as a major recipient.

One basic question that arises is: 'how does recipient experience count?' (Sato 2013: 1). The objective of our article is to address the relationship between aid receiving and giving, highlighting the fact that aid recipients create knowledge during the time they receive aid. This created knowledge could inform the emerging donors' own aid programmes and could be a unique contribution to development and poverty reduction. This article proposes a hypothetical model in which the knowledge created by emerging donors during the period when they receive aid is at the centre, and it verifies the proposed hypothesis through three case studies. The article analyses the experiences of two emerging donors, China and Thailand, and one emerging donor-to-be, Indonesia.<sup>3</sup> It also deals with Japan, a former emerging donor in the 1950s and 1960s. Policy implications are drawn in the concluding section, based on the analysis.

Let us start by examining the notion of 'knowledge creation'. The traditional concept of knowledge is 'explicit knowledge' that 'can be clearly stated' (Polanyi 2009: 22), and can be expressed in words and numbers. Explicit knowledge can be transmitted easily and systematically. As Michael Polanyi pointed out, however, there is another type of knowledge, i.e. 'tacit knowledge'. A typical example of tacit knowledge is the medical doctor's capacity to identify diseases through the careful observation of a patient's appearance. This article regards knowledge as the composition of explicit and tacit knowledge.

Figure 2 Chain of knowledge creation



Source Authors' own.

According to Ikujiro Nonaka, new knowledge is created through ‘the continuous conversion of tacit knowledge and explicit knowledge’ (Nonaka and Konno 2003: 56–57; Nonaka 2006: 13–14). Taking into consideration Nonaka’s way of thinking, this article examines the process of knowledge creation by the aid recipient based on the following three hypotheses. First, knowledge is created as the result of the interaction between *local* knowledge and *foreign* (or donor) knowledge, which is absorbed by the aid recipient during aid implementation (see Figure 1); a new type of knowledge is expected to evolve through this interaction. It is neither a simple learning process nor a one-way knowledge transfer from a donor to the recipient, contrary to the standard idea of technical cooperation. Second, a new knowledge evolves through the interaction between *explicit* and *tacit* knowledge (see Figure 1). A donor’s knowledge is assumed to be largely explicit, as it is communicated through various written documents such as plans, directories, and manuals, although we do not exclude cases where a donor’s tacit knowledge, which is based on the practical experiences of aid experts, plays an important role. On the other hand, tacit knowledge is assumed to be the overwhelming factor in local knowledge, as a substantial part of local knowledge tends not to be expressed in formal ways. Third, the created knowledge, which is the output of interactions between local and foreign knowledge, as well as explicit and tacit knowledge, could play a vital role in the aid-giving activities of emerging donors (see Figure 2). In this regard, it is important to notice that local knowledge is embedded and deep-rooted in the recipient’s traditional socioeconomic inheritance and differs from one society to another. This leads to the diversity of new donors, as the features of a new donor’s aid-giving reflect diverse local knowledges. Moreover, as is shown in Figure 2, a ‘chain of knowledge creation’ could occur among aid recipients through the donor–recipient interface. More specifically, Country A creates its knowledge during the aid-receiving period and utilises, as an emerging donor, the accumulated knowledge in its own aid programmes in relation to Country B. This process could be reproduced by Country B as a new aid provider.

The notion of chains of knowledge creation is different from the simple idea of knowledge diffusion. While technical cooperation usually assumes a one-way transfer of the best practice found in donor countries or the international aid community (Arndt 2000: 158–60), this view seems to fail to take into account a recipient's ownership. On the contrary, our article emphasises, as mentioned above, the two-way interaction between donors and recipients in the process of knowledge creation; in this regard, emerging donors are better positioned, as they have created their own knowledge through such two-way interactions during their aid receiving.

The next task of this article is to check how the hypothetical model of knowledge creation/transfer can explain the reality of emerging donors' activities through a set of in-depth case studies. The three adopted cases are from four Asian countries at different stages of maturity as aid providers: one traditional donor and former emerging donor (Japan); two emerging donors (China and Thailand); and one emerging donor-to-be (Indonesia). The aim of testing using in-depth case studies is to show that the model works in all three different types of aid providers.

