

(Draft)
Water Environment Partnership in Asia (WEPA)
Sixth Annual Meeting
Chairperson's Summary

24 February 2011

Tokyo, Japan

1. The Sixth Annual Meeting of Water Environment Partnership in Asia (WEPA) was organised by Ministry of the Environment, Japan on 24 February 2011 at Shiba Park Hotel, Tokyo, Japan. Thirty nine participants including 26 representatives from 13 WEPA member countries (Cambodia, China, Indonesia, Republic of Korea, Lao PDR, Malaysia, Myanmar, Nepal, Philippines, Sri Lanka, Thailand, Viet Nam, and Japan) attended the meeting. Dr. Mitsumasa Okada, Professor of Open University of Japan and the chair of WEPA Advisor Meeting chaired by the meeting.
2. There were three discussion topics of the annual meeting: the progress of WEPA activities from the last WEPA Annual Meeting held in January 2010; the progress of water environmental management in each WEPA member country; and the plan of activities of WEPA from April 2011 to March 2012 (Japanese fiscal year 2011).
3. The meeting was opened by the remarks from Mr. Soichiro Seki, Director General for Water Environment, Ministry of Environment, Japan. Mr. Seki welcomed all the participants from member countries and expressed that he would expect that fruitful discussion would identify the areas in which WEPA member countries could work together to improve water environment in Asia.
4. In the Session 1, the progress of WEPA activities since the last WEPA Annual Meeting held in January 2010 was shared by Ms. Yatsuka Kataoka, Director of Freshwater Sub-group of Institute for Global Environmental Strategies (IGES) serving as the WEPA secretariat. The WEPA dialogue in Nepal (December 2010) and questionnaire survey on climate change and domestic wastewater treatment were introduced as the completed activities. She also mentioned that follow-up surveys will be conducted in March 2011 by the WEPA Secretariat to follow up questionnaires. Following Ms. Kataoka, Mr. Binaya Raj Shivakoti, Policy Researcher of IGES introduced the summary of the second WEPA international workshop focusing on the summary of hot spots of potential climate change impacts in WEPA countries and possible adaptation options discussed in the workshop. Related to topic of climate change and the water environment, the following clarifications and concerns are discussed.

1) *Focus on WEPA discuss on Climate Change:*

A participant from Thailand asked clarification on whether WEPA discussed only potential impacts of

climate change on water environment or also deal with water quantity related issues such as drought and flood. The WEPA Secretariat responded that the primary focus of WEPA was the climate impacts on the water environment or quality but it seemed too early for WEPA to limit its discussion only on water quality issues considering the variety of interests of WEPA countries and scientific uncertainty. The chairperson recommended that WEPA should include other concerns on climate change at the beginning of the discussion and try to narrow down the topic in next steps.

2) Presentation of the results of discussion on the hot spots outside of WEPA discussion arena:

A participant from China expressed his concern that the discussion results of the climate change hot spots presented by the Secretariat did not have any scientific proofs and therefore should not be included in any authorized documents or publications. The WEPA Secretariat described that the results should be understood as a summary of the experts' views on the potential hot spots of climate change impacts that need more scientific investigation in the future and need notes explain the nature of the summary when it is opened to the public. A participant from the Philippines also suggested that the WEPA Secretariat need to do editing and cross-check of the results and also add scientific information where available before making public them. Responding to the comments raised by the participants, the chairperson strongly requested that the Secretariat that they should not open up the hot-spot information on the WEPA web-site or by any other means without consent of this meeting participants of each WEPA partner country.

3) Topics to be covered in future WEPA discussion on climate change and the water environment:

Some partner countries suggested some topics that WEPA should consider in future actions related to climate change and the water environment. The WEPA Secretariat noted their suggestions for future consideration. The suggested topics were as follows.

- a) Study/investigation on climate change impacts to specific water bodies (Cambodia)
- b) Further study on how to identify and differentiate the impacts of human activities and climate change to water bodies (Laos)
- c) Climate impact study on the Himalayas (Nepal)

4) Inputs to IPCC

Mentioning that International Panel of Climate Change (IPCC) needs more information on climate change issues in developing countries for their fifth Assessment Report, Dr. So Kazama, Professor of Tohoku University emphasized that it is good opportunities for WEPA member countries to provide inputs on the issue to IPCC. He also mentioned that WEPA could be a platform that provide climate change related information of WEPA countries which would be collected through WEPA activities.

