

**Explaining international environmental co-operation by Japanese municipal governments with developing countries**

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### **Abstract**

With the aim of improving environmental management in the Asia region, several Japanese municipal governments have engaged in international co-operation with local governments in developing countries in the region. This kind of co-operation is not usually considered within the mandate of local governments, and it has occurred despite increasing fiscal constraints. This study examines the motivations behind international environmental co-operation of 12 Japanese cities, and it finds that they can be divided into two types: materialistic and idealistic motivation. Materialistic motivation emphasises the utilisation of local human capital for environmental management, promotion of environmental businesses, or prevention of trans-boundary pollution, while idealistic motivation includes a sense of pride in sharing the responsibility of environmental protection and conservation, or a sense of sharing global issues beyond the national border. The cities of Kitakyushu and Yokohama are representatives of the two patterns. Socioeconomic factors such as exports, foreign residents, foreign visitors, and fiscal capacity, although expected to enable co-operation, were found to be not highly correlated with it.

In general, it is not easy for local governments to justify and explain international co-operation activities to their voters and taxpayers. Indeed, in the new international strategy of Hyogo Prefecture of Japan that was adopted in 2004, for instance, priority has been given to projects that have direct advantages for prefectural residents from the standpoint of cost effectiveness, and importance is starting to be attached to the tangible benefits for the region in local international policies in general<sup>1</sup>. And yet, of the approximately 800 cities in Japan<sup>2</sup>, around 20 have conducted international environmental co-operation activities – such as the acceptance of trainees, dispatch of experts, joint studies, and hosting of intercity network programmes for sustainable city management – with the goal of capacity-building of environmental management in Asian developing countries<sup>3</sup>. The city of Kitakyushu has been engaged in such activities for over a quarter of a century. Further, although the budgets for individual international co-operation projects by all local governments – both prefectural and municipal – have been decreasing gradually since FY2002, this spending has been maintained<sup>4</sup>.

This paper addresses the question of why some Japanese local governments, municipal governments in particular, continue to be involved in international environmental co-operation despite increasing fiscal constraints and the fact that this international co-operation is not ordinarily considered to be within the mandate of local governments? Although several studies of international environmental co-operation of Japanese local governments have been carried out, including by Japanese municipal governments, national government, and an international development agency<sup>5</sup>, they are primarily descriptive in content, and they did not systematically examine the factors affecting international co-operation (especially relating to environmental issue) by local governments of Japan<sup>6</sup>. One study, on city-to-city co-operation on the environment between Yokohama in Japan and Penang in Malaysia, explores its successes and limitations and describes its historical development (Tjandradewi, Marcotullio and Kidokoro, 2006), but fails to provide any insight into the motivations of Yokohama, although it does mention that the municipal government benefited from capacity development of municipal government officials regarding English communication skills. Studies of European cities engaged in North-South city-to-city co-operation suggest that European cities benefit from enhanced mutual understanding, cultural awareness, and open-mindedness of citizens (Evans, 2009; van Ewijk & Baud, 2009; Johnson & Wilson, 2006), in particular for cities with migrant communities (Evans, 2009; van Ewijk & Baud, 2009). However, these studies are not very comprehensive and do not examine the situation in Japan. Therefore, the question posed above has not been

addressed sufficiently in previous research.

The question of the motivation of Japanese cities to participate in international environmental co-operation is of increasing importance in the Asian region as political leaders are increasingly focusing on the role of cities in addressing environmental issues. In this context, the High Level Seminar on Environmentally Sustainable Cities, held in Jakarta, Indonesia in March 2010 under the East Asia Summit Environment Ministers Meeting, confirmed that the formation of environmentally sustainable cities was a priority agenda in Asia and recommended strengthening the support for intercity networks<sup>7</sup>. In order to consider how to strengthen the role of cities, it is first important to understand the motivational factors leading to engagement in such international collaboration at the city level in Japan.

The role of local governments in international relations in general and in international environmental governance more particularly in global environmental governance<sup>8</sup> is typically not examined. One reason could be that the “state” is typically considered to be the national government, and local governments are overlooked since they do not traditionally play a major role in international affairs. Although some may consider local governments to be non-state actors, in fact, they are part of a country’s government, and so their role, unexpected by conventional theories, is worth exploring.

The role of local governments is becoming increasingly significant as two important trends converge to shift more decision making and action to them. One is the accelerated globalisation process in terms of finance, trade, travel, job opportunities, information and knowledge. The other is decentralisation in international development practices. Today, for most countries throughout the world, the roles and responsibilities expected of local governments are higher than ever before, both in developed and developing countries.

This study does not aim to show that the achievements of international environmental co-operation at the municipal government level are highly significant in terms of outcome and impacts, such as conspicuous capacity development in the municipal government and visible increase of environmental quality, or that these achievements are solely or even mainly attributable to such co-operation activities. Rather, the intended focus is to explain the forms of international environmental co-operation, at the city level, in the context of developmental co-operation. Thus this study examines

motivation from the perspective of cities in a developed country, Japan, to clarify the reasoning behind the international environmental engagement of local governments.

This paper maintains that international environmental co-operation by local governments in Japan can be explained by a combination of materialistic and idealistic motivations. This classification of motivations is a commonly used analytical framework of international relations<sup>9</sup>. Materialistic motivations include an expectation of job and business opportunities as well as a response to trans-boundary environmental issues. Idealistic motivation includes an extension of the idea of sense of mission; the desire to create not just an environmentally-friendly city but a city that can contribute to international society in the broader sense.

The motivations for international environmental co-operation by local governments studied here are those that are internal to local government. To be sure, the national government and international organisations played an important role in encouraging and supporting the international co-operation activities of Japanese local governments. However, the focus of this paper is to explain the internal motivations of local governments for cooperating with the national government and international organisations.

This study aims to clarify the differing motivations for the various Japanese cities engaged in international co-operation for the environment, and in particular focuses on local governments at the municipal level in the Japanese administration system to compare cities of similar administrative status. It excludes intermediate-level local governments, specifically, prefectural governments, including the Tokyo metropolitan government, which might be considered as a city in a general sense. The co-operation targeted here is that extended to Asian countries, since international co-operation activities of Japanese cities are inclined to Asia. Given that the actual impacts on environmental improvement through city-based co-operation may only be small – in the absence of heavy funding from the national government or international development-organisations – it is still worth exploring why cities wish to participate in international environmental co-operation.

The forms of international environmental co-operation by Japanese cities focused on in this paper include the training of trainees in Japan, dispatch of experts, partnership with international organisations, establishment of organisations for international

environmental co-operation, and hosting of international intercity network programmes. The magnitude of co-operation is measured by the institutional setup within the municipal government, budget, the average number of trainees trained and experts sent per year, and the period of co-operation.

The possible influence of socio-economic factors was also examined. Factors expected to be positively correlated with international environmental co-operation by cities include importance of exports, visits from foreign tourists, the presence of foreign residents in their jurisdictions, and the fiscal capacity of local governments. These socio-economic conditions are not necessarily direct motivations of international co-operation, but may provide a supportive environment to implement and maintain international activities of local governments. However, surprisingly, it was found that these factors are not highly correlated with Japanese cities' international environmental co-operation as shown in the section of Socio-economic conditions.

