## ENGINEERING ON WATER SUPPLY SYSTEM

May 7, 2000 - Jul. 16, 2000, 10 participants

上水道施設技術 J-00-00639

1. **PURPOSE** The purpose of this course is to provide participants with an opportunity to broaden theoretical and practical knowledge of water supply systems with surface water resource and sanitary engineering systems including its planning, designing, operation and maintenance through lectures, laboratory practices and observations.
2. **MAIN FEATURES OF CURRICULUM** This course is designed to cover the following themes. (1) water supply planning (2) waterworks management (3) water purification system (4) pipeline design (5) mechanical and electrical instrumentation
3. **QUALIFICATION OF APPLICANT** (1) be presently in a management position or a senior engineer in the field of water supply with surface water resource in the relevant organization (2) be a university graduate from the faculty of engineering or equivalent academic backgrounds.
4. **TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Japan Water Works Association (JWWA)
5. **REMARKS**

## NON-REVENUE WATER MANAGEMENT (LEAKAGE CONTROL)

Oct. 16, 2000 - Dec. 4, 2000, 8 participants

上水道無収水量管理対策 J-00-03311

1. **PURPOSE** To provide with comprehensive knowledge of non-revenue water management, focusing on leakage control.
2. **MAIN FEATURES OF CURRICULUM** The emphasis is put on lectures, observations and practices. The practical training is to be conducted at Technical Training Center of Nagoya Waterworks Bureau. The main themes are: (1) open seminar (2) leakage detection and repair (3) leakage prevention measures (planning, design, construction, maintenance) (4) metering system (5) mapping management (6) water charges (7) countermeasures for natural disasters. Case study is included at the end of the training, where participants will make an applicable plan for leakage prevention.
3. **QUALIFICATION OF APPLICANT** (1) university graduate or equivalent (2) administrative officials who have engineering background (3) currently engaged in the field of waterworks for more than five years (4) between 27 and 40 years of age
4. **TRAINING INSTITUTIONS** (1) Chubu International Centre (CBIC), JICA (2) Waterworks Bureau, City of Nagoya (3) other public institutions and private enterprises
5. **REMARKS**

## WATERWORKS ENGINEERING

Jun. 12, 2000 - Sep. 9, 2000, 8 participants

水道技術者養成 J-00-00573

1. **PURPOSE** The course is designed to provide participants with basic knowledge and comprehensive technology regarding overall water supply, including water resources, intake, treatment, and distribution facilities, and water service installations. It also provides information on the integrated methodology of planning and technology required for operation and maintenance. The final goal of the course is to contribute to improving and promoting the water supply in developing countries, ensuring a safe and potable drinking water supply for communities.
2. **MAIN FEATURES OF CURRICULUM** This course mainly deals with; (1) water leak prevention (2) water quality control (3) water treatment facilities (4) water distribution planning and pipe network (5) design and construction management (6) water service installations
3. **QUALIFICATION OF APPLICANT** (1) senior technical official in charge of waterworks in central or local government, or in public bodies with more than three years of practical experience (2) university graduate or equivalent (3) under 40 years of age
4. **TRAINING INSTITUTIONS** (1) Hokkaido International Centre, Sapporo (HICS), JICA (2) Waterworks Bureau, City of Sapporo
5. **REMARKS**

## OPERATION AND MAINTENANCE OF URBAN WATER SUPPLY FACILITIES

May 22, 2000 - Aug. 13, 2000, 7 participants

都市上水道維持管理 J-00-00597

1. **PURPOSE** This course is intended for experts and administrators who are expected to take responsible roles in the improvement of main waterworks in their respective countries where deterioration of water sources and the lack of water supply due to the increase of population in urban areas is a serious problem. The purpose of this course is to provide participants with broad knowledge such as the strategy for general maintenance and management of facilities, establishment of maintenance system, water purification technology, etc., while making effective use of existing facilities.
2. **MAIN FEATURES OF CURRICULUM** This course is conducted mainly by practice and discussion, and report making is requested at the end of each session. Main contents are: (1) introduction of waterworks (2) operation and maintenance of water supply facilities (3) water purification technology (4) planning of urban water supplying system
3. **QUALIFICATION OF APPLICANT** (1) inspectors, chiefs, or superintendents of urban water supply schemes/authorities using surface water resources (2) have experience of at least 3 years in the above mentioned field (3) between 28 and 40 years of age.
4. **TRAINING INSTITUTIONS** (1) Osaka International Centre (OSIC), JICA (2) Osaka Municipal Waterworks Bureau
5. **REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for two weeks.

## OPERATION AND MAINTENANCE OF SEWERAGE FACILITIES

Aug. 7, 2000 - Oct. 9, 2000, 6 participants

下水道維持管理 J-00-00585

1. **PURPOSE** The course is designed for technical administrative officials engaged in providing sewerage works in developing countries. The purpose of this course is to give them training in the maintenance of sewers and wastewater treatment plants, utilization of resources (i.e., treated wastewater and sludge), and control of water pollution due to industrial wastewater, and thereby to improve their capability of managing and carrying out sewage works.
2. **MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on practice and exercise concerning operation and maintenance of sewerage facilities. It mainly deals with; (1) basic concept of sewerage system (2) maintenance of sewers (3) management of wastewater treatment plants (4) utilization of treated wastewater and sludge (5) controlling water pollution due to industrial wastewater (6) finance of sewerage works.
3. **QUALIFICATION OF APPLICANT** (1) be a university graduate or equivalent in this field, and have more than three years of practical experience (2) senior technical officer in charge of sewage works in central or provincial government, or in local bodies (3) under 40 years of age
4. **TRAINING INSTITUTIONS** (1) Hokkaido International Centre, Sapporo (HICS), JICA (2) The Sewerage Bureau, City of Sapporo
5. **REMARKS**

## SEWAGE WORKS ENGINEERING II

Aug. 17, 2000 - Nov. 12, 2000, 11 participants

下水道技術 II J-00-00167

1. **PURPOSE** The purpose of the course is to provide participants with a basic knowledge of sewage collection, urban drainage systems, sewage treatment and disposal, and sludge handling, as well as to furnish them so that the participants would be able to play their greater role for further progress and advancement of sewage works in their respective countries.
2. **MAIN FEATURES OF CURRICULUM** This course covers the following themes: (1) basic theory of sewerage and sewage purification (2) process and methods for planning and designing sewers, pumping stations, and sewage and sludge treatment facilities (3) rough master plan for a sewage systems (4) pretreatment of industrial wastewater (5) significance and methods of water quality analysis (6) advanced sewage and sludge treatment technology
3. **QUALIFICATION OF APPLICANT** (1) university graduate or equivalent with more than three years of practical experience (2) senior technical officer in charge of sewage works in central or provincial government, or in government related organization (3) under 40 years of age
4. **TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Sewerage and Sewage Purification Department, City Bureau, Ministry of Construction (3) Japan Sewage Works Agency
5. **REMARKS** Country Reports will be highly utilized both for the selection of participants and for the country report presentation.

## STORMWATER DRAINAGE TECHNOLOGY WITH SEWERAGE SYSTEM

Aug. 21, 2000 - Nov. 25, 2000, 6 participants

都市排水 J-00-03325

1. **PURPOSE** The purpose of this course is to offer technical administrative officers an opportunity to acquire knowledge and technological know-how on sewerage system improvement (basic planning, designing, construction, and maintenance), with emphasis on rainwater drainage works in urban areas, and hence contributing to the improvement of the expertise of the leading administrative officers in this field, and the effective execution of sewerage system improvements in participating countries.
2. **MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on laboratory experiments and introduction of Japanese experience. The main themes are: (1) introduction to sewerage system (2) urbanization and urban drainage (3) improvement of urban sewerage system and countermeasures against stormwater (4) designing and construction of urban drainage facilities (5) maintenance of urban drainage facilities (6) improvement of urban infrastructure
3. **QUALIFICATION OF APPLICANT** (1) university graduate or those with equivalent technical qualifications in this field, and have five or more years of practical experience (2) between 30 and 40 years of age (3) technical administrative officers in charge of sewage works in the government or government-affiliated organizations
4. **TRAINING INSTITUTIONS** (1) Osaka International Centre (OSIC), JICA (2) Sewerage and Sewage Purification Department, City Bureau, Ministry of Construction (3) Japan Sewage Works Agency (4) Sewage Works Bureau, Osaka Municipal Government (5) Osaka City Sewerage Engineering Association
5. **REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for two weeks.

## TECHNOLOGY FOR INSPECTION OF WATER POLLUTION IN URBAN AREAS

May 15, 2000 - Jul. 16, 2000, 5 participants

都市型水質汚濁検査技術 J-00-03293

1. **PURPOSE** To help to overcome water pollution problems in developing countries, this course is designed to contribute to the promotion of countermeasures against water pollution by comprehensively introducing water quality inspection technology and preventive measures against water pollution to engineers from these countries engaged in this field.
2. **MAIN FEATURES OF CURRICULUM** This course has the top priority on analysis exercises, and consists of lectures, exercises and observation studies. Main features are as follows; (1) lectures-urban water pollution and its control of water pollution in Sapporo City; (2) practices-waste water analysis, undergrand water analysis, acid rain analysis etc.; and (3) observation-water supply and sewerage facilities, waste management facilities, industrial waste water processing facilities, environmental education facilities.
3. **QUALIFICATION OF APPLICANT** (1) university graduates or persons who have equivalent technical qualifications this field, (2) either technicians or engineers in research institute for water pollution or in a department of water pollution administration in central or provincial government, or in local bodies, (3) under 40 years of age.
4. **TRAINING INSTITUTIONS** (1) Hokkaido International Centre, Sapporo (HICS), JICA (2) Sapporo City Institute of Public Health
5. **REMARKS**

## URBAN SOLID WASTE MANAGEMENT

Jul. 31, 2000 - Nov. 3, 2000, 6 participants

都市廃棄物処理　　J-00-03366

1. **PURPOSE** The purpose of the course is to contribute to the improvement of public health in participating countries by training personnel to take leadership and middle management roles in planning and implementing waste management programs in their own countries. This will be accomplished by having participants learn in detail about waste management in big cities in Japan. They will also learn about the special characteristics of urban waste management programs while acquiring comprehensive knowledge on waste management.
2. **MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on introduction of the Japanese experience. The main themes are: (1) outline of waste management (2) outline of regional administration (3) economics and measures to counteract pollution (4) domestic waste management (5) intermediate treatment facilities (6) final disposal site (7) restrictions on industrial waste management
3. **QUALIFICATION OF APPLICANT** (1) Engineers or administrative officials with at least three years of waste management experience or an equivalent level of specialized knowledge. Applications should also be limited to those who will continue working in the field of waste management after the training course (2) University graduates having majored in analytical chemistry or microbiology, or those with equivalent technical knowledge (3) Under 40 years of age
4. **TRAINING INSTITUTIONS** (1) Osaka International Centre (OSIC), JICA (2) Global Environment Centre Foundation (GEC) (3) Osaka City Environmental Management Bureau
5. **REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for one week.