5) Importance of non-climate impacts to water quality

It is suggested by some of member countries such as China and Sri Lanka that WEPA discussion

should look at other topics related to water quality problems. Rather than climate change, other issues would be more critical in water environmental management.

5. In the second part of the session 1, Mr. Tetsuo Kuyama, Policy Researcher of IGES presented the progress of activities on domestic wastewater treatment which is one of the priority discussion topics of the second phase of WEPA. In his presentation, he reported the interim result of three kinds of questionnaire surveys on wastewater treatment – survey on domestic waste water treatment national plan, hot spots and good practices in each county. The findings showed that majority of WEPA countries have national plan for domestic waste water treatment; 16 rivers from 6 countries were identified as hot spots; and 10 good practices from five countries were reported. Mr. Kuyama asked participants the reason why lakes were not listed in the hot spots although there may be some polluted lakes. The following points were raised and discussed in relation to the topic.
 - 1) Participants from China and Philippines expressed their intention to provide inputs to the questionnaire that they could not make by the meeting.
 - 2) A participant from the Philippines suggested that WEPA Secretariat should clarify the definition of “hot spots”.
 - 3) Regarding less information on lakes, a participant from Cambodia and Myanmar pointed out that insufficient scientific data of lakes is a reason why they could not provide information requested. A participant from Thailand mentioned that they could not see serious problems in lakes since wastewater was properly treated so far.
 - 4) Prof. Okada, the chairperson asked the Secretariat to include information of Japan on the topic.
6. Mr. Tadashige Kawasaki from Japan Water Agency serving as a NARBO Secretariat introduced outline of NARBO and its activities in his presentation entitled “Introduction of NARBO Activities and Collaboration with WEPA”. Introducing that WEPA collaborated with Water Quality Workshop of NARBO held in October 2010 in Indonesia, he expressed his expectation that NARBO and WEPA would continue to exchange information and experience and expand it collaboration such in topics of domestic wastewater and climate change.
7. Session II “Review of Progress of Water Environmental Governance” divided into three sub-sessions each of which facilitated by Mr. Jinlong Guo (China), Ms. Earlinda A. Gonzales (the Philippines), and Mr. Souphasay Komany (Laos). In general, WEPA countries have water quality problems caused by effluents by different sectors. Most countries have institutional framework of water quality management but implementation level differs from country to country. Some country has setup short/medium-term goal for improvement of water quality management such as Vietnam and Sri Lanka. The following areas were pointed out as future challenges of water environmental management: strengthening of the enforcement of policy/law/standard/plan; systematic monitoring of

water quality; establishment of database and information system; capacity building of human resources; community participation and financial investment. The outline of each presentation is attached as the Annex 1 of this summary.

8. In the Session III, the plan of activities of WEPA from April 2011 to March 2012 (Japanese Fiscal Year 2011) was presented by Mr. Takatoshi Wako, Deputy Director, Water Environmental Division, Environmental Management Bureau, Ministry of the Environment, Japan. He suggested that WEPA activities from April focus on preparation of WEPA outputs for key regional and international water meeting especially the 2nd Asia-Pacific Water Forum (APWF) to be held in January 2012 and the 6th World Water Forum to be held in March 2012. The second version of WEPA Outlook on Water Environmental Strategies will be published as a major output of WEPA by the key water meetings. Regarding the future activities of WEPA, the following points were raised by the member countries.

1) Data Source of the Outlook

A participant from China suggested that the information used for the WEPA outlook should be taken from the official publications/documents that the governments published. He also suggested that the WEPA Secretariat should ask each country to provide official documents/data before drafting the country information in the Outlook. It may be difficult to get sufficient information only from government-published documents in some cases and therefore the Secretariat will consult with each focal point of the WEPA country on this matter.

2) Different Concerns on Climate Change Issues

It is revealed that the level of concerns on climate change on the water environment is different among WEPA countries. Some countries such as Cambodia, Nepal and Laos suggested that WEPA discussion should explore more of the issue, but other country like China emphasized that the impact of climate change to the water environment would be much less than that of human activities and therefore the WEPA discussion should focus on other issues.

3) Topic of the Next WEPA Workshop

China suggested that wastewater treatment issues would be a priority agenda for the next workshop rather than climate change. In relation to the issue of wastewater treatment, some countries suggested that not only technical aspects, but also other aspects such as institutional arrangement, law enforcement, and community participation should be discussed under WEPA. Mr. Wako explained that the topics of the next WEPA workshop will not only focus on climate change but also other common concerns in water environmental management among WEPA countries (e.g. wastewater treatment and water quality monitoring) considering the discussion of the annual meeting.

4) WEPA Outlook

Dr. Kensuke Fukushi, Associate Professor of University of Tokyo recommended that the next version of the outlook should address common challenges of water environmental management identified among WEPA countries through WEPA activities. It is also suggested that a shorter version of WEPA outlook should be prepared for policy makers.

9. In conclusion of the discussion, Prof. Okada, the chairperson asked the WEPA Secretariat to consider all comments raised by WEPA partner countries and take necessary actions. He also asked WEPA partners to provide the WEPA Secretariat any additional comments and information after they go back to country. In conclusion, he thanked all participants' contribution to WEPA activities and also asked his continuous support and inputs to WEPA.

10. Lastly, Mr. Seki from Ministry of the Environment, Japan again thanked all participants from WEPA partner countries for their intensive discussion. He concluded the meeting with his hope that WEPA will further promote partnership among WEPA countries and contribute to the improvement of the water environment of each country.

The Outline of the Country Presentation at the 6th WEPA Annual Meeting (Session II)

Session II-1: Review of Progress of Water Environmental Governance

(chaired by Mr. Jinlong Guo, China)

Progress of water environmental governance/management and future challenges in Vietnam

Hoang Duc Hanh, Institute of Environmental Technology-VAST.

Current water quality issue was described with emphasis on wastewater discharge in surface water bodies. Discharge volume of wastewater has been increasing with time and quality also deteriorated accordingly. The presentation also reported the progress in water quality management in Vietnam with institutional arrangement, policy development and changes in legislation during January 2004- March 2011. Several challenges were pointed out for strengthen water quality management such as lack of expert human resource, financial investment, monitoring of water environment, and establishment of database and information system.

Water environmental governance/management and future challenges in Thailand

Thiparpa Yolthantham, Pollution Control Department, MoNRE

Wastewater management was identified one of the main challenge for water environment conservation in Thailand. Legislative measures, effluent quality standards, monitoring and evaluation of water quality and establishment of treatment facilities of wastewater were explained. Several legislative and enforcement measures toward water environment conservation in Thailand was also reported in this presentation such as polluter pays principle (PPP), designation of pollution control area, monitoring, water quality standard, and effluent standard. In response to a question the presenter pointed out several challenges for community level wastewater management: 1) lack of public participation, 2) lack of treatment technology, 3) lack of budget for construction of wastewater treatment facilities.

Progress of water environmental governance/management and future challenges in Sri Lanka

by R.M.S.K Ratnayake, Director, Central Environmental Authority.

Focusing on the changes in water quality management policy, organizational arrangement, formulation of policy documents, legislation on water pollution control, development of water quality standard was discussed followed by goals of short/medium-term water quality management policy. Regulation for water control has been amended in 2008 with revision of wastewater discharge standard and new regulations on hazardous waste and heavy metal management has been added. Short/medium-term (2-10 years) goal of water quality management policy has included establishment/development of wastewater load based license system, regulation on setting-up polluting industries, wastewater discharge standard and water quality monitoring in the main river and lakes. Finally the presenter raised some issues/challenges for water quality

management in Sri Lanka: i) absence of ambient water quality standard, ii) Lack of baseline data on water quality, iii) lack of budget, iv) appropriate technology v) lack of willingness to contribute in water quality management.

Water environmental governance and management in the Philippines and future challenges

Vicente B. Tuddao, Department of Environment and Natural Resource.