Last, but not least, the role of the national government, in particular that of the Japan International Cooperation Agency (JICA), an implementation agency of Japan's Official Development Assistance under the Ministry of Foreign Affairs, is studied since JICA has worked closely with local governments to implement national level development assistance projects, especially in the area of technical co-operation.

There are more than 20 cities in Japan that have experience in international environmental co-operation with Asian cities. Typical co-operation activities carried out by cities are technical assistance; the acceptance of local government officials as trainees and dispatching local government officials as experts for seminars, consultation and training. In order to study the motivations of Japanese cities in the area of international environmental co-operation, the study focuses on designated cities, i.e., cities with a population greater than 0.5 million and designated as such under the Local Autonomy Law of Japan. Designated cities are cities that perform several functions as delegated by prefectural governments, and as of April 2009<sup>10</sup> there were 18: Sapporo, Sendai, Niigata, Saitama, Chiba, Kawasaki, Yokohama, Shizuoka, Hamamatsu, Nagoya, Kyoto, Osaka, Sakai, Kobe, Okayama, Hiroshima, Kitakyushu and Fukuoka. Some of them have been enthusiastic as regards international environmental co-operation and others have not. Out of the 18 designated cities, the authors analyse the cities that have either established organisations that in some way function in respect of international environmental co-operation, or have hosted international environment events with

international organisations, these cities being Niigata, Kawasaki, Yokohama, Nagoya, Kyoto, Osaka, Kitakyushu and Fukuoka. The remaining cities are compared with these eight cities in order to clarify any commonalities and differences that may affect the conditions of international environmental co-operation. In addition to the above eight designated cities, since the motivations for comparatively smaller cities are also of interest, the cities that have established organisations that have a role of international environmental co-operation are also investigated even if they are not designated cities. Those cities are Minamata, Ube, Yokkaichi and Kushiro. In total, 12 Japanese cities are studied in terms of motivations for international environmental co-operation.

Information was collected via the internet, official documents, as well as through interviews with government officials of the related cities.

*Forms and magnitude of international environmental co-operation by Japanese municipal governments*

The forms of international environmental co-operation by 12 Japanese cities are summarised in Table 1. These include training in Japan, dispatching experts, partnership with international organisations, and hosting of international intercity network programmes. The level of commitment by the city necessary to enable each form of co-operation is assumed to range from low to high starting with the first form, i.e., training of trainees in Japan, through to the last form, i.e., hosting of intercity programmes because the necessary financial resources and length of commitment are thought to be larger in the latter forms.

As shown in Table 1, the forms international environmental co-operation take are diverse. All selected cities implemented training in Japan, as this is the most basic mode of international co-operation for local governments. Six cities have experience in dispatching experts and two cities have organised international intercity network programmes that contribute to urban environmental management.

Six cities have partnerships with international organisations and two cities have hosted international intercity network programmes for the environment or urban management in general. Kitakyushu and Yokohama have all modes of co-operation. Kitakyushu has a partnership with the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) and has hosted the Kitakyushu Initiative for a Clean Environment

– a UNESCAP programme for cities to improve the environmental management in Asia and the Pacific – since 2000. Kawasaki has a partnership with the United Nations Environment Programme (UNEP) and has organised the Asia-Pacific Eco-Business Forum and Eco-town project together with UNEP since 2005. Fukuoka has supported the United Nations Human Settlements Programme (HABITAT) Regional Office for Asia and the Pacific, located in Fukuoka since 1997. Kyoto has supported the secretariat of ICLEI – Local Governments for Sustainability Japan, which is a regional network of Japanese local governments that is in turn part of the global network of local governments for sustainable development. Kyoto also hosted the third conference of the parties (COP3) of the United Nations Framework Convention on Climate Change (UNFCCC) in 1997, which led to the adoption of the Kyoto Protocol, and organised the Kyoto Conference on Climate Change with ICLEI in 2007. Nagoya has hosted the United Nations Centre for Regional Development (UNCRD) and several international conferences on environmentally sustainable transport (EST) with UNCRD. In addition, Nagoya will host the COP10 of the United Nations Convention on Biological Diversity (CBD) in 2010. Yokohama has hosted CITYNET – the regional network of local authorities for the management of human settlements – to promote sustainable urban improvements in the Asia-Pacific since 1987. Yokohama has also supported the offices of international organisations located in Yokohama, such as the International Tropical Timber Organization (ITTO) and United Nations University Institute of Advanced Studies (UNU-IAS), which contribute to sustainable development through their activities.

The magnitude of international environmental co-operation by Japanese municipal governments is illustrated in Table 2. The aspects on which the magnitude are measured are: whether there is an institutional setup for international environmental co-operation within the municipal government, such as a division or office, whether an organisation that has a function of international environmental co-operation has been established, city budget for international environmental co-operation as percentage of total city general budget, the average number of trainees trained and of experts sent per year, and the period of co-operation since its inception.

Although the size of the budget is an important indicator for measuring the magnitude of co-operation, the total amount of funds allocated to international environmental co-operation activities cannot be clearly determined on the publicised budget documents of each municipal government since certain in-kind personnel and financial



contributions are not identifiable. The funding amounts that can be determined from the available budget plans of 12 cities studied vary from one to 166 million yen for fiscal year 2008 (See Table 2). The ratios of the international environmental co-operation budget to total municipal government budget are less than 0.012% for all of the cities. This implies that the budget may not be the most important indicator of visualise the magnitude of co-operation, since the budget allocated is generally small.

In terms of institutional setup for international environmental co-operation, Kitakyushu city established an International Environmental Co-operation Office under the Environment Bureau in 2000, Ube city founded the Environmental Symbiosis Office<sup>11</sup> within the Environment Department in 1998 and Kawasaki city upgraded its International Environmental Measures Promotion Office to the Global Environment Promotion Office in the Environment Bureau in 2008. Although in Yokohama city the International Policy Office is under the City Management Bureau, the office is in charge of various aspects of international co-operation, including peace promotion, as well as the environment. The Yokohama Waterworks Bureau, however, has a specific unit, the Human Resources Division, that is dedicated to international co-operation<sup>12</sup>.

