

history of improvement of burial sites and waste-related problems. Hong Kong showed us concrete projects for street stalls, public cleaning, trash collection and public toilets. Ipoh City covered the current state of solid waste management and the problems they are facing. From Jakarta's presentation, we learned of the re-utilization of solid waste and the roles of trash collectors. Kumamoto discussed the current state and future issues of public sewerage, waste treatment and raw sewage treatment. Manila introduced city development, placing importance on the improvement of the current state of public health.

The presentation of Miyazaki included their ideal environment and concrete plans for river purification, public sewerage and waste reduction. This is a rough summary of each presentation. In general, the presentations included the opinion that it is necessary for us to think of effective methods for waste collection, waste reduction and recycling while improving treatment technology. Proposed measures included unique ideas, such as separation into 6 categories, night-time collection, education for the citizens, introduction of a toll system and improvement of treatment facilities. The presentations also covered the issues of raw sewage treatment, sewage treatment, drinking water, river purification and improvement of the city environment. We also heard enthusiasm or positive evaluation for the Summit, requests for technical support from the industrialized nations for a healthier environment, and wishes that the presentations will serve as guides for other cities.

I think the presentations helped you to understand each other, and you showed very positive attitudes toward exchange and cooperation among cities. The time from now on is scheduled for opinion exchange. Make the most of this time for deeper understanding and mutual cooperation to improve problems of the environment and public health. If you would like to speak, please raise your hand, and let us know your name and your city name before speaking.

Professor Hanashima, do you have a question?

OPEN DISCUSSION

Prof. Masataka Hanashima, Fukuoka University

Even if we try to re-utilize waste as much as possible, there will always be some articles which cannot be recycled by any means. In Japan, however, it becomes very difficult to obtain sites for the final treatment of waste articles because of opposition by the citizens. I would greatly appreciate if the other Asian cities could introduce ideas for the resolution of this issue. The order might be best as Hong Kong, Jakarta, Ipoh and then Malaysia. Could you please present your ideas?

Dr. Leung Ding Bong, Ronald, Chairman, Urban Council of Hong Kong

Recycling has been very difficult in Hong Kong because of our own setting, and also because of the method we collect our refuse. Hong Kong, being a very overpopulated, highly densely populated area. We have 6 million people living on an area of 400 square miles. And most lands are uninhabited. So we depend very much on multi storied buildings. And people live on top of one another. The method of collecting wastes from the households are through private contractors, and these contractors will bring the refuse into our refuse collection point as shown in the pictures. And by the time the refuse reach our refuse collection point, it is already very mixed up. It would be very difficult to recycle, and also people live in a very small home, generally about 400 or 300 square feet per house unit. So they have no room to store different items of recycled materials in their home. And therefore it would be difficult for us to separate the wastes. A small scale recycling is now being done at our refuse collection point, but this will also cause pollution problems because they store the different recycled items in our own area, in our own refuse collection points, whereby our refuse collection vehicles who come to collect the domestic wastes several times a day. And also we find difficult to have outlet, a retail outlet for the recycled materials, and the more we recycle, the cheaper the price and this kill its own industries. So we are now trying our best to recycle newspaper, and to a certain extent, we are successful. But as regard to the other items, aluminum, iron, glass, we are now still a beginner.

Dato' Ismail Bin Shah Bodin, Mayor of Ipoh

Mr. Chairman, for the city of Ipoh, we will be introducing the recycling on the second of next month. We are having a campaign. We have already had our campaigns among the school children whereby the schools are collecting all newspapers to be recycled. And at the present moment, we have provided five open lorries, not the compactor, five open lorries to collect garden refuse, as well as any incombustible waste including bicycles, refrigerators, and all that. And these are sold to the second hand dealers. And we used to have a lot of scavengers at our dumping ground, but now we have stopped them by putting up fences because we are collecting all these incombustible material and disposing them in a better manner. At the present moment, our dumping site is only good for the next two years. We have purchased a garden for a piece of land and it has been considered. We have also bought up purchasing or acquiring limited land to be used as our new dumping ground. As I mentioned earlier, the federal government and the state government, plus local authorities are very keen to introduce incineration in our country. I have possibility that a few incinerators in Fukuoka, and the state government, headed by the State Secretary last week went down to Korea to look for also at the incineration plants. And we have yet to decide on the model

and the capacity of the incinerators. But I suppose for the Ipoh city, 300 to 350 ton incinerator would be just nice to solve our present problem.