Focusing on the Manila Bay-Pasig River-Laguna Lake, the state of water resources and water quality was described in the presentation, which was followed by detail information on the progress of water quality management. Major water environment issues of the country pointed out in the presentation were over exploitation, siltation and sedimentation, low dissolved oxygen, and high BOD/heavy metals/nutrient contamination. Domestic wastewater is the largest pollution source of surface water bodies in Philippines. Clean Water Act (2004) was the basic law of water environmental management which provide framework of point and nonpoint source management including volume basis wastewater discharge fee and penalty for violation of standards. At the end of the presentation the status of implementation of water quality governance was explained such as designation of water quality management areas, enforcement and review of water quality guidelines, review of effluent standard, establishment of water quality monitoring guideline, classification of water bodies, guidelines for reuse of wastewater for irrigation, guidelines for disposal of sewage etc.

Session II-2: Review of Progress of Water Environmental Governance

(chaired by Ms. Erlinda A. Gonzales)

Initiatives/Approach of Mainstreaming Environment into Water Sector in Nepal: Case Study of the Baghmati River Basin

by: Gautam Rajkarnikar, Koshi River Basin Management Cell, Water and Energy Commission Secretariat, Nepal Government

At first Mr.Gautam drew attention upon climate change impacts on higher Himalayas (such as glacier retreat) and likely consequences to over a billion downstream residents' dependent for water supply in rivers originating from the glacier melts. Then he introduced about various national level initiatives taken by the government to address environmental issues in Nepal. Before 1980s, there was no separate policy to address the water environmental issues, which was rather addressed by the sectoral policies of ministries/department such as Forest, Soil Conservation. Later on around the end of 1980s, integration of environmental aspects in development programs was considered important. Formally, environmental management in Nepal started quite recently in 1993 when Ministry of Population and Environment was established for the first time. In subsequent years Environmental Protection Act (1996) and Environmental Protection Regulation (1997) came into effect. Then he mentioned about recent developments in water sector such as Water Resource Strategy 2002, Environmental Management Plan 2003 for Water sector, National Water Plan 2005. Although new initiatives to address water environment problems have been

taken, he stressed the lack of effective implementation and institutionalization of water quality management. Except project basis, there is no regular water quality monitoring initiated by the government. Then he pointed out the increasing incidences of microbial contamination in drinking water and contamination of groundwater sources by nutrients, heavy metals and coliforms. Then he introduced the case of water environment deterioration in the Bagmati River due to human impacts such as urbanization, disposal of untreated wastewater, and illegal dumping of solid wastes. Finally he mentioned about urgency to initiate water quality monitoring and database construction at national level, enforcement of laws and regulations, and need to initiate study on climate change impact on water environment in Nepal.

Q&A

1) Have your government already drafted or instituted the criteria for water quality. Does the depicted data about water quality pass the available criteria?

Ans: There are guidelines for water quality but it is not well enforced by the government and there is also lacking of water quality monitoring. As a result wastewater is directly discharged into the water bodies, which is the main reason for exceeding of water quality guideline values.

2) You discussed about melting of glaciers in Himalayas such as in Mount Everest, could you elaborate about the impacts of climate change in Himalayas?

Ans: As I already told Himalayas in Nepal store and supply freshwater to more than 1 billion people, so there have been some studies about impacts of climate change on glacier melting. Initial findings have indicated that temperature is rising very fast in Himalayas and black carbon deposits from atmosphere are also contributing the accelerated melting of snow.

Progress of Water Environmental Management and Future Challenges in Myanmar

By: Mu Mu Than, Irrigation Department, Ministry of Agriculture and Irrigation, Union of Myanmar

Ms. Than gave an introductory overview of water resource situation of water bodies (rivers, reservoirs, lakes, and groundwater (tube-wells). Water quality is monitored according to their use purposes. In major river system, water quality has been monitored at different points in three months intervals since 2006 for 13 water quality parameters. Lakes are also monitored in the labs by universities. Groundwater quality is also tested periodically in Yangon City for parameters like color, pH, turbidity, hardness, iron, and chloride. Bacteriological tests have been rarely carried out for groundwater, but groundwater quality is evaluated in line with Proposed National Drinking Water Quality Standards. Different organizations usually work separately to manage water quality according to their use purposes such as agriculture, domestic uses. Recently, Central Statistical Organization, ministries and Economic Research Institute for ASEAN and East Asia have initiated to establish Water Management Policies and Myanmar Standard Industrial

Classification. In Myanmar, National Commission for Environmental Affairs has responsibility to prepare effluent standards for industrial wastewater and the control of water quality is based on WHO standards. Myanmar still does not have specific laws to control water pollution. Water Pollution Guideline (June 1994) is the only guideline by Myanmar. Then she highlighted major challenges of water quality management such as lack of regular water quality monitoring, data quality produced by different ministries/departments, and data transfer platform. National standard is an urgent need. Over extraction of groundwater and threat of salt water intrusion is growing. Public Private Partnership is still weak and there is need to encourage integrated approach of water environment management. There is also need to modify existing laws, acts, legislations and regulations related to water sector in Myanmar.

Q&A

1) As we know from previous presentation and yesterday discussions about Arsenic contamination in groundwater and in Myanmar also you showed data about Arsenic contamination. Could you explain about the source of contamination?

Ans: Arsenic has been found in about 10% of tube-wells and the source could be from groundwater itself. There are reports about occurrences of Arsenic in tube wells in delta areas, but there are no other significant outside sources except detection in a reservoir at trace level where heavy metals could have runoff from gold mines in the upstream.

2) You have mentioned about water quality in rivers, what about the water quality in lakes?

Ans: It appears that due to climate change impacts such as low rainfall the water quantity in lake has been reduced which in turn it also affects the water quality. I could not get the lake water quality data before coming here, but there are people living nearby lakes and they use fertilizers and pesticides for farming, so there could be some impacts on lake water quality also.

Progress of Water Environmental Governance/Management and Future Challenges in Malaysia

By: *Syazrin Syima Sharifuddin, National Hydraulic Research Institute of Malaysia (NAHRIM)*

Malaysia has adopted National Water Quality Standards (NWQS) which uses composite Water Quality Index (WQI) derived using six water quality parameters: DO, BOD, COD, NH₃-N, SS and pH. WQI is used to assess the water courses in relation to pollution load categorization and classes for beneficial uses. Number of polluted catchment has been increasing in Malaysia. Marine water quality program considers both surface and sea-based sources of pollution. Especially discharges from shipping vessels are becoming prime source for pollution in marine environment. Lake water environment are also affected by pollution, for instance, a study in 90 major lakes/reservoirs has found that about 62% of them are in poor (eutrophic)

condition. There is no single authority to look after lakes and reservoirs and often fall under different jurisdiction as a result they are often managed by respective owners or operators. Lack of awareness is main cause of policy vacuum for their management. There have been some changes in organizational arrangement related to water quality management though no agency has been entrusted the responsibility for integrated management and development of water resources in Malaysia. To avoid fragmented effort a National Resource Council has been established in 1999. Other changes include amendment of national water service bills/acts, establishment of National Water Service Industry Commission (SPAN), and restructuring among ministries. Then Ms. Syazrin explained about National Water Management Policy, some changes in laws, regulations and standards. Then Ms. Syazrin especially pointed out challenges for lake management. Ms. Syazrin also indicated success of legislative approach of water quality management after implementation of Environmental Quality Act 1974 to control and prevent pollution.

Q&A

1) Why Malaysia until now has no agency entrusted with integrated development and management of water resources. Also there is National Water Resources Council, is it correct that there was no agency managing water resource before establishment of the council.

Ans: It is due to difference on the policy of each Federal states and respective local bodies. Federal does planning and research works but local body is responsible in implementation. So there is lacking of integration at national level until now.

2) Malaysia also has integrated river basin management (IRBM) plan, could you explain the difference between IRBM and integrated water resource management (IRWM) in Malaysia?

Ans: I think IRBM focus is mainly on rivers but IWRM considers all types of water resources.

3) I found you are using both composite water quality index (WQI) and specific water quality items (such as BOD, SS). On what occasions you use different types of indices, what is the purpose. Also you mentioned you are going to revise water quality indices, is it due to you are facing some problem with current indices and what improvements are planning. Also when you increase new parameters how you evaluate the parameters and prove that such and such indices are good for explanation or persuasion.

Ans: Initially we are only looking six water quality parameters for the classification of rivers. Now we intent to increase the number of parameters as only six parameters cannot be representative such as to assess impacts of heavy metals, organic pollutants. The important aspect is that the six parameters just classify the state of river quality such as pristine or highly polluted to assess suitability for different uses. Once we classify the state of rivers then we have to go for more specific second level of water quality assessment depending on intended uses such as drinking water often requires examination of health risk

parameters such as heavy metals.

Progress of Water Environment Governance in the Lao PDR – National Strategy and Adaptation Program of Action to Climate Change

By: *Sauphasay Komany, Water Resource and Environment Agency, Lao PDR*

Mr. Sauphasay indicated about observation on increasing temperature, frequent reoccurrence of extreme hydrological events such as flooding and drought in Lao PDR in recent years. Droughts have impacted on water bodies such as rivers, streams, ponds, and lakes which have dried at faster rate. Similarly flooding incidences has been experienced in central and southern parts of the country. Series of flash floods have been occurring especially since 1995 in the northern region. Research efforts to assess the impact of climate change are still insufficient. Mainly the future climate change challenges could increase due to limited monitoring facilities and data on the impact of flooding and drought on water environment. Middle and southern parts of the country could be at risk due to increased flooding and drought cases in future, while flash flood could become more acute in the steep mountainous northern areas and south-eastern and central-eastern valleys. Then he mentioned about institutional level arrangements to address climate change concerns such as National Steering Committee for Climate Change, National Disaster Management Committee, Water Resources and Environment Administration. National Adaptation Plan of Action (NAPA) 2009 has also identified Water Resources as one of the priority sectors for adaptation actions along with agriculture, forestry and public health. Improving sustainable use of drinking water and sanitation, improve and standardise drinking water quality, develop a timely and accurate reporting system of epidemic diseases are some of the identified adaptation actions.

Q&A

1) Could you explain more about climate change strategy for Lao PDR, is it some report or activity?

Ans: No, it is about very general strategy and adaptation action program to deal with climate change impacts at national level and water resource is a priority, but now we are developing National Water Policy and National Water Strategy which also includes water environment.

Presentation 5: Progress of Water Environment Management and Future Challenges in Korea

By: *Soon-Ju Yu, National Institute of Environmental Research (NIER), Korea*

State of water quality in main rivers has achieved significant improvement since introduction of comprehensive water quality measures in 1996 and by 2008 the sewerage rate has increased over 88%. The water quality in the 4 main rivers is well maintained to BOD level 1-2 mg/L. Similarly, water quality (in terms of BOD) in streams has also shown improvement in 2008 as compared to the levels in 2000.

However, control of COD is becoming difficult due to increased chemical uses and influx of refractory pollutants from non-point sources. So establishment of online water quality monitoring system in 57 sites and algal bloom forecasting has been initiated in addition to more focus on non-point source management. Then Ms. Yu explained about major changes in Ministry of Environment related organizations such as Water Environment Policy, Watershed and Total Load Management, Water Supply Policy, Soil and Groundwater Management, Sewerage, and Water Industry Promotion (team). Similarly, NIER has started Water Quality Control Research which aims to predict long- and short-term water quality management through modelling and monitoring for integrated water quality control. Number of water management policies has been introduced and among them Ms. Yu introduced major four. Those are: Basin Management system in four major river basins, Pollution Sources Management (especially strengthening control of hazardous substances and eco-toxicity monitoring), environmentally friendly restoration project of major rivers, and non-point source pollution management (installation of non-point pollution reduction facility, designation and management of non-point source area, soil erosion control in highland field, pilot projects). Ms. Yu also explained about changes in water environmental acts and standards. Climate change impacts in terms of intense flooding, frequent drought, and rising temperature are new concerns to water environment in Korea. Then Ms. Yu explained about four major goals of Water Quality Management Policy which include performing basic research, restoring aqua-ecosystem, managing hazardous wastes and extending basic infrastructures.

Q&A

1) You have both administrative setup central government and local government, what are their responsibilities in environmental sector?

Ans: Yes, the central government usually setup rules and regulations and the local governments usually implement them.