## COMPREHENSIVE WASTE MANAGEMENT TECHNIQUES

May 8, 2000 - Aug. 4, 2000, 8 participants

廃棄物処理総合対策技術　　J-00-03308

1. **PURPOSE** The appropriate knowledge and technology for solid waste management are very important for taking countermeasures for pollution of wastes in developing countries. To meet the demand, training is carried out in Hiroshima Prefecture, thus to contribute disseminating the knowledge and technology, and improving the solid waste management.
2. **MAIN FEATURES OF CURRICULUM** (1) It mainly covers: The classification of waste and the entire cycle of waste management-from waste collection to disposal, which adopted in Japan. (2) Environmental education, environmental assessment and ISO 14000 series.
3. **QUALIFICATION OF APPLICANT** draw a future strategy for effective waste management in each country with what participants would learn in this course. (1) be a senior technical staff who is in change of solid waste management at the national/local government, or public organizations, (2) have a university degree or the equivalent, with more than three (3) years of work experience in the field of waste management, (3) have a sufficient command of English so as to conduct discussions and make reports in the training course, (4) be under forty (40) years of age, (5) be nominated by their government in accordance with the procedures, (6) be in good health, both physically and mentally, to undergo the training; and (7) not be serving in the military.
4. **TRAINING INSTITUTIONS** (1) Chugoku International Centre (CIC), JICA (2) Hiroshima Prefectural Health and Environment Center
5. **REMARKS** A compulsory 25-hour Japanese language course will be conducted prior to the technical training.

## SEMINAR ON COMPREHENSIVE SOLID WASTE MANAGEMENT

May 16, 2000 - Jul. 22, 2000, 10 participants

廃棄物総合管理セミナー　　J-00-00671

1. **PURPOSE** The main purpose of the seminar is to provide participants with knowledge and techniques required for solid waste management and night soil treatment (excluding sewerage system), particularly those for domestic and industrial solid waste management, through lectures, discussions, laboratory practices and field studies. The lectures are intended to provide participants not only with knowledge and techniques but also principles and approaches to problem solving. The seminar is also intended to introduce recent aspects of solid waste management in Japan and its international technical cooperation activities in this field.
2. **MAIN FEATURES OF CURRICULUM** The following major subjects will be covered in this seminar, mainly by means of lectures: (1) problem identification and national/master plan elaboration (2) solid waste management (a) collection and transportation (b) treatment and disposal (incineration, sanitary landfills) (3) industrial waste management (especially hazardous waste) (4) night soil treatment (5) institutional development for solid waste management service (6) solid waste management/night soil treatment in developing countries
3. **QUALIFICATION OF APPLICANT** (1) officials presently in charge of solid waste management (domestic and industrial solid waste management and night soil treatment excluding sewerage system) in central or provincial governments or in local bodies, with two or more years of experience in this field (2) under 50 years of age (3) university graduates or equivalents
4. **TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Ministry of Health and Welfare (MHW) (3) Japan Environmental Sanitation Centre (JESC)
5. **REMARKS** Country Reports will be highly utilized both for the selection of participants and for the Country Report presentation.

## PRACTICAL TRAINING FOR MOTOR VEHICLE INSPECTION SYSTEM

Nov. 6, 2000 - Dec. 15, 2000, 8 participants

自動車検査制度　　J-00-03374

1. **PURPOSE** This course is designed to provide personnel in charge of motor vehicle administration with an opportunity to realize the importance in the area of motor vehicle administration of the establishment of systems for inspection and maintenance and repair through lectures and training concerning such systems, thereby contributing to the establishment of systems for inspection and maintenance and repair.
2. **MAIN FEATURES OF CURRICULUM** In addition to understanding the concepts of systems for inspection and maintenance and repair, to acquire the knowhow to establish such systems in their own countries; (1) Motor vehicle inspection system, etc. (lectures; about 2 days) (2) Work practice, etc; in motor vehicle inspection (lectures/training; about 4 weeks) (a) Training using inspection instruments (b) Training in motor vehicle maintenance and repair (at the level of third class maintenance and repair mechanic) (3) Visits to motor vehicle manufacturers, etc. (about 2 days) (4) Visits to motor vehicle inspection sites, maintenance and repair factories (about 2 days)
3. **QUALIFICATION OF APPLICANT** (1) technical officials engaged in motor vehicle administration, and has between 3 and 15 years of work experience in this field (2) between 20 and 40 years of age (3) senior high school graduate or equivalent
4. **TRAINING INSTITUTIONS** (1) Hachioji International Training Centre (HITC), JICA (2) Inspection Training Center, Ministry of Transport (3) Automobile Inspection and Registration Association (AIRA)
5. **REMARKS**

## MODERNIZATION OF CARGO TRANSPORT (PHYSICAL DISTRIBUTION)

Apr. 3, 2000 - Jun. 5, 2000, 8 participants

物流近代化 J-00-00606

1. **PURPOSE** To provide with opportunities to study plans, techniques, and information about modernization of physical distribution, especially on land transport such as truck transport, packaging, storing, handling, transport and information management.
2. **MAIN FEATURES OF CURRICULUM** The emphasis is put on lectures and observation to cargo transport facilities. The main topics of the lectures are (1) introduction of physical distribution in Japan (2) administration of physical distribution; in the observation participants will observe the fundamental activities of physical distribution such as Cargo Handling, Packaging, Storage, Transportation, Distribution Processing and Information & Communication. At the end of the training, participants will present an applicable action plan for their respective countries.
3. **QUALIFICATION OF APPLICANT** (1) currently engaged in the field of cargo transport (especially land transport) at governmental or public organizations, with three '3' years or more of experience in this field (2) not engaged in the field of road construction and management, traffic survey and control and passenger transport (3) university graduates or equivalent (4) between twenty-eight '28' and forty five '45' years of age
4. **TRAINING INSTITUTIONS** (1) Chubu International Centre (CBIC), JICA (2) Transport Policy Bureau, Ministry of Transport (3) Chubu District Transport Bureau, Ministry of Transport (4) Aichi Industrial Research Association (AIRA) (5) private enterprises
5. **REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for one week (25 hours).

## ROAD CONSTRUCTION ENGINEERING

Jul. 10, 2000 - Sep. 7, 2000, 5 participants

道路技術者養成 J-00-03294

1. **PURPOSE** This specially offered training course is designed to allow participants to learn practical technologies of road inspection, planning, designing, construction, maintenance and management to improve the road technologies of their countries and regions and to promote their national or regional land development.
2. **MAIN FEATURES OF CURRICULUM** (1) Road outline (2) Road inspection and planning (3) Road design and construction techniques (4) Road maintenance (5) Road management and Construction contract
3. **QUALIFICATION OF APPLICANT** (1) technical official concerned with road administration or projects, having at least 3 years of practical experience (2) between 25 and 40 years of age (3) university graduates or equivalent.
4. **TRAINING INSTITUTIONS** (1) Hokkaido International Centre, Sapporo (HICS), JICA (2) Construction Bureau, City of Sapporo
5. **REMARKS**

## SEMINAR ON ROAD ADMINISTRATION

Aug. 22, 2000 - Oct. 19, 2000, 14 participants

道路行政セミナー J-00-00691

1. **PURPOSE** The seminar is designed to improve the knowledge of personnel who are currently engaged in highway construction, design, and maintenance through the introduction of road construction technology developed in Japan.
2. **MAIN FEATURES OF CURRICULUM** The most important part of the seminar is Country Report presentation and discussion for comparative study. Another major part is introduction of Japanese systems, situations and cases as follows. (1) present situation of roads and road transportation, which includes traffic safety, disaster prevention, new transportation systems, etc. (2) outline of special large-scale projects in which the most advanced techniques in this field are concentrated (3) road environmental problems and measures for protecting the living environment along highways (4) technical standards for design of highways, bridges, and pavements
3. **QUALIFICATION OF APPLICANT** (1) university graduate or equivalent (2) engineer with more than two years of experience in the field of highway construction, design, and maintenance (3) under 35 years of age
4. **TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Road Bureau, Ministry of Construction
5. **REMARKS** Country Reports will be highly utilized both for the selection of participants and for the Country Report presentation.

## ADMINISTRATION SYSTEM FOR MOTOR VEHICLE

Jan. 16, 2001 - Feb. 24, 2001, 6 participants

自動車行政制度 J-00-00323

1. **PURPOSE** The purpose of the course is to provide participants with both comprehensive and practical knowledge of administrative systems for motor vehicle, and thus to contribute to creating the most suitable administrative system for motor vehicle in their respective countries.
2. **MAIN FEATURES OF CURRICULUM** This course mainly consists of lectures and observations. The following are the major subjects to be covered in the course. (1) administrative systems of motor vehicle and related laws and regulations in Japan (a) safety and pollution control regulations (b) maintenance, repair and inspection systems (c) registration system (d) road transport business regulations (e) insurance system (f) driver's licence system, etc. (2) motor vehicle safety and pollution control engineering (3) motor vehicle standards and production activities (4) business and services for traffic safety
3. **QUALIFICATION OF APPLICANT** (1) university graduate or equivalent (2) be engaged in the field of administration, preferably administrator for policy and system making on motor vehicle inspection, registration and control in governmental or public organizations. Automotive engineers for design, production and/or maintenance are strictly not requested to apply (3) under 50 years of age
4. **TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Road Transport Bureau, Ministry of Transport (3) Automobile Inspection & Registration Association (AIRA)
5. **REMARKS**

## COLLOQUIUM ON URBAN PUBLIC TRANSPORT

May 9, 2000 - Jul. 2, 2000, 10 participants

都市公共交通コロキウム J-00-03392

1. **PURPOSE** The purpose of the course is; (1) to obtain the wide views of urban transportation problems and deepen understanding of necessity of improvement of urban environment, and (2) to acquire the expertise and views of public transportation such as railway systems and bus services.
2. **MAIN FEATURES OF CURRICULUM** Lecture: (1) Environmental problems including measures for pollution produced by urban transportation. (2 days) (2) Urban public transportation planning process. (3) Future subjects and measures for implementation of the project (3 days) (4) Project implementation process from planning to the completion (1 day) (5) Introduction and support of privatization (1 day) (6) Present Conditions of public transportation (1 day) Observation: (1) Maintenance and operation of public transportation including local cities. (1 day) (2) Present conditions of the regional public transportation and report making. Country Report: (1) Discussions based on the country report previously presented by the participants (1 day)
3. **QUALIFICATION OF APPLICANT** (1) Occupation: technical administrative officers, researchers, and officers in charge of urban public transportation (2) Career: more than 3 years (3) Age: less than 38 years old (4) Education: university graduates or the equivalents (5) Others: sufficient command of spoken and written English
4. **TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Transport Policy Bureau, Ministry of Transport
5. **REMARKS**

## RAILWAY MANAGEMENT

May 9, 2000 - Jun. 22, 2000, 9 participants

鉄道経営計画 J-00-00667

1. **PURPOSE** The purpose of this course is to share a wide range of knowledge about how railway management has been improved in Japan with participants in charge of railway management in developing countries.
2. **MAIN FEATURES OF CURRICULUM** This course consists of lectures, observation of railway enterprises and field trips mainly focusing on the following area: (1) outline of Japanese railway (its history, Japanese National Railway Reform, Related law, fare and charge, and subsidies and aids) (2) Railway management (JR Group companies, private railway companies and third sectors)
3. **QUALIFICATION OF APPLICANT** (1) be in a supervising position in charge of planning and/or management of railway business (a person who belongs to the governmental organization supervising railway enterprises or belongs to the enterprises managing only urban transport services such as subways or LRT is not qualified (2) have more than five years of practical experience after graduation from university (3) university graduates or equivalents (4) under 45 years of age
4. **TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Railway Bureau, Ministry of Transport (3) JR Central (4) Japan Railway Technical Service
5. **REMARKS**

## ROLLING STOCK MAINTENANCE AND MANAGEMENT

Aug. 22, 2000 - Oct. 28, 2000, 8 participants

鉄道車両管理 J-00-03332

1. **PURPOSE** The purpose of the course is to contribute to the development of railway and modernization of rolling stocks management in the developing countries through providing a wide range of knowledge and techniques about maintenance, management and manufacturing of the rolling stock in Japan as well as introducing various kinds of Japanese railway traffic systems to the participants.
2. **MAIN FEATURES OF CURRICULUM** This course consists of lectures, observations and exercises under cooperation with JR Group and rolling stock industries: (1) Outline of railway in Japan (2) An introduction to rolling stocks (3) Rolling stock maintenance (4) Operation planning (5) Security system and accident prevention (6) Manufacturing of rolling stocks and related parts (7) Various types of railroad traffic systems
3. **QUALIFICATION OF APPLICANT** (1) having been engaged in rolling stock engineering for more than two years with more than seven years of practical experience in the field of railway engineering (preferably having experience in E.M.U. or E.L. rolling stock engineering) (2) under 40 years of age (3) university/college or equivalent technical school graduate
4. **TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Railway Bureau, Ministry of Transport (3) Japan Railway Group (JR) (4) Japan Overseas Rolling Stock Association (JORSA) (5) Japan Association of Rolling Stock Industries (JARI)
5. **REMARKS** This course is designed mainly for EL or EMU types of rolling stock.