The establishment of organisations whose missions and activities include the international environmental co-operation outside of the municipal government are as follows: Kitakyushu city founded the Kitakyushu International Techno-co-operative Association (KITA) in 1980 to commence the training of international trainees, which marked the inception of Kitakyushu's famous international environmental co-operation. Yokkaichi established the International Center for Environmental Technology Transfer (ICETT) – a training institute for environmental management, together with the Mie prefecture government, the upper tier local government of Yokkaichi city, in 1990. Ube city also established the Ube International Environmental Cooperative Association (Ube IECA), a private association to conduct training on environmental management, in 1998. Minamata city established the Minamata Disease Municipal Museum in 1993, which is used for environmental education and community re-development not only for Japanese but also foreigners, including trainees of the JICA training programme. In 1992, Osaka city set up the Global Environment Centre Foundation (GEC) to support the UNEP International Environmental Technology Centre (IETC) in Osaka, which conducts training on environmental technology for developing countries, together with the Osaka Prefecture government, which is above the Osaka city government. Niigata city has hosted the Acid Deposition and Oxidant Research Center (ADORC) for the Acid

Deposition Monitoring Network in East Asia (EANET) – an intergovernmental co-operation mechanism on acid deposition – since 1998, with the support of the Ministry of the Environment (MOE), Japan. And Kushiro city has operated the Kushiro International Wetland Centre (KIWC) to host international conferences, workshops and training on wetland management since 1995, with the support of the MOE and the prefectural government of Hokkaido in which Kushiro city is located.

The average number of trainees trained per year dramatically varies from less than ten to around 100. Most of the training is conducted under a programme run by JICA, a Japanese ODA implementation agency, or other external organisations. In these cases, the municipal government provides an opportunity for site visits for JICA trainees and municipal government officials to deliver lectures and training sessions for trainees from developing countries overseas. The costs incurred in international and domestic travel and lodging for trainees are borne by JICA, and some of the training is conducted by Japanese municipal governments solely via their respective city budgets. The training in Kitakyushu, Yokkaichi, and Osaka is operated by KITA, ICETT and GEC, respectively. The cities of Kitakyushu, Osaka and Yokohama each have JICA centres in which JICA operates various systematic training programmes. The records of Yokkaichi and Osaka, however, should be considered carefully since the level of support by both cities is smaller than that of the prefectural governments in which the cities are located. The number of trainees trained in Yokohama is relatively high considering Yokohama lacks its own organisation for international environmental co-operation.

Regarding the record of dispatching experts, Yokohama, Fukuoka and Kitakyushu have shown a constant level of resource allocation while other cities have almost no record of this form of co-operation. Basically, these activities have been funded by JICA. And yet this number would also appear to indicate a level of commitment by the municipal government because the city has to bear the costs involved in provisioning city officials for international co-operation activities overseas, which requires a larger commitment of preparation by officials and the divisions they belong to, including addressing language issues, since Japanese local government officials often lack skills in foreign languages such as English and Chinese.

Lastly, the length of the international environmental co-operation carried out by these cities varies, and is mostly around ten years, but for Kitakyushu it is almost 30 years. Other cities that have relatively long periods of co-operation of around 20 years are

Yokohama, Yokkaichi and Hiroshima.

Overall, considering the various forms and magnitude of co-operation, the cities of Kitakyushu, Yokohama and recently Kawasaki seem to have shown a higher commitment towards international environmental co-operation.

*Motivations of international environmental co-operation by municipal government*

As explained in the introduction, the types of motivation for international environmental co-operation exhibited by a municipal government can be divided into two categories: materialistic motivation and idealistic motivation. This analysis found three main kinds of materialistic motivation and two main kinds of idealistic motivation, based on official documents, organisational setup, and the activities of the municipal governments<sup>13</sup>: The main kinds of materialistic motivation are: a) “Re-utilisation of local human capital that has previous experience in environmental management” is regarded as a motivation when international environmental co-operation is positioned in basic environmental regulations and plans and use of local experience in environmental management is specified in the plans; b) “Promotion of international environmental businesses” is regarded as a motivation when there is a division that supports international environmental businesses in the municipal government; and c) “Response to trans-boundary pollution issues” is considered as a motivation when the content of international environmental co-operation includes activities in sectors that potentially form physical links between Japanese cities and cities in developing Asia. The main kinds of idealistic motivation are: a) “Promotion as an environmentally friendly city” is regarded as a motivation when the environment is considered a pillar in the vision of a city, such as in the city’s comprehensive master plan or international policy; and b) “Promotion as a city making contributions to the international community” is regarded as a motivation when international contributions are considered as a pillar in the city image objective, such as in the city’s comprehensive master plan or international policy.

In the following sub-sections, the results of the analysis – patterns as regards sets of motivations – are shown first, followed by a concrete explanation of the reasoning of each city’s case.

## LOCAL ASSETS AND A SENSE OF MISSION ON THE ENVIRONMENT

The results of the assessment of motivations in each city are shown in Table 3. The materialistic incentive of “re-utilisation of local human capital that has previous experience in environmental management” and idealistic motivation of “promotion as an environmentally friendly city” are the motivations for the cities of Kitakyushu, Kawasaki, Yokkaichi, Ube and Fukuoka. “Re-utilisation of local human capital in environmental management” can also be called “utilisation of accumulated local assets of the city.” This factor can be a motivation of international environmental co-operation only when the city has a history of severe environmental pollution and consecutive dedicated efforts to overcome such pollution and to restore the environment. “Sense of mission” to disseminate the experience of combating environmental pollution as a city and the identity of being an environmentally friendly city are clearly observed in the case of Kitakyushu, which has established the Office for World Capital of Sustainable Development with a focus on repositioning Kitakyushu as a World Capital for Sustainable Development.

Kitakyushu is demonstrating its intent to “form a base for the development of human capital in Asia,” and is working to achieve the training of 400 people each year for a total of 2,000 people over five years. In the area of creating a resource recycling society, one of the features of this programme, training is held on governmental policies of actions taken by Japan, i.e., the Eco-Town approach (merging of policies for proper waste treatment and the development of resources, and attracting and development of environmental industries), as well as the latest business technologies (proper waste treatment and technology for the development of resources, environmental management, other). The programme intends to use the combined experience of both the government and businesses to contribute not only to environmental improvement in developing countries, but also to the revitalisation of the Kitakyushu area, including the use of former business staff as human capital and development of local businesses<sup>14</sup>.

In the case of Kawasaki, under the direction of the mayor, Mr. Takao Abe – elected in 2001 – the city became focused on gaining international recognition, and environmental policies were added to the identity of Kawasaki. It was thought, based on the city’s experience and capacity in overcoming past pollution through the efforts of government and business, that the city could contribute based on the strengths of its businesses in the environmental technology sector. Linkages with UNEP were then considered and implemented based on the city’s objective to improve its international image. The municipal government also thought that there were advantages to making effective use

of retired staff from municipal governments and companies within the area of international environmental co-operation<sup>15</sup>. Furthermore, Kawasaki's intention to reactivate the municipal government's human resources via an existing pollution research institute through co-operation with representatives from business, academia and the government, and tie this to international contribution and promotion of environmental industries, was included in the improvement plan of the Research Institute for Environmental Protection<sup>16</sup>.

Fukuoka city's international co-operation is also based on the utilisation of local experience in environmental management, in particular of solid waste management – a low-cost sanitary landfill practice called the Fukuoka method, which was developed through collaboration between the Fukuoka municipal government and Fukuoka University. This method is promoted in China, Samoa and elsewhere in collaboration with HABITAT and JICA. The municipal government of Fukuoka regards this environmental co-operation as an opportunity to train young staff members with no serious solid waste management experience in Japan through hands-on experience in developing countries that are currently faced with pressing waste issues<sup>17</sup>.