## **2 Case studies**

### **2.1 Case A: The evolution of trinity development cooperation in China**

#### **2.1.1 China's Grand Aid and its two origins**

China has emerged as a major donor since the turn of the century. The salient feature of China's foreign aid is its persistent pursuit of close linkages between aid, direct investment, and trade in its engagement with developing countries. The importance of this mode of development cooperation has been repeatedly stressed by Chinese officials and researchers, as shown below. Liu Xiangdong, Deputy Minister of Foreign Trade and Economic Cooperation, once argued that the synthesis of aid, direct investment, and trade can play an important role in the economic development of both the recipient countries and China (Liu 2011). Based on a series of arguments along this line, Zhou Baogen, an economist at the Research Institute for Fiscal Science, launched the idea of Da Yuanzhu (Grand Aid) or the concerted promotion of aid, trade and investment, in which aid works as a catalyst to facilitate investment and trade (Zhou 2010a; Wang 2013: 126–77). Such a characteristic of China's foreign aid, or economic cooperation in Chinese terms, has attracted the attention of the international aid community.

In our opinion, the so-called Chinese model of foreign aid or economic cooperation has emanated from two different ways of thinking: local and foreign. The local one, which appeared in China in the early 1990s, is called Da Jingmao (Broad-Based Strategy of Foreign Trade and Economic Cooperation). The foreign way is the New Asian Industries Development (AID) Plan, which was launched by Japan's Ministry of International Trade and Industry in 1987. In our view, the so-called Chinese model, like Zhou Baogen's Da Yuanzhu, was formulated combining these local and foreign policy strands. The purpose of the

following sections is to illustrate how the Chinese way of thinking about aid policy has evolved.

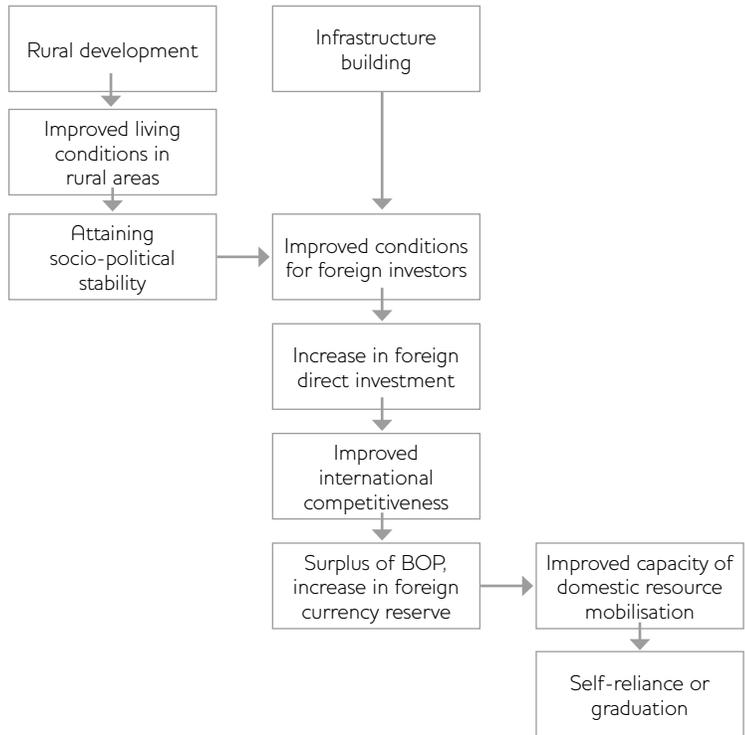
### 2.1.2 China's broad-based strategy of foreign trade and economic cooperation

In 1992, Wu Yi, Minister of Foreign Trade and Economic Cooperation, proposed the notion of Da Jingmao (Broad-Based Strategy of Foreign Trade and Economic Cooperation), stressing the integration of various instruments for economic cooperation including aid, direct investment, and trade. Wu officially launched Da Jingmao in 1994, at the International Symposium on China's Foreign Trade Strategy in the 1990s. Da Jingmao was authorised as a state strategy of China's foreign trade.

Our literature review shows that the strategy had been deeply rooted in the policy debates between Chinese technocrats in the 1980s. The existence of such debates is evidenced by an article by Ji Chongwei, who was a high-ranking official in the Research Center of Economic, Technological, and Social Development, a thinktank under the State Council. In his article from 1988, which dealt with the path to an outward-oriented economy, Ji urged further integration between economic cooperation from abroad and China's own external engagement. In this context, Ji expressed his support for the idea of synthesising China's trade, investment, and economic/technical cooperation (Ji 1988). His article implies that the original idea of Da Jingmao had already been discussed by his fellow technocrats in pursuit of effective measures for achieving the goal of 'reform and opening-up'. To put it differently, such an idea had already been shared in the late-1980s by the reform-oriented technocrats whose central policy agenda was to promote Chinese exports.