## RAILWAY SIGNAL, TELECOMMUNICATION AND INFORMATION SYSTEM ENGINEERING

Oct. 3, 2000 - Dec. 16, 2000, 7 participants

鉄道情報システム J-00-03315

1. **PURPOSE** The purpose of the course is to provide the participants with the knowledge of how to plan the installation of railway signals and telecommunications equipment through lectures and observation, and to introduce them to the workshops with recent manufacturing techniques, thereby cultivating leading signal engineers who can contribute to safe train operations.
2. **MAIN FEATURES OF CURRICULUM** This course mainly consists of lectures by railway companies and signal manufactures, so as to provide information from both users' and manufacturers' sides. The main topics in the course are as follows. (1) management (a) signal engineering in general (b) railway telecommunications in general (c) planning & development (d) maintenance (2) basics of electrical signal (a) switch point (b) track circuit (c) blocking system (d) interlocking (3) safety system and others (a) Relay Interlocking and Electronic Interlocking (b) ATS (Automatic Train Stop) and ATC (Automatic Train Control) (c) CTC (Centralized Traffic Control) (d) electronic token block system (e) railway traffic control system (f) dispatcher information system (g) railway telecommunication
3. **QUALIFICATION OF APPLICANT** (1) railway signal engineering official with more than five years of practical experience (preferably in charge of electrical signal engineering) (2) presently engaged or expected to be engaged in the near future, in planning and administration work in the field of electrical signal engineering (3) university/college graduate or equivalent (4) not more than 40 years of age
4. **TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Railway Bureau, Ministry of Transport (3) Japan Railway Group (JR) (4) Japan Association of Signal Industries (5) Signal Manufactures
5. **REMARKS**

## TANKER SAFETY AND OPERATION

Jan. 22, 2001 - Apr. 15, 2001, 10 participants

タンカー安全実務 J-00-03373

1. **PURPOSE** The purpose of the course is to contribute to securing safety of transport by tankers and preserve the global environment through learning technology concerning management, handling loading and unloading of cargo oil peculiar to tankers as well as prevention of marine contamination and measures in case of emergency etc., thus contributing to the improvement of the level of seamen training in the countries concerned, to learn expertise concerning business peculiar to tankers (points to notice in living and working, danger and toxicity of cargo oil, measures for gas and static electricity while sailing) and understand its uniqueness, to learn safe handling of cargo oil through pracital training using simulators, and to learn proper measures at the outbreak of disasters.
2. **MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on introduction of comprehensive knowledge on the following subjects through lecture, practeice and field trip. (1) Theory of loading dangerous cargo, static electricity, theory of the use of special-purpose ship etc. (2) Handling of liquefied gas (3) Business related to oil terminals (4) Handling of crude oil (5) Emergency drill
3. **QUALIFICATION OF APPLICANT** (1) Instructors or personnel in charge of guidance in tanker safety at seamen training institutes or shipping companies etc. (2) Age: 25 to 40 years old
4. **TRAINING INSTITUTIONS** (1) Hyogo International Centre (HIC), JICA (2) Marine Technical College, Ministry of Transport (3) Maritime Disaster Prevention Center
5. **REMARKS**

## SEMINAR ON PORT ADMINISTRATION AND MANAGEMENT

Oct. 24, 2000 - Dec. 3, 2000, 8 participants

港湾管理運営セミナー(上級) J-00-00684

1. **PURPOSE** The seminar is designed to contribute to cultivating the human resources development of port administrators and managers who are expected to play an important role in port development in participating countries so as to improve port administration and management systems in respective countries.
2. **MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on case study at one of the six biggest ports in Japan, report presentation and discussion. The main themes are; (1) present situation of ports and harbours in Japan (a) port development policy (b) system and organization of port administration and management (c) labour problems (2) technical knowledge on port management and operation services (3) ports and harbours in participating countries
3. **QUALIFICATION OF APPLICANT** (1) university graduate or equivalent (2) currently engaged in the port administrative works and/or management with more than eight years of occupational experience in the field of ports and harbours (3) between 30 and 45 years of age
4. **TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Ports and Harbours Bureau, Ministry of Transport
5. **REMARKS**

## MARITIME SEARCH AND RESCUE OPERATION AND MARITIME DISASTER PREVENTION

Aug. 14, 2000 - Nov. 26, 2000, 7 participants

救難防災 J-00-00343

1. **PURPOSE** The purpose of this course is to provide the participants with an administrative concept and actual ways of managing maritime search and rescue and maritime disaster prevention through lectures, practices and observations. The training will contribute to further promotion of the friendship and cooperation between the participating countries and Japan.
2. **MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on introduction of comprehensive knowledge on the following subjects through lecture, practice and field trip. The main themes are: lectures: (1) organization and function of JMSA, (2) international maritime search and rescue activities under the International Convention on Maritime Search and Rescue, 1979, (3) maritime search and rescue systems in Japan, (4) maritime search and rescue operations, (5) case studies of maritime search and rescue operations, (6) method on rescue of capsized and a grounded ship, (7) Global Maritime Distress and Safety System (GMDSS), (8) information collection system of JMSA, (9) prevention of marine pollution system, (10) JMSA's activities on Maritime Disaster Prevention, (11) outline of Maritime Disaster Prevention Centre, (12) current international framework against Oil Spill Incident, (13) case studies on maritime disasters, (14) safety measures for maritime traffic, Practice: (1) experimental sail on a JMSA's fire fighting vessel or craft, (2) work on maritime disaster prevention in Disaster Prevention Training Center, (3) experimental sail on a JMSA's patrol vessel or craft, (4) experimental fly in a JMSA's aircraft, observation and study tour: (1) training of Special Rescue Team and patrol vessels with improved rescue capability of JMSA
3. **QUALIFICATION OF APPLICANT** (1) university graduates or equivalents with occupational experience of more than five years in the field of marine disaster prevention and, search and rescue operation (2) presently engaged in the above-mentioned field (3) under 40 years of age
4. **TRAINING INSTITUTIONS** (1) Hyogo International Centre (HIC), JICA (2) Japan Maritime Safety Agency (3) The 5th Regional Maritime Safety Headquarters (4) Maritime Safety Academy (5) Disaster Prevention Training Centre
5. **REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for 8 days.

## MARINE TECHNIQUE (ENGINEER)

Jul. 10, 2000 - Dec. 16, 2000, 5 participants

航海技術(機関士) J-00-00380

1. **PURPOSE** The aim of the course is to hand over to the participants the marine technique and experience which Japan has long accumulated, and by so doing to make them conscious of the status quo of a higher marine technology and management. Furthermore, the participants, through their own training, are to acquire the knowledge and techniques concerning the seamen's training methods, and after return to their respective countries, are expected to spread their fruits so gained among their successors.
2. **MAIN FEATURES OF CURRICULUM** This course consists of common subjects for all participants, seminar at laboratory (optional subjects), on board practice and observation tours. I. Common subjects (12 weeks) (1) boiler (2) steam turbine engine (3) diesel engine and gas turbine (4) propeller and shafting (5) auxiliary machinery (6) electrical engineering and electronics (7) automatic control (8) instrumentation (9) fuel oil and lubricant (10) basic knowledge for engineer (11) computer (12) marine propulsion system (13) engine room simulator training (14) maritime laws and international conventions (15) ship's survey inspection (16) safety management (17) practice on board (17) visiting factories. II. Seminar in laboratory (optional subjects) (2 weeks) (1) steam plant (boiler or steam turbine) (2) internal combustion engine (3) electrical engineering and electronics (4) auxiliary machinery (5) automatic control (6) instrumentation (7) computer (8) engine room simulator (9) propulsion
3. **QUALIFICATION OF APPLICANT** (1) in possession of the certificate of Third or higher Grade Maritime Officer (Engineer) with more than one year of seatime, or those who have the equivalent knowledge and experience engaged in official affairs or education for maritime with more than one year (2) Ages: 25 to 35 years old (3) presumed to contribute to fostering mercantile officials or instructors who will play a leading role in this field in their respective countries
4. **TRAINING INSTITUTIONS** (1) Hyogo International Center (HIC), JICA (2) Marine Technical College (MTC)
5. **REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for 10 days.

## MARINE TECHNIQUE (NAVIGATOR)

Jul. 10, 2000 - Dec. 16, 2000, 5 participants

航海技術(航海士) J-00-00379

1. **PURPOSE** The aim of the course is to hand over to the participants the marine technique and experience which Japan has long accumulated, and by doing so to make them conscious of the status quo of higher marine technology and management. Furthermore, the participants, through their own training, are to acquire the knowledge and techniques concerning seamen's training methods, and after return to their respective countries, are expected to spread their fruits so gained among their successors.
2. **MAIN FEATURES OF CURRICULUM** This course consists of common subjects for all participants, seminar at laboratory (optional subjects), on-board practice and observation tours. I. Common Subjects (10 weeks) (1) terrestrial navigation and electronic aids to navigation (2) nautical instruments (3) ship's equipment and maintenance (4) ship maneuverability and marine disasters (5) cargo handling (6) safety management (7) watch keeping (8) naval architecture (9) marine meteorology (10) navigational regulations (11) maritime law (12) ship engineering (13) computer and information science (14) computer practice (15) environmental science (16) maritime economics (17) bridge simulator training (18) RADAR-ARPA simulator training (19) practice on board (20) visiting factories II. Seminar in laboratory (optional subjects) (4 weeks) (1) simulator training (2) nautical instruments (3) aids to navigation system (4) navigational regulations (5) maritime law (6) loading calculation and judgment for the safety of ship (7) computer science and its use
3. **QUALIFICATION OF APPLICANT** (1) in possession of the certificate or Third or higher Grade Maritime Officer (Navigator) with more than one year of seatime, or those who have the equivalent knowledge and experience engaged in official affairs or education for maritime with more than one year (2) Ages: 25 and 35 years old (3) presumed to contribute to fostering mercantile officials or instructors who will play a leading role in this field in their respective countries
4. **TRAINING INSTITUTIONS** (1) Hyogo International Center (HIC), JICA (2) Marine Technical College (MTC)
5. **REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for 10 days.

