

<b>Module 1</b> <b>Environmental Problems in Participating Countries</b>
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Jan. 29 (Thurs.) 10:30~16:30	<b>Presentation of Country Reports</b>  Purpose Introduce the present state of air and water pollution in participant countries in order to enable participants to gain a deeper mutual understanding. Explain the duties of each participant, the content to be emphasized during the course of this training and what kind of guidance is required for participants.  Content • Presentation of country reports by participants.
Jan. 30 (Fri.) 13:30~17:00	<b>Guidance regarding Action Plan Preparation. (English)</b> <b>Kenichi Tanaka, Senior Advisor, JICA Institute for International Cooperation</b>  Purpose Participants formulate achievable action plans to solve the environmental problems in their own countries.  Content • How to formulate a good action plan. • Workshop. • Identification of problems and things to improve. • Presentation of action plan proposals and exchange of views.

<b>Module 2</b> <b>The History and Causes of Environmental Problems</b>
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Jan. 26 (Mon.) 10:00~12:30	<b>Japanese Environmental Policy History and Experiences•An Outline of Japan's System of Environmental Laws (Japanese)</b> <b>Prof. Takeshi Hisano, School of Policy Studies, Kwansai Gakuin University</b>  Purpose Gain an understanding of changes in Japanese society following WWII, how environmental policies and measures have been adapted over the years to cope with such changes, and learn about details regarding today's environmental protection system and associated problems.  Content • Basic knowledge regarding Japan that is necessary in order to understand Japanese environmental policy. • Changes in Japanese society as revealed by various indices and environmental policy trends. • Environmental policies in Japan (central and local government). • Local environmental management systems (including examples).
Jan. 27 (Tues.) 10:00~16:00	<b>The History of Water Pollution Countermeasures in Osaka Prefecture (Japanese)</b> <b>Koichi Hashimoto, Director, Osaka Prefecture Environmental Management Office</b>  Purpose Gain an understanding of Japan's laws and ordinances regarding water quality management and the history of water pollution countermeasures in Osaka Prefecture and their state of implementation in order to be able to use this information to consider the type of water management that is best suited to the situation in participant countries.  Content • Osaka and water. • The history of water environment policies. • Environmental standards for water quality. • Water pollution control policies (industrial wastewater, household wastewater, environmental monitoring). • Efforts to improve water quality.
Jan. 28 (Wed.) 9:30~12:00	<b>The History of Air Pollution Countermeasures in Osaka City (Japanese)</b> <b>Takashi Masuda, Senior Director, Global Environment Center Foundation</b>  Purpose Investigate the feasibility of applying Osaka City's experience in air pollution countermeasures in participant countries.  Content • <i>Osaka City's Experience regarding Air Pollution Countermeasures</i> (DVD). • The history of pollution in Osaka City. • A basic outline of air pollution countermeasures. • Air pollution countermeasures trends as seen from policy examples. • The response of the private sector (industry). • Specific examples of industry responses. • The reasons for the success of Osaka City's air pollution countermeasures.
Feb. 2 (Mon.) 10:00~16:30	<b>The Air Pollution Control Law and Related Ordinances (Japanese)</b> <b>Takashi Kuroki, Assistant Director, Osaka City Environment Bureau</b>  Purpose Gain an understanding of the system of laws and ordinances related to air pollution control such

as the Law Concerning the Improvement of Pollution Control Systems in Specified Factories, the Air Pollution Control Law, and ordinances related to the preservation of the living environment in Osaka Prefecture.

- Content
- Regulatory standards (K values, emission standards, total emission regulations, etc.)
  - The notification system.
  - Measurement obligations.
  - Measures for emergencies and accidents.
  - Penalties.
  - Regulation of harmful substances in ordinances (regulatory methods, etc.).

Feb. 3 (Tues.)  
10:00~12:00

**Air Pollution and Water Quality Monitoring Systems (English)**  
**Yoshiaki Nishii, Environmental Management Officer, Osaka City Environment Bureau**

Purpose Gain an understanding of the role of continuous monitoring in ascertaining the state of air and water pollution, the principles behind monitoring equipment and technical matters required to be able to maintain and manage such equipment.

- Content
- The aim and significance of air pollution and water quality monitoring.
  - The concept behind the establishment of a continuous air pollution and water quality monitoring network.
  - Specific details regarding monitoring networks and the methods employed.
  - An outline of remote (telemeter) continuous air pollution and water quality monitoring systems.

Feb. 3 (Tues.)  
13:30~16:00

**Continuous Environmental Monitoring Facility (Visit: English)**  
**Yoshiaki Nishii, Environmental Management Officer, Osaka City Environment Bureau**

Purpose Learn about continuous monitoring stations and their benefits and how they are used in Osaka City. Gain a deeper understanding by visiting the central monitoring station and individual monitoring stations.