As the Chinese government fully recognised the huge potential of developing countries as markets for Chinese exporters, they began to accelerate the linking of various instruments of economic cooperation (Liu 1998: 140–41). Spearheading China's export promotion, Da Jingmao was expected to contribute to the acceleration of reform and opening-up that was urged by Deng Xiaoping in his influential speeches during his Southern Tour of January 1992. Da Jingmao outlined China's approach to economic cooperation, emphasising the close linkages between aid, investment, and trade. The idea, emanating from the discussions of Chinese technocrats, was the Chinese local intellectual output. This was also explicit knowledge, as the idea was detailed in various official documents. At the same time, it is assumed that Da Jingmao, like other policy debates in the era of reform and opening-up, reflected the cultural inheritance of China. China's approach to reform and opening-up is usually described as gradual and experimental (Bell, Khor and Kochhar 1993: 2–5). This is in contrast to the 'big bang' approach, or the Bretton Woods institutions' theoretical prescription for the former Soviet Union and Eastern Europe (Sachs 1993: 48–57; Koen and Philips 1993: 2–4). Most importantly, there was no detailed blueprint (Prasad 2004: 2). Their common practice of patiently examining the results of pilot projects in some localities

Figure 3 Path to self-reliance/graduation: 'Aid to end aid'



Source Authors' own.

before applying them nationwide obviously came from China's highly pragmatic traditional wisdom. To put it another way, the Chinese way of thinking about policy is rich in tacit knowledge, and Da Jingmao is no exception. In our view, the notion of Da Jingmao is accompanied by both explicit and tacit knowledge. While the Chinese approach to foreign aid emerged from within, reflecting China's own culture, it also drew considerably on the experience gained when China received aid from Japan, as shown below.

### 2.1.3 The influence of Japan's 'trinity development cooperation'

Since the mid-1990s, Chinese scholars and experts of economic cooperation have intensively studied Japan's aid giving, in an attempt to draw out hints for China's resurging foreign aid. A lot of Chinese literature in the late 1990s and around the turn of century (Zhang 1994; Ou Yang 1998; Jin 2002; Wang 2005) essentially shared the following three views on Japan's aid. First, Japan's aid had positive effects on the development of China and other Asian countries. Second, the effectiveness of Japan's aid came from its win-win approach, which intended to contribute to the aid recipient's economic development as well as the promotion of Japan's exports. Third, the linchpin of Japan's win-win approach was the notion of 'trinity development cooperation' or close linkages between aid, direct investment, and the promotion of

exports from the recipient countries. Such views have been adopted by current Chinese policymakers.

The concept of trinity development cooperation was announced in 1987 by Japan's Ministry of International Trade and Industry (MITI) under the title 'New AID Plan,' as 'comprehensive economic cooperation packages with the trinity of aid, direct investment, and import from developing countries' (MITI 1987: 166–69, 1988: 176). The objective was to promote the export-oriented industries of Asian countries, in particular Association of Southeast Asian Nations (ASEAN) members, who were desperately pursuing a transformation of their export structure from primary goods to the products of labour/technology-intensive manufacturing (Shimomura 2013: 156; Shimomura and Wang 2013: 118). To attract direct investment of export-oriented industries, aid-funded infrastructure construction was considered to be crucial. This rationale is illustrated in Figure 3. Trinity development cooperation was an example of explicit knowledge, as detailed explanations were available in MITI's various documents.

Our literature review shows that many Chinese foreign aid experts were interested in the notion of trinity development cooperation, from which they drew hints for China's own foreign aid policy. Zhou Baogen, who proposed the idea of Grand Aid, referred to Japan's trinity development cooperation (Zhou 2010b). While Da Jingmao stressed the integration of aid, direct investment and trade, it lacked the feature of a win-win approach, unlike Japan's New AID Plan. Jin Xide of the Chinese Academy of Social Sciences claimed that in the middle of the 1990s China began to connect recipient needs with China's own economic interests, taking into consideration trinity development cooperation (Jin 2004). It also attempted to connect Da Jingmao and Prime Minister Zhou Enlai's emphasis on 'mutual benefit' in his 'Eight Principles for Economic Aid' in a speech in Accra, Ghana, in January 1964 (Wang 2013: 131); the result was the evolution of the Chinese win-win aid approach. In our view, Japan's trinity development cooperation furnished Chinese foreign aid experts with the opportunities to re-examine and improve China's own economic cooperation strategy. The interaction between the Chinese and Japanese economic cooperation strategies was a process of knowledge creation.