## AIDS TO MARINE NAVIGATION II

Aug. 17, 2000 - Oct. 21, 2000, 7 participants

航路標識 II J-00-00148

1. **PURPOSE** The purpose of the training course is to provide participants with the comprehensive and latest theory, knowledge and techniques of systems of aids to marine navigation in Japan, thus contributing to the improvement of the managerial and technological level of aids to navigation in each participating country, and to promote cooperative relations among the participating countries and Japan in carrying out their duties of providing aids to marine navigation.
2. **MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on introduction of Japanese system and basic knowledge and techniques. The following themes will be covered in the course. (1) administration of aids to marine navigation and related activities in Japan (2) systems of aids to marine navigation (3) aids to marine navigation: theories and system engineering (4) observations (maritime transportation in Tokyo Bay, Vessel Traffic Service Center etc.) (5) practice (visual aids equipment, power sources, aids to navigation office)
3. **QUALIFICATION OF APPLICANT** (1) technical college graduates or the equivalent with sufficient knowledge in the field of engineering (civil, mechanical, electrical and/or electronics engineering) (2) engaged in the field of system planning, operation and/or maintenance of aids to navigation (3) under 45 years of age
4. **TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Aids to Navigation Department, Japan Coast Guard (Formerly called as Japanese Maritime Safety Agency) (3) Japan Association for Aids to Navigation (JAAN)
5. **REMARKS**

## COASTAL SHIPPING

May 16, 2000 - Jul. 1, 2000, 8 participants

内航海運 J-00-03372

1. **PURPOSE** Purpose of the course is to provide participants with; (1) basic knowledge for improvement and development of coastal shipping (passengers and freight) (2) general administration of coastal shipping in Japan (3) basic knowledge of security control and management system, and (4) knowledge on roles of organizations related to the coastal shipping.
2. **MAIN FEATURES OF CURRICULUM** The following subjects will be covered in this course; (1) Present situations of coastal shipping (passengers and freight) in Japan (2) Roles of coastal shipping in domestic transportation (3) Measures for security and administration system (4) Systems and activities of coastal shipping-related organization (5) Problems of coastal shipping (6) Present conditions of Modal Shift in Japan (7) Observation of institutions and organizations related to coastal shipping (8) presentation of country report.
3. **QUALIFICATION OF APPLICANT** Applicants should be; (1) presently engaged in administrative or managerial work related to coastal shipping with more than 3 years of experiences (2) university graduates or the equivalent, and (3) between 30 and 45 years of age
4. **TRAINING INSTITUTIONS** (1) Tokyo International Center (TIC), JICA (2) Maritime Transport Bureau, Ministry of Transport
5. **REMARKS**

## CONTAINER TERMINAL DEVELOPMENT

Jan. 9, 2001 - Mar. 4, 2001, 15 participants

コンテナ埠頭整備計画 J-00-00331

1. **PURPOSE** The purpose of this training course is to help participants understand the background of containerization and methods of planning, construction, maintenance and management of container terminals as well as the containerization policy currently applied in Japan, and thus to help each of the participants figure out the future prospects for containerization in their respective countries.
2. **MAIN FEATURES OF CURRICULUM** This course mainly consists of lectures, intensive study at Kobe Port (one of the leading ports in Japan) and group work. Participants will be divided into several groups to study a subject which is chosen by them (such as engineering, computers, etc.) and to make presentations at the end of the course. The following are the major subjects to be covered in the course. (1) containerization and development of container terminals (2) method of planning container terminals (3) management and maintenance of container terminals
3. **QUALIFICATION OF APPLICANT** (1) presently engaged in or will be engaged in container terminal planning and/or container terminal management (2) university graduate or equivalent with more than five years of occupational experience in the field of ports and harbours (3) over 30 but under 40 years of age
4. **TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Ports and Harbours Bureau, Ministry of Transport
5. **REMARKS**

## PORT AND HARBOUR ENGINEERING

May 16, 2000 - Sep. 7, 2000, 15 participants

港湾工学 J-00-00635

1. **PURPOSE** The course is designed to contribute to cultivating the human resources development of port engineers who are expected to play an important role in port development in participating countries so as to improve the technology in solving various technical problems in port development.
2. **MAIN FEATURES OF CURRICULUM** This course consists of lectures, exercises, observations, intensive field study at the Onahama Port and discussions. It covers: (1) basic theories of port and harbour engineering (2) advanced technology for port development (3) port development in Japan (4) the concept of port planning (5) discussions on port development in participant's home country
3. **QUALIFICATION OF APPLICANT** (1) university graduate or equivalent (2) presently engaged in port and harbour-related civil engineering with more than three years of occupational experience (3) under 35 years of age (Though applicants over 35 may be accepted )
4. **TRAINING INSTITUTIONS** (1) Kanagawa International Fisheries Training Centre (KIFTC), JICA (2) Ports and Harbours Research Institute, Ports and Harbours Bureau, Ministry of Transport
5. **REMARKS**

## SEMINAR ON AIRPORT ENGINEERING

Oct. 10, 2000 - Dec. 3, 2000, 10 participants

空港工学セミナー J-00-03408

1. **PURPOSE** The seminar is designed to contribute to upgrading technical knowledge and skill on airport engineering for engineers who mainly work in the areas of airport planning, airport construction, and maintenance of airport facilities.
2. **MAIN FEATURES OF CURRICULUM** In this seminar, the emphasis is put on introduction of Japanese situation and systems and basic theories on airport planning and management. The major subjects are; (1) civil aviation in general (2) airports in general (3) airport planning (4) design and construction of airports (5) maintenance of airports
3. **QUALIFICATION OF APPLICANT** (1) university graduate specialized in civil engineering or architecture or equivalent (2) currently employed by their government or by public authorities for civil aviation as airport engineer or be newly-appointed personnel who will manage airport civil engineering matters (3) have more than five years of occupational experience in the fields of airport civil engineering such as in airport planning, airport construction, or maintenance (4) under 40 years of age
4. **TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Civil Aviation Bureau, Ministry of Transport
5. **REMARKS**

## SEMINAR ON AVIATION SECURITY

Jan. 23, 2001 - Feb. 24, 2001, 14 participants

航空保安セミナー J-00-00318

1. **PURPOSE** The purpose of this seminar is to provide participants with fundamental knowledge of aviation security practiced in Japan, which includes ICAO specifications. Participants will also have the opportunity to exchange views in the field of aviation security among other participants and Japanese lecturers, thus contributing to investigating applicable methods to improve aviation security in participating countries.
2. **MAIN FEATURES OF CURRICULUM** In this seminar, the emphasis is put on introduction of Japanese systems as an example. The following major subjects will be covered in the seminar. (1) civil aviation in Japan (2) airport management and security guard (3) countermeasures for aviation security (4) security control systems (5) presentation and discussion by participants (6) observation of airports and aviation facilities to: (a) deepen the fundamental knowledge of international measures for aviation security, (b) acquire the fundamental knowledge of countermeasures for aviation security and of security control system practiced in Japan as a reference, (c) deepen the fundamental technical knowledge of security equipment, and (d) identify the problems of aviation security in each participating countries, and thus contributing to considering the improvement for such problems.
3. **QUALIFICATION OF APPLICANT** (1) university graduates or the equivalent (2) currently employed by their governments or other public authorities for civil aviation (It is desirable to be in the leading positions of administrative and/or policy-planning sections for aviation security) (3) have not less than five years of occupational experience in the field of aviation security (4) under 45 years of age
4. **TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Civil Aviation Bureau, Ministry of Transport (3) Airport Security Business Center (ASBC)
5. **REMARKS**

## SEMINAR ON AIR TRAFFIC CONTROL

no executed in FY 2000

航空管制セミナー

1. **PURPOSE** The purpose of this seminar is to provide participants with understanding of overall civil aviation activities in Japan, which include current organization, Air Traffic Control (ATC), Air Traffic Services (ATS) -related matters, planning/ policy etc., thus giving them broader views to work out their own future plans and policies.
2. **MAIN FEATURES OF CURRICULUM** In this seminar, the emphasis is put on introduction of Japanese systems. The following is the subjects to be covered in the seminar, and it does not include any on-the-job training on ATC nor training using simulator for ratings. (1) civil aviation and transportation (2) air traffic services at present and in future (3) air traffic control services in Japan
3. **QUALIFICATION OF APPLICANT** (1) university graduates or the equivalents (2) currently employed by their government or by public authorities (3) an Air Traffic Controller or have more than 3 years of experience in the field of Air Traffic Control (4) under 45 years of age
4. **TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Civil Aviation Bureau, Ministry of Transport (3) Air Traffic Control Association, Japan
5. **REMARKS** This seminar is not formulated to provide participants with ATC on-the-job training/training using simulator for ratings.

## SEMINAR ON FUTURE AIR NAVIGATION SYSTEMS (FANS) TECHNOLOGY

Oct. 24, 2000 - Nov. 25, 2000, 7 participants

将来航空航法システム(FANS)技術セミナー J-00-03337

1. **PURPOSE** Toward 2010, ICAO (International Civil Aviation Organization) is promoting worldwide construction of the new system (CNS Systems) based on the FANS (Future Air Navigation System) concept. The purpose of this course is to contribute to the aviation safety in Asian and Pacific countries with striving for promotion of the new CNS Systems by providing participants with fundamental knowledge on FANS concept, including global coordinated plan and air navigation plan in Asian and Pacific region.
2. **MAIN FEATURES OF CURRICULUM** Consist of lectures, discussions and observations. (1) Review of the problems in current system (2) FANS related activities in ICAO (3) Overview of the FANS (4) Guidelines for introduction of the new system (5) Examples of introduction of the new system (6) Observation of relevant facilities.
3. **QUALIFICATION OF APPLICANT** (1) have more than 5 years' occupational experience in the field of current air navigation and air traffic control system (2) experienced in designing the air navigation and air traffic control system (3) under 40 years of age
4. **TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Civil Aviation Bureau, Ministry of Transport (3) Japan Radio Air Navigation Systems Association
5. **REMARKS** This seminar is conducted alternately with "Seminar on Air Traffic Control" every other year. This year (Japanese fiscal year 1998), "Seminar on Future Air Navigation Systems (FANS) Technology" is conducted.