Mr. Aboe Joewono Aboe Prajitno, Head of Environmental Development of Jakarta

Responding the comment from the commentator, yes, it's true that part of the certain recycled material, in fact, is in a low quality, but the other parts which is used after recycle still work in term of quality. That is namely plastic because there is a certain need for this small business of reused or recollected plastic, and also kind of rubber. Now in general, in Jakarta, we are trying to start with a campaign of the so called "three R", those are namely reduce, reuse, and recycle. But all the public could also be aware of the waste which is not only be wasted, but can be done as "three R" in order to save the environment. And this is also an effort which is not only done by the governmental side, but also by the NGO, this is in fact now ongoing. I think from Jakarta that that's all my comment. Thank you.

Mr. Alfredo S. Lim, Mayor of Manila

Mr. Chairman. In principle, we are great recycling. Segregating the non-biodegradable and the biodegradable waste matter. And there was an ordinance passed by the city of Manila compelling the people into segregating their garbage. But there is a seeming resistance in this activity as pointed out by the representative from Jakarta that this is an economy, and in the Smoky Mountain, where the poor sectors of our society living there making a living out of recycling these waste materials. So when we say that we would like to reduce the volume of garbage in the house hold, or in the homes, we are just transferring the principle of recycling waste matter from the poor people to the average family earner. So that is the dilemma the city is facing now. As we have said, recycling has been going on ever since in the Smoky Mountain, but the dumping of garbage in Smoky Mountain has completely stopped, because our President Ramos stopped it last year because of the ugly connotation of Smoky Mountain. But in its site, the national government will erect an incinerator to take care of the disposal of the waste material. I think we have to go also on a large scale information or education system for each household members to segregate the waste material in the respective homes, because due to lack of space, to put up three or four containers of bags is quite inconvenient for an average household. So we have to tackle these problems, although as I said at the outset that we subscribe and believe in the principle of recycling. Thank you.

Prof. Masataka Hanashima, Fukuoka University

As I mentioned before, it becomes more difficult to secure sites for the final treatment

of waste articles, due to opposition from the citizens. I'd like to ask you to introduce your proposed measures, starting with Saga City.

Chairman Nishimura

In Saga City, this is an issue to be improved in the future. As I introduced yesterday, Saga is flat land with few mountainous areas, which faces the Sea of Ariake. The Sea of Ariake is shallow and muddy for some distance from the shore, and it is very difficult to reclaim it. Accordingly, we purchased 18ha of agricultural land after reclamation for the final treatment of waste material, and installed full equipment for drainage. We are utilizing the site now, but it will be filled up within five or six years. We have to look for other sites, but we may have no choice other than purchasing agricultural fields like the current one. As for the current site after it is fully reclaimed, we are planning to re-utilize it by constructing public spaces such as parks, as introduced by other cities. We hope such method of re-utilization will make it easier to obtain new sites.

Ms. Atsuko Kato, Deputy Mayor of Fukuoka

As I mentioned before, Fukuoka has been systematically securing sites for final treatment since an early date. As a result, we currently have sites with a total capacity covering coming twenty years. To secure sites, we are trying to get the residents to understand the necessity of treatment facilities as well as to establish pollution-free sites.

At the same time, it is also important to reduce waste which needs burial treatment as much as possible. Recycling or reuse through waste collection with separation is very effective for the goal. The most important point in achieving the understanding of the residents is to create additional value such as power generation. Fukuoka City is running short of space. Therefore, plans to make reclaimed lands stable as fast as possible are also required. If my comments missed something, I'd like to add to them later. Thank you for now.

Mr. Keiichiro Kamado, Director General of Kumamoto

We don't have any serious problems with final treatment sites at present. Professor Tajima might know that Kumamoto has been burying garbage without any sanitary treatment. Years have passed since then, but we can assume that such fact might prevent the residents from trusting the government when obtaining new sites. At the treatment sites we are using now, appropriate treatment is used, and requests from the residents for environmental improvement are completely satisfied. Therefore I suppose there are few problems with the current sites, but we will have to secure new sites within four or five years. Although the citizens might prefer that the government not select their

region as a site for waste treatment, we expect that they will understand conditions at last and we will be able to secure sites for the future.

Mr. Shigemitsu Tsumura, Mayor of Miyazaki

Thanks to the Recycle Building attached to the current final treatment plant, the life of the site has been extended a little, but within four or five years we will need new sites. I have heard that when constructing the current site there was opposition from the residents which greatly annoyed the government. Many requests were made to the government, including for improvement of roads and construction of a communication house for the aged. Recently opposition is getting milder. After burial is completed, the sites are re-utilized for public facilities such as sports facilities and athletic grounds. Many citizens therefore understand that treatment facilities offer additional value for the local community in the future, but it is still difficult to secure sites.

Chairman Nishimura

Thank you very much. When the government tries to construct facilities, residents are sure to oppose the moves. This may be true in every city. At the same time, there are many citizens who demand construction of such facilities. Some of them even come to our office asking where they can dispose waste. The government always seems to be at a loss, and quite confused. I suppose much effort must be required for the government to settle this conflict. Professor Hanashima, do you have any comments on this issue?