Yokkaichi and Ube are cities that share a mixture of local human capital on environmental management and a sense of mission to protect the environment. This comes from their experience in air pollution – which resulted from industrial development – and from their experience in problem solving among residents, companies, researchers and local government, according to their stated visions and policies. Ube city's sense of mission to protect the environment and to contribute to developing countries in this field was observed after it was awarded UNEP Global 500 in 1997. Examples of such contributions are the hosting of an international symposium on the global environment, establishment of the Environment Symbiosis Office and Ube IECA, and participating in international intercity environmental networks – the ICLEI and Kitakyushu Initiative for Clean Environment<sup>18</sup>. In contrast, in the case of Yokkaichi, since the local ordinance of environmental management was developed at the prefectural level, not at the city level, to solve the problems of air pollution and the disease it was related to, Yokkaichi Asthma, the local asset on environmental management has accumulated in particular in industries in Mie prefecture, where Yokkaichi city is located, and the Mie prefectural government. Mie prefecture's contribution to ICETT in terms of technical co-operation on environmental policy and management is therefore larger than that of Yokkaichi city<sup>19</sup>.

Osaka city's international environmental co-operation could be considered to be driven by the materialistic reason of utilisation of local human capital that has developed through management of cases of environmental pollution resulting from the industrialisation process, without the sense of its becoming an Environmental Capital as is the case for Kitakyushu, Minamata or Ube cities. Further, In other words, Osaka city's environmental co-operation is not positioned in its city management plan as an extension of the city's commitment to protect the environment. Osaka city, unlike Osaka prefecture which is above it, is not so proactive in the promotion of international business in Asian developing countries in the field of environmental technologies that have accumulated and been developed in the Osaka region.

#### SYNERGY BETWEEN ENVIRONMENT AND ECONOMY

Of the five cities that have a motivation of "local assets" and "sense of mission" on the environment, the cities of Kitakyushu and Kawasaki have another materialistic incentive as a motivation for international environmental co-operation, something that can be called "synergy of environmental business and international environmental co-operation." This direction of international environmental co-operation could be considered an advanced form of collaboration since the cities are trying to obtain further benefits from their local assets.

Over the past several years, Kitakyushu has been making efforts to promote overseas business connected with the environment. As a background to this, the mayor and city assembly have been calling for more benefits to the citizens from international co-operation<sup>20</sup>. The city has supported the advances by local advanced technology businesses into the China and South Korea markets. For example, Kitakyushu has held seminars targeting businesses, dispatched business mission teams overseas, jointly participated in exhibitions overseas, carried out business matching with companies from overseas, and acted as a mediator with overseas business promotion support and local governmental organisations. Some businesses already have a presence overseas<sup>21</sup>. For example, a business providing environmental analysis services has made inroads into the market in Dalian. Such advances into international trade partly resulted from the saturated nature of many markets in Japan. Kitakyushu, which has been carrying out environmental co-operation and exchange with Dalian as friendship cities since 1980, established connections with the Dalian Environmental Protection Bureau and was able

to acquire information on future regulation trends. This close relationship with the municipal government played an important role when environmental businesses, such as environmental technologies for reducing the pollution in Kitakyushu, required knowledge of governmental regulations in Dalian to promote their businesses. Kitakyushu city supported the formulation of the regulations on the environmental quality of wastewater and waste gases, which was followed by the marketing of environmental businesses in Kitakyushu.

Another example of the city's achievements is the regular environmental business exhibitions and the introduction of business discussions at such exhibitions. Discussions are run by the Dalian Environmental Protection Industry Association (DLEPA) and Kitakyushu Independent Business Consortium for Sustainable Development (KICS), which is supported by the city<sup>22</sup>. It is presumed that international business linkages pose challenges when developing venous industries, such as those in Eco-Towns. The reasons for this are that in China garbage is viewed as something of value, not waste, which is to say social and cultural factors affect people's behaviour, and the necessary governmental system is currently lacking<sup>23</sup>. In this context, efforts have been started to promote environmental co-operation via local governments and international environmental businesses in specific situations in which regulations are stimulating environmental business<sup>24</sup>. Since 2000, businesses from Kitakyushu have participated in the "China International Environmental Protection Expo" held in Dalian every other year and organised seminars on environmental technologies; since 2001, businesses from Dalian have taken part in the "Eco-Techno Expo" organised in Kitakyushu every other year. Approximately ten businesses from Dalian have ordered technology-related goods from businesses in Kitakyushu and there are three or four companies that have started projects in Dalian through joint investments between businesses in Dalian and Kitakyushu<sup>25</sup>.

In addition, Kitakyushu city has conducted seminars and field surveys on the creation of a recycling society in Tianjin, Suzhou, and Qingdao in China as part of a feasibility study covering Kitakyushu recycling companies. Recently, an examination of Eco-Town co-operation with Qingdao has begun, commissioned by Japan's Ministry of Economy, Trade and Industry<sup>26</sup>.

As far as Kawasaki's case is concerned, in the Asian Venture Business Town plan, a core community was established in Kawasaki to promote the exchange of business

human resources and establish venture businesses between Kawasaki and cities in Asia. One of the objectives of this project, which began in 2004, was to contribute to international society through the overseas transfer of environmental technologies of businesses based in Kawasaki. In addition to attracting tenant businesses to the Venture Business Town, business exchange missions are dispatched to China and South Korea and matching of tenants and local businesses is carried out<sup>27</sup>. Regarding international co-operation, Kawasaki signed a letter of intent in 2005 with the Yixing Industrial Park for Environmental Science and Technology to carry out exchange, and the Yixing Industrial Park opened its Japanese office in the Venture Business Town. In addition, the NPO Asian Venture Business Town Plan and the Kawasaki Environment Bureau participated in the 5<sup>th</sup> Shanghai Environment Conference, which was held under the theme of “Environmental pollution and the creation of a resource-recycling economy through joint China-Japan co-operation”. In addition, a request for co-operation was received by Kawasaki from the Shanghai Pudong New District, which plans to establish its own Eco-Town<sup>28</sup>. Furthermore, an international environmental special district, which requests preferential treatment in promoting the recruitment of foreign researchers, was recognised in 2003, the objective of such being to attract and develop new industries in the hi-tech field<sup>29</sup>.

In order to make inroads into Asia, the Asian Venture Business Village plan provides assistance to small and medium-sized businesses in Kawasaki that receive local government support. Such support is designed to enable businesses to seize opportunities, through creating inroads via friendly ties at the local city level, to circumvent the often insurmountable bureaucratic hurdles present in socialist countries such as China and Vietnam. At present, they are at the stage of personnel exchange, but the future goal is to find business partners and expand overseas sales. Inroads into overseas markets matched with the parent group have occurred to date; however, there are few cases of independent advancement into these markets. In addition, actual linkages have yet to be achieved, although matching opportunities with businesses in the Venture Business Village<sup>30</sup> presents certain advantages.