## COMPREHENSIVE URBAN TRANSPORTATION PLANNING AND PROJECT

Sep. 26, 2000 - Dec. 10, 2000, 20 participants

総合都市交通計画・プロジェクト J-00-00581

1. **PURPOSE** This course aims to provide the participants with the theory and techniques of comprehensive urban transportation planning, as well as the necessary techniques for the implementation of urban transportation project.
2. **MAIN FEATURES OF CURRICULUM** (1) Study trip for the purpose of observing and understanding the present conditions of urban transport planning, introduction and operation in Japan. (15 days) (2) Lectures on comprehensive urban transport project such as planning, operation and management. (25 days) (3) Discussion on the traffic problems in each country, and country report presentation.
3. **QUALIFICATION OF APPLICANT** Applicants for this course should; (1) be currently engaged in urban planning, urban transportation planning or urban transportation faculty planning, (2) be university graduates or have equivalent abilities with at least 3 years of experience in their profession, and (3) be under 40 years of age.
4. **TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) City Bureau, Ministry of Construction
5. **REMARKS**

## METEOROLOGY II

Aug. 14, 2000 - Dec. 16, 2000, 9 participants

気象学 II J-00-00187

1. **PURPOSE** The purpose of this course is to provide participants with general and practical fundamentals applicable to various areas of operational meteorological services, through lectures, exercises, study tours and technical visits thus motivating participants to gain the comprehensive knowledge to be future leaders in their respective national meteorological services.
2. **MAIN FEATURES OF CURRICULUM** This course mainly consists of lectures with appropriate exercises and study visits. The themes of lecture/exercises are; (1) theoretical basics and technologies for operational meteorological services (2) personal computers in meteorological services (3) meteorological satellite data (4) short, medium and long range forecasting methods including numerical weather prediction (5) selected topics from research activities at Japan Meteorological Agency
3. **QUALIFICATION OF APPLICANT** (1) presently engaged in meteorological services for their governments or government-related public organizations (preferably having experience engaged in forecast) (2) university graduate or equivalent (WMO Classes I or II) with more than three years of occupational experience in the field of operational/practical meteorological services (3) under 40 years of age
4. **TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Japan Meteorological Agency (JMA)
5. **REMARKS**

## GLOBAL SEISMOLOGICAL OBSERVATION

Oct. 23, 2000 - Dec. 17, 2000, 10 participants

グローバル地震観測 J-00-03276

1. **PURPOSE** This course is designed to introduce up-to-date technologies and knowledge in the field of global seismological observation to the participants who are expected to play important roles in a global monitoring network on nuclear tests.
2. **MAIN FEATURES OF CURRICULUM** This course consists of lectures, practices and field studies. Subjects are: (1) introduction to seismology and nuclear politics (2) global seismic network (3) instrumentation and observation practice (4) hypocenter location (5) data processing (6) analysis of teleseismic record (7) source mechanism (8) world seismicity (9) practice of discrimination of nuclear explosion (10) study tour
3. **QUALIFICATION OF APPLICANT** (1) University graduates or equivalent, with at least three years' professional experience in the field of seismology (2) Well- versed in basic mathematics such as differentiation and integration (3) Under thirty-five (35) years of age
4. **TRAINING INSTITUTIONS** (1) Tsukuba International Centre (TBIC), JICA (2) International Institute of Seismology and Earthquake Engineering (IISEE), Building Research Institute, Ministry of Construction
5. **REMARKS**

## VOLCANOLOGY AND SABO ENGINEERING

Mar. 20, 2001 - Sep. 15, 2001, 7 participants

火山学・砂防工学 J-00-00630

1. **PURPOSE** The purpose of the course is to introduce participants to basic and modern concepts of volcanology and mitigation of volcanic disasters through lectures, exercises and field studies. For this purpose, the first half of the course is allotted to the common course and the second half is divided into two topics; volcanology and volcanic sabo engineering (volcanic disaster prevention engineering).
2. **MAIN FEATURES OF CURRICULUM** This course consists of three parts; (1) common subjects for all participants (2) training for sub-groups (3) individual training at university/research institute/technical center. For the second part, participants will be divided into the volcanology group and volcanic sabo engineering group. Volcanology group studies. (2) (a) up-to-date physical and geological concept of volcanism (b) theory of seismology, geodesy, geomagnetism, geotherm and geochemistry with the aid of exercises (c) methods of volcano monitoring, data analysis and interpretation emphasizing eruption forecasting. Volcanic sabo engineering group studies (a) basic theories necessary for study and planning of erosion and sediment control engineering (b) mechanism and structure of debrismud flows (c) engineering technology and administrative countermeasures against volcanic disaster in the second part of training.
3. **QUALIFICATION OF APPLICANT** (1) university graduate or equivalent (2) be under 35 years of age (3) presently engaged in the volcanic observation and/or disaster prevention (sabo works) and be scheduled to engage in the same field after completion of the course
4. **TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Department of Erosion and Sediment Control, Ministry of Construction (3) Japan SABO Association
5. **REMARKS** (1) Country Reports will be highly utilized both for the selection of participants and for the country report presentation. (2) All the participants of this course are requested to bring Volcanological or Volcanic Sabo Engineering data necessary for the theme of studies during their individual programmes. (3) An intensive Japanese language course will be conducted for one week prior to the technical training.

## SEMINAR ON SEISMOLOGY AND EARTHQUAKE ENGINEERING

Sep. 25, 2000 - Oct. 29, 2000, 12 participants

地震工学セミナー J-00-00246

1. **PURPOSE** The purpose of the seminar is to update the knowledge and expertise of engineers and seismologists who have previously participated in "The Group Training Course in Seismology and Earthquake Engineering" or equivalent. We focus the topics on real time seismology and its application to earthquake disaster mitigation.
2. **MAIN FEATURES OF CURRICULUM** The course consists of lectures, discussions, observation and field tours. The subject is the real time seismology, which has been developed and applied for earthquake disaster reduction in the last decade. The curriculum involves real time processing of seismic data for determination of earthquake hypocenter, magnitude, and source mechanism, damage evaluation immediately after a big quake, and quick countermeasure for reduction of earthquake disaster and so forth.
3. **QUALIFICATION OF APPLICANT** (1) university graduate or equivalent with professional experience in the field of seismology for more than five years, and be engaged in the research on seismology or seismological observation, (2) over 30 and under 50 years of age.
4. **TRAINING INSTITUTIONS** (1) Tsukuba International Centre (TBIC), JICA (2) International Institute of Seismology and Earthquake Engineering (IISEE), Building Research Institute, Ministry of Construction
5. **REMARKS** This course is conducted every other year in principle. A certain subject is selected out of Seismology or Earthquake Engineering for each time.

## SEISMOLOGY AND EARTHQUAKE ENGINEERING

Aug. 28, 2000 - Jul. 22, 2001, 20 participants

地震・耐震工学 J-00-00634

1. **PURPOSE** The purpose of the course is to contribute to upgrade the knowledge and technique of the participants in the field of seismology, earthquake engineering and earthquake disaster prevention measures through lectures (including colloquiums, exercises, practical training, field trips) and individual studies, so as to nurture researchers and engineers capable of playing an important role in these fields.
2. **MAIN FEATURES OF CURRICULUM** During the first five months, participants will be divided into two groups, Seismology sub-course and Earthquake Engineering sub-course according to their request on the application, and then if they take interest in earthquake disaster mitigation technology, they can participate in another sub course called "Earthquake Disaster Prevention" for about two months. This course consists of, common subjects for all participants, individual subjects for each group, and individual training in the laboratory. The outline of the subjects on the training course are as follows. (1) Subject in common: general seismology and earthquake engineering, strong ground motion, mathematics, basic computer programming, etc. (2) Seismology group: computer, elasticity, data processing, seismic surface waves, interpretation of seismograms, seismicity and plate tectonics, study trip, three months' individual study, etc. (3) Earthquake engineering group: soil mechanics and dynamics, structural analysis and dynamics, earthquake resistant design of building structure, study trip, three months' individual study, etc. (4) Earthquake Disaster Prevention Measures sub-course: Besides above mentioned subjects, they will learn subjects related to earthquake disaster prevention, such as urban disaster mitigation, earthquake damage assessment, seismic diagnosis and so on.
3. **QUALIFICATION OF APPLICANT** (1) University graduate or equivalent with at least three years' professional experience (2) Well versed in basic mathematics such as differentiation and integration (3) Under 35 years of age
4. **TRAINING INSTITUTIONS** (1) Tsukuba International Centre (TBIC), JICA (2) International Institute of Seismology and Earthquake Engineering (IISEE), Building Research Institute, Ministry of Construction
5. **REMARKS** (1) Those participants who have passed the examination on more than five subjects and submitted their individual study report are granted a Diploma of IISEE. (2) An intensive Japanese language class will be conducted prior to the technical training for one week.

## SEMINAR ON PUBLIC WORKS ADMINISTRATION IN REGIONAL GOVERNMENT

Sep. 25, 2000 - Nov. 9, 2000, 5 participants

地域土木行政セミナー J-00-03290

1. **PURPOSE** In developing countries, "sustainable development" is called for public works projects. Spread of technologies and promotion of competent people for sustainable development is a pressing need. This course is designed for the senior engineers in civil works in developing countries. The purpose of this course is to introduce legislative systems, budgeting, execution systems, construction flow, environmental concerns, construction technologies and other topics by lectures, seminars and on-the-spot observation studies, and thereby to contribute to development of national land in developing countries.
2. **MAIN FEATURES OF CURRICULUM** This course consists of lectures, seminars, and observations. (Lecture) legislative systems, budget systems, execution systems, role allotment of the national and local governments, planning and construction flow concerning public works, and harmonization of the public works and environmental protection. (Seminar) Opinion exchanges between the lecturers and the participants. (Observation) Observation of different kinds of public works facilities and construction sites.
3. **QUALIFICATION OF APPLICANT** (1) senior technical officials who are engaged in public works administration with more than five years of experience in this field (2) under 40 years of age (3) university graduates or equivalent.
4. **TRAINING INSTITUTIONS** (1) Hokkaido International Centre, Sapporo (HICS), JICA (2) Department of Public Works, Hokkaido Government
5. **REMARKS**

## NATURAL DISASTER MITIGATION

no executed in FY 2000

自然災害防災研究

1. **PURPOSE** The course is designed to introduce research methodology of research on mitigation of the natural disaster in the developing countries to researchers, scientists, and engineers in the field of mitigation of natural disaster.
2. **MAIN FEATURES OF CURRICULUM** The course consists of research 95%, observation, presentation, on the research methodology for the mitigation of natural disasters such as earthquake, landslide, rainfall related to disasters, typhoon, river disaster, snowslide and so on.
3. **QUALIFICATION OF APPLICANT** (1) be researchers, scientists, or engineers with more than three years' occupational experience of research for the mitigation of natural disaster. (2) be more than 25 years and less than 40 years old. (3) be university graduates in the field of science, engineering and other relevant fields or equivalent with a fundamental knowledge of science and technology.
4. **TRAINING INSTITUTIONS** (1) Tsukuba International Centre (TBIC), JICA (2) National Research Institute for Earth Science and Disaster Prevention (NIED), Science and Technology Agency
5. **REMARKS** An intensive Japanese language class will be conducted prior to the technical training for one week.

## DISASTER MITIGATION AND RESTORATION SYSTEM FOR INFRASTRUCTURE (FOR CIVIL ENGINEER)

May 8, 2000 - Jul. 20, 2000, 8 participants

インフラ防災・復旧システム J-00-03301

1. **PURPOSE** The purpose of this course is to provide civil engineers who are engaged in infrastructure maintenance with comprehensive knowledge and techniques on the restoration from disasters and reconstruction methods, and thereby to contribute to the establishment of the restoration system in developing countries
2. **MAIN FEATURES OF CURRICULUM** This course includes lectures and practices on (1) the outline of the great Hanshin earthquake (2) mechanism of earthquake disaster (3) aseismatic technology (4) predicting earthquakes (5) mechanisms of ordinary disasters in rivers and roads (6) disaster prevention plan (7) disaster-prevention-city plan (8) activities at the initial stage and rescue system (9) evacuation measures (10) protection of lifeline (11) communication at the time of disasters (12) disaster prevention (13) disaster rescue method and its application (14) administrative work of reconstruction for restoration, and (15) group research (disaster restoration plan)
3. **QUALIFICATION OF APPLICANT** (1) technical executive officials who are engaged in civil engineering (2) have more than 7 years' experience (3) between 30 and 39 years of age (4) university graduate and equivalent (5) civil engineer
4. **TRAINING INSTITUTIONS** (1) Osaka International Centre (OSIC), JICA (2) Kinki Regional construction bureau, MOC (3) Japan Construction Training Center Foundation (JCTC)
5. **REMARKS** A compulsory intensive Japanese language course for one week will be conducted prior to the technical training.