- Content
- Air pollution monitoring stations.
  - River monitoring stations.

### Module 3

#### Air and Water Pollution Control Plans and Countermeasure Technology

Jan.28 (Wed.)  
13:30-15:30

**Application of Environmentally Sound Technologies (ESTs) for Environmental Management of the Iraqi Marshlands (English)**  
**Sivapragasam KUGAPRASATHAM, Program Officer. Management of the Iraqi Marshlands UNEP/IETC**

- Content
1. Introduction to UNEP Iraqi Marshlands Project
  2. Environmentally Sound Technologies (ESTs)
  3. Pilot Project Implementation (drinking water, sanitation and wetland restoration)
  4. Application of pilot project results

Feb. 4 (Wed.)  
10:00~12:30

**Formulation of Air Pollution Control Plans (Japanese)**  
**Kosuke Umakoshi, Environmental Management Officer, Osaka City Environment Bureau**

Purpose Gain a deeper understanding of methods of formulating air pollution control plans using environmental surveys and prediction models by looking at examples from Osaka City.

- Content
- Replicate present concentrations and predict future concentrations using environmental and emission source data.
  - Determine the content of regulations and measures required to meet future targets levels based on predicted results.
  - Plan promotion system.

Feb. 4 (Wed.)  
13:30~16:00

**Calculating Emissions from Fixed Sources (Japanese)**  
**Kazuhisa Sakaguchi, Air and Noise Pollution Control Officer, Osaka City Environment Bureau**

Purpose Learn how to calculate the fixed source emission volumes required to formulate emission control plans for atmospheric pollutants and ascertain their effectiveness.

- Content
- Survey methods employed by Osaka City.
  - NO<sub>x</sub>, SO<sub>x</sub> and particulate calculation methods.

Feb. 6 (Fri.)  
10:00~16:00

**The Physical and Chemical Properties of Suspended Particulate Matter (SPM) (English)**  
**Prof. Akira Mizohata, Organization for Industry, University and Government Cooperation, Osaka Prefecture University**

Purpose Gain an understanding of the diverse range of sources of SPM that have a detrimental effect on human health and the basic knowledge required to propose reduction measures.

	Content	<ul style="list-style-type: none"> <li>• SPM particle size distribution and the physical and chemical properties of chemical substances.</li> <li>• Sources and characteristics of SPM.</li> <li>• The effect on human health, especially respiratory organs.</li> <li>• Identification of emission sources.</li> </ul>
Feb. 9 (Mon.)		<b>The History of Water Pollution and Total Discharge Volume Countermeasures (Japanese)</b>
13:00~16:00		<b>Asao Saito, Suri Keikaku Co., Ltd.</b>
	Purpose	Gain an understanding of the history of water pollution countermeasures in Japan.
	Content	<ul style="list-style-type: none"> <li>• The history of water pollution.</li> <li>• The background to the formulation of the Water Pollution Control Law.</li> <li>• Information regarding water environment standards.</li> <li>• The history of total discharge volume regulations.</li> </ul>
Feb. 10 (Tues.)		<b>Methods of Calculating Pollutant Loads involving Water Quality (Japanese)</b>
10:00~12:30		<b>Asao Saito, Suri Keikaku Co., Ltd.</b>
	Purpose	Learn about pollutant load from industrial and household sources.
	Content	<ul style="list-style-type: none"> <li>• Types of pollution sources.</li> <li>• Methods of calculating pollutant load.</li> <li>• Summary of survey results.</li> </ul>
Feb. 10 (Tues.)		<b>Calculation of Mobile Source Emissions (English)</b>
13:00~16:00		<b>Atsushi Sato, Suri Keikaku Co., Ltd.</b>
	Purpose	Learn about mobile source emissions and emission volumes.
	Content	<ul style="list-style-type: none"> <li>• Types of emission sources.</li> <li>• Mobile source characteristics.</li> <li>• An outline of mobile source emission calculations.</li> <li>• Calculating emissions.</li> <li>• Details regarding vehicle-based surveys.</li> </ul>
Feb. 12 (Thurs.)		<b>SPM Pollution Prediction Manual (Properties &amp; Dynamic Analysis) (Japanese)</b>
10:00~12:30		<b>Hidenori Kaku, Suri Keikaku Co., Ltd.</b>
	Purpose	Learn about the properties and dynamics of atmospheric particles, surveys that have been carried out in the environment, and the production and elimination of particles in line with the SPM Pollution Prediction Manual.
	Content	<ul style="list-style-type: none"> <li>• SPM properties and dynamics.</li> <li>• Particulate survey examples.</li> <li>• Generation and sources of particles.</li> <li>• An outline of source surveys.</li> <li>• Other (processes for removing particulates from the atmosphere).</li> </ul>
Feb. 12 (Thurs.)		<b>Atmospheric Environment Data Analysis and Examples (Japanese)</b>
13:30~16:00		<b>Hidenori Kaku, Suri Keikaku Co., Ltd.</b>
	Purpose	Learn about basic matters required to understand atmospheric environment data, analysis examples and statistical analysis methods and the basic techniques required for creating annual reports.
	Content	<ul style="list-style-type: none"> <li>• Fuel usage and atmospheric pollutant emissions.</li> <li>• Atmospheric environment analysis.</li> <li>• Environmental data evaluation and long-term environmental conservation goals.</li> <li>• Source gas surveys and emission evaluation methods.</li> <li>• Compiling atmospheric environment reports.</li> </ul>
Feb. 13 (Fri.)		<b>Atmospheric Environment Analysis and Prediction Methods (Statistical Models, Numerical Models) (Japanese)</b>
10:00~15:00		<b>Hidenori Kaku, Suri Keikaku Co., Ltd.</b>
	Purpose	Learn about basic matters regarding air pollution assessment.
	Content	<ul style="list-style-type: none"> <li>• The aim of atmospheric environment assessment and environmental standards.</li> <li>• The effect of weather and atmospheric material on air pollution.</li> <li>• Sources contributing to air pollution and methods of calculating total emissions.</li> <li>• Atmospheric environment prediction methods (statistical models, numerical models).</li> <li>• Analysis of sources contributing to air pollution.</li> <li>• Introduction to air pollution countermeasures.</li> </ul>
Feb. 16 (Mon.)		<b>A Study of Osaka City Air Pollution Countermeasures (Japanese)</b>
10:00~16:00		<b>Takashi Masuda, Senior Director, Global Environment Center Foundation</b>
	Purpose	Learn about environmental management technology using examples of air pollution countermeasures implemented by Osaka City.
	Content	<ul style="list-style-type: none"> <li>① Nishi-Yodogawa Ward Air Pollution Emergency Countermeasures <ul style="list-style-type: none"> <li>• Air pollution emergency countermeasures and promotion system for high concentration areas.</li> <li>• Emission source countermeasure procedures (using atmospheric dispersion simulation).</li> <li>• Compensation system for damage to health arising from air pollution.</li> </ul> </li> </ul>

- Financial support measures.
  - Assessment.
- ② SOx total emission regulation enforcement.
- SOx emission standard levels.
  - K-value system aim and operation.
  - Atmospheric dispersion simulation procedures and results.
  - SOx total emission regulation formulation methods.

Feb. 17 (Tues.)	<p><b>Osaka City Sewerage History and Overview (Lecture: English, Visit: Japanese)</b>  <b>Yoshifumi Otani, Water Quality Survey Officer, Osaka City Construction Bureau</b>  <b>Yoshihide Miyata, Tobu Environmental Management Center</b></p> <p>Purpose Gain an understanding of the changes that have occurred in Osaka City's sewerage system and the various wastewater treatment methods presently used in Japan in order to be able to formulate wastewater treatment measures that will be appropriate for use in participant countries.</p> <p>Content</p> <ul style="list-style-type: none"> <li>• The history of sewerage in Japan and Osaka City.</li> <li>• An outline of sewerage activities in Osaka City.</li> <li>• Appropriate wastewater treatment (management) systems.</li> <li>• Sewage treatment plant visit.</li> </ul>
Feb. 18 (Wed.) 10:00~12:30	<p><b>Household Wastewater Countermeasures (English)</b>  <b>Prof. Fumihiko Jiku, Faculty of Science and Technology, Ryukoku University</b></p> <p>Purpose Gain an understanding of the importance of household wastewater countermeasures in the conservation of the waters of Lake Biwa (mainly septic tank systems and related technology).</p> <p>Content</p> <ul style="list-style-type: none"> <li>• Lake Biwa water quality.</li> <li>• Lake Biwa pollutant load.</li> <li>• Sources of pollutant load.</li> <li>• Household wastewater treatment.</li> <li>• The history of septic tanks.</li> <li>• Septic tank systems.</li> <li>• Septic tank technology.</li> </ul>
Feb. 19 (Thurs.) 10:00~15:00	<p><b>Small and Medium Scale Septic Tanks (Visit: Japanese)</b>  <b>Kenichi Sakabe, Environmental Hygiene Section, Osaka Prefecture Health and Welfare Department, Toyono-cho, Toyono County, Osaka Prefecture</b>  <b>Septic Tank Division, Kubota Corporation</b></p> <p>Purpose Observe areas using septic tanks (small and medium size) to process household wastewater.</p> <p>Content</p> <ul style="list-style-type: none"> <li>• Explanation and observation of household wastewater treatment methods in settlements (introduction and use of small-scale septic tanks).</li> <li>• Observation of medium-sized septic tanks (use of a submerged membrane as a treatment method).</li> </ul>
Feb. 20 (Fri.) 10:00~12:30	<p><b>Factory Visit (Lecture/Visit: Japanese)</b>  <b>Eiji Yamamoto, Nakayama Steel Works, Ltd.</b></p> <p>Purpose Learn about this company that is carrying out smokestack sampling.</p> <p>Content</p> <ul style="list-style-type: none"> <li>• Information regarding the company and its environmental measures.</li> <li>• Site visit.</li> </ul>
Feb. 20 (Fri.) 14:00~15:30	<p><b>Osaka City Incineration Plant and Waste Water Treatment Facility Visit (Japanese)</b>  <b>Osaka City Environment Bureau's Hirano Plant</b></p> <p>Purpose Learn about industrial wastewater treatment and management methods.</p> <p>Content</p> <ul style="list-style-type: none"> <li>• An explanation of wastewater treatment methods.</li> <li>• Site visit.</li> </ul>