Chairman: Kommany Souphasay, Director of Water Policy and Legislation Division – Lao PDR
Progress in Japan: Nobuo Yoshida, Director Water Environment Division, MOEJ

Summary: The presentation summarizes the state of water quality, institutional arrangement, laws and regulations, and challenges for water quality management in Japan. Japan follows WHO and national quality standards for water quality and satisfied all points from 1972 to 2009 from the environmental standard. Central ministries and prefectural governments are working together for water quality improvement and domestic waste water treatment. Significant changes has been made for efficient laws and regulation and latest amended was in 2010 for water pollution control. Another law for enhancement of proactive measures to prevent groundwater pollution will be amended within this year to prevent hazardous substances from infiltrating into underground from factories and industries. There are few challenges in Japan for collaborative action, healthy water circulation and protection of future water environment.

Q&A Main points

1. What about the coverage of human waste treatment in Japan? Do you cover all?

Ans: We cover almost 80% by the centralized sewage treatment and rest are covered by specialized treatment such as distributed waste water treatment and night soil treatment.

2. How about the efficiency of piped sewage treatment system? In case of Philippines, it is becoming very expensive and people cannot afford it.

Ans: It depends upon the population density and both systems working together would be better.

3. How do you decide to choose some minerals or metals to consider in drinking water? In my opinion, I think Zn is not toxic for human.

Ans: There are many items to consider in drinking water. We basically follow WHO standard. We are considering aquatic creatures, so zinc is included here.

Progress in Indonesia

by Mauliyani Djajadilaga, Data Section, the Ministry of Environment

The main water quality monitoring activities in Indonesia includes 35 priority rivers with at least 3 monitoring stations and four times a year. In total there are 420 samples of river water per year for quality monitoring. The result showed that about 35% of water samples do not meet water quality standards. Four classes of water quality from class 1 to class 4 are in Indonesia from highest quality to lowest. Central government, Provincial government and district/city government are responsible for water quality monitoring in their administrative region. Medium term Development Plan 2010-2014 is targeted to reduce pollution load from 680 industries by 50% and cease environmental degradation in 11 priority watersheds. Newly amended environmental protection and management laws-2009 includes water environmental permits and strict measures on waste water quality. Domestic waste. Currently only 10% of Jakarta population is covered by waste water treatment plant we can assess the severity of water pollution from this. Decentralization of environmental management responsibilities to 500 districts and cities would be the biggest challenges for implementation not only for the capacity of the employee but also the issue of proper coordination and incentives.

Progress in China:

Gang Chen, China-Japan Environmental Protection Center

In China surface water quality is graded into six categories, I is the best and VI is the worst. Above 20% of surface water is under grade VI and around 5% is under grade I. Four majors are taken to control the water quality that is laws and policies, standard and guidance, science and technology, and plans and actions. Under national law there is provision to control water pollution. Integrated river basin management policy and total water pollution discharge control policy are the main water environment policies in China. The most recent 11th five years plan considers public participation and mobilization of environmental volunteers for waste water treatment and reuse facilities of town and cities. The great

challenge in China is to balance the economic development and environmental protection which needs strategic policies and thoughts. To protect drinking water sources there are various mechanisms to control point and non point pollution and ecological restoration. In case of basins restrictions will be establish and implement in 12th fifth year plan (2011 – 2016), there will be a special plan for water pollution control and improve the water quality of whole basin. Total pollutants control not only includes urban areas also tried to include some rural areas as a pilot.

Progress in Cambodia:

by Chrin Sokha, Deputy Director General, Ministry of Environment

Cambodia has tremendous water resources and 86% of land is located under the catchment of Lower Mekong Basin. Water quality is degraded over time in terms of BOD, TSS and DO. Ministry of Environment and Ministry of Water Resources and Meteorology are the main responsible ministries for water quality. National Water Resource Policy 2004 is the key policy document for water resource also includes institutional and legal frameworks. After this policy also there have been some changes such as Law of Water Resource Management has enacted in 2007 which covers river basin management, water allocation and licensing, water quality etc. The major challenges in Cambodia's water environment include gaps in national and sub-national level for managing water environment; low awareness and participation; and gaps of some specific legal tools to solve the transboundary issues and their application.

We concern about transboundary and Cambodia is suffering from the activities in the upstream. We are asking MRC to install some monitoring station in our area and in the last month MRC conduct a review program for water quality monitoring. MRC conduct again, 2011, and will take the water samples locally and also transboundary tr