## COMPREHENSIVE BRIDGE ENGINEERING

Oct. 3, 2000 - Dec. 10, 2000, 14 participants

橋梁総合コース J-00-00690

1. **PURPOSE** The purpose of the course is to provide opportunities to learn the general techniques of bridge engineering, used in Japan (including planning, design and construction of bridges) so that the participants will be able to improve the technology in bridge engineering and to contribute to the development of their countries.
2. **MAIN FEATURES OF CURRICULUM** In this course, the following major subjects will be covered through lectures, discussions and observation trips. (1) roads and bridges in Japan (2) design and construction of substructures (3) design and construction of concrete bridges (4) fundamental bridge design theory (5) design and construction of steel bridges (6) maintenance and repair of bridges
3. **QUALIFICATION OF APPLICANT** (1) university graduate or equivalent with occupational experience of more than five years (2) presently engaged in bridge and highway construction (3) not more than 40 years of age
4. **TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Road Bureau, Ministry of Construction
5. **REMARKS** Country Reports will be highly utilized both for the selection of participants and for the Country Report presentation.

## CONSTRUCTION ENGINEERING II (CIVIL WORKS)

Jul. 31, 2000 - Nov. 9, 2000, 9 participants

建設施工 II J-00-00209

1. **PURPOSE** The aim of the course is to help senior administrative engineers of governmental organizations to gain broader views on construction engineering by introducing the latest techniques and information related to construction engineering, thus to contribute to the development of human resources in this field of participating countries.
2. **MAIN FEATURES OF CURRICULUM** This course consists of lectures and observations. The main themes are: (1) general information on public works in Japan and overseas construction (2) fundamental studies (a) geotechnical engineering, concrete, asphalt, steel and new materials, introduction of construction machinery, etc. (3) execution planning and management (a) work planning, process planning, introduction to construction management, machinery control, safety control, counter measures for environmental protection, cost estimation, geotechnical analysis, etc. (4) construction techniques (a) earthwork, concrete work, shield work, paving work, improvement work, foundation work, tunnel construction, bridge construction (steel and concrete), road maintenance, dam construction, Sabo etc.
3. **QUALIFICATION OF APPLICANT** (1) university/college graduate in civil engineering or equivalent (2) under 40 years of age (3) more than five years experience in planning, design, execution and project management of civil engineering works
4. **TRAINING INSTITUTIONS** (1) Osaka International Centre (OSIC), JICA (2) Japan Construction Mechanization Association (JCMA) (3) Construction Equipment Division, Ministry of Construction (MOC) (4) Construction Equipment Division, Kinki Regional Construction Bureau, MOC
5. **REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for two weeks.

## ENVIRONMENTAL ASSESSMENT IN INFRASTRUCTURE DEV'T (FOR CIVIL ENGINEER)

May 8, 2000 - Jul. 23, 2000, 8 participants

社会資本関連環境影響評価 J-00-00574

1. **PURPOSE** To contribute to harmony of development and environmental preservation in participating countries by training civil engineers in the techniques required in environmental assessment, assessment of effects on environment, measures for environmental preservation, etc. for minimizing the effects of infrastructure development on environment, maintaining favorable environment for the people, and for preserving nature.
2. **MAIN FEATURES OF CURRICULUM** This course consists of lectures, observations, group studies, and study tours as follows: (1) regional plans (2) environmental plans (3) environmental assessment (4) environmental projections (5) environmental preservation measures (6) assessment of effects on environment * Under the word "Environment", this course deals with water quality, noise, vibration, air quality, animals and vegetation
3. **QUALIFICATION OF APPLICANT** (1) university graduate in civil engineering or equivalent (2) five or more years of experience in infrastructure development administration (3) under 40 years old in age
4. **TRAINING INSTITUTIONS** (1) Osaka International Centre (OSIC), JICA (2) Engineering Affairs Management Section, Minister's Secretariat, Ministry of Construction (MOC) (3) International Affairs Division, Economic Affairs Bureau, MOC (4) Planning Department, Kinki Regional Construction Bureau, MOC (5) Japan Construction Training Center Foundation (JCTC)
5. **REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for one week.

## THE ADVANCED COURSE OF PRACTICAL CONSTRUCTION MANAGEMENT (FOR CIVIL ENGINEER)

Aug. 28, 2000 - Nov. 10, 2000, 9 participants

総合建設プロジェクトマネジメント J-00-00633

1. **PURPOSE** The purpose of this course is to help senior administrative engineers of public corporations and private enterprises to master comprehensive techniques, practical knowledge and application techniques in project planning, construction management, and quality control with a view to upgrading the ability of leading construction managers in developing countries, thus contributing to the qualitative improvement of construction technology and civil engineering works in their respective countries.
2. **MAIN FEATURES OF CURRICULUM** The course will be conducted in the form of lectures, observations of construction sites, case studies, group work, discussions, and practical training. Emphasis will be put on case studies. The main themes are: (1) introduction of management and organization of construction projects (2) construction planning (3) construction management and methods (4) construction project management (group study)
3. **QUALIFICATION OF APPLICANT** (1) university graduate or those who have undergone higher education in the field of civil engineering or have equivalent educational qualifications (2) at least five years of experience as construction managers (3) under 40 years of age
4. **TRAINING INSTITUTIONS** (1) Osaka International Centre (OSIC), JICA (2) Japan Construction Training Center Foundation (JCTC) (3) Engineering Affairs Management Section Minister's Secretariat, Ministry of Construction (MOC) (4) International Affairs Division, Economic Affairs Bureau, MOC (5) Planning Department, Kinki Regional Construction Bureau, MOC
5. **REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for one week.

## SOCIAL INFRASTRUCTURE DEV'T AND PLANNING (FOR CIVIL ENGINEER)

Aug. 14, 2000 - Oct. 22, 2000, 8 participants

社会資本整備計画 J-00-03326

1. **PURPOSE** This course offers to those who belong to the government or government affiliated organizations of developing countries an opportunity to acquire the contemporary knowledge and techniques concerning the roles of infrastructure, methods and process of survey, analysis, and planning, through lectures, observations and group studies.
2. **MAIN FEATURES OF CURRICULUM** This course consists of common subjects for all participants and group studies. It covers very broad technical fields; roads, railways, ports, water supply, sewage system, dams, and telecommunication in order for participants to obtain wide knowledge and technique to prepare comprehensive plans for the infrastructure. The main themes are: (1) introduction and social scheme of infrastructure development (a) development and economic effect of infrastructure in Japan, cultural climate and social infrastructure, Japanese overseas technical cooperation in infrastructure development (2) regional/urban planning (a) regional development, city planning, water supply system, sewage system, garbage management (3) highway, transport, telecommunication planning (a) road network, urban transport, railways (4) river/port planning (a) river improvement and management (water resources, flood control), port and harbour (5) case study (group discussion) on infrastructure development plans
3. **QUALIFICATION OF APPLICANT** (1) university graduates or those who have equivalent educational qualifications in the field of civil engineering, (2) civil engineers with at least five years' experience in planning infrastructure development (roads, railways, ports, water supply and sewage systems, dams, etc) (3) under 40 years of age
4. **TRAINING INSTITUTIONS** (1) Osaka International Centre (OSIC), JICA (2) Engineering Affairs Management Section, Minister's Secretariat, Ministry of Construction (MOC) (3) International Affairs Division, Economic Affairs Bureau, MOC (4) Planning Department, Kinki Regional Construction Bureau, MOC (5) Japan Construction Training Center Foundation (JCTC)
5. **REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for one week.

## CONSTRUCTION TECHNOLOGY IN UNDERGROUND

Oct. 10, 2000 - Dec. 1, 2000, 12 participants

地下空間における建設技術 J-00-03467

1. **PURPOSE** The utilization and development of underground space is essential for the improvement of infrastructures. The purpose of this course is to introduce participants to new knowledge concerning construction technology in underground which contains planning, design and construction methods of excavation, earth retaining, tunnel construction, foundations and some other related subjects in recent geotechnical and geoenvironmental engineerings. NOTE: This course is designed for researchers or senior officials engaged in construction technology. It is not recommended for administrative staff who do not have a fundamental knowledge of geotechnical engineering.
2. **MAIN FEATURES OF CURRICULUM** In this course, the following major subjects will be covered through lectures, practices, discussions and observation trips: (1) Soil and rock mechanics necessary for underground construction (2) Geotechnical exploration and laboratory tests for soil and rock (3) Design method of underground structures (4) Construction methods in underground (5) Related topics in recent geotechnical and geoenvironmental engineering
3. **QUALIFICATION OF APPLICANT** (1) Researcher or senior official in charge of geotechnical construction, administration or geotechnical construction projects, and have more than five years of practical experience in central or local government, or government related organization (2) Under 45 years of age (3) university graduate or equivalent, and have knowledge of geotechnical engineering
4. **TRAINING INSTITUTIONS** (1) Tokyo International centre (TIC), JICA (2) Economic Affairs Bureau, Ministry of Construction (3) The Japanese Geotechnical Society
5. **REMARKS** Country Reports will be highly utilized both for the selection of participants and for the Country Report presentation

## EXECUTIVE'S SEMINAR ON PUBLIC WORKS AND MANAGEMENT

Oct. 9, 2000 - Oct. 20, 2000, 8 participants

土木技術マネジメント幹部セミナー　　J-00-00587

1. **PURPOSE** This seminar is intended for executive engineers in leading posts to plan and promote public works research and development in Asian countries. The purpose of this seminar is (i) to introduce up-to-date information and technology on purblic works research and development including the comprehensive construction management to the participants with a view to develop their planning and administration abilities on public works, (ii) to promote and strengthen human network among Asian countries through attending the seminar and conference.
2. **MAIN FEATURES OF CURRICULUM** This seminar is consist of Country report presentation, lectures, participation in the conference, discussion in the field of public works, and field trips.
3. **QUALIFICATION OF APPLICANT** (1) university graduate or equivalent in the field of public works engineering (2) director general or equivalent high-ranking officials responsible for management or administration of public works in government or research institutions
4. **TRAINING INSTITUTIONS** (1) Tsukuba International Centre (TBIC), JICA (2) Public Works Research Institute, Ministry of Construction
5. **REMARKS**

## NATIONAL LAND DEVELOPMENT

Sep. 10, 2000 - Oct. 22, 2000, 10 participants

国土開発　　J-00-00643

1. **PURPOSE** The purpose of the course is to provide participants with the latest theoretical and practical knowledge of regional development policy through lectures, discussions and observation trips, thereby contributing to regional development in the participating countries.
2. **MAIN FEATURES OF CURRICULUM** In this Course, the emphasis is put on introduction of Japanese experience and discussions based on report presentation by participants. The Course deals with planning, policy formulation and implementation of regional development. The major subjects are; (1) outline of regional development policy (2) specific study for regional development policy (3) Computer Simulation Practice (4) Observation Tour (5) discussions based on country reports and study reports
3. **QUALIFICATION OF APPLICANT** (1) engaged in planning or implementation of national or regional development projects and policies for more than 3 years (2) university graduates or equivalents (3) under 50 years of age
4. **TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Minister's Secretariat, National Land Agency
5. **REMARKS**

## SEMINAR ON DISASTER MANAGEMENT

Jan. 23, 2001 - Feb. 23, 2001, 14 participants

防災行政管理者セミナー　　J-00-00695

1. **PURPOSE** The purpose of the seminar is to: (1) provide the latest administrative knowledge of disaster prevention as a total system of prediction, evacuation, recovery and disaster reduction. (2) show the variety of the activities and organizations involved in disaster prevention administration, give a brief outline of the individual activities and demonstrate how these are organized in the Japanese disaster prevention administrative system. (3) exchange ideas and experiences concerning natural disaster prevention, and to discuss international cooperation for natural disaster reduction.
2. **MAIN FEATURES OF CURRICULUM** In this seminar, the emphasis is put on introduction of basic theory and exchange of ideas and experiences. The main themes are; (1) policy formation, enforcement and implementation of disaster countermeasures in Japan (2) international cooperation for natural disaster prevention and reduction (3) implementation of disaster countermeasures of local government in Japan
3. **QUALIFICATION OF APPLICANT** (1) presently engaged in government agencies responsible for disaster prevention (2) not more than 45 years of age (3) university graduate or equivalent
4. **TRAINING INSTITUTIONS** (1) Hyogo International Centre (HIC), JICA (2) Disaster Prevention Bureau, National Land Agency (3) Asian Disaster Reduction Center
5. **REMARKS**

## RIVER AND DAM ENGINEERING II

Aug. 14, 2000 - Nov. 24, 2000, 10 participants

河川及びダム工学 II　　J-00-00169

1. **PURPOSE** This course is aimed at introducing the latest information and technology in the field of river and dam engineering to the participants presently engaged in flood control or water resources development project.
2. **MAIN FEATURES OF CURRICULUM** (1) Participants will be divided into two groups, the river group and the dam group. The course consists of three parts: one and half months of common subjects for both groups, one month of specialized subjects designed for each group, three weeks' on site survey and field trips and one week of individual research training in the laboratories. (2) specialized subjects for the river group are as follows. (a) river dynamics (b) comprehensive flood loss prevention (c) channel planning/design water level (d) embankment, revetment, groynes (e) sediment hydraulics/exercise (f) sabo planning (g) land slide prevention planning (h) design of sabo facilities/exercise (i) river management (j) flood control and drainage (k) naturally diverse construction method (3) specialized subjects for the dam group are as follows: (a) outline of dam planning (b) geological investigation for dam construction (c) foundation treatment (d) design and construction of dam/exercise (e) design of spillway and gate/exercise (f) earthquake resistant design of dams (g) safety management of dams (h) operation and management of reservoirs (i) multipurpose dam law (j) case studies of dam designing (k) execution of dams.
3. **QUALIFICATION OF APPLICANT** (1) presently engaged in flood control works or water resources development projects (2) university graduate or equivalent with basic knowledge in civil engineering (3) occupational experience of more than five years in the field of flood control works or water resources developments projects (4) under 40 years of age
4. **TRAINING INSTITUTIONS** (1) Tsukuba International Centre (TBIC), JICA (2) River Bureau, Ministry of Construction (MOC) (3) Public Works Research Institute, MOC
5. **REMARKS** (1) An intensive Japanese language course will be conducted prior to the technical training for one week (25 hours).

## IRRIGATION WATER RESOURCES IN ARID AND SEMI-ARID REGION AND EIA FOR SUSTAINABLE DEVELOPMENT

Jul. 31, 2000 - Dec. 8, 2000, 9 participants

乾燥地水資源の開発と環境評価 J-00-00620

1. PURPOSE This course is intended for the core engineers engaged in the development of water resources in those developing countries situated in arid and semi-arid areas, with the concrete aim of enhancing the practical capabilities through the good command of technical know-how combined with thorough understanding of the basic knowledge required for the development to which due environmental consideration must be given. Through the present course, participants are expected: (1) to acquire comprehensive knowledge and technologies indispensable for the development of water resources in arid areas to be able to analyze, make full use of the data and literature of hydrology and handle the behavioral analysis of surface/ground water and run-off analysis, and to design excellent facilities for water storage and supply, (2) to acquire knowledge and technologies required for the effective utilization of water resources, such as planned water-use, deliberate hydrologic management, and irrigation and drainage systems, (3) to acquire knowledge and technologies required for the environment impact assessment to appraise the deterioration of soil fertility, inhibition of salt injury, water quality change, degradation degree of hydrologic facilities and structures and forest resources, and (4) to obviously master expertise required for the settlement to the basic plan for water resources development giving due consideration to environmental conditions including knowledge and technology of monitoring.
2. MAIN FEATURES OF CURRICULUM In this course, the emphasis is put on observation, report presentation, lectures which introduce Japanese experience of agricultural practice and usage of water resources in arid and semi-arid areas, and discussion by participants. The technical training consists of collective courses in the first half of the term and individual course in the second half of the term, respectively. For each subject, lectures comprising theoretical explanations will be given in the first place, and then practical training and observation sessions will be given to deepen the understanding of the theoretical study. In the collective training performed in the first half of the term, eight subjects will be studied; data/information processing, crops suitable for arid areas, plant nutrition (fertilization), management of field water, water storage and supply facilities and facilities management, soil/water quality assessment, underground water and run-off analyses, soil control, preservation of greens and vegetation assessment. In the second half of the term, after choosing the subjects to which he/she may have a special cling or concern, each participant will study separately within a group of 2-3 persons at each lecturer's lab. Following subjects will be expected: (1) Crops suitable for arid areas and plant nutrition (fertilization), (2) Management of field water, (3) Facilities for water storage and supply; facilities management, (4) Soil/water quality assessment, (5) Soil control, (6) Preservation of greens; assessment of vegetation.
3. QUALIFICATION OF APPLICANT (1) presently engaged in either research, engineering, or educational activity and have more than two years of occupational experience in the field (2) university graduate or equivalent (3) not more than 50 years of age
4. TRAINING INSTITUTIONS (1) Chugoku International Center (CIC), JICA (2) Tottori University, Faculty of Agriculture, Arid Land Research Center and Faculty of Engineering
5. REMARKS A compulsory intensive Japanese language course will be conducted prior to the technical training for one week (25 hours).
6. OTHER The course has been held 19 times so far, and it is the last course.

## PLANNING FOR THE DEVELOP. OF URBAN ENVIRONMENTAL FACILITIES (RURAL CORE CITY)

Aug. 27, 2000 - Nov. 1, 2000, 8 participants

都市環境施設整備計画(地方中核都市) J-00-03362

1. **PURPOSE** The course is designed to train urban planning officers and engineers to be leaders in the field of urban facilities planning with the view of care for local residents and environmental consideration. This is accomplished through special training programs which teach techniques for the planning of roads, water works, public space, etc.
2. **MAIN FEATURES OF CURRICULUM** Common subject; City planning projects of Japan, Urban Planning system, Land use, u urban facilities, land readjustment, urban amenities, topics of urban environmental facilities Specialized subjects; Urban facilities road system, City plan for public garden, Sewerage ,Refuse disposal plant, River improvement and conservation, Urban redevelopment project, Observation of urban environmental facilities Summarized subject; urban environmental facilities planning (practice)
3. **QUALIFICATION OF APPLICANT** (1) to be engineer or administrative officer engaged in planning for urban facilities with more than two years experiences (2) to be over 25 and under 45 years of age (3) to be a university graduate or the equivalent, (4) to be proficient in spoken and written English, (5) to be in good health, (6) not to be serving in the military
4. **TRAINING INSTITUTIONS** (1) Obihiro City (2) Hokkaido University
5. **REMARKS**

## URBAN GREENERY AND PARK ADMINISTRATION

Aug. 21, 2000 - Nov. 10, 2000, 6 participants

都市緑化行政 J-00-03365

1. **PURPOSE** The course is intended for administrators in participating countries who are responsible for promoting projects to increase greenery and park construction in the cities. It will include study of governmental policies and technical issues related to increasing urban greenery, preserving existing green spaces, city parks, natural parks and recreational facilities. Basic knowledge and experience necessary for the participants to respond, in an informed manner, to policy proposals and decisions will also be covered. The overall aim of the course is to upgrade the technical abilities of the leading governmental administrators and thus enabling them to contribute to the improvement of the living environment in developing countries.
2. **MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on introduction of Japanese experience and basic theories of greenery in city-planning and park administration. The main themes are: (1) creation of green space (a) policies of urban design with flowers and greenery, planning and design of planting, planning and policies of parks and green spaces (2) preservation and conservation of green spaces (a) national parks, Japanese gardens
3. **QUALIFICATION OF APPLICANT** (1) supervisory administrators responsible for over-all urban greenery and park development with practical experience of at least seven years (2) under 40 years of age (3) university/college graduate or equivalent
4. **TRAINING INSTITUTIONS** (1) Osaka International Centre (OSIC), JICA (2) Osaka International House Foundation (3) Public Works Bureau, Osaka Municipal Government
5. **REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for one week.

## COMPREHENSIVE CITY PLANNING

Aug. 20, 2000 - Oct. 22, 2000, 10 participants

都市計画総合 J-00-00689

1. **PURPOSE** The purpose of this course is to introduce city planners who are directly engaged in city planning to fundamental knowledge and technique of city planning experienced in Japan. These include information on the city planning systems, urban development works and the direction of future policy in Japan, which are useful for comparative studies. The participants will also be suggested to find a way how to deal with the problems of their own towns and cities by exchanging their views and experiences on the occasion of presentation of the Country Report prepared by participants.
2. **MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on introduction of Japanese systems and situations as follows: (1) city planning methods and urban development projects (2) planning and provision of urban transport (3) present housing situation (4) environmental aspects of urban development and urban transport (5) "kukaku-seiri" (Japanese method of urban land readjustment) applicable both to built-up and suburban areas (6) social, economic and institutional aspects of city planning
3. **QUALIFICATION OF APPLICANT** (1) university graduate or equivalent with occupational experience of more than three years (2) presently engaged in city planning (3) under 40 years of age
4. **TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) City Bureau, Ministry of Construction
5. **REMARKS** Country Reports will be highly utilized both for the selection of participants and for the Country Report presentation.

## URBAN DEVELOPMENT (FOCUSED ON LAND READJUSTMENT MEASURES)

May 9, 2000 - Jul. 2, 2000, 10 participants

都市整備 J-00-00325

1. **PURPOSE** The purpose of the course is to introduce participants through lectures and observations to land readjustment methods and projects carried out in Japan with specific objectives and their background; at the same time, provide participants with opportunities to exchange views on urban development, so as to contribute to the acquisition of practical knowledge for their purposes.
2. **MAIN FEATURES OF CURRICULUM** In this course, the following major subjects will be covered through lectures, discussions, practices and observation trips. (1) Japanese systems and methods of kukaku-seiri (Japanese method of urban land readjustment) applicable both to built-up and suburban areas (2) Japanese systems and methods of new town development (3) Japanese systems and methods of urban renewal (4) social background and problems which lead to the above-mentioned urban development activities (5) policies and methods of urban development in each participating country
3. **QUALIFICATION OF APPLICANT** (1) university graduates or equivalents with occupational experience of more than three years (2) under 40 years of age (3) presently engaged in planning and/or implementation of urban development and redevelopment
4. **TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) City Bureau, Ministry of Construction (3) Japan Association of Land Readjustment
5. **REMARKS** Country Reports will be highly utilized both for the selection of participants and for the country report presentation.

## PRACTICAL LAND READJUSTMENT FOR URBAN DEVELOPMENT

Jan. 8, 2001 - Mar. 26, 2001, 10 participants

都市開発における土地区画整理事業実務 J-00-03385

1. **PURPOSE** To encourage urban development in developing countries with well trained persons having comprehensive and practical knowledge for implementation of land readjustment project. By the end of the training course, participants are expected to deepen their understanding of: (1) The Japanese city planning system; (2) The preparation of an implementation plan for Land Readjustment Project; (3) Land evaluation method and replotting design; and (4) Basic procedures for implementing the project
2. **MAIN FEATURES OF CURRICULUM** The following major subject will be taught by lectures, experience etc. in the course. (1) city planning (city planning system, land use planning, city planning facilities, urban development projects) (2) land readjustment (land readjustment act, framework of land readjustment, procedures of project implementation, land readjustment project survey, land readjustment design, implementation plan, land evaluation, repotting, building removal, construction plan, construction management, financial plan)
3. **QUALIFICATION OF APPLICANT** (1) officials of national/ local government or authorities concerned who are presently engaged in urban development projects (2) university graduate or equivalents (3) between '25' and '45' years of age.
4. **TRAINING INSTITUTIONS** (1) Chubu International Centre (CBIC), JICA (2) Nagoya Urban Institute
5. **REMARKS** Japanese language course available (25 hours)

## TECHNOLOGY FOR PREVENTION FROM PREMATURE DETERIORATION OF CONCRETE STRUCTURES

Jan. 8, 2001 - Jun. 29, 2001, 8 participants

コンクリート構造物耐久性向上技術 J-00-03465

1. **PURPOSE** The purpose of this course is to provide knowledge and information on prevention of premature deterioration of concrete structures in order to disseminate the technology in this field and to improve the durability of concrete structures in participating countries.
2. **MAIN FEATURES OF CURRICULUM** In this course, the following major subjects will be covered through lectures, discussions and observation trips: (1) method of corrosion investigation of existing ferroconcrete structures (2) basic engineering technique of concrete (material examination, mixing examination, etc.) (3) basic corrosion engineering technique (4) chemical analysis technology on quality of concrete (5) study on improvement of quality of concrete, material, and construction technique by using concrete material in respective countries (6) making a guideline about corrosion prevention of structures and improvement of durability
3. **QUALIFICATION OF APPLICANT** (1) technical officials in charge of construction of concrete structures or engineers who are engaged in research on concrete materials (2) have more than 5 years' experience (3) between 27 and 40 years of age (4) university graduates
4. **TRAINING INSTITUTIONS** (1) Osaka International Centre (OSIC), JICA (2) General Building Research Corporation of Japan
5. **REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for two weeks (25 hours).

## SEMINAR ON PRACTICAL APPLICATION OF CONSTRUCTION TECHNOLOGY

May 9, 2000 - Jun. 24, 2000, 9 participants

建設技術活用・応用セミナー J-00-00637

1. **PURPOSE** The purpose of the seminar is to provide participants with the latest work methods, new materials and inspection methods so that participants will be able to contribute to improvement of construction work in their respective countries.
2. **MAIN FEATURES OF CURRICULUM** The seminar will NOT cover all the field of construction. It covers the following major subjects: (1) outline of advanced construction technology (2) advanced work methods in civil engineering works (3) application of new materials (4) advanced inspection methods
3. **QUALIFICATION OF APPLICANT** (1) university graduates of civil engineering or related courses, or equivalent (2) have more than seven years of actual experience in construction works (3) not more than 40 years of age
4. **TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Minister's Secretariat, Ministry of Construction (3) Japan Construction Training Center (JCTC)
5. **REMARKS** This seminar does not cover the field of building construction.

## ARCHITECTURAL ENGINEERING

May 9, 2000 - Jun. 25, 2000, 12 participants

建築技術 J-00-00270

1. **PURPOSE** The purposes of the course is to provide participants with the latest information and knowledge concerning Japanese architectures and building technology so that participants will be able to play a greater role for further progress and advancement of architectures and building technology in their respective countries.
2. **MAIN FEATURES OF CURRICULUM** The course consists of lectures (regulation and standard, and building technology in Japan) and visits to related organizations. The following themes are covered. (1) Japanese architectures and building technologies including the social and economic background (2) cross-cultural perspective of architectures and building technologies (3) appropriate mode of building technologies in each participating country
3. **QUALIFICATION OF APPLICANT** (1) officials of the government or related governmental organization and expected to have leading position in architectural construction field (2) under 40 years of age (3) university graduates or equivalents with occupational experience of more than five years and with the general knowledge in the broad field of building or architectural engineering such as building administration, architectural designing and structural engineering
4. **TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Housing Bureau, Ministry of Construction (3) Building Centre of Japan (BCJ)
5. **REMARKS** Country Reports will be highly utilized both for the selection of participants and for the Country Report presentation.

## HOUSING POLICY II

Oct. 26, 2000 - Dec. 10, 2000, 15 participants

住宅政策 II J-00-00583

1. **PURPOSE** The purpose of the course is to provide participants with examples and experiences of Japanese housing policies and administration as well as to contribute to the development of human living conditions in their countries.
2. **MAIN FEATURES OF CURRICULUM** The course mainly consists of lectures, discussions, and observations, to cover the following themes: (1) outline of housing policies in Japan (2) general knowledge of housing administration, such as knowledge related to financial systems, new town development and urban renewal plans.
3. **QUALIFICATION OF APPLICANT** (1) a mid-career official in charge or expected to take charge of housing policy at the central or local government level or at a related governmental organization (2) an university graduate or the equivalent (3) over 30 but under 40 years of age.
4. **TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Housing Policy Division, Housing Bureau, Ministry of Construction (3) The Building Center of Japan (BCJ)
5. **REMARKS** This course is conducted alternately with "Seminar on Improvement of Housing and Living environment "every other year. This year (Japanese fiscal year 1998), "Housing policy" course is conducted.

## SEMINAR ON IMPROVEMENT OF HOUSING AND LIVING ENVIRONMENTS

no executed in FY 2000

住宅・住環境改善セミナー

1. **PURPOSE** The purpose of the seminar is to provide knowledge that will enable participants to contribute to the planning and management of housing and living environment projects in their own countries through providing better understanding of the Japanese system for housing and living environment projects as well as actual problem-solving measures that can be utilized.
2. **MAIN FEATURES OF CURRICULUM** The seminar is discussion-oriented. Study report making and presentations by each participant are also a major part of the seminar. The themes to be covered are; (1) problems and countermeasures in developing countries (2) ways to manage housing and living environment projects (3) necessary knowledge for policy formulation
3. **QUALIFICATION OF APPLICANT** (1) experienced official in charge of executing various developmental projects on housing and living environments at the central or local government level, or at a related governmental organization, and being expected to play a leading role in the said field (2) over 30 but under 45 years of age (3) university graduate or equivalent
4. **TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Housing Bureau, Ministry of Construction (3) The Building Center of Japan
5. **REMARKS**

## CONSTRUCTION SAFETY MANAGEMENT

Oct. 2, 2000 - Nov. 19, 2000, 10 participants

建設安全管理 J-00-03377

1. **PURPOSE** The course aims to upgrade participants' planning capacity in construction safety management through fundamental concepts, frameworks of relevant laws and regulations,and planning methods.
2. **MAIN FEATURES OF CURRICULUM** The following topics will be introduced through lectures, practices, observations and case studies. (1) Outline of government policies on construction safety and health, and construction labour inspection system (2) Laws and relevant regulations regarding construction safety management (3) Analytical method to investigate causes of industrial accidents (4) Planning methods for national industrial accident prevention policy (5) Concrete measures for industrial accident prevention (6) Construction safety and health activities at construction firms and organizations
3. **QUALIFICATION OF APPLICANT** (1) Administration or researcher currently engaged in construction safety management in a governmental organization. (2) At least five years occupational experience (3) Technical college or university graduate with a major in engineering (4) Age between 30 and 50
4. **TRAINING INSTITUTIONS** (1) Tsukuba International Centre (TBIC), JICA (2) Japan Construction Safety and Health Association (JCSHA)
5. **REMARKS** An intensive Japanese language course will be conducted prior to the technical training for one week (25 hours)

## OCEANOGRAPHY AND DATA PROCESSING

Nov. 14, 2000 - Mar. 11, 2001, 8 participants

海洋調査・データ処理 J-00-00615

1. **PURPOSE** Purpose of the course is to provide the participants with; (1) skills of effective oceanography survey and preannouncement computational skills based on the result of the survey, (2) technique to enforce and supervise environmental preservation, and (3) data processing and numerical simulation techniques by using a computer.
2. **MAIN FEATURES OF CURRICULUM** The following subjects will be covered in the course. (1) Lecture and practice on; (a) Ocean ecology (b) Oceanography (c) Ocean survey (d) Coastal survey (e) Remote sensing (f) Numerical analysis (g) Data processing (2) Presentation on country report (3) Field Trip
3. **QUALIFICATION OF APPLICANT** Applicants should be; (1) surveyors presently in charge of Coastal Oceanography or Data Processing with more than 5 years of experiences. (2) have basic knowledge of computer (3) university graduates or the equivalent, and (4) be under 40 years of age.
4. **TRAINING INSTITUTIONS** (1) Tokyo International Center (TIC), JICA (2) Hydrographic Department, Marine Safety Agency
5. **REMARKS** This course is conducted alternately with "Nautical Charting" in every other year. This year (Japanese Fiscal Year 1998), this course will be conducted.

## GLOBAL MAPPING

May 15, 2000 - Jul. 30, 2000, 5 participants

環境地図作成技術 J-00-03405

1. **PURPOSE** This course is designed for technical staff of section head level in national surveying and mapping agencies or organizations. It is aimed at giving them a better understanding of the importance of environmental map development, which is indispensable for global environmental conservation as well as at enhancing their technical skill necessary for environmental map (global map) preparation, thus to contribute to the sustainable development in harmony with the environment.
2. **MAIN FEATURES OF CURRICULUM** This course consists of lectures, practices and discussions and observation. Main subjects of the curriculum are as follows: (1) Outline of Global Mapping (2) Geographical Information System (GIS) (3) Remote Sensing Technology (RS) (4) ISO Standardization (5) Global Warming (6) Global Meteorology (7) Acid Rain (8) Environment and Law (9) Environment and Agriculture (10) Digital Data Set Format for Global Map
3. **QUALIFICATION OF APPLICANT** (1) A section head or an equivalent of a national institute related to surveying and mapping with at least 7 years' occupational experience (2) University graduate or equivalent (3) Ages between 29 years and 40 years
4. **TRAINING INSTITUTIONS** (1) Tsukuba International Centre (TBIC), JICA (2) Geographical Survey Institute (GSI), Ministry of Construction
5. **REMARKS**

## HYDROGRAPHIC SURVEY (INTERNATIONALLY ACCREDITED CATEGORY B COURSE)

Apr. 4, 2000 - Nov. 12, 2000, 10 participants

水路測量(国際認定B級) J-00-00493

1. **PURPOSE** The course is designed to upgrade knowledge of modern theory and technique of hydrographic survey for personnel engaged in the field of nautical charting and port and near shore surveys at the Category B level of the International Standards of Competence for Hydrographic Surveyors.
2. **MAIN FEATURES OF CURRICULUM** The curriculum of this course is strictly complying with the requirements under the International Standards of Competence of Hydrographic Surveