

Training Courses on Environment in Minamata City
Report on Questionnaire Survey by Ex-Participants

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1. Background and Goals

For more than a decade, JICA Kyushu has accepted training participants from environmental fields in cooperation with Minamata City. During this period, 100 participants from 26 countries have come to Minamata to study its environmental policies. With the experience of Minamata disease, the environmental pollution, Minamata City has since transformed itself into an environmental model city. The JICA training courses introduce the environmental initiatives of Minamata City as examples of ways to cope with environmental issues from the perspectives of local governments and public participation.

In October 2013, The Minamata Convention on Mercury diplomatic conference was hosted by the cities of Kumamoto and Minamata; the convention was signed by 92 countries (including the EU), and adopted. The convention will serve to broadcast the experiences of Minamata City around the world as a lesson for humanity.

Not only did Minamata disease cause mercury-based damage to human health and the environment, it also brought discrimination on area residents and fragmenting communities. Accordingly, it bears noting that, although the project's fundamental intent was to restore the lost environment and maintain an abundant natural environment, the recovery process included the restoration of area residents' self-confidence, community rebuilding and regional revitalization.

In this sense, Minamata City's experience and efforts provide a wealth of suggestions regarding the issues currently confronting developing nations. This survey was given to the ex-participants (participants who had returned to their home countries) with the aims of reconfirming Minamata's significance and helping to plan future training courses, while simultaneously providing feedback regarding project effects to interested parties in Minamata City who have cooperated with previous JICA training courses.

2. Survey Outline

(1) Subjects

The diagram shown on Attachment 1 is a list of the training courses this survey covered. A total of 12 courses were carried between JFY 2001 and JFY 2012, with a total of 100 participants. Twenty-six countries participated, with a distribution that began in the countries of Eastern and Southeast Asia and gradually expanded to include Southwest Asia, the Middle and Near East, Central and South America and Africa.

As stated later, the survey was administered via questionnaires e-mailed directly to survey subjects, who then responded. The table shown in Attachment 2 is a list of the 72 individuals who provided e-mail addresses, extracted from the list of 100 training participants given above. These 72 individuals were the subjects of the survey.

(2) Survey Method

A questionnaire (Attachment 3) was drafted, using similar JICA training project evaluation surveys as references. To grasp the qualitative effects of the training courses, the “free answer” format of the responses was prepared. As shown in Attachment 1, since not all the ex-participants participated in the same training course, and since there was a maximum span of over a decade between the training courses they attended, it was determined that written answers were more suitable than quantitative questions meant for statistical processing.

The main question topics in the questionnaire are as follows. Some of these topics were suggested by interested parties at Minamata City Hall.

- Motive for participating in training
- The significance and value of Minamata
- Putting the training contents to work, and the impact of doing so
- Limitations to the understanding of training contents, or to its use
- Suggestions for improvements to the training courses
- Messages for Minamata
- Expectations towards JICA

(3) Implementation Schedule

On November 27, 2013, the questionnaire was e-mailed to the ex-participants together with the letter of request shown in Attachment 4. The deadline for response submission was December 13 of that year.

Although answers were accepted around the clock, the response was not so many, so the deadline was extended to December 26. In the end, a total of 25 ex-participants had answered by the beginning of January 2014.

3. Results

(1) Outline

A breakdown of respondents follows. A total of 25 ex-participants responded from 13 countries: Bangladesh (2), Brazil (4), Colombia (1), Cuba (1), Indonesia (2), Kenya (3), Malaysia (1), Mexico (1), Morocco (1), Philippines (2), Tanzania (2), Thailand (4) and Viet Nam (1). A list of the respondents can be

found in Attachment 5.

The variance with regard to the periods (fiscal years) in which each respondent participated in training course is moderate, with no major bias. In terms of gender, 12 respondents were male and 13 were female.

The moderate variance was also present in respondents' current occupations: Many were affiliated with the environmental, city planning and development or sanitation departments of national governments, state or provincial governments, or municipal governments, while several were affiliated with national research organizations.

Even with the extended deadline, responses were received from only 25 of the 72 subjects for a response rate of 34.72%. We consider this satisfactory for a questionnaire consisting of written questions, which require effort to answer. This can be said that it shows the survey subjects' level of satisfaction with JICA training courses, while the fact that the JICA Overseas Office in each country contacted the subjects for advance confirmation of their e-mail addresses during the planning stage is also considered to have improved the response rate somewhat.

(2) Results by Question Topic

The following is an outline of the answers for each question topic.

1) Motive for participation

Responses regarding motives for participation included the following keywords. Naturally, many respondents gave the fact that the theme was related to their occupation at that time as their motive for participation in the training courses.

(a) Public participation, awareness and education

Public participation was a theme common to many respondents.

- "I wanted to know about the role of the people of Minamata City in environmental management." (Thailand)
- "I was interested in how local people are drawn in to help cope with environmental issues in Japan." (Brazil)
- "Public participation leads to community empowerment. More proactive public participation contributes to the resolution of environmental issues." (Thailand)

Even for those who were interested in individual themes such as water pollution and waste management, it is clear that the question of how public participation techniques can be put to work was an important item of interest.

(b) Pollution countermeasures

Responses implied that environmental pollution was becoming apparent across all countries and regions.

- “Industrial areas are coming up against many pollution issues.” (Thailand)
- “I want to identify the source of the pollution.” (Kenya)
- “I want to learn techniques for monitoring pollution sources.” (Kenya)
- “I want to know how pollution from factories is managed in Japan.” (Tanzania)

It is evident that these respondents were particularly interested in regulations and treatment measures for industrial wastewater as point source pollution.

(c) Environmental restoration

How did Minamata recover from severe pollution? Methods for restoring polluted environments and preserving them also drew interest.

- “The recovery process – how Minamata City recovered from its environmental pollution and is working to improve – is a good reference case.” (Indonesia)
- “I want to learn about conquering man-made environmental disasters and the lessons of recovery.” (Brazil)

In addition, several participants wanted to learn about Minamata’s experiences regarding waste management, city planning methods and mercury pollution.

2) The Significance of Minamata

The next item on the questionnaire asked what participants felt the practical significance (for example, good practices) of having learned about Minamata City’s experiences and actions during the training had been for them (in light of conditions in their own country). In contrast to the previous question regarding motives of participation, which had revealed their expectations for the training, this question provided clues as to whether participants had learned any lessons from actually participating in the training.

(a) Garbage separation, the 3Rs

A majority of respondents (12) answered that they had learned lessons from Minamata City’s garbage separation and promotion of the 3Rs. Minamata City began sorted garbage collection efforts in 1993, before the rest of Japan, and it currently sorts garbage into 24 categories at approximately 300 stations located in the city.¹ The city has been proclaimed one of Japan’s “Zero Waste” cities, after Kamikatsu Town in Tokushima Prefecture and Oki Town in Fukuoka Prefecture, and is working to reduce waste as one of its core activities as an

¹ See the Minamata City website. <http://www.city.minamata.lg.jp/294.html>

environmental model city.²

Respondents also pointed out that this advanced garbage separation was made possible by proactive public participation and solid environmental education.

- “Public participation is a major factor behind the success of Minamata City’s green urban development. The municipal government, the mayor, private enterprises, local residents, individuals, children: Everyone is very environmentally conscious, and they’re all participating in the creation of a healthy resource-recycling society.” (Bangladesh)
- “Public participation in garbage separation is a good example which should be studied.” (Thailand)
- “Minamata is a good example of how cities can build sustainable models, and its resource circulation practices provide extraordinarily important suggestions for my country.” (Colombia)
- “How did Minamata City transform itself into a Zero Waste city? Its story is deeply impressive. In particular, I think that the sorting of each household’s garbage at the source and cooperation with NGOs should be studied.” (Philippines)
- “In Mexico, it’s common to sort garbage into two categories – organic and inorganic – but we’re currently developing a 3Rs campaign to promote the separation of paper, plastics and metals.” (Mexico)
- “As the economy continues to grow, the recycling of electric/electronic components is becoming an issue. We’re trying to establish new laws in order to deal with it, but we’re running up against the problem of who should bear the costs of collecting electric/electronic components.” (Brazil)
- “Minamata’s characteristics as an environmental model city are visible in its garbage separation, its recycling, and the active participation of its women’s groups.” (Indonesia)
- “I want to implement an environmental education program featuring garbage separation in a small city. Public participation is incredibly important in order to realize appropriate garbage separation and recycling.” (Brazil)

(b) Mercury pollution

The training courses provided an opportunity to recognize the importance (severity) of the damaging effects mercury and other toxic substances have on humans and the environment.

² See the Minamata City website. <http://www.city.minamata.lg.jp/150.html>

- “There are people in my country who are being exposed to mercury pollution, too, and I think the lessons of Minamata are extremely important with regard to protecting human health and the environment.” (Brazil)
- “I saw what sort of risks environmental pollution poses to the human body. I want to warn my own country’s Ministry of the Environment.” (Malaysia)
- “I discovered clues regarding the importance of environmental restoration in areas damaged by pollution from mining. In my country, people use cyanide compounds in illegal small-scale gold mines. I want to tell people about the sort of effects chemical substances can have on the environment and the human body.” (Philippines)
- “I oversee city planning and industrial sites, and I think the lessons of Minamata are important when creating urban designs that take the environment into consideration.” (Tanzania)

In addition, several responses mentioned the reinforcement of regulations and monitoring systems for factories with regard to water environment pollution and the reduction of environmental load through pesticide-free and organic farming, calling them good practices.

3) The Value of Minamata

Similarly, participants were asked what they considered the value of Minamata to be. While the previous item asked about specific significance, the intent of this item was to inquire about the overall importance of Minamata.

Most respondents (16) indicated the strength of the citizens, their solidarity and the commitment of the people involved. It was evident that they felt deeply that broad citizen participation and the cooperation of interested parties were the driving force behind the sustainable efforts that helped the Minamata overcome mercury pollution to become the environmental model city it is today.

The next most frequent view was the difficulty of environmental restoration. The training courses provided an opportunity to recognize how difficult it was to recover from terrible pollution, the sort of long-term efforts that recovery required, and, accordingly, how important it was to prevent pollution before it happened.

4) The Status of Action Plan Implementation

In order to learn the extent to which the training courses was being used and the impact it had had on participants, we asked whether or not action plans were being implemented and requested self-evaluations, as well as information about changes in participants’ perspectives, attitudes and values regarding their own work.

After returning to their home countries, all respondents were implementing some sort of activity based on their action plan. In other words, we consider that responding to this survey held active meaning for those who were actually performing activities that made use of the results of the training courses. The content of the activities varied from person to person, and we are unable to show them all in detail; however, we would like to include responses which reported lively activities in the activity examples section later in this report.

At this point, we will list the trends and characteristics of the content of ex-participants' activities after their return to their countries and offices.

(a) Environmental Education

The planning and implementation of environmental education programs, most of them geared towards schools, seems to be a comparatively approachable method. Minamata's versions of the environmental ISO, such as the "ISO for Schools" implemented in Minamata City, provide practical knowledge.

(b) Watershed management

There are many examples of building cooperative relationships with local residents and developing monitoring activities with the goal of environmental preservation and river or coastal water quality management. The training courses introduce environmentally concerned activities (water source forestation, terraced rice field preservation, organic farming, etc.) which treat "from the source to the river mouth" as a whole, and communicates the importance of interest coordination and networking with the broad participation of interested parties.

(c) Waste management

Minamata's sophisticated garbage separation and promotion of the 3Rs leaves a deep impression on participants. After returning to their countries, many respondents worked to provide education regarding community-based sorted collection and to popularize it. Some respondents were working on collection and transport by private company and the recycling industry.

(d) Mercury pollution

Mercury pollution stemming from small-scale gold mining was a problem particularly in Brazil and Kenya, and some respondents were working to investigate health damage among laborers and to implement educational and popularization initiatives. A case from Philippines reported that, although water quality is being monitored in areas damaged by mining, the uncooperative

attitudes of mining companies are making environmental preservation and restoration difficult.

In addition, there were a few ambitious examples of respondents working on development projects for environmental model city concepts.

With regard to changes in their own perspectives, attitudes and values, most respondents answered that they had realized the resolution of environmental issues would be impossible without the participation of diverse interested parties, and (on learning of the difficulties experienced by the people of Minamata and of their current success) that their confidence and motivation had increased.

5) Limitations when Implementing Action Plans

This question asked respondents to reveal impediments to the implementation of action plans. As was expected, although impediments to action plan implementation differed from respondent to respondent, the majority cited resource shortages. These shortages concerned things such as funding, machinery and materials, technology and knowledge. Many also mentioned a lack of political and policy-related support, while some gave cultural backgrounds as reasons. These views appeared across all JICA training courses, regardless of course contents.

In addition, several respondents to this survey pointed out the difficulty of actively involving many related parties. In particular, in cases where specific organizations, groups or corporations that did not approve of these activities clearly existed, it was evident that respondents were struggling with the question of how best to overcome these opponents.

6) Level of Understanding of Training Content

Here, the survey inquired whether the differences in history, culture and society between the participants' home countries and Japan (or Minamata) had made it difficult to understand certain things (lectures, observation tours, etc.).

Nearly all of the respondents answered that they had not experienced any difficulty. It seems probable that those who responded to this survey had performed very well during the actual training courses, and had worked hard to understand.

A small number of respondents said that it had been difficult to understand Japanese local governments' roles and methods of performing duties, or that, although Japan's voluntary systems were functions very efficiently and complementarily, they had not understood how networks such as the councils

were operated. Some also said that they understood Minamata's initiatives, but that since they would be applied to huge cities with populations of more than two million in their home countries, implementation would be difficult.

7) Suggestions for improvements to the training

The questionnaire posed the following four questions with the purpose of obtaining suggestions which could be used in designing and implementing future training courses in Minamata City. Although we are unable to present all the responses here, since each was very informative, please read the original responses in a separate attachment as a reference.

(a) "If you had the opportunity to train at Minamata again, what else would you like to study?"

- The way the council network is run. (Morocco)
- I'm interested in the recycling plants, particularly in how refrigerators, washing machines, TVs, computers and other home appliances are recycled. (Brazil)
- I'd like to know how the government runs cooperative projects between private enterprises and citizens. (Mexico)
- The issues of environmental model cities and how to involve citizens and corporations (Thailand)
- On-site monitoring methods for industrial waste water (Kenya)
- Electric/electronic waste management. (Kenya)
- The evaluation index and results for Minamata's environmental policies (Colombia)
- Garbage sorting policies, the significance of incineration facilities, marine product food safety (Malaysia)
- Laws and monitoring systems to keep damage to a minimum before pollution becomes apparent (Kenya)
- About the changes in city planning from the past, through the present and into the future, in particular about the state of the industrial sites of companies that handle toxic substances (Tanzania)

(b) "If your colleagues were given the opportunity to participate in the training course at Minamata City, what would you recommend that they study?"

- How the citizens of Minamata recovered their self-confidence and managed to build an environmental model city. (Cuba)
- To learn about the long-term effects of Minamata disease on local society. (Philippines)
- I'd want them to learn – although this can be said about all of Japan, not just

about Minamata – about how aware its citizens are of the importance of taking care of the environment. (Brazil)

- I'd recommend that they look at Minamata City from the source to the river mouth. They should learn how Minamata City uses the concepts of integrated water resource management and integrated coastal zone management with the goal of improving the quality of life of its citizens. (Thailand)
- To learn how the local residents of Minamata are managing the environment. (Tanzania)
- To learn how serious pollution damage is and how difficult it is to restore the natural environment. (Bangladesh)
- To study environmental education activities facilitated by citizen participation. (Bangladesh)

(c) "Was there a gap between your initial expectations for the training and the actual content of the training?"

- There was no gap, but I would have liked to get a better understanding of the role citizens play in Minamata City's decision-making process with regard to policies. (Morocco)
- In my country, the issue is damaged health due to illegal small-scale gold mining operations, so some portions had no direct bearing on the training content. However, the case of Minamata will be very useful with regard to the restoration and preservation of my own country's environment, and for the information it provides regarding the damaging effects of toxic substances on health. (Philippines)
- There was no gap. Although it isn't as serious as it was in Minamata, my country also has corporations that don't take environmental factors into account and neglect environmental preservation in their pursuit of profit. I'd like to work on resolving issues that are in line with the current situation in our areas. (Viet Nam)
- In recent years, industry has begun to move into our town from the surrounding areas, and sooner or later, we're anticipated to become one of the state's core business and industrial cities. Air and water pollution are becoming issues, as are waste products. I'd like to know about other policies Minamata City has implemented, before the problem becomes obvious. For example, I'd like to learn about factory operation permits and their requirements. (Philippines)
- You might be able to split the training course into two courses. One could be about the case of mercury pollution, which you could then cover more

comprehensively. The other could be tailored to recycling and other methods of waste management. (Brazil)

- The case of Minamata is a history of optimistically working to resolve problems and managing to do so, even in the face of difficulties, and it acts as a great motivation for communities searching for resolutions to their issues. (Brazil)

(d) “Please comment on Minamata City’s policies and measures.”

- I’d like the city to continue working to support people affected by Minamata disease and to rebuild local society. (Viet Nam)
- Minamata City’s policies don’t simply force regulations onto the citizens. For example, when working to reduce the use of plastic bags, they involve women in policy development. I really hope they continue to do so, and that the idea spreads to other countries. (Indonesia)
- If it makes greater use of information transmission and PR strategies, I think Minamata City has a lot of potential as an eco-tourism destination. (Colombia)
- Minamata City overcame tragic circumstances to become a society that takes good care of the environment. This concept of environmental model cities should be introduced to other countries on a large scale.

8) Messages for Minamata

We also requested the ex-participants write messages especially for the people of Minamata. Respondents sent many warm messages of gratitude to the citizens of Minamata, to their training instructors, and to the officials at Minamata City Hall. Although we would love to provide all the messages here so as not to damage the distinctive characteristics of each of the originals, a few striking messages follow.

- *I want to thank the people of Minamata. You showed me that perseverance and courage really do make a better world. Thanks to your courage, I work every day, and I want to create a world where people can have great hope. Education is the foundation of all development, and I am grateful for the educational opportunity you gave me. Hopes become real, and the city’s future appears. Your hard work is delivering substantial benefits. I hope you won’t stop. Please keep striving to innovate and create. (Morocco)*
- *I’m very glad to have had the chance to visit Minamata City. The people I met were all very friendly and patient. Having learned about what you had managed to accomplish, I feel as if I must personally act to implement new projects. I was startled at the beauty of Japan, and although its culture and values were a completely different world to me, the fact that you have achieved your dreams*

and objectives is a true source of pride to me. (Mexico)

- *Minamata is a quiet town that overflows with natural beauty. The people are very kind and generous. You are all committed to working on environmental issues. You're working hard alongside your government to resolve your environmental issues and to make your town an environmental city. I am grateful for your hard work, and it is my wish that the people of other cities, or of other countries, or the people of my own country, Thailand, would take more of an interest in the environment. It is my job to establish public participation. In Minamata, it's possible to study across several different fields. We were able to learn from the source all the way to the river mouth. I want to pass the lessons I learned here on to my colleagues, and I'd like to thank all my instructors. (Thailand)*
- *Minamata is the name of a beautiful town in Kumamoto Prefecture. However, it's also a name that became attached to Minamata disease. The suffering and pain that the people of Minamata went through in order to fight mercury pollution produced the Minamata Convention on Mercury. The goal of the convention is to manage the manufacturing, trade, sales, distribution, use, storage and disposal processes of mercury, and to protect human health and the environment. We stand with you. As members of international society, we'll all fight to keep an environmental disaster like this one from happening again, and to ensure that the world of the future is filled with natural beauty. (Viet Nam)*
- *You understand Minamata's importance as an environmental model city, and you're able to support the government in improving this model day by day. Be proud of Minamata City. Your ideas will be necessary in order to create new environmental policies. It is incredibly important to communicate your own personal experiences, so that other people can use and popularize them. That is a way to build a better world, and you are teachers. Many people will be able to follow your lead in taking responsibility for the environment. (Colombia)*

9) Expectations regarding JICA

Finally, the following two questions inquired about ex-participants' expectations with regard to JICA training projects.

We had anticipated specific, constructive comments, but received many general expressions of gratitude. For reference, a portion of the responses follow.

(a) "Can you suggest any ways to improve the quality of the training courses? What should JICA do in order to make the training more effective?"

- It would be good to learn about both the successes and the failures that

Minamata has experienced.

- It would be more effective if there were opportunities to learn about environmental management in places other than Minamata.
- A workshop discussion of how we can apply these lessons to the situations in developing countries.
- Training would be more effective if the training programs included mechanisms for action plan implementation.

(b) “What do you think of the role of the JICA Overseas Office in your country? Do you have a contact person at JICA Overseas Office in your country?”

- I hope for continuous support for ex-participants and the creation of cooperative relationships.
- I’m incredibly grateful to the JICA Overseas Office for actively contacting ex-participants who’ve returned home and hosting forums.

4. Post-Return Activity Examples

The preceding pages give the results of the responses to the questionnaire. Respondents who reported specific activity conditions in their responses were requested to provide further information in more detail. Here, we present summaries of the post-return activity of seven participants, including that additional information.

- Mr. VARGAS MORENO Oscar Alberto (Colombia, 2009 participant)

After returning to my country, I held seminars to share the knowledge I’d acquired through the training course with 200 private enterprises in the city of Bogotá. I obtained particularly good results in an initiative to reduce the use of plastic bags by utilizing my experience in Minamata. At present, I’m working to improve the environment in cooperation with over 750 companies in a variety of fields.

On the other hand, cooperation between companies and citizens (communities) is difficult; the difference between the Japanese and Colombian cultures is quite clear here. Those of us at the Bogotá City Environment Agency have tried to involve citizens in corporate environmental audits, but have had no success. As a rule, citizen organizations do not have a good impression of corporate activities. They also expected economic compensation for participating in the program. Meanwhile, the corporations are also pessimistic about cooperating with citizens, and there is a recognition that citizens are traditionally not good partners. Corporations seem to feel that citizen representatives provide nothing but criticism and will not support them in resolving

problems.

Next year, we are planning another new project to involve citizens: Regarding Life Cycle Management. This venture focuses on social responsibility while once again using my experience in Minamata in an endeavor to build a cooperative model between citizens and corporations.

On the subject of recycling, we are promoting further activity in three areas (plastic bags, electric/electronic waste and plastic bottles). In the field of plastic bags, we have established a law with the objective of decreasing the amount of bags distributed at major stores by 30% in three years. In the field of electric and electronic waste, we have begun the project “Ecolecta.” Waste is collected at designated sites around the city on the last Saturday of each month. The current plastic bottle recycling rate is 26%; however, in order to improve this rate, we are exploring cooperative endeavors with stakeholders that contribute to product life cycles.



Plastic bag use reduction campaign



Plastic bottle recycling operations

- Ms. Lucila Jose PUNONGBAYAN (Philippines, 2002 participant)

At first, it was difficult to implement garbage separation at the source. However, city regulations and the “No Segregation, No Collection” policy gradually sank in, and we achieved our goal. A surveillance section was also established to handle those who violated the regulation. For two years in a row, the city of Guiguinto has been declared the cleanest town in the province of Bulacan.

On the other hand, as the person in charge of planning city development, I have a big problem. These projects began as the policies of past administrations, and not all local influential figures seem willing to continue them. However, fortunately, the present new administration is supportive of environmental management and preservation. Let me mention several activities.

- Staffs known as “eco boys” and “eco girls” clean all the communities.
- We are building a resource recovery facility again.
- We are once again working to have garbage separated in the home, and each community has its own periodic garbage collection.
- The city is analyzing the composition of its current waste in preparation for the formulation of its 10-year solid waste management plan.
- We have received a corporate donation of two trucks which are being used to collect waste.
- We are implementing a plastic containers collection program for schools, with the cooperation of the city police station. In this program, plastic bottles and containers collected by the children are used to make plastic desks and other items, which are then offered to the schools.



Resource recovery



A donated garbage collection truck

● Ms. SILVA Kelly Cristina (Brazil, 2011 participant)

At present, we (the Belo Horizonte Metropolitan Area Development Agency) are implementing the pilot project of an environmental education program, a JICA follow-up project. The subject area is the city of São Joaquin de Bicas – a small city about the size of Minamata, with a population of 27,000 – and we are incorporating techniques I learned in the training course. In order to involve all interested parties in the community, we listen to people and implement activities such as examining the actual state of garbage separation, creating booklets to facilitate appropriate sorting and touring compost plants. In this “Recycle” environmental education follow-up cooperation program, we work with students and area residents to implement the “100 Houses Program,” an enlightenment and awareness campaign and training program, at local schools. First of all, participants learn how to separate organic and inorganic garbage, and then sign a memorandum of cooperation. In the future, after this pilot project has

been implemented, we'd like to perform a project evaluation and spread the program to other cities in the Belo Horizonte metropolitan area.

In addition, we are also examining the use of a PFI (Private Finance Initiative) for solid waste management in the 42 cities of the Belo Horizonte metropolitan area. As we do so, we are working to implement sorted garbage collection and recycling project initiatives, and here, too, the participation of area residents is extremely important.

- Mr. MWANGI Godfrey Ngahu (Kenya, 2006 participant)

I conduct enlightenment and awareness activities for gold miners in Transmara District in cooperation with environmental field personnel, promoting understanding of the risks and health damage stemming from the use of mercury by showing them videos from Minamata. I've also proposed improvements to gold mining techniques in the District's environmental action plan. Our self-evaluated degree of action plan achievement is 75%. I am working promote awareness of the dangers of mercury use in gold mining among area residents and field personnel, but it is difficult to monitor changes in attitude and behavior within communities. One of the issues with gold mining is the employment of women and children, and since they are poor, they use cheap, dangerous methods and can't switch over to better work techniques. At present, I'm waiting for feedback from field personnel on the latest information.



Rinsing and sorting gold. Women and children can be seen.

- Ms. CHOTKLANG Duangruedee (Thailand, 2004 participant)

We have established the "Community Network for Namphong Watershed Conservation," modeled after Minamata's environmental model city promotion committee (citizens committee), as an area network to conserve the Namphong watershed, have released a vision and an action plan, and are working on environmental pollution and resource management issues.

For the past 25 years, the Namphong region has been developed as the industrial area of Khon Kaen Province. The population living along the Namphong River has grown and urban development has progressed, and we have come up against the problems of environmental pollution and overuse of natural resources. In 2002, related government agencies and research organizations assembled in order to resolve these issues. However, although each organization worked to fulfill its responsibilities, they did not share information or work in cooperation. The Community Network was established with the goal of facilitating knowledge sharing and cooperation among related parties, and we are currently debating sustainable watershed development.

Participants in our network include monks, government agencies, members of industry, local society and schools, and for the past 10 years, we have implemented many activities regarding the following six strategic issues.

(1) *Watershed restoration (Fish breeding project)*

We use fish as a bio-indicator of water quality with the goal of preventing pollution in the Namphong River. We are working to conserve fish and shellfish.



Releasing fish



(2) *Forest restoration (Community forestry project)*

The largest forest in Khon Kaen Province is under the jurisdiction of the Naphong unit of the Royal Thai Air Force. Area residents have set up places for the veneration of ancestors to foster love and respect for this forest and its plants and animals, and they plant trees and perform other activities.



A site visit with a monk



A field trip



A place for the veneration of ancestors



Selecting trees

(3) *Waste management (Recycling Bank project, etc.)*

Recycling Banks have been set up at hospitals and schools. Plastic bottles and containers are processed into roofing and panel materials.



A collection site



Collecting recyclables

(4) *Organic farming*

We are promoting an organic farming network.



(5) *Environmental education activities*

From 2004 to 2013, education and popularization activities were held every year on World Environment Day.



Picture contest



Planting trees

(6) *Sharing knowledge and experience*

For 10 years, from 2004 to 2013, network members have gathered and shared their experiences every month.



Learning about biodiversity, including medicinal herbs, foods, and wild animals and plants, on a nature walk through the forest.

- Ms. MERROUN Yasmina (Morocco, 2010 participant)

My objective is to spread an understanding of the importance of the environment to as many schools as possible. To that end, I have a plan to develop environmental education activities to schools in both urban and rural areas. My strategy is to begin activities in urban areas first, and then gradually expand into rural areas. Ultimately, I am thinking of certifying schools with high environmental awareness as “environmental and ecological schools.”

To implement this school environmental certification activity, I first contacted related parties in the area and built relationships with elementary schools. I decided to speak about the participatory approach and work to involve teachers, students and their parents. I spoke at all sorts of schools about the importance of the 3Rs and group activities. In particular, I urged teachers to spotlight the abundance in their areas and to find value in it. On occasion, it is also necessary for schools to communicate and share their experiences with each other.

The participation of all related parties is indispensable to the development of this activity. As this is so, as the people in charge of implementing the school environmental certification initiative, we (the Casablanca Regional Environmental Department) establish area committees and work to form partnerships among related groups, schools and parents. At this point, three schools have been certified, and another 10 schools in the Casablanca region are currently in the preparatory stage. At present, most of the schools are in urban areas, but we have plans to expand to rural areas. We

will provide rural schools with books and computer equipment, introduce environmental clubs, and prepare them for becoming certified.

The number of schools that wish to participate in this program is increasing, and although it is slow, I can feel that we are making steady progress.

- Mr. TANUSILP Vongwiwat (Thailand, 2004 participant)

We (the Khon Kaen Province Natural Resources and Environmental Department) take citizen participation and the idea of the eco city into account in our provincial development plan, and are working to resolve waste and water pollution issues. The mountain of garbage in the final disposal site for waste grows bigger every day, and seepage water flows into the Pong River. These waste and water pollution issues have grown more severe, and we have created a working group on orders from the governor.



The pile of garbage in the City's final disposal site

The black stream from the left is seepage.

Originally, when I participated in the JICA training course, I worked at the Khon Kaen Province regional environmental office, but in 2005, I switched to the Mahasarakham Province Natural Resources and Environmental Department. I worked there for seven years and was involved in the Mahasarakham Clean City Project. In this project, we encouraged citizen participation and worked to sort garbage and recycle, as well as to beautify the town and promote the use of organic fertilizer. The governor of Mahasarakham Province provided policies and financial support for the project, and we set up an evaluation committee for the province and awarded prizes for the most beautiful village, district, school and workplace.

After that, I moved to my current workplace, the Khon Kaen Province Natural Resources and Environmental Department, and gained another opportunity to work on the Pong River pollution issue. Conditions hadn't changed much. I'm not very worried about factory waste water emissions, since they are monitored based on strict

regulations, and since volunteers also perform functional monitoring. What does worry me is non-point source pollution from the vast urban area. Waste products, domestic wastewater and sewage, deforestation in the river basin, the use of chemical fertilizers and agricultural chemicals, breeding stock and small groups of factories: All these are sources of pollution.

The governor of Khon Kaen Province held several meetings to which people involved with the Pong River were invited. We agreed that, in order to resolve these issues, the Pong River basin should be zoned into five districts, and that a cooperative committee should be established in each district. After the cooperative committees were established, each has worked to draw up plans for managing waste and the water environment in its district.

In the city of Khon Kaen, we have drawn up blueprints for a refuse-derived fuel power plant, which should be completed three or four years from now. Over those three to four years, we will need to use the 3Rs to reduce garbage with the help of the citizens. To that end, I applied to the government and the Ministry of Natural Resources and Environment for support for a new project. Today (December 10, 2013), I attended a conference which was also attended by Prime Minister Yingluck, the Vice-Minister of the Ministry of Natural Resources and Environment and the governors of the 19 north-eastern provinces of Thailand, and at the conference the Vice-Minister approved my budget for the project. It was incredibly good news.

5. Summary

In one of his lectures, Mr. Tetsuro Yoshimoto, a former Minamata city official and advocate of “Localogy” (the study of the local area), says the following.³ “...I learned something from looking back over what we’d done together. ‘We’re more careful with our water, our garbage and our food than any other place on the planet.’ Chisso, the company behind Minamata disease, flushed away organic mercury – in other words, garbage – and polluted the water (the ocean). This mercury-garbage became concentrated in fish, and then, when they unknowingly ate the fish, in humans. To the people of Minamata, ensuring that the enormous number of sacrifices to Minamata disease would not have been made in vain meant ‘being more careful with our water, our garbage and our food than anywhere else on the planet.’”

³ Taking Action from “Where We Stand” - Using Social Capital to Overcome “Negative Legacies” (2008)
http://www.japanfs.org/ja/projects/sus_college/sus_college_id033249.html

Today, this feeling is visible in every one of Minamata's pioneering initiatives. In JICA training courses, we have discussed waste and watershed management activities while emphasizing "public participation," the driving force that unified these efforts. Through this survey, we have confirmed that the concept behind the training is being clearly communicated to participants. The activity reports participants have made after returning to their home countries show an attitude of working to involve citizens and a wide range of other participants. Without a process of consensus building, it is difficult to implement sustainable social activities.

When planning training programs in Minamata, garbage separation, the 3Rs and pollution countermeasures for mercury and other substances seem to be effective themes. Of these, mercury pollution will be dealt with more comprehensively in the issue-specific training course, "Capacity Building for Ratification of Minamata Convention on Mercury", which will be launched in JFY 2014. Accordingly, one idea is to plan new training course for the themes of garbage separation and the 3Rs. Minamata's strong points are the active creation of mechanisms for public participation and the participation of a broad range of interested parties. It will become a place to learn about practical community-based waste management activities for small and medium cities. In addition, it has lively environmental education and enlightenment and awareness initiatives. It is also effective as an example for learning environmental education techniques on the subjects of waste management or aquatic environment preservation. At present, of the programs JICA implements in the field of environmental management, the needs in waste management are the greatest. Although it began with garbage collection and transport processes and support for the improvement of final disposal sites in large cities, interest has gradually widened to include the intermediate processes of garbage sorting and the 3Rs, and needs continue to diversify. In the semi-developed countries of Southeast Asia and Central and South America, metropolitan areas no longer monopolize the agenda, and countermeasures for small and medium cities are becoming an issue. We feel that training in Minamata will be more effective with regard to these regions and cities.

End

Attachment 1: List of JICA Training Courses in the field of Environment in Minamata City

Attachment 2: List of the Ex-Participants of JICA Training in Minamata-City

Attachment 3: Questionnaire

Attachment 4: Letter of Request sent with questionnaire

Attachment 5: List of Respondents

Attached Materials: Full text of responses

Attachment 1: List of JICA Training Courses in the field of Environment in Minamata City

J Number	Course Title	Category	Duration of Training	Number of Participants	Countries Participated
J0103485	Administration Management for Environmental Restoration & Conservation by Minamata City Government	Group Training	2001/10/15 ~ 2001/11/28	9	Indonesia, Thailand, Malaysia, Philippines, China
J0203485	Administration Management for Environmental Restoration & Conservation by Minamata City Government	Group Training	2002/9/16 ~ 2002/11/2	10	Malaysia, Indonesia, Philippines, Thailand, China, Pakistan
J0303485	Administration Management for Environmental Restoration & Conservation by Minamata City Government	Group Training	2003/9/21 ~ 2003/11/8	8	Indonesia, Malaysia, China, Bangladesh, Iran
J0403485	Administration Management for Environmental Restoration & Conservation by Minamata City Government	Group Training	2004/9/13 ~ 2004/10/30	10	Thailand, Malaysia, China, Sri Lanka, Pakistan
J0500007	Construction of a Model Environmental City by Community Participation: Through the Lessons from Industrial Pollution	Group Training	2005/9/12 ~ 2005/10/29	7	China, Pakistan, Turkey, Tunisia, Tanzania
J0521178	Construction of a Model Environmental City by Community Participation	Country Focused Training	2005/9/12 ~ 2005/10/29	1	Iraq
J0600007	Construction of a Model Environmental City by Community Participation: Through the Lessons from Industrial Pollution	Group Training	2006/10/16 ~ 2006/12/2	8	Viet Nam, Thailand, Cuba, Chile, Costa Rica, Peru, Mexico, Kenya
J0620852	Construction of a Model Environmental City by Community Participation: Through the Lessons from Industrial Pollution	Country Focused Training	2006/10/16 ~ 2006/12/2	1	Kenya
J0700825	Environmental Administration with Community Participation	Group Training	2007/9/30 ~ 2007/11/17	10	Indonesia, Thailand, China, Sri Lanka, El Salvador, Chile, Columbia, Mexico, Tanzania
J0721907	Environmental Administration with Community Participation	Country Focused Training	2007/9/30 ~ 2007/11/24	2	Brazil
J0721973	Environmental Administration with Community Participation	Country Focused Training	2007/9/30 ~ 2007/11/17	1	Kenya
J0800791	Environmental Administration with Community Participation	Group Training	2008/9/21 ~ 2008/11/8	8	Indonesia, Thailand, Sri Lanka, Bangladesh, Cuba, Columbia, Kenya
J0900906	Environmental Administration with Community Participation	Group Training	2009/9/27 ~ 2009/11/7	10	Indonesia, Thailand, Bangladesh, Sri Lanka, Cuba, Columbia, Brazil, Kenya, Angola
J1000935	Eco Model City – Sustainable City Planning through Community Participation –	Group Training	2010/9/26 ~ 2010/10/30	3	Viet Nam, Mexico, Morocco
J1022687	Promotion of Community Participation	Country Focused Training	2010/9/26 ~ 2010/10/30	1	Bangladesh
J1100844	Environmental City Planning through Community Participation	Group Training	2011/9/18 ~ 2011/10/22	4	Mexico, Brazil, Morocco
J1121553	Environmental City Planning through Community Participation	Country Focused Training	2011/9/18 ~ 2011/10/22	1	Syria
J1200783	Environmental City Planning through Community Participation	Group Training	2012/9/23 ~ 2012/10/27	6	Viet Nam, Thailand, Mexico, Brazil, Morocco

Attachment 2: List of the Ex-Participants of JICA Training in Minamata-City

Note: The personal information on this list is masked.

No.	Name	Country	Training Duration
1		Angola	2009/9/27~2009/11/7
2		Bangladesh	2003/9/21~2003/11/8
3		Bangladesh	2003/9/21~2003/11/9
4		Bangladesh	2008/9/21~2008/11/8
5		Bangladesh	2009/9/27~2009/11/7
6		Brazil	2007/9/30~2007/11/24
7		Brazil	2011/9/18~2011/10/22
8		Brazil	2012/9/23~2012/10/27
9		Brazil	2012/9/23~2012/10/28
10		Chile	2006/10/16~2006/12/2
11		Chile	2007/9/30~2007/11/17
12		China	2001/10/15~2001/11/28
13		China	2001/10/15~2001/11/29
14		China	2004/9/13~2004/10/30
15		China	2005/9/12~2005/10/29
16		Colombia	2008/9/21~2008/11/8
17		Colombia	2009/9/27~2009/11/7
18		Costa Rica	2006/10/16~2006/12/2
19		Cuba	2006/10/16~2006/12/2
20		Cuba	2008/9/21~2008/11/8
21		Cuba	2009/9/27~2009/11/7
22		El Salvador	2007/9/30~2007/11/17
23		Indonesia	2001/10/15~2001/11/28
24		Indonesia	2002/9/16~2002/11/2
25		Indonesia	2002/9/16~2002/11/2
26		Indonesia	2009/9/27~2009/11/7
27		Indonesia	2009/9/27~2009/11/8
28		Iran	2003/9/21~2003/11/8
29		Kenya	2006/10/16~2006/12/2
30		Kenya	2006/10/16~2006/12/3
31		Kenya	2008/9/21~2008/11/8
32		Kenya	2009/9/27~2009/11/7
33		Malaysia	2001/10/15~2001/11/28
34		Malaysia	2002/9/16~2002/11/2
35		Malaysia	2003/9/21~2003/11/8
36		Malaysia	2004/9/13~2004/10/30
37		Malaysia	2004/9/13~2004/10/31
38		Mexico	2006/10/16~2006/12/2
39		Mexico	2007/9/30~2007/11/17
40		Mexico	2010/9/26~2010/10/30
41		Mexico	2011/9/18~2011/10/22
42		Mexico	2011/9/18~2011/10/23

No.	Name	Country	Training Duration
43		Morocco	2010/9/26~2010/10/30
44		Morocco	2011/9/18~2011/10/22
45		Morocco	2012/9/23~2012/10/27
46		Pakistan	2004/9/13~2004/10/30
47		Pakistan	2005/9/12~2005/10/29
48		Peru	2006/10/16~2006/12/2
49		Philippines	2001/10/15~2001/11/28
50		Philippines	2002/9/16~2002/11/2
51		Sri Lanka	2004/9/13~2004/10/30
52		Sri Lanka	2004/9/13~2004/10/31
53		Sri Lanka	2004/9/13~2004/10/32
54		Sri Lanka	2007/9/30~2007/11/17
55		Sri Lanka	2008/9/21~2008/11/8
56		Sri Lanka	2008/9/21~2008/11/9
57		Syria	2011/9/18~2011/10/22
58		Tanzania	2005/9/12~2005/10/29
59		Tanzania	2005/9/12~2005/10/30
60		Tanzania	2007/9/30~2007/11/17
61		Thailand	2001/10/15~2001/11/28
62		Thailand	2002/9/16~2002/11/2
63		Thailand	2004/9/13~2004/10/30
64		Thailand	2004/9/13~2004/10/31
65		Thailand	2006/10/16~2006/12/2
66		Thailand	2007/9/30~2007/11/17
67		Thailand	2008/9/21~2008/11/8
68		Thailand	2012/9/23~2012/10/27
69		Turkey	2005/9/12~2005/10/29
70		Viet Nam	2006/10/16~2006/12/2
71		Viet Nam	2010/9/26~2010/10/30
72		Viet Nam	2012/9/23~2012/10/27

Questionnaire

This Questionnaire is prepared to collect necessary information for the survey. Please provide the answers to the following questions in written format. Although it will require your time and effort, the more detail in your description, the more effective in our future actions.

1. Basic Information

- Your name and county
- Current working place and position in organization
- Experience of training program in abroad
- What motivated you to participate in the course? Please describe your objectives to participate the JICA training.

2. Benefit from the JICA training at Minamata City

- Do you find any actual significance of the experiences and practices of Minamata City? Are there any good practices to importantly be noted in the context of your country?
- What would be values of Minamata City for you?
- Did you attain your objectives?

3. Impact and utilization of the skill and knowledge

- Does there any trials to implement action plan? How have you utilized the lessons learnt from the course in your workplace? Please describe actual applications of lessons learnt.

- Please describe the self-evaluation on your action plan, and provide actual achievements with any reasons in either case of success or failure.
- Do you find any changes of your perception, attitude and value towards your work after the training?

4. Constraints

- Please identify any factors to disturb the implementation of action plan.
- Are there any topics that you found difficulty to understand because of the difference of histories, cultures, societies between your country/city and Japan/Minamata City?

5. Suggestions and recommendations

- What would you like to learn more if you could have a chance to visit Minamata again?
- What would be recommendable points for your colleagues if they could have an opportunity to experience Minamata?
- Did you find any gaps between the course contents and your expectations? How do you see the relevance of Minamata case to your issues that need to be addressed?

- Please provide any comments and suggestions on the policies and programs of Minamata City.

6. General impressions

- Please convey your messages for citizens of Minamata.
- Please describe your messages to the lecturers from Minamata communities.
- Please give your messages to officers from the city government (course leader, sub-course leader, etc.) involved in the training course.
- Do you keep in touch with people you visited for the training as well as your home-stay?

7. Expectations for JICA's training scheme

- Please describe any suggestions in order to improve the quality of the training course. What should JICA do so that the training becomes more effective?
- How do you see the role of JICA office in your country? Do you have a contact person there?

END

Thank you very much for your cooperation.

Request for Your Cooperation

November 27, 2013

To: Ex-participants of JICA Training Program in Minamata City

JICA Kyushu decided to conduct the questionnaire survey on ex-participants who took part in group training courses held at Minamata City in Kumamoto Prefecture.

From the year of 2001 to 2012, JICA Kyushu had organized group training courses every year with the cooperation from Minamata City, and invited around one hundred participants in total. Participated countries reaches to 26 countries around the world.

The training courses focused on environmental conservation activities. Participants had various opportunities which allowed them to understand how to build an environmentally friendly city through community participation approach. Minamata City has been designated as one of Eco-model City by Japanese government. Such innovative approach has been developed from the hardship of Minamata mercury poisoning.

Japanese government hosted an international conference of signing on the Minamata Convention on Mercury that was organized by the United Nations Environment Programme (UNEP) this October. The world acknowledges the experience of Minamata City as global value.

In this context, Minamata City continuously is a good partner for JICA Kyushu. Now, we work on the planning of a new training course that features Minamata approach. This questionnaire survey will help us to develop a new course as well as bring positive messages to Minamata people involved.

We prepare separate sheets of questionnaire for the survey. We would like to request you to send the answer back to kicftp@jica.go.jp by **December 13, 2013**. If you have any questions, please feel free to contact us.

We greatly appreciate your time and kind cooperation.

Request for Your Cooperation

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We greatly appreciate your time and kind cooperation.

Attachment 5: List of Respondents

Note: The personal information on this list is masked.

No.	Name	Country	Training Duration	Ex-Participant No.
1		Bangladesh	2008/9/21 ~ 2008/11/8	4
2		Bangladesh	2009/9/27 ~ 2009/11/7	5
3		Brazil	2007/9/30 ~ 2007/11/24	6
4		Brazil	2011/9/18 ~ 2011/10/22	7
5		Brazil	2012/9/23 ~ 2012/10/27	8
6		Brazil	2012/9/23 ~ 2012/10/28	9
7		Colombia	2009/9/27 ~ 2009/11/7	17
8		Cuba	2009/9/27 ~ 2009/11/7	21
9		Indonesia	2002/9/16 ~ 2002/11/2	24
10		Indonesia	2002/9/16 ~ 2002/11/2	25
11		Kenya	2006/10/16 ~ 2006/12/2	29
12		Kenya	2006/10/16 ~ 2006/12/3	30
13		Kenya	2008/9/21 ~ 2008/11/8	31
14		Malaysia	2001/10/15 ~ 2001/11/28	33
15		Mexico	2011/9/18 ~ 2011/10/22	41
16		Morocco	2010/9/26 ~ 2010/10/30	43
17		Philippines	2001/10/15 ~ 2001/11/28	49
18		Philippines	2002/9/16 ~ 2002/11/2	50
19		Tanzania	2005/9/12 ~ 2005/10/30	59
20		Tanzania	2007/9/30 ~ 2007/11/17	60
21		Thailand	2004/9/13 ~ 2004/10/30	63
22		Thailand	2004/9/13 ~ 2004/10/31	64
23		Thailand	2007/9/30 ~ 2007/11/17	66
24		Thailand	2008/9/21 ~ 2008/11/8	67
25		Viet Nam	2006/10/16 ~ 2006/12/2	70

– “Ex-Participant No.” refers to the numbers on the list of Attachment 2.