## RESPONSE TO TRANS-BOUNDARY POLLUTION

The cities of Niigata, Fukuoka and Kitakyushu have different materialistic motivations regarding co-operation with cities in developing countries for the environment. The city of Niigata has hosted ADORC since 1998 to be engaged in research on acid deposition



problems and monitoring institutional development in East and Southeast Asian countries. The engagement in EANET activities of the above cities displays the concern felt at the national level as regards the cause-effect relationship of human activities upstream in continental Asia on acid deposition in Japan, as demonstrated by the 20-year studies on acid deposition in Japan. Niigata's co-operation for ADORC can be considered as a materialistic interest, though other environmental co-operation activities by the municipal government are not regarded as such.

The cities of Fukuoka and Kitakyushu are trying to convene an international symposium on the environment in collaboration with Fukuoka and other prefectural governments nearby, by inviting local government officials and researchers from China and Korea as well as Japan. They are expected to share the concerns of air pollution generated by coal burning and other industries and to discuss future collaboration, including technical co-operation and personnel exchange to prevent various types of pollution<sup>31</sup>. This planned action is also motivated by materialistic interests and concerns of trans-boundary pollution and its prevention to avoid any negative impacts of local pollution on cities situated downstream of the sources of pollution.

#### INTERNATIONAL RECOGNITION AND A SENSE OF SHARING GLOBAL ISSUES

The cities of Kitakyushu, Kawasaki, Yokkaichi, Ube, Fukuoka, Minamata, Kushiro, Yokohama, Kyoto and Nagoya all consider themselves to be cities that are committed to protect and conserve the environment, as stated in their city visions. Kitakyushu, Minamata and Yokohama were all selected as Environmental Model Cities in 2008 and 2009 by the Cabinet Secretariat, and Kawasaki, Kushiro, Kyoto and Nagoya all submitted proposals for the model city competition. All of these cities, except Kushiro, are either hosts or members of international intercity network programmes for the environment. These facts imply that these cities are signalling their intentions as regards environmental protection and conservation internationally as well as domestically. International recognition and reputation as "a city of the environment" could be considered as motivational factors for these cities in their ongoing efforts towards sustainable city management.

In addition, international contributions are considered a pillar in the visions of the cities of Yokohama, Osaka, Fukuoka, Niigata and Kyoto, and feature in the cities'

comprehensive master plans or international policies. When local governments promote international collaboration as part of the vision of their cities, it can be said that this is driven partly by a sense of sharing global issues that cross national borders, and also by the citizens and citizens' groups who are concerned in particular about the state of development and environment in developing countries. This may also lead to international recognition and reputation as well as a sense of pride and confidence in those persons engaged in the collaboration activities and processes, or simply a sense of satisfaction with having been involved in the co-operation itself. This idealistic motivation exists in parallel with materialistic motivations such as local business opportunities<sup>32</sup>.

The city of Yokohama has served as the secretariat of CITYNET since 1987 and actively carries out international co-operation in environmental education through CITYNET and JICA projects. The concept of Yokohama promoting contributions to international society, including in the environmental field, and contributing to world peace through environmental co-operation is accepted in the city assembly, although there is no intention to promote local businesses through international co-operation<sup>33</sup> – thus a sense of sharing and being concerned about issues that cross the national boarder is present. The sense of sharing global issues demonstrated by Yokohama is also shown in its support of the branch offices of international organisations located within Yokohama, such as the ITTO, World Food Programme (WFP), Food and Agriculture Organization (FAO), and UNU-IAS. The city of Yokohama assists these organisations by providing opportunities to introduce their missions and activities to the citizens of Yokohama and Japan. Hosting the offices of such organisations implies that the city has mutually shared interests and concerns in global issues. In summary, although the level of commitment for international environmental co-operation by Yokohama is high, there seems to be no materialistic motivation<sup>34</sup>.

Kyoto and Nagoya seem similar in terms of forms and motivations of international environmental co-operation. Both of them have organised and hosted international conferences on global environmental issues and appear to be enthusiastic to increase their visibility as cities concerned about environmental protection and conservation, which leads in turn to the desire for international recognition. Though Kyoto's commitment to share global issues as a global city seems stronger than Nagoya's, both cities have commonality in that they focus on international advocacy, and do not establish organisations for international co-operation or formulate international intercity

network programmes that conduct concrete capacity development projects.

The city of Kushiro is another case where international recognition would be an explanation for its international collaboration to conserve nature. This small city in a northern island of Japan is conducting international environmental co-operation to conserve wetlands, of which Kushiro has a wetland designated under the Ramsar Convention's List of Wetlands of International Importance in its jurisdiction. The Kushiro wetland was the first to be listed under the Convention in Japan. The activities of co-operation include training under the JICA programme and convening international conferences to promote conservation and appropriate use of wetlands. This does not seem directly linked with economic incentives, though there might be some implications for the tourism industry, and international co-operation is operated by JICA programmes and supported by other external organisations. Local residents who have been involved in international activities and events, which do not occur frequently given the size of this rural city, and have met foreign trainees, would have a sense of pride in being citizens of such a city that has gained international recognition<sup>35</sup>.

Minamata city is another example of a small city that is engaged in international environmental co-operation despite its small population, though the magnitude of activities is not comparable with those of large cities. The city has significant experience with Minamata Disease – a disease caused by environmental pollution – as well as the related conflicts, re-integration and resolution of its residents and eventual world-wide recognition. The city's co-operation, which basically takes the form of experience-sharing with JICA trainees from various countries, can be considered to be driven by the international recognition of their hardships and efforts in overcoming the disease.

#### *Socio-economic conditions*

Table 4 shows several socio-economic conditions that may affect the motivations on international co-operation, such as amount of exports, estimated annual number of foreign visitors in the prefecture where the city is located, number of foreign residents, and fiscal capacity index, i.e., the ratio of revenue to fiscal demand, for 18 designated cities. Out of the 18 cities, eight have been covered in detail above since they meet at least one condition of the degree of commitment for international environmental co-operation, as explained in the introduction of this paper.

As for the effect of trade with foreign countries, generally there is a positive correlation between the export amount and the degree of international environmental co-operation. However, some cities with high levels of exports are less active in co-operation. Kobe city, which has strong trade links with international communities, has supported international co-operation in the field of population and urban management in collaboration with the United Nations Population Fund (UNFPA), though this is not considered environmentally focused. Moreover, other cities with small levels of exports are more extensively engaged in co-operation. In terms of personnel ties measured by foreign visitors and residents, there is generally a positive correlation between the social links with international communities and the record of international environmental co-operation. The remaining designated cities, i.e., Sapporo, Sendai, Saitama, Chiba, Shizuoka, Hamamatsu, Sakai and Okayama are relatively new designated cities compared to others and do not seem to have economic and social ties with international communities of a strength sufficient to stimulate tangible international co-operation. Still, some cities with relatively stronger personnel ties engage in relatively less co-operation, while some cities with relatively weaker personnel ties are still engaged in co-operation.

The fiscal state of each designated city is shown in Table 2. It should be noted that the budget allotted for international environmental co-operation is generally very small, due in part by the need for financial constraint, especially in cases where such budgets are utilised for activities external to the local municipality in question, and mirroring the situation at the national level as exhibited by the large fiscal cut in ODA. Table 4 indicates that there is no clear relationship between the fiscal capacity of a municipal government, as measured by the ratio of revenue to fiscal demand (larger is better) and the record of international environmental co-operation. Based on this analysis, it can be argued that economic and/or social ties with international communities and the size and/or legal status of a city are sometimes correlated, although there are significant exceptions, so it is difficult to conclude that these socioeconomic conditions are the key factors explaining a city's history of relatively higher commitment towards international environmental co-operation.

#### *Role of the national government*

The role of national agencies, in particular JICA, is prominent, as shown by the

numbers of trainees trained and experts dispatched in Table 2. JICA has 11 International Centers in Japan for conducting training programmes as well as promoting citizen participation in ODA and recruiting overseas co-operation volunteers under the JICA scheme. Out of the 18 designated cities as of 2009, Sapporo, Yokohama, Nagoya and Kitakyushu had JICA International Centers. These Centers are used for training supported by municipal governments. Although JICA may approach any city that is interested in international co-operation, this fact cannot be used to solely explain a certain city's co-operative activities, yet the physical proximity of a JICA facility greatly facilitates them.

*Conclusion: Kitakyushu and Yokohama models*

Regarding the motivations for Japanese cities to implement international co-operation for the environment, there are several major patterns: 1) The cities that have accumulated responses to environmental problems, such as pollution and waste, use international environmental co-operation as an opportunity to formally use such “local assets”, or human capital of the local government and industries that are facing a decline in demand in the midst of the conversion of industrial structures. 2) Of these cities, forward-thinking cities are newly looking at “environmental and economic synergy” to promote local businesses and industries through international environmental co-operation and linkages with international environmental businesses. 3) Some cities conduct international environmental co-operation to alleviate the negative consequences of trans-boundary pollution issues that may originate from cities in developing countries in Asia. 4) In addition, in cases where cities have an objective to carry out international environmental co-operation guided by international recognition and a sense of sharing global issues, there are those that place particular value on the environment and those that do not.

Japanese cities that desire to promote international co-operation for the environment and have the human capital with expertise in environmental management may pursue the path of Kitakyushu, i.e., seeking out possibilities for integration of environmental co-operation and environmental business promotion – something that could be termed the Kitakyushu model for international environmental co-operation. Other Japanese cities that have intentions to further international co-operation may be able to follow the path of Yokohama, i.e., realising an international policy based on idealistic motivation – a pattern that could be called the Yokohama model for international environmental

co-operation. As part of efforts to tackle climate change, several Japanese cities have shown interest in promoting international co-operation on climate change mitigation. Such cities might benefit from the experiences and trials of Kitakyushu or Yokohama as role models – both of which were selected as reference Eco-Model Cities by the Cabinet Secretariat of Japan in July 2008 in light of their intent to develop as low-carbon cities and the merits of their respective motivations. One of the key motivations would appear to be the rediscovery and revitalisation of existing assets and characteristics cities possess in their localities, as demonstrated by the cities of Kitakyushu and Yokohama.

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## REFERENCES

- Evans, E. (2009). A framework for development? The growing role of UK local government in international development. *Habitat International*, 33, 141-148.
- Fujikura, R. (1991). *Nihon no Chihou Jichitai no Kankyo Enjo ni okeru Torikumi* [Activities for Environmental Co-operation by Japanese local governments]. Available online at [http://www.glocom.ac.jp/column/1991/07/local\\_government.html](http://www.glocom.ac.jp/column/1991/07/local_government.html)
- IGES. (2010). Key documents on Clean Asia Initiative (CAI) promotion: October 2009 – March 2010. Hayama: Institute for Global Environmental Strategies.
- Johnson, H., & Wilson, G. (2006). North–South/South–North partnerships: Closing the ‘mutuality gap’. *Public Administration and Development*, 26, 71–80.
- Kanie, N. (2004). Global environmental governance in terms of vertical linkages. In N. Kanie & M. Haas (Eds.), *Emerging forces in environmental governance* (pp. 86-112). Tokyo: United Nations University Press.
- Kuzumaki town. (2008). Think globally act locally. *Jichitai Kokusaika Foramu* [Local Governmental International Forum], 225, 12-14.
- Minamikawa, H. (2008). Chikyu kankyo mondai no kaiketsu ni muketa kokusai kyoryoku [International co-operation dealing with global environmental issues]. *Jichitai Kokusaika Foramu* [Local Governmental International Forum], 225, 2-4.

Mizoguchi, H. (2008), Toshikan kankyo kyoryoku ni yoru “chihou gaikou” no suishin

[Promotion of “local diplomacy” through intercity environmental co-operation].

*Jichitai Kokusaika Foramu* [Local Governmental International Forum], 225, 8-10.

Murakami, M. (2008). Kankyo bunya ni okeru jichitai to JICA no kokusai kyoryoku ni

tsuite [International co-operation by local governments and JICA in the environment].

*Jichitai Kokusaika Foramu* [Local Governmental International Forum], 225, 6-8.

Nishi Nihon Shimbun. (2009). Kosa kokagaku sumoggu taisaku kyogi [Meeting to deal

with dust and sand storm and photochemical smog]. Available online at

<http://www.47news.jp/CI/200902/CI-20090228-00747.html>

Okada, K. (2008). Kankyo mondai to kokusai kyoryoku – Chihou jichitaii nado no

yakuwari [Environmental issues and international co-operation – Roles of local

government and others]. *Jichitai Kokusaika Foramu* [Local Governmental

International Forum], 225, 4-6.

Shimin Kokusai Puraza (Citizen’s International Plaza). (2008). Database of international

co-operation activities by Japanese local governments. Available online at

<http://www.plaza-clair.jp/jichitai/jichitai1-1.html>

Takeuchi, M., Abe, K., Nakashima, M., Nishino, T., & Watanabe, M. (1999) *Chihou*

*jichitai no kokusai kyoryoku suishin ni okeru kurityikaru fakutaa ni kakaru kousatsu*



[Study on critical factors to promote international co-operation by local governments].

Tokyo: Foundation for Advanced Studies on International Development (FASID).

Tjandradewi, B. I., Marcotullio, P. J. & Kidokoro, T. (2006). Evaluating city-to-city cooperation: A case study of the Penang and Yokohama experience. *Habitat International*, 30, 357-376.

Toyama prefecture. (2008). Toyama-ken no kokusai kankyo kyoryoku [International environmental co-operation by Toyama prefecture]. *Jichitai Kokuzaika Forumu* [Local Governmental International Forum], 225, 10-12.

Tsutsumi, R. (2001). The nature of voluntary agreements in Japan — functions of Environment and Pollution Control Agreements. *Journal of Cleaner Production*, 9(2), 145-153.

van Ewijk, E., & Baud, I. (2009). Partnerships between Dutch municipalities and municipalities in countries of migration to the Netherlands; knowledge exchange and mutuality. *Habitat International* 33, 218-226.

Yamamoto, Y. (2008). *Kokusai rejimu to gabanansu* [International regimes and global governance], Tokyo: Yuhikaku.

Yamashita, E. (2008). *Chihou no kokusai seisaku* [Local international policies]. Tokyo: Seibundo.

Yamazaki, K. (2006). Chihou kokusaika ni okeru kokusai kyouryoku no genjou to kadai

[Current state and issues of international co-operation in regional internationalization].

*Jichitai Kokusaika Foramu* [Local Governmental International Forum], 199, 1-4.

Wendt, A. (1999). Social theory of international politics. Cambridge: Cambridge

University Press.

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**Table 1 Form of international environmental co-operation by municipal government**

City (Pop. [1,000])	Kitakyushu (985)	Kawasaki (1,389)	Yokkaichi (314)	Ube (178)	Fukuoka (1,442)	Minamata (27)	Osaka (2,651)	Niigata (811)	Kushiro (189)	Yokohama (3,648)	Kyoto (1,465)	Nagoya (2,250)
Form												
Training in Japan	○	○	○	○	○	○	○	○	○	○	○	○
Dispatching experts	○	—	○	—	○	—	—	○	○	○	○	○
Partnership with international organisations	○	○	—	—	○	—	—	—	—	○	○	○
Hosting international intercity network programmes	○	—	—	—	—	—	—	—	—	○	—	—

Sources: Respective municipal governments; Shimin Kokusai Puraza (Citizen's International Plaza)

**Table 2 Magnitude of international environmental co-operation by municipal government**

City	Kitakyushu	Kawasaki	Yokkaichi	Ube	Fukuoka	Mina- mata	Osaka	Niigata	Kushiro	Yoko- hama	Kyoto	Nagoya
Magnitude												
Institutional set-up for international environmental co-operation within the municipal government	○	○	—	○	—	—	—	—	—	○	—	—
Set-up of an organisation for international environmental co-operation	○	—	○	○	—	○	○	○	○	—	—	—
City budget for international environmental co-operation [million yen, fiscal 2008] (Percentage of total city general budget)	12 (0.002)	29 (0.005)	NA	3.4 (0.006)	2.6 (0.0004)	NA	144 (0.009)	7.9 (0.002)	0.7 (0.001)	166 (0.012)	NA	77 (0.008)
Average number of trainees trained per year*	88	2	108	3	7	NA	50	NA	3	23	NA	40
Average number of experts sent per year*	4	0	NA	0	7	NA	0	NA	0	11	NA	2
Period of co-operation [years]	28	11	18	10	9	NA	16	8	15	21	NA	NA

Sources: Respective municipal governments; Shimin Kokusai Puraza (Citizen's International Plaza)

\*: Most of the training and expert dispatching are funded by external organisations such as Japan International Cooperation Agency (JICA).

**Table 3 Motivations for municipal governments involved in international environmental co-operation**

Motivation	City	Kita- kyushu	Kawa- saki	Yokka- ichi	Ube	Fuku- oka	Mina- mata	Osaka	Nii- gata	Kushi- ro	Yoko- hama	Kyoto	Nago- ya
Materialistic	Re-utilisation of local human capital with previous experience in environmental management	○	○	○	○	○	○	○	—	—	—	—	—
	Creation of business opportunities	○	○	—	—	—	—	—	—	—	—	—	—
	Response to trans-boundary pollution	○	—	—	—	○	—	—	○	—	—	—	—
Idealistic	International recognition of activities on environmental protection and conservation	○	○	○	○	○	○	—	—	○	○	○	○
	Sense of sharing global issues	—	—	—	—	○	—	○	○	—	○	○	—

Sources: Respective websites of municipal governments; database on ordinances and plans, Law and Policy Department, Faculty of Law, Economics and the Humanities, Kagoshima University

**Table 4 Socio-economic conditions that may affect motivations of international co-operation for designated cities in Japan**

City	Exports (billion yen; 2007)*	Estimated number of foreign visitors per year in the prefecture where the city is located (2004)**	Number of foreign residents (1998)***	Fiscal capacity index (average of FY 2005 to 2007)****
Sapporo	3	319,000	<13,941	0.68
Sendai	54	55,000	<13,941	0.83
Saitama	200	141,000	<13,941	1.01
Chiba	1,465	743,000	<13,941	1.00
<b>Kawasaki</b>	<b>1,389</b>	<b>970,000</b>	<b>20,650</b>	<b>1.06</b>
<b>Yokohama</b>	<b>8,693</b>	<b>970,000</b>	<b>50,353</b>	<b>0.98</b>
<b>Niigata</b>	<b>146</b>	<b>61,000</b>	<b>&lt;13,941</b>	<b>0.70</b>
Shizuoka	2,302	203,000	<13,941	0.90
Hamamatsu	NA	203,000	15,957	0.91
<b>Nagoya</b>	<b>11,709</b>	<b>596,000</b>	<b>45,134</b>	<b>1.02</b>
<b>Kyoto</b>	<b>282</b>	<b>933,000</b>	<b>43,247</b>	<b>0.72</b>
<b>Osaka</b>	<b>3,402</b>	<b>1,658,000</b>	<b>119,050</b>	<b>0.93</b>
Sakai	466	1,658,000	<13,941	0.80
Kobe	6,222	436,000	42,599	0.69
Okayama	1,204	55,000	<13,941	0.76
Hiroshima	1,108	135,000	13,941	0.79
<b>Kitakyushu</b>	<b>1,001</b>	<b>319,000</b>	<b>&lt;13,941</b>	<b>0.69</b>
<b>Fukuoka</b>	<b>2,347</b>	<b>319,000</b>	<b>13,971</b>	<b>0.83</b>

Note: Cities in bold type have been extensively engaged in international environmental co-operation. See the text for details. Designated cities are those as of April 2009.

\*: Exports include those both at seaports and airports. Customs Department, Ministry of Finance, Japan, 2009, Heisei 19 Nen Zenkoku Minato-betsu Yushutsunyu Boueki-gaku Juni Hyo (2007 National exports – imports trade amount ranking table by port),

[http://www.customs.go.jp/nagasaki/content/19nendo\\_bouekigaku\\_jyuni.pdf](http://www.customs.go.jp/nagasaki/content/19nendo_bouekigaku_jyuni.pdf), accessed on 8 February 2009.

\*\* : Honkawa, H., 2009, Shakai Jitsujou Deta Zuroku (Social state data and figures), <http://www2.ttcn.ne.jp/honkawa/7225.html>, accessed on 8 February 2009.

\*\*\*: Zenkoku Shicho Kai (Japan Association of City Mayors), 1999, Toshi Jinko no Gaikyo (Brief state of urban population), <http://www.mayors.or.jp/research/jinkou/19990331/7.html>, accessed on 8 February 2009.