<p><b>Module 4</b>  <b>Environmental Management Technology</b></p>
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Feb. 5 (Thurs.) 10:00~16:30	<p><b>Environmental Impact Assessment (English)</b>  <b>Ken Izumi, Environmental Management Officer, Osaka City Environment Bureau</b></p> <p>Purpose Discuss environmental impact assessment systems using examples from Osaka City and consider the future of environmental impact assessment together with participants.</p> <p>Content</p> <ul style="list-style-type: none"> <li>• What is environmental impact assessment?</li> <li>• Osaka City's environmental impact assessment system.</li> <li>• Examples from Osaka City 1: Maishima Refuse Incineration Facility construction plan.</li> <li>• Examples from Osaka City 2: IKEA Tsuruhamu construction.</li> <li>• The future of environmental impact assessment.</li> </ul>
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Feb. 17 (Tues.) 14:00~16:30	<b>Environmental Impact Assessment Systems/ISO14001 and Corporate Social Responsibility (English)</b> <b>Motomu Inoue, President, Research Center for Environmental Strategies, Inc.</b>
Purpose	Learn about the use of environmental management systems (ISO14001, etc.) in environmental management, such as for air pollution, as part of corporate social responsibility.
Content	<ul style="list-style-type: none"> <li>• The recent state of corporate social responsibility among Japanese companies.</li> <li>• Corporate environmental management.</li> <li>• An outline of environmental management systems (EMS).</li> <li>• The use of EMS in environmental management.</li> </ul>

<b>Module 5</b> <b>Environmental Transmission</b>
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Feb. 23 (Mon.) 10:00~12:00	<b>Water Quality Monitoring Facility Visit (Japanese)</b> <b>BOYO Center</b>
Purpose	Visit experimental facilities for water purification, improvement and ecosystem conservation.
Content	<ul style="list-style-type: none"> <li>• Facility outline.</li> <li>• Facility visit.</li> </ul>
Feb. 23 (Mon.) 13:30~16:30	<b>Community-Based Environmental Management Activities (Aito Eco-Plaza Nanohana Kan Biodiesel Fuel Facility) (Visit: Japanese)</b> <b>Ayako Fujii, Chairperson, Shiga Environmental Cooperative, Nanohana Project</b>
Purpose	Learn about community-based environmental activities and visit facilities promoting environmental awareness.
Content	<ul style="list-style-type: none"> <li>• The history of community-based environmental activities in Shiga Prefecture and their present status.</li> <li>• Facility visit.</li> </ul>

<b>Module 6</b> <b>Preparation of Action Plan Proposals (for the following two years)</b>
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Feb. 25 (Wed.)	<b>Guidance regarding Action Plan Formulation (English)</b> <b>Kenichi Tanaka, Senior Advisor, JICA Institute for International Cooperation</b>
Purpose	Participants prepare action plans that they can implement themselves in order to solve the problems in their respective countries.
Content	<ul style="list-style-type: none"> <li>• Good action plan formulation methods.</li> <li>• Workshop.</li> <li>• Identifying problems and things to improve.</li> <li>• Presentation of action plan proposals and exchange of views.</li> </ul>
Feb. 5 (Thurs.) Feb. 17 (Tues.) 13:30~16:00	<b>Meeting to Exchange Views</b>
Purpose	Consider and discuss the planned course content for the coming two years.
Content	<ul style="list-style-type: none"> <li>• Explain course composition and future plans.</li> <li>• Exchange of views.</li> </ul>
Feb. 26 (Thurs.) 10:00~16:30	<b>Action Plan Presentations</b>
Purpose	Participants prepare and present action plans to be implemented in their own countries.
Content	Participants present their respective action plans.