## **2.2 Case B: Creation of knowledge from coastal industrial estate management**

### **2.2.1 Thailand's transformation from a major recipient to a new donor**

Thailand, once a major aid recipient, has emerged as a new donor since the mid-1990s, having established in 1996 the Neighboring Economies Cooperation Fund, the present title of which is the Neighboring Countries Economic Development Cooperation Agency, under the Ministry of Finance; Thailand International Cooperation was also established in 2004. Nowadays, Thai leaders, in both public and private sectors, are keen to make financial as well as technical assistance to neighbouring Myanmar, utilising their experiences of receiving aid. In

their efforts, centre stage is given to the Eastern Seaboard Development Plan, a gigantic coastal industrial complex located southeast of Bangkok. This case study explores a chain of knowledge creation in which Thailand intends to utilise the knowledge that was created and accumulated during the period it received aid from Japan in its engagement with Myanmar.

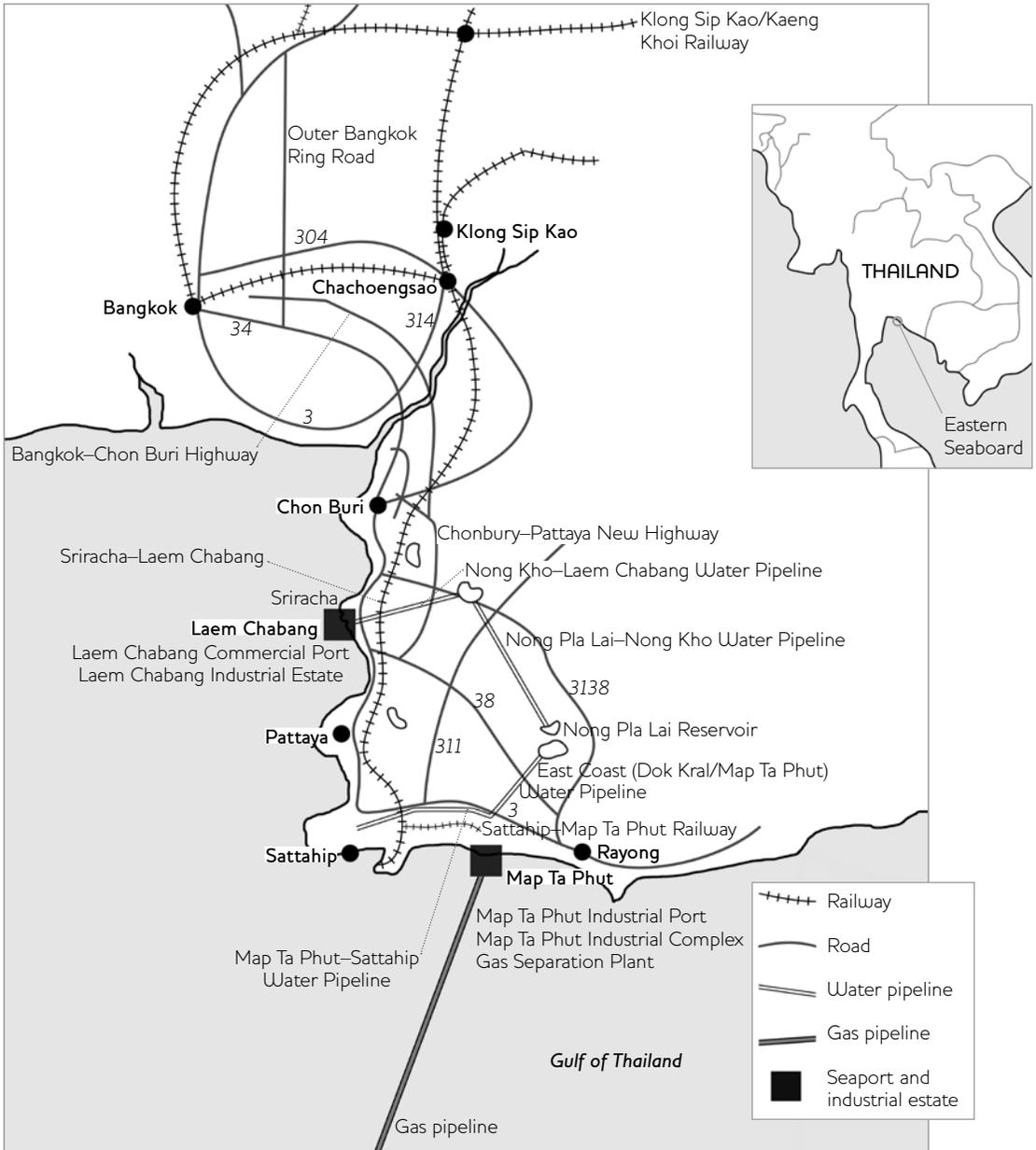
### 2.2.2 The Eastern Seaboard Development Plan and knowledge creation

The objective of the Eastern Seaboard Development Plan (ESDP) was to build a coastal industrial complex composed of two deep seaports and accompanying industrial estates at Laem Chabang and Map Ta Put in the southeast of Bangkok. The plan also included the construction of a dam and water pipeline system, railways, and roads (Mieno 2013) (see Figure 4). The ESDP was adopted in the Fifth Five-Year Plan (1982–86), suspended at the end of 1985 due to fierce disputes among the Thai leaders and strong objection from the World Bank, resumed one year later, and finally completed by the early 1990s with technical and financial assistance from Japan totalling ¥180bn. Even before its completion, the ESDP became a magnet for foreign direct investment, particularly because a lot of Japanese manufacturers began to look for production sites abroad in an attempt to overcome the adverse effects of the sharp yen appreciation resulting from the Plaza Accord of 1985. By early 2007, the ESDP area had attracted 14 private industrial estates (there were also two aid-funded ones) with more than 1,300 factories; most of them were export-oriented and around 500 were automotive-related. Most importantly, 360,000 jobs were created (Shimomura 2013: 158). Referring to the fact that the ESDP generated 16 per cent of Thailand's GDP in 2010, the National Economic and Social Development Board (NESDB) labelled ESDP as 'the success story of Japan–Thailand cooperation' (NESDB 2013).

The achievements of the ESDP are attributed to two aspects of knowledge. First, the ESDP emanated from the innovative idea of the coastal industrial estate, which had been developed in Japan in the 1950s. It was innovative because most of the large industrial areas, such as the Great Lakes in the US and the Ruhr region in Germany, were located inland in those days (Takeuchi 1984: 160–61). A coastal industrial estate had a big advantage because it enabled a drastic reduction in transportation costs due to its geographical closeness to ports. The technology for coastal industrial estate construction was provided by Japanese advisors and consultants as a set of explicit knowledge in a traditional pattern of technical transfer from donor to recipient.

Second, and more importantly, the ESDP furnished the Thai leaders with a chance to develop/create their own art of large-scale development project management. Their mission was to construct a gigantic infrastructure project in an orderly manner and without notable corruption. The Thai government suffered from serious challenges but successfully overcame them (Shimomura 2013: 107–11). Challenges were caused primarily by the World Bank's grave concern about the

Figure 4 Locations of ODA loan projects in Eastern Seaboard Development Plan



Source JICA.

fiscal burden of such a gigantic investment. The Bank urged the Thai government to drop the construction of two ports and utilise the existing ones, including the river port of Bangkok. The Bank’s sceptical position was shared by a group of Thai macroeconomists and provoked fierce disputes among technocrats about the macro- and microeconomic feasibility of the plan. The Thai technocrats thoroughly re-examined the project’s feasibility, the balance of payment sustainability, and so

on. In spite of the disputes, the plan was duly completed, although with some delay due to the suspension. Although one major component, a natural gas-based fertiliser plant, was abandoned, the result of an ex post evaluation showed that the project could have suffered a large loss if realised owing to an appreciation of the yen and the slump in the international price of fertiliser (JBIC 2000: 81–82). Most importantly, there was no notable news of corruption.

The Thai government's achievement of coping with challenges is primarily attributed to the fact that the rivalry and fierce disputes between the supporters and critics worked as an effective mechanism of checks and balances. It worked well in spite of the lack of developed separation of the three powers. Prime Minister Prem Tinsulanond took advantage of the rivalries and played the rivals off against each other by exploiting their fears of each other. In this context, it should be stressed that technocrats could concentrate on pursuing professional and rational arguments, owing very much to the prime minister's political insulation from pressure groups such as politicians and generals. Moreover, in conjunction with the aforementioned rivalries, the role of the free press contributed to transparency in policymaking. The combination also effectively prevented serious corruption, as technocrats were afraid of leaks to the press by opponents. Thailand in those days had its own functional mechanism of checks and balances, as tacit knowledge (Shimomura 2013: 114–20). It could be labelled checks and balances 'Thai-style'. In our view, the checks and balances Thai-style, being complemented by political insulation and the free press, took advantage of faction rivalry among the Thai leaders.

The effective administration of the ESDP, in our opinion, can be attributed to the combination of tacit and explicit knowledge. Obviously, the art of getting things done Thai-style in the case of the ESDP is far from textbook theory. In other words, there appears to be a kind of tacit knowledge deeply embedded in the Thai sociocultural system. At the same time, the art of getting things done in the Thai way was complemented by the explicit knowledge of the worth of political insulation and the free press.

### 2.2.3 Thailand's cooperation with Myanmar's Dawei Special Economic Zone

The basic concept of the Dawei Special Economic Zone (DSEZ) is the construction of a deep sea port with industrial estates in south-east Myanmar. As the first modern coastal industrial complex in the Bay of Bengal, the DSEZ is expected to become the engine of Myanmar's export-oriented industrialisation. Thai leaders are keen to assist Myanmar to realise the DSEZ, recognising the basic similarities between the DSEZ and the ESDP. What part of their ESDP experience could be relevant and useful? According to the NESDB's interpretation, it is the 'policy and implementation mechanism' of the Eastern Seaboard Development Committee (ESDC), which was chaired by the prime minister. The ESDC (a part of the NESDB), had the authority and responsibility to supervise, examine, monitor,

and evaluate the implementation of individual projects and to make strategic decisions.

When President Thein Sein of Myanmar visited the ESDP area in 2012, Arkhom Termpittayapaisith, NESDB Secretary-General, strongly recommended the introduction of an ESDC mechanism in the DSEZ (Termpittayapaisith 2013). The organisational structure of the Myanmar–Thailand Joint Working Mechanism was established in November 2012, in accordance with the experience of the ESDC. Thailand, an emerging aid provider, transferred to a neighbour the essential features of its success in coastal industrial estate management, which was developed during the time it was receiving aid.

### **2.3 Case C: A series of development endeavours in the downstream of the Tennessee Valley Authority**

#### **2.3.1 The four stages of the case**

This case is composed of four stages. The first stage (between the US and Japan) starts with Japan's learning of the model of the Tennessee Valley Authority (TVA)<sup>4</sup> from Harvard University geographer Edward Ackerman, who visited Japan as a staff member of the General Headquarters of the Supreme Commander for the Allied Powers in the early post-war era (Sato 2011: 83–85). Being heavily impressed by the TVA model, a group of Japanese policymakers attempted to apply the model to their regional development plans. Although the attempts were basically aborted due to various bureaucratic impediments (Mikuriya 1989: 270–72; Sato 2011: 90), one of the applications, the Aichi Water Canal Project ('Aichi Canal'), which was a part of the Kiso River Comprehensive Development Plan, completed the job using World Bank loans and took the role of incubator of the Japanese approach to the TVA model. More specifically, the Aichi Canal, which had been implemented in the 1950s and 1960s, was recognised as Max Weber's 'ideal type' of comprehensive regional development by Japanese development engineers. It evolved afterwards as a landmark of Japan's approach to aid. The second stage (between Japan and Indonesia) is Japan's assistance to the Brantas River Basin Development Plan ('Brantas Plan') of Central Java, Indonesia. In Tsuneaki Yoshida's view, the plan was designed with the experience of the Aichi Canal in mind, and the basic concept of the Aichi Canal emanated from the TVA model (Yoshida 2006; Nissanke and Shimomura 2013: 25–30). The third stage (also between Japan and Indonesia) is the evolution of the concept of 'one river, one plan, one management'. This concept, which emphasises integration, was created through a collaboration between Indonesian and Japanese engineers, according to Yoshida's interviews with Japanese engineers<sup>5</sup> who were in charge of the Brantas Plan. The final stage (between Indonesia and participants of the International Conference on Water and Environment held in 1992) led to the establishment of Integrated Water Resources Management (IWRM), a regional institute in Asia. The basic philosophy of IWRM was developed by fully taking into account the achievements of the Brantas Plan.

### 2.3.2 The TVA and the Aichi Canal

The linchpin of the TVA model is 'integration' (Sato 2011: 81). A large-scale dam was located at the centre of the river basin development model. The achievements of the TVA were introduced to Japan in the early post-war era by a group of New Dealers who were influential at the General Headquarters of the Allied Powers; among them Harvard scholar Ackerman was particularly influential. The intention of the New Dealers was to promote reform and democratisation in rural areas in Japan through the dissemination of the TVA model (Sato 2011: 78–79). In response, a group of Japanese policymakers of the Economic Stabilization Board were attracted by the TVA as a symbol of democracy (Mikuriya 1989: 269; Sato 2011: 83–87). Based on their study of the TVA, this group began to seek ways in which to apply this model to regional development plans. However, serious institutional constraints, endemic in the Japanese bureaucratic system, prevented their attempt (Sato 2011: 88–91). The realisation of an integrated plan like the TVA required the delegation of power and authority to a single organisation in charge (Sato 2011: 80–83). It was difficult, however, to meet the requirement in Japan's public sector, where several line ministries had claimed their share of the decision-making power in line with their own missions, principles and vested interests in the area of river basin development. This constraint caused tremendous difficulty for TVA-type integration.

Although the attempted application of the TVA model failed, the achievement of the Aichi Water Canal Project, a part of the Kiso River Comprehensive Development Plan in central Japan, became an incubator for the landmark of Japan's aid. The Aichi Canal, a community-based project, was initiated on the proposal of a farmers' group from the Chita Peninsula, Aichi Prefecture, whose area had suffered from water shortages for a long time. The Aichi Canal was composed of irrigation, a portable and industrial water supply, and hydropower generation. The Aichi Canal was planned in 1949 and financed by a World Bank loan (in 1957) for the amount of US\$4.9 million or 4 per cent of the total cost (Nissanke and Shimomura 2013: 27). The canal was completed in 1961. The Aichi Canal Public Corporation, an implementation agency, was established in 1955 and played the central role in planning, implementing, and managing the canal project.

It should be noted that according to Atsushi Shimokobe, a leading architect of long-term land development plans in Japan, pre-modern Japan had an idea similar to the comprehensive drainage management concept of the TVA. In the Edo era, rivers were managed in a comprehensive manner, as a total system controlling upstream and downstream. Given the existence of local and tacit knowledge of drainage management, it was possible for the Japanese stakeholders to accept the idea of the TVA-type model of comprehensive regional development (Shimokobe 1994: 12, 163–67), although the institutional constraints mentioned above hindered the wider application of the

TVA-type model in Japan. The Aichi Canal emerged as the only case that could cope with the institutional constraints and became an origin of Japan's model of comprehensive regional development, based on the interaction between Japanese traditional tacit knowledge and the external explicit knowledge of the TVA model.

### 2.3.3 The Brantas River Basin Development Plan of Central Java

The experience of the Aichi Canal provided an ideal example for the Brantas Plan of Indonesia. Implementation of the Brantas Plan started in the 1950s and lasted for more than 40 years. In the beginning, the South Trungagung Irrigation Project was constructed (1959–61) using Japan's reparation scheme. Being highly impressed by the success of that project, the Government of Indonesia instructed Nippon Koei, the Japanese consulting firm in charge of the Trungagung Irrigation Project, to prepare a master plan for the comprehensive development of the Brantas River Basin (Nippon Koei 1981; Okaji 1990). Since the 1960s, Japan has provided financial and technical assistance for the construction of 31 projects (nine multi-purpose dams, six barrage projects, eight irrigation projects, six river improvement projects, and two volcanic debris control projects) in the catchment area of 12,000sq km. The total amount of aid has been nearly ¥170bn (Fujimoto 2013).

Nippon Koei has continuously held contracts for planning, designing, and advisory services for construction for the past four decades. While Nippon Koei itself did not participate in the Aichi Canal and it was not in a position to directly inherit the knowledge created through the implementation of the Aichi Canal, the Japanese irrigation and rural development engineers, including those from Nippon Koei, were inspired by the Aichi Canal and attempted to disseminate the experiences (Kato 2013). The Nippon Koei engineers developed the essential features of the Aichi Canal and applied them to the Brantas River Basin, making the following achievements (Yoshida 2006, 2013).

The Indonesian and Japanese engineers worked jointly and closely, sharing the same cognitive model based on the case of the Aichi Canal. The outcome of the long-term commitment from Nippon Koei is significant in the field of human capital development. The Brantas office, which was established in 1965 in Malang, East Java, played a crucial role in Nippon Koei's development of human capital. The Brantas office repeatedly hosted workshops, seminars, and forums for the Indonesian engineers and technicians in order to transfer theoretical and practical knowledge. By 1990, the graduates of the Brantas School reached 7,000, and Brantas alumni effectively contributed to the dissemination of knowledge nationwide (Fujimoto 2013: 184–85, 192; Yoshida 2013).

### 2.3.4 One river, one plan, one management

'One river, one plan, one management' is the philosophy of the Brantas Plan. Apparently, 'one river' refers to the Brantas River. 'One plan' is composed of a series of four master plans under Japanese aid. 'One management' refers to the Brantas office, which was established in 1965

as the Plan Implementation Unit with independent authority covering broad areas of project implementation from budget administration to staff recruitment. What was unique about the Brantas Plan was that one charismatic figure, Suryono, led the organisation for 14 years from its inauguration (Fujimoto 2013). Many Japanese participants, both public and private, give their highest evaluation of his capability and leadership (Fujimoto 2013; Yoshida 2006, 2013). Suryono's strong leadership and long-term commitment, together with the full delegation of power from the Indonesian and Japanese governments, enabled the integration and effective coordination of this gigantic plan.