Prof. Masataka Hanashima, Fukuoka University

ODA (Official Development Assistance) between countries has been conducted for many years. This kind of assistance should be enhanced among local bodies in the future. If there is anything which Japan can do for other Asian countries, we will do so with pleasure. Therefore if you have any requests for local bodies in Japan, please let us know today.

Chairman Nishimura

Could you introduce your ideas in turns, starting from Hong Kong?

Dr. Leung Ding Bong, Ronald, Chairman, Urban Council of Hong Kong

In regard of recycling, my personal view is that the incineration for domestic wastes is a recycling process in itself. Because with the modern technology, and high temperature incinerators, this will take care of all the recycled material, and which will in turn produce electrical energy. In a way, this will produce the electrical energy from the chemical energy, in itself, it is pollution free, and also it will spare the capacity of

the landfill sites by at least one third. So I think that for domestic wastes, for the combustible wastes, this might be the solution for the future. In Hong Kong, as I said earlier on, recycling will be very difficult in our setting when the wastes are mixed up, by the time they reach our collection, so I don't know the wills of the other cities.

Chairman Nishimura

I understand Professor Hanashima's inquiry is what are your requests for local bodies in Japan, not Japan as a nation itself. As the Mayor of Ipoh City, do you have any requests?

Dato' Ismail Bin Shah Bodin, Mayor of Ipoh

We had assistance of the German government to study a piece of land that we wanted to use for our landfill system. But unfortunately, the land was given us for a housing scheme. Now we are looking into possibilities of having another area as our landfill area, and we are also, as I said earlier, looking into the possibilities of putting up an incinerator. Perhaps through JICA, or through the local authorities here, the experience of Fukuoka, you may be able to send a technical delegate to Ipoh to study the possibility of putting up an incinerator, and also to advise us on the landfill system. Our area is mostly made up of ex-mining land. It is old tin mining area, which is sandy and has a lot of ponds.

So maybe with the expertise from Fukuoka, and with any other city, or even with JICA, we may turn this ex-mining land into a useful use, and at the same time if we can implement our incinerators in the city of Ipoh, we can overcome the problem of pollution. We have in our dumping ground been able to stop the scavengers from collecting the uncombustible material, which can be sold to the secondhand dealer, and in the process of collection, they normally burn the rubbish, so that creates pollution. But since we have a fence of the area, that problem has been overcome, and I'm sure from the experience from Fukuoka and other Japanese cities, we can still have incinerator, and yet not pollute the air. Thank you very much.

Chairman Nishimura

Ms. Kato, could you answer the question from Ipoh City?

Ms. Atsuko Kato, Deputy Mayor of Fukuoka

We are still at the stage of examining various points, but we'd like to offer assistance with pleasure if our experience could be of help.

Chairman Nishimura

Fukuoka City has advanced technology regarding waste treatment as well as large-scale facilities. Assistance from Fukuoka will be helpful, and I hope you will be willing to provide your cooperation. Next I would like to request the Mayor of Jakarta to speak.

Mr. Aboe Joewono Aboe Prajitno, Head of Environmental Development of Jakarta

Again, to respond to what you have offered, basically, we are very happy to listen to how far we can have the relationship between six small cities to Jakarta. Now, from what I have presented beforehand, I'm telling you very small, small effort which is suitable to the local situation in Jakarta. In the relationship of this, perhaps what we can learn from your side, we are fully understand that you are far ahead already above us, frankly saying. Now, why don't we exchange information. I can give the exact example in this case in term of recycling waste, that in Jakarta in practice such slight composting in a very small school is also practiced. This must not be able to be done in Japan. I believe that because we use more people, we have to benefit from so much population, when it's from this population, who perhaps cannot have a good work, they are then fit to this kind of activities. Now perhaps on what I can comment on your question is perhaps the information on how far you have giving the campaign, the understanding to the people, perhaps this way of things can be learned by Jakarta. Thank you very much.

Chairman Nishimura

We would like to request Professor Hanashima to comment later on the issue. Next from Manila.

Mr. Alfredo S. Lim, Mayor of Manila

As we have said, Mr. Chairman, we believe in the recycling principle of our waste materials, but it's just a question of how to organize the thing, because the problem here is the collection of the recycled, separated materials in each household through a very systematic system. Because that is the problem being encountered by the average household, so supposing they segregate these materials into plastic, cans, papers, cartons and these are biodegradable for collection of. That's the problem. There will be mixed garbage. Because even the biodegradable can be converted into compost, or fertilizer. I think that is the key here. How to pool the resources in any given city to make the collection of these recycled goods in each respective household. Right now, what the practice in Manila is the reverse. When we say the reverse, all these garbage, waste material are dumped in the dumping site, and it is the scavengers there who

try now to recycle the goods and sell it to the junk shops, or to the speciality store. What we are trying to do now is to prevent hostility, or resistance between the two groups, between the poor people and the average household. Because the poor people are now saying that you are grabbing our means of livelihood from our mouth, you are quite well off, why don't you discard this waste material. So it's a humanitarian, or a person to person problem which has to be solved.

