Session – 3

Safe Water Supply

(Global Innovation Ecosystem
for Water resources and water environment)

Characteristics of Water

- Indispensable resources for human life
- No alternative resource
- No options
- Indispensable element for natural ecosystem
- Circulating resources

(Goods different from ordinary agricultural or factory products)

UNEP, Hartmut Schwarzbach, Philippines, Still Pictures

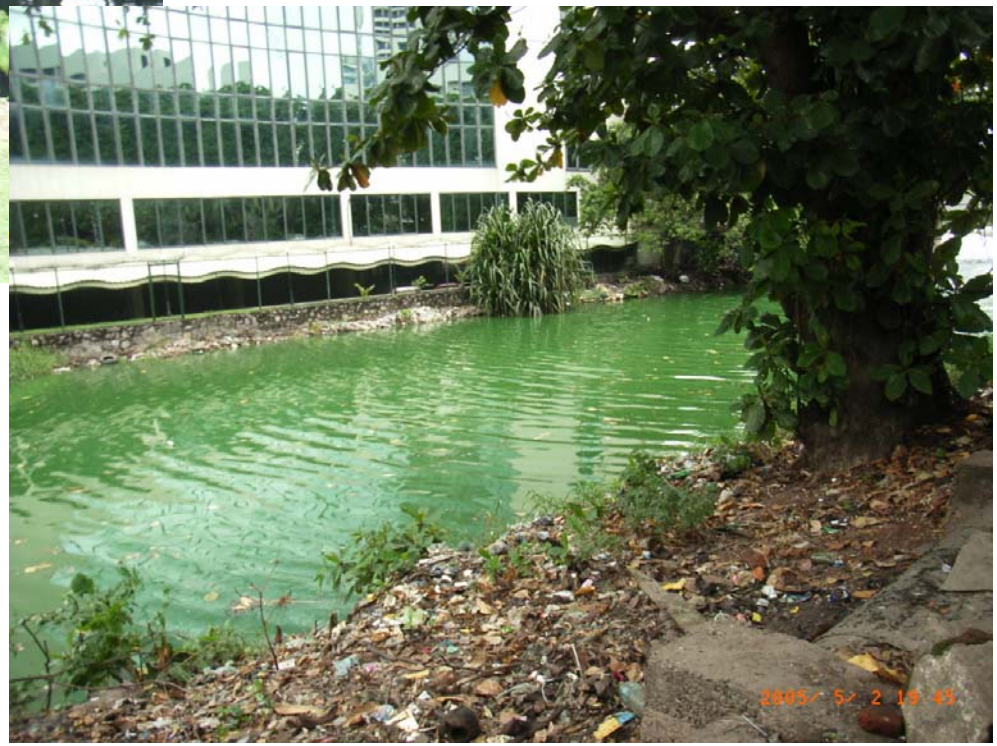
Urban areas

(Source: *Global Environment Outlook 3*, UNEP, 2002)

Anaerobic polluted river

(in Colombo, Sri Lanka)

Heavily eutrophic river



(photo by Ohgaki, S., 2005 April)

The UN Millennium Development Goals

Goal 1: Eradicate extreme poverty and hunger
- Reduce by half the proportion of people living on less than a dollar a day
- Reduce by half the proportion of people who suffer from hunger

Goal 2: Achieve universal primary education
- Ensure that all boys and girls complete a full course of primary education

Goal 3: Promote gender equality and empower women
- Eliminate gender disparity in primary and secondary education preferably by 2005, and at all levels by 2015

Goal 4: Reduce Child mortality
- Reduce by two thirds the mortality rate among children under five

Goal 5: Improve maternal health
- Reduce by three quarters the maternal mortality ratio

Goal 6: Combat HIV/AIDS, malaria and other diseases
- Halt and begin to reverse the spread of HIV/AIDS
- Halt and begin to reverse the incidence of malaria and other major diseases

Goal 7: Ensure environmental sustainability
- Integrate the principles of sustainable development into country policies and programmes; reverse loss of environmental resources
- ~~Reduce by half the proportion of people without sustainable access to safe drinking water~~
- Achieve significant improvement in lives of at least 100 million slum dwellers, by 2020

Goal 8: Develop a global partnership for development

- Develop further an open trading and financial system that is rule-based, predictable and non-discriminatory, includes a commitment to good governance, development and poverty reduction— nationally and internationally
- Address the least developed countries' special needs. This includetariff- and quota-free access for their exports; enhanced debt relief for heavily indebted poor countries; cancellation of official bilateral debt; and more generous official development assistance for countries committed to poverty reduction
- Address the special needs of landlocked and small island developing States
- Deal comprehensively with developing countries' debt problems through national and international measures to make debt sustainable in the long term
- In cooperation with the developing countries, develop decentand productive work for youth
- In cooperation with pharmaceutical companies, provide access to affordable essential drugs in developing countries
- In cooperation with the private sector, make available the benefits of new technologies— especially information and communications technologies

 # # WATER, WATER, WATER

Supply Destinations of Reclaimed Water
from Shibaura Wastewater Treatment Plant

Osaki

Shinagawa

Shiodome

Shibaura W.T.Plant

(Ministry of Land, Infrastructure, Transport and Tourism, Japan)

Bottled Water and Tap Water

Mineral Water and others (in Japan)：
2,350,000m3／year

（国内生産＝180万m3／年、輸入＝55万m3／年）　（2006年）
（日本ミネラルウォーター協会調べ）

Urban Use（in Japan, 有効使用量ベース）：
14,200,000,000m3／year　（2004年）
（日本の水資源　平成19年版）

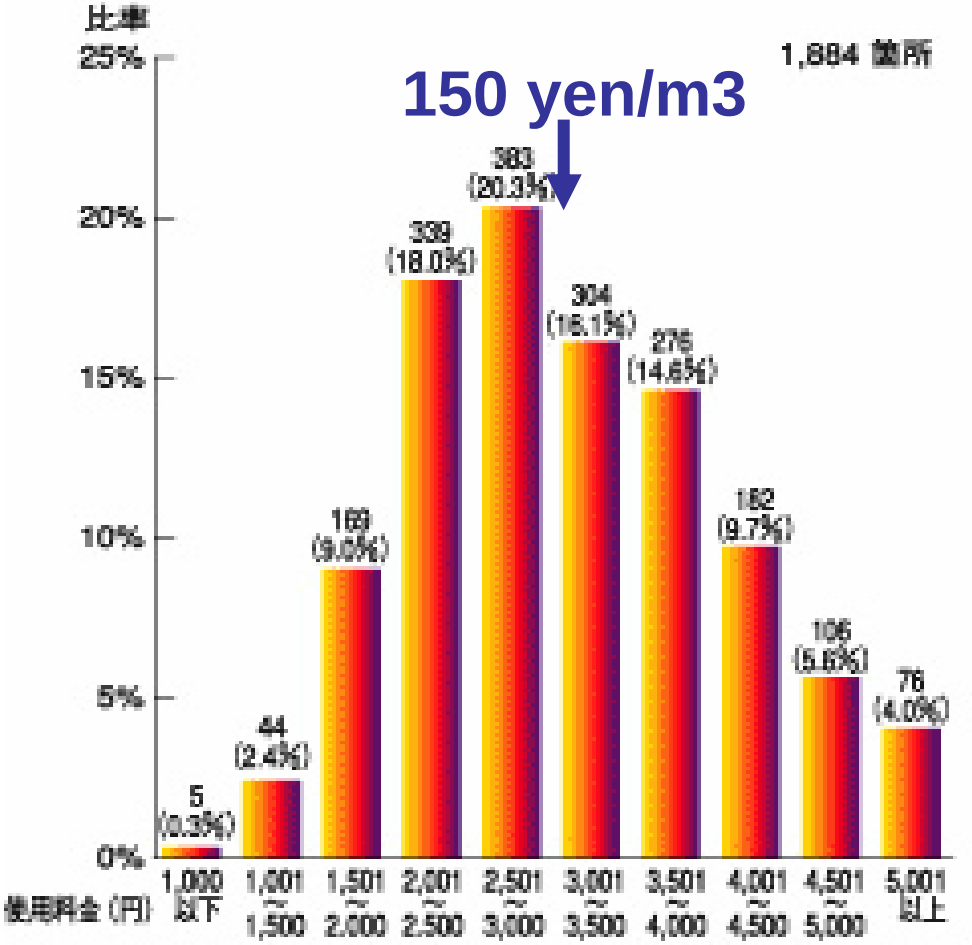
Bottled Water

1000 : 1

Tap Water

240 yen/ L

（例：あるミネラルウォーター：120円／500ml）



水道料金別事業者数（平成15年4月1日）
（家庭用料金　円／20m3／月）消費税含む
（日本水道協会HPより）

Commodities　vs.　Public property / Social common capital

Vulnerability of Water System

Natural vulnerability 自然的脆弱性

- Uncertainty of rainfall snowfall 降雨降雪は、不安定、不確定なもの。

-Uneven and unstable distribution of fresh water
淡水資源は偏在。偏在が容易に移動。

- Eco-system is sensitive to water quantity and quantity. 自然生態系生物群
は、水の量と質に敏感。

- All impacts connects to all water systems. 循環系ゆえ、一部の変化が水
環境・水資源全体へ広く影響。

Social vulnerability 社会的脆弱性

-Indispensable for health, but water conveys pathogens 衛生的環境を維持するための素材であるが、疾病を伝播する媒体でもある。

-Supply capacity has been designed for demands, and dose not have enough margin. それぞれの地域で、水利用のシステムは、基本的には必要量のみに対応している。降水量の大きな変動など外的変動への適応力は小さい。

-Sensitive to natural disasters 自然災害（地震、洪水、渇水、津波、火山噴火など）の影響を受けやすい。

-Local and international conflicts for water resources 同じ水資源を巡り、 異なる利水間で生じる。国際的不安材料。

Session-3 Safe Water Supply

Chair: OHGAKI, Shinichiro
Organizer: INOUE, Kotaro
Commentator; Monthip S. TABUCANON

Presentations:

1. OHGAKI, Shinichiro
   Wastewater reuse and innovation-ecosystem (in a mega-city and a small city)

2. WATANABE, Masataka
   Integrated Assessment System for Management of Environmental Resources in East Asia

3. OKI, Taikan
   World Water Resources in the 21st Century

4. QIAO, Shishan
   Modern Concept and Implementing Exploration of Water Resources Management

Discussion points (tentative)

- For sustainable water supply and management of water environment
- For drawing GIES of water
- Based on facts and data

1. Is the concept of “Global” IES applicable to water ?
2. How do we implement an innovative technology to society (world , international region, nation, local government) ?
3. What kind of bottle necks exists in global, international region (Asia), nation or specific-site levels?
4. Who are stakeholders on GIES of water?
5. Who has responsibility on a specific function in the innovation ecosystem in global, international region (Asia), nation and specific-site levels? Who guarantee the water quality to be safe for our health? Who selects the technology?
6. Are there any conflicts between business activity and public interest?
7. How do we consider the social, natural and other diversity ?