How did the idea of 'one river, one plan, one management' evolve? Two former Nippon Koei engineers, Messrs Marusugi and Sawatani, state clearly that the concept was raised by Suryono around 1990, and that the Nippon Koei staff did not directly contribute to the evolution (Yoshida 2013); the philosophy evolved from within. The thinking of the Japanese irrigation and rural development engineers was gradually shared by the Indonesian engineers over the four decades of working and living together, and the shared cognitive model between the Indonesian and Japanese participants finally led to Suryono's remark of 'one river, one plan, one management,' through the interaction between the engineers of the two countries. It was tacit knowledge because it was not expressed in a concrete and definite manner. Here we have another case of knowledge creation based on the experiences of receiving aid.

### 2.3.5 Integrated Water Resources Management

In 1992, the International Conference on Water and Environment was held in Dublin. The main subject was how to improve the management of river water resources in developing countries. The outcome of the conference was the launch of the concept of Integrated Water Resources Management (IWRM). The proposed concept of IWRM reflects, to a large extent, the achievement of the Brantas Plan, which is widely known internationally, and particularly in Asia, as a valuable reference case. Moreover, the lesson of the Brantas Plan was adopted by the Asian Development Bank as a model for water policy (Yoshida 2006; Nissanke and Shimomura 2013: 29). The Asian Development Bank, together with the Japanese government, established the Network for Asian River Basin Organization (NARBO) with the participation of around 50 organisations in charge of river basin management in Asia. Assuming the mission of disseminating the achievements of the Brantas Plan, the NARBO nominated a high-ranking Indonesian official as its first Secretary-General (Yoshida 2013). The locally developed knowledge of 'one river, one plan, one management' was finally transformed into internationally shared explicit knowledge through NARBO's various documents.

### 3 Comparative summary and policy implications

This article has addressed the relationship between receiving and giving aid, based on a hypothetical model highlighting the aid recipient's knowledge creation, or the evolution of a new development knowledge. It tested the plausibility of the hypothesis through three in-depth case

studies of four East Asian aid recipients, namely China, Indonesia and Japan in the 1950s and 1960s, and Thailand. These cases show that the aid recipients created new knowledge of their own during the period they received aid through their interaction with the donors, by combining local and foreign knowledge, or tacit and explicit knowledge. The aid recipients also nurtured the acquired knowledge and attempted to distribute it around the developing world through financial and/or technical cooperation.

The article confirmed that all the four recipients share the above behaviours. While such similarities are the main findings from the case studies, the article also found China's uniqueness in comparison with others. China created knowledge in its pursuit of a more sophisticated aid strategy; China had a long history of aid-giving by the time it acquired Japanese knowledge. In contrast, others were interested in domestic sector management, for example comprehensive rural development and coastal industrial estate management. Afterwards, they began to utilise the newly created knowledge in their external aid. The latter case is likely to be more usual in the developing world.

How are these findings relevant to the current development agenda in the era of Sustainable Development Goals (SDGs)?

A new partnership or collaboration with new actors, including emerging donors, has emerged as a central policy agenda in the international development community, as was emphasised in the Busan Partnership for Effective Development Co-operation in 2011 (OECD 2011). It was further developed in the SDGs, which are 'based on a spirit of strengthened global solidarity' (UN 2015). The new partnership between traditional and new actors could work effectively, if the latter's comparative advantage is identified and appreciated correctly. As for the emerging donors, a source of their strength is that an important part of their knowledge has been formulated through the experience of receiving aid; this is unique to emerging donors. They could contribute to the stock of knowledge in development cooperation and the global development agenda in their own ways. One crucial agenda item in the era of SDGs is how to effectively utilise emerging donors' experiences with knowledge creation.

### Notes

\* An earlier version of this article was produced as a JICA-RI Working Paper.

- 1 Hosei University, Japan.
- 2 Guangdong University of Finance and Economics, China.
- 3 Indonesia recently started its technical transfer programme. One notable example is the assistance to the democratisation of Myanmar.
- 4 The Tennessee Valley Authority was established by Congress in 1933 to address a wide range of environmental, economic, and technological issues. By the end of the Second World War, the TVA had become the nation's largest electricity supplier. Electricity drew

industries into the region, providing desperately needed jobs (www.tva.gov/About-TVA/Our-History).

- 5 Interviews with the two former Nippon Koei engineers, Mr Kazuo Sawatani and Mr Yuzo Marusugi, which were conducted by Professor Tsuneyuki Yoshida on 5 July and 6 July 2013 (Yoshida 2013).

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