\*\*\*\*: Ministry of Internal Affairs and Communications, Japan, 2007, Zaisei Hikaku Bunseki Hyo (Fiscal state comparative analysis table), [http://www.soumu.go.jp/iken/zaisei/bunsekihyo\\_4.html](http://www.soumu.go.jp/iken/zaisei/bunsekihyo_4.html), <http://www.pref.okayama.jp/kikaku/sichoson/zaisei/zaiseijyoukyou/19hikaku/01okayama.pdf>, accessed on 11 December 2009. Fiscal capacity index is the ratio of the revenue to the fiscal demand.

## NOTES

- <sup>1</sup> Yamashita, E., 2008, *Chihou no Kokusai Seisaku* (Local International Policies), Seibundo, pp. 52-56.
- <sup>2</sup> A Japanese city has a population larger than 50,000.
- <sup>3</sup> Shimin Kokusai Puraza (Citizen's International Plaza), 2008, Database of international co-operation activities by Japanese local governments. <http://www.plaza-clair.jp/jichitai/jichitai1-1.html>, accessed on 7 January 2008.
- <sup>4</sup> Yamazaki, K., 2006, "Chihou kokusaika ni okeru kokusai kyouryoku no genjou to kadai (Current state and issues of international co-operation in regional internationalisation)," *Jichitai Kokusaika Forumu* (Local Governmental Internationalisation Forum), 199, Jichitai Kokusaika Kyokai (Council of Local Authorities for International Relations), pp. 1-4. [http://www.clair.or.jp/j/forum/forum/pdf\\_199/04\\_sp.pdf](http://www.clair.or.jp/j/forum/forum/pdf_199/04_sp.pdf), accessed 15 February 2008.
- <sup>5</sup> One of the examples includes the reports presented at the thematic seminar on international co-operation for local initiatives under the programme of Kitakyushu Initiative for a Clean Environment, held in 2004. [http://kitakyushu.iges.or.jp/activities/workshops\\_seminars/sixth\\_seminar.html](http://kitakyushu.iges.or.jp/activities/workshops_seminars/sixth_seminar.html), accessed on 8 January 2008. See also Minamikawa (2008), Okada (2008), Murakami (2008), Mizoguchi (2008), Toyama prefecture (2008) and Kuzumaki town (2008) for recent reports.
- <sup>6</sup> See Fujikura (1991) and Takeuchi et al (1999), for examples of such researches.
- <sup>7</sup> Chair's Summary, High Level Seminar on Environmentally Sustainable Cities under the Framework of the East Asia Summit Environment Ministers Meeting, 87-150, in IGES, Key documents on Clean Asia Initiative (CAI) promotion: October 2009 – March 2010.
- <sup>8</sup> See Yamamoto (2008) and Kanie (2004).
- <sup>9</sup> Wendt, A., 1999, *Social Theory of International Politics*, Cambridge University Press, pp. 22-40; Yamamoto, Y., 2008, *Kokusai Rejimu to Gabanansu* (International Regimes and Global Governance), Yuhikaku, pp. 59-66.
- <sup>10</sup> Sagami-hara city became the 19<sup>th</sup> designated city in April 2010.
- <sup>11</sup> This has since been upgraded to Division.
- <sup>12</sup> Yokohama is well known for its voluntary agreement between the municipal government and private companies to manage air pollution from factories, called the Yokohama Method (See Tsutsumi (2001), for example). Yet this method of voluntary regulation and conflict resolution is not a major part of environmental co-operation conducted by the Yokohama municipal government though this does form a key component in Yokohama's urban environmental management history. Japanese text for each office is as follows: Kitakyushu city International Environmental Co-operation Office 環境国際協力室, Ube city Environmental Symbiosis Office 環境共生課, Kawasaki city Global Environment Promotion Office 地球環境推進室, Yokohama city International Policy Office, City Management Bureau, 都市経営局国際政策室 Yokohama Waterworks Bureau Human Resources Division 水道局人材開発課
- <sup>13</sup> Websites of respective municipal governments; database on ordinances and plans, Law and Policy Department, Faculty of Law, Economics and the Humanities, Kagoshima University
- <sup>14</sup> Kitakyushu city website.
- <sup>15</sup> Meeting with International Environment Policy Promotion officer, General Administration Division, Environment Bureau, City of Kawasaki, 19 November 2007.
- <sup>16</sup> Meeting with Planning and Instruction Division, Environment Bureau, City of Kawasaki, 18 February 2008.
- <sup>17</sup> Telephone interview with the Environment Bureau, City of Fukuoka, 9 January 2008.
- <sup>18</sup> Telephone interview with the Environmental Symbiosis Division, Environment Department, City of Ube, 9 January 2008.
- <sup>19</sup> Telephone interview with the Environmental Protection Division, Environment Department, Yokkaichi City, 10 January 2008.
- <sup>20</sup> Meeting with the Office for International Environmental Cooperation, Environment and Economy Department, Environment Bureau, City of Kitakyushu, 18 December 2007.
- <sup>21</sup> Kitakyushu city website.
- <sup>22</sup> Meeting with the Office for International Environmental Cooperation, Environment and Economy Department, Environment Bureau, City of Kitakyushu, 18 December 2007.
- <sup>23</sup> Meeting with the Office for International Environmental Cooperation, Environment and Economy Department, Environment Bureau, City of Kitakyushu and Kitakyushu International Techno-Cooperative Association, 18 December 2007.



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- <sup>24</sup> Meeting with the Kitakyushu International Techno-Cooperative Association, 18 December 2007.
- <sup>25</sup> Meeting with the Director General of Dalian Environmental Protection Industry Association, 29 January 2008.
- <sup>26</sup> Kitakyushu city website.
- <sup>27</sup> Kawasaki city website.
- <sup>28</sup> Meeting with the International Economic Affairs and Asian Venture Business Promotion Office, Economic Affairs Bureau, City of Kawasaki, 26 November 2007.
- <sup>29</sup> Kawasaki city website.
- <sup>30</sup> Meeting with the International Economic Affairs and Asian Venture Business Promotion Office, Economic Affairs Bureau, City of Kawasaki, 26 November 2007.
- <sup>31</sup> Nishi Nihon Shimbun, 20 February 2009.
- <sup>32</sup> For instance, 90% of citizens monitoring Fukuoka municipal government services perceived the city's co-operation on urban issues in developing Asia as satisfactory and more than 50% supported further promotion, according to the 2001 survey. See p. 11 of *Fukuoka City Internationalisation Promotion Plan*, developed in 2003. <http://www.city.fukuoka.lg.jp/data/open/cnt/3/2394/1/1591053116077.pdf> (in Japanese), accessed on 10 April 2009.
- <sup>33</sup> Telephone conference with the International Policy Office, Management Bureau, City of Yokohama, 9 January 2008.
- <sup>34</sup> However, Yokohama may start thinking strategic international co-operation on water supply and management in the future in accordance with the city water bureau's recent establishment of private company on water business. <http://www.city.yokohama.jp/me/suidou/press/images/press20100428.pdf> (in Japanese), accessed on 11 August 2010.
- <sup>35</sup> Telephone conference with KIWC, 8 April 2009.