Although in Manila, we are trying to educate now, elementary students, children so that it will be a way of life for them to segregate this waste matter, because we agree that it will really drastically reduce the volume of garbage. And if we do this, there is no need for incinerators, like what industrialized, or modern countries are doing now in the disposal of their garbage. We in the developing countries would rather put all our efforts and minds in how to really recycle these goods, and put up an adequate systematic complete collection of the garbage from each respective houses. So as far as Manila is concerned, we offer this recycling of these waste matter. Thank you.

Chairman Nishimura

Professor Hanashima, do you have any comments?

Prof. Masataka Hanashima, Fukuoka University

In the comments from cities, I heard the issue of composting many times. The issue has also been a topic in Japan, but it has not had such concrete results so far. If you have some ideas on the subject, could you introduce them for us?

Chairman Nishimura

I heard that Fukuoka City is encouraging production of composting equipment. What are the current conditions?

Ms. Atsuko Kato, Deputy Mayor of Fukuoka

As I mentioned before, we established a system to promote composting three years ago, offering financial incentives for those who install composting equipment. For those who live in an apartment or in the city center, however, it is difficult to use composting equipment. As a result, the number of installed composting equipment is less than 20,000 sites at present.

Chairman Nishimura

We subsidize those who purchase composting equipment in Saga City. As in Fukuoka City, those who live in an apartment cannot use such equipment. Therefore it is only

used by those who have gardens or fields. This is a negative aspect to the equipment. Recently use of soil fungus has become popular among resident groups, but this has raised a new problem with utilization. Are there any other cities which are encouraging composting ?

Mr. Shigemitsu Tsumura, Mayor of Miyazaki

In Miyazaki City, we provided 2,367 units of equipment in 1993.

Chairman Nishimura

Is Kumamoto encouraging composting too?

Mr. Keiichiro Kamado, Director General of Kumamoto

Kumamoto is different from Tokyo and Osaka in conditions of location, and there are many detached houses with a garden in the city. Therefore we are encouraging the citizens to use composting equipment, with the concept that garbage should be processed by each family as much as possible. Recently composting equipment designed to be used on porches and balconies has been developed. We are thinking to adopt such equipment at public housing first. In Kumamoto, it is comparatively easy to acquire cooperation of the residents regarding waste treatment. They are very interested in environmental issues such as transparent bags or composting equipment. With their understanding and cooperation, we'd like to continue to promote composting in Kumamoto.

Chairman Nishimura

Thank you, Mr. Kamado. How about in other Asian countries? I suppose composting equipment might not be suitable in Hong Kong with its crowded housing. Is this true?

Dr. Leung Ding Bong, Ronald, Chairman, Urban Council of Hong Kong

Yes, indeed right. Only so far, one compost site, and now we have closed it all together, because land is very scarce and very expensive, and we have no agriculture in Hong Kong. And all agricultural land in the New Territory has been converted into residential areas. And now Hong Kong is developing into an industrial and service centers, so composting has no place in Hong Kong.

Chairman Nishimura

Could you introduce your current situation with regard to the issue of composting?

Dato' Ismail Bin Shah Bodin, Mayor of Ipoh

We have not started composting yet. Perhaps the problem in Ipoh is that we have

a very low rain, a lot of sand, unlike Japan, where you have four seasons. So the grass grows very fast, and weather is very humid, and whenever for example, the waste from the kitchen, if you compost it, it brings out a very bad smell. So those are the problems that we face, so it is in a way better to dispose it as the disposal site, rubbish dump.

Mr. Keiichiro Kamado, Director General of Kumamoto

Regarding the issue of composting, I only mentioned about the garbage treatment by families. Now we have heard from Hong Kong about composting for agricultural use. We have many agricultural fields and compost production is important to enrich the soil. As the land becomes crowded with houses, however, compost production for agricultural use, especially from cattle manure, is becoming difficult. Compost is only produced in agriculture areas, generally in places which are situated away from houses.

Chairman Nishimura

Thank you. Would the Mayor of Jakarta now be willing to present his opinions?

Mr. Aboe Joewono Aboe Prajitno, Head of Environmental Development of Jakarta

Composting, as I mentioned earlier, today Jakarta is not applying that in a macro scale. What I suggested, or what I question to this forum beforehand is perhaps in Japan it is not practical. Now, in Jakarta, this is for your information, in small scale, in the micro scale, this is applicable. I mean, it is in practice now. And the result of the compost itself can be further marketed for, you know golf course, for the fertilizer, sort of fertilizer for golf course, and also for the fisheries, it has been now in practice, but again it is a very small scale, not the macro scale for the whole Jakarta in general. Thank you.

Mr. Alfredo S. Lim, Mayor of Manila

With respect this matter, that it produces a bad smell, so it will be annoying for household members to convert this into fertilizer. I'm referring to the biodegradable material. It has been experimented in the Philippines that in this waste matter, if you put a little soil, it completely counteracts the bad smell. That's why they are saying that we can achieve zero garbage system here. So nothing is wasted, everything is converted into money referring to the recycled waste matter. And also, this biodegradable which will be converted into fertilizer. So as they say, whether it is in these condominium type buildings, it could be done. It could be done. By just placing a little soil on top of this waste, and it won't produce any ill smell. I think that should be experimented on, because this is something that will change all our modern techniques of waste

disposal.

We have nothing against incinerators, although we cannot afford it. But they say that it produces pollution. It produces also dangerous fumes which will also endanger the health of the people. So that's the other side of the coin. But we are submitting to this body that experimentation be made on this biodegradable waste which can be converted into fertilizer which ultimately will be income producing also. As I said, the problem is how to collect the recycled goods. Thank you.

Chairman Nishimura

I think all the cities are showing wonderful results. Each city is executing its own measures on the issue of composting: composting containers for family use, large-scale plans by the government, and measures by each industry, such as agriculture. Professor Hanashima, could you comment on the issue?

Prof. Masataka Hanashima, Fukuoka University

Regarding composting, the Japanese government tried to implement large-scale projects around 1955, and again in 1975. Composting from waste materials, however, includes many problems, and the two trials didn't show good results. Composting equipment for family use was introduced from Kumamoto. To tell the truth, however, I'm afraid that it cannot be a key factor in resolving the waste treatment issue. Although it can contribute to enhance the awareness of the uses of composting equipment among the citizens, it seems to have poor results.

Chairman Nishimura

In Saga City, the government once installed composting equipment. As Professor Hanashima pointed out, however, it didn't offer great results because the separate collection system for waste materials wasn't working completely at that time. Pieces of glass were thrown in by mistake, which prevented correct composting. We are now promoting widespread adoption of family-use equipment, whose main purpose is to reduce the amount to be incinerated. We think composting is one of the most effective measures for waste reduction, but not a perfect measure.

Ms. Atsuko Kato, Deputy Mayor of Fukuoka

I heard Saga City and Nagasaki City have adopt different collection systems with detailed classifications. I'd like to ask them whether they have stable routes for effective re-utilization of collected materials or not. Especially in large cities, collected materials such as paper cannot always be re-utilized completely, because of plant shortage. Miyazaki City introduced plants for melting plastic materials. Are they constructed and managed

by the government? Are they profitable?

Chairman Nishimura

Mr. Tsumura, could you explain the conditions of your melting plants?

Mr. Shigemitsu Tsumura, Mayor of Miyazaki

The central market deals with many plastic articles. After being utilized, they are re-manufactured at melting plants into boxes for fish and vegetables. As for other recycled materials, the government didn't consider offering any monetary support in early years. The value of resource materials, however, has been getting lower, and currently a private company is conducting separate collection of recycled materials, receiving governmental support of JY30 million per year. From this year, the government will also offer monetary support for the collection of waste newspapers.

Chairman Nishimura

In Saga City, we separate waste materials into six groups. The government is promoting recycling by establishing a company. The items the company deals with are glass and metals. Among metals, aluminum is popular and traded at a comparatively high rate. As for other metals, however, the market is fluctuating. Therefore we have to take some measures to make as much profit as possible: for example, selling in a high market while stocking in a low market. At present, we have a considerably large stock. As for paper, the government directly conducts recycling at incineration centers. Resident bodies also bring paper to the centers. At the same time, they are trading with private companies by themselves. As pointed out, conditions are quite severe. The fact that we do not have an effective system to utilize recycled materials is a major problem. We also have a hard time in treating plastic waste. Even in such a small city as Saga, approximately seven tons of plastic is collected every day. We tried many melting measures, using oil or hot blasting, but none of them were satisfactory. This is because there are many kinds of plastic and minute separation is required for effective melting. As a result, we came to the conclusion that there is no alternative to incineration. Currently we incinerate plastic materials with a 99.99% pollution-free treatment. This is the best percentage we can offer as a city government. We think that further research by both the national government and related private companies can make it 100%. Any other comments? Now our time is out, and we'd like to request Professor Hanashima to make the final comments.

【COMMENTATOR】

Prof. Masataka Hanashima, Fukuoka University

Thank you very much for your valuable opinions. As for the issue of recycling, each city has its own problems, and I cannot generalize them. In Hong Kong, crowded with high-rise apartments, there are no rules for preparing waste and no place for waste separation. On the other hand, there are people in Jakarta who make a living collecting such waste. Conditions differ in each city. In Japan, the national government set a policy for effective utilization of waste. As Ms. Kato of Fukuoka City mentioned, however, it is very difficult to profit from waste utilization. Conditions are severe, and monetary support from the national government is necessary for waste utilization. I also heard the opinion that there is no alternative to waste treatment by incineration. When thinking about these severe conditions, I feel that re-utilization of waste materials is very difficult in Asian cities at present. Under these conditions, it is a great question how we can support each other at the local level. ODA (Official Development Assistance) is conducted by the national government, and Japan has provided about one trillion yen in total to other Asian nations. Nations which have developed to a certain level are excluded from ODA payments by Japan. Therefore we have to think about communication at the local level for the future. As requested by Manila, the Japanese staff should visit other Asian countries more often in the future to know actual on-site problems. I think this is a major issue for the future.

To deepen the relationships between Japan and other Asian countries at the local level, especially concerning matters such as waste treatment, volunteer activities can be a great force. What kinds of bodies should we organize, and how can we enhance the relationship? These are the issues I felt through this discussion. Each city has its own conditions, and I cannot summarize all the problems you have. In the future, we should better make efforts to resolve problems, maintaining a positive attitude toward mutual cooperation. I hope the younger generation in Japan and those who are engaged in volunteer activities will visit other Asian countries to see actual conditions there. I think such positive activities are required for the future. Thank you for your attention.

【CHAIRMAN'S COMMENTS】

Chairman Nishimura

Thank you very much. We have just run out of time. You may have more opinions, but we have to close the discussion. Thank you very much. I would like to summarize the content of the discussion briefly. The issue of the environment, including waste treatment, seems to face severe conditions in several technical areas. One is separate collection and recycling. Recycling seems to be promoted in many cities. At the same time, we heard such opinions that those activities will rob the people who live on

waste materials of their livings. Many cities seem to have problems regarding this issue. Moreover, there are more problems related to dealing with recycled articles. The second point I am interested in is the issue of final treatment facilities. The cities of Japan especially seem to have a hard time securing such sites. Final treatment facilities are indispensable for healthy lives, but residents tend to oppose construction near their homes. To obtain their understanding, the government promises to provide services through effective land utilization after the facilities have completed their original roles. The third point is the issue of composting. Naturally each city has its own conditions. In some cities, most of the citizens don't have gardens or places where they can install composting equipment. Under these conditions, mutual cooperation among cities, or between the cities of Japan and other Asian cities, can help to improve the current state. Ipoh City was very interested in incineration facilities, and they have requested technical support from Fukuoka. Regarding the activities for recycling, Jakarta and Manila suggested a more active exchange of opinions on various matters including the methods for campaigns. This is the outline of the discussion.

By the way, in the Consolidatory Session to be held in this afternoon, I would like to make a report on the contents of this discussion. In chief, I would like to report that it was very fruitful, with active opinion exchange on improving problems of the environment and public health. Mutual understanding and cooperation among cities are necessary to improve city problems, and we would like to conclude and report, with your agreement, that the Summit should be continued in following years. As for the details, I would like to request you to leave them to me. Is that acceptable?

(Applause)

Thank you very much. Now we'd like to close Subsession 3, "City and Environment/Public Health." I'd like to express my full appreciation for your cooperation. Thank you very much.

(Applause)

CONSOLIDATORY SESSION

Chairperson

(Mr. Ryoichi Ogata, Director, International Affairs Department, Fukuoka City)

Now we'd like to start the Consolidatory Session of the Asian-Pacific City Summit. For this conference and the Adoption of Joint Declaration to be held later, we'd like to request Mr. Keiichi Kuwahara, Mayor of Fukuoka City, to act as chairman, the same as for the plenary session. Thank you for your cooperation.

Mr. Kuwahara, would you start the session?

Chairman Kuwahara

Thank you for the introduction. I'm anticipating an active exchange of opinions, based on the discussions at the plenary session and three subsessions, to find the ideal way to mutual cooperation to achieve the goals of this Summit: resolving city problems. In advance, we'd like to hear the reports from the chairmen of three subsessions. First I'd like to request Mr. Akasaki, Mayor of Kagoshima City, to make a report on subsession 1 "City and Transportation."

Mr. Yoshinori Akasaki, Mayor of Kagoshima

Hello everyone. I'd like to report on subsession 1.

We had representatives from eight cities participating: Kagoshima, Bangkok, Fukuoka, Guangzhou, Kuala Lumpur, Naha, Oita and Pusan. The theme discussed was "City and Transportation." Presentations from each city were followed by an active opinion exchange. Thanks to the cooperation of the cities, the discussions were fruitful with many suggestions and ideas for improvement of transportation problems.

Now I'd like to talk about the contents of the discussions, firstly as to the common points among the cities. In all the cities, traffic is concentrated at city centers. Traffic jams occur on major routes to the centers as well as within the core areas, and have, or are about to have, a severe, negative influence on the smooth operation of city functions. We think that improvements to the traffic network, such as beltways around the cities, highways and railroads, and reinforcement of the traffic control system would help to improve these conditions.

At the same time, we have to consider not only convenience for the people but also environmental preservation when thinking about the improvement of transportation problems. We heard some plans to reduce traffic through the expansion of public transportation systems, or to reduce traffic jams by changing the city structure itself by creating sub-centers.

Moreover, we had an important suggestion from Pusan City : to hold the "Asian-Pacific City Summit Working-Level Conference on Transportation Issues" to enhance communication among those engaged in the practical application of these issues. In addition, Professor Yoshida, the Commentator, pointed out general problems of city traffic and summarized future issues for each city.

After the presentations and comments, Pusan, Bangkok and Guangzhou introduced conditions of transportation control projects with the participation of the citizens. We exchanged opinions about the importance of participation of the citizens, ways to encourage them, and future prospects.

We also discussed, with concrete examples, smoother traffic by constructing multi-storied roads and introducing an automated signal-control system which would match traffic conditions. Moreover, we exchanged opinions on the funds necessary for executing those plans. Currently we have some problems caused by the fact that each city has only a small source of revenue.

Professor Yoshida suggested eight items to summarize the discussion, including ; creation of multi-storied networks of roads and railroads, improvement of public transportation systems such as subway and bus routes, and management policies for transportation demand. We heard valuable advice indispensable for improving traffic problems in cities : the designation of a master plan which systematically includes the eight items, the education of staff , and getting citizen understanding of the problems.

We share the opinion that mutual cooperation among cities is essential to improve city problems, and that we had better hold the Summit continuously in the future. We think it would be best to hold a summit once every two years at participating cities by turns, and to make an office in Fukuoka City. Guangzhou City proposed to provide the venue for the next summit.

In the discussion about the "Asian-Pacific City Summit Working-Level Conference on Transportation Issues" suggested by Pusan City, an idea was submitted : to hold a conference in the year between the summits, if a summit is held once every two years. We'd like to leave this idea to be discussed in this conference.

That's all from Subsession 1. Thank you very much for your attention. (Applause)

Chairman Kuwahara

Thank you very much.

Next I'd like to request Mayor Motoshima of Nagasaki City to report on Subsession 2 "City and Housing."

Mr. Hitoshi Motoshima, Mayor of Nagasaki

Thank you for the introduction. I'd like to report on Subsession 2.

The participating cities of our session were seven in total: Nagasaki, Auckland, Fukuoka, Ho Chi Minh, Kitakyushu, Shanghai and Singapore. The theme was "City and Housing," and the session included presentations from the cities and opinion exchange. First of all, I'd like to report that the session was very active and successful thanks to the cooperation of the participants.

As for the contents of the session, I'd like to summarize the presentations first. Regarding the improvement of residential conditions, there seems to be a tendency that governments make an effort to satisfy people's demands in quantity first, in quality and meeting needs next, and then in the surrounding residential environment.

Naturally, however, current conditions in each city varies. One city is still at the stage of settling the problem of quantity, while another is making an issue of quality. Improvement projects for housing are greatly influenced by the social system and policies unique to each country, and have a close relationship with economic conditions, land policies and the development of markets. Those projects are categorized into three large groups by initiative style: direct instruction by the government, indirect instruction by the government through induction of private companies, and instruction by private companies. In addition, the government and private companies are now trying to create a new partnership.

Moreover, an improvement project for city centers with various restrictions was introduced, which put importance on the participation of the residents. It was very interesting and suggested the importance of the participation of citizens in such projects.

We have a common recognition about housing: housing is one of the necessities for daily life as well as a fundamental factor to form a city. Being the place for communication among family members, it has a great influence on the social environment through children education. Our consensus is that housing improvement is the most urgent issue among city problems, and it is necessary to hold this kind of summit regularly in the future.

That's all from me. Thank you for your attention. (Applause)

Chairman Kuwahara

Thank you very much. Next I'd like to request Mr. Nishimura, Mayor of Saga City, to make a report on subsession 3 "City and Environment/Public Health."

Mr. Masatoshi Nishimura, Mayor of Saga

Thank you for the introduction.

Our session had eight members: Saga City, Fukuoka City, Hong Kong, Ipoh City, Jakarta City, Kumamoto City, Manila City and Miyazaki City. Under the theme "City and Environment/Public Health," we exchanged opinions after presentations from each

city. The discussion was very active and fruitful with the cooperation of the participants. Now I'd like to report on the contents of the discussion. First I'd like to summarize the presentations. Future issues for the cities included the improvement of waste collection methods, waste reduction and recycling, as well as treatment technology, while taking environmental preservation into consideration. Ideas suggested to resolve those issues were; six categories of separate collections, collection at night, support for recycle companies, citizen education and the improvement and construction of treatment facilities. Presentations also covered city environment and topics such as sewage treatment, drinking water and river purification.

After the presentations, we had a comment from Professor Hanashima acting as Commentator. Asian countries have a common problem: over-population and increasing numbers of illegal residents, which is caused by rapid economic growth. In addition, waste continues to increase in Japan along the expanding internal demand. He pointed out that each city seems to try to settle problems by itself despite the fact that all cities are suffering from a common problem.

After the presentations and comment, we exchanged opinions on the contents. Some problems were pointed out in the discussion: separate collection and recycling of waste materials is necessary, but may deprive some poor people of a means to make a living, or there is no place which can make use of the compost even if the government encourages production. As for the issue of securing sites for final treatment, some cities made a suggestion that creating additional values for the local community would be an effective way to get resident understanding.

In regard to future cooperation, there were opinions that they would like to exchange information on campaigning in order to obtain cooperation from the citizens for setting up incineration facilities, technical cooperation and recycling. We heard from Professor Hanashima that the best way to achieve effective cooperation is to know the actual conditions of each city by visiting the site. At last we reached the conclusion that mutual understanding and cooperation among cities is essential to improve city problems, and to hold the Summit regularly would be a great help.

That's all. Thank you for your attention. (Applause)

Chairman Kuwahara

Thank you very much. Now, we'd like to begin discussions. First of all, we heard a common opinion from all the subsessions: to hold the Summit regularly in the future. I'd like to confirm your opinions again here. Do you agree the Summit should be held regularly?

(Applause)

Chairman Kuwahara

I regard the applause as agreement. Thank you very much. Next we had a suggestion from Subsession 1 to establish an office for the Summit in Fukuoka City. How about this idea? Do you agree with it?

(Applause)

Chairman Kuwahara

Thank you very much. We'll open an office in Fukuoka. We had one more suggestion from Subsession 1 regarding the "Asian-Pacific City Summit Working-Level Conference on Transportation Issues." Now I'd like to request Pusan City to give an explanation for the conference. Would you start please?

Mr. Hong Wan Shik, Director, Transportation Planning Section of Pusan

Thank you for the introduction. I'd like to explain the concept of the "Asian-Pacific City Summit Working-Level Conference on Transportation Issues," we suggested in the Subsession 1.

As you know, all large cities are spending a lot of time to improve transportation problems. Automobiles are one of the greatest accomplishments human beings have created, but ironically enough, they are currently a core problem in cities. Although the cultural and geographical conditions of the participating cities are different, the transportation problems are common to all of us. Persons engaged in the practical business level should gather in a meeting to make research and develop transportation policies, and evaluate them while implementing them. The best way to address transportation problems is to gain steady results through opportunities to actually solve various transportation problems. Furthermore, if the summit is held once every two years, as the Mayor of Fukuoka City mentioned, the practical level meeting can be a help not only to achieve the goal of the summit but also to continue it in the future. With this consideration, we'd like to suggest to hold the "Asian-Pacific City Summit Working-Level Conference on Transportation Issues." As for specific details of operation, we'd like to leave it to the office in Fukuoka. Thank you for your attention.

Chairman Kuwahara

Thank you for the suggestion. I consider it very meaningful to have a conference of experts. The suggestion this time is concerned with traffic, but in other fields such as housing, environment and public health, similar conferences will be necessary in the future.

If you agree with the idea of holding the "Asian-Pacific City Summit Working-Level

Conference on Transportation Issues," Pusan City and Fukuoka City with the Summit office will examine details such as venue, date and theme, inform you in writing and consult with you. What do you think of this idea? Do you agree with it?

(Applause)

Chairman Kuwahara

Thank you very much. Since receiving a great applause, please consider the idea approved. Now we'd like to start a free discussion on the contents of yesterday's plenary session and today's subsessions. When you wish to speak, please raise your hand and first tell us your name and city.

Are there any questions and opinions?

If there's nothing, I'd like to close this session. Do you agree?

(Applause)

Chairman Kuwahara

Now I'd like to close the consolidatory session. Thank you very much for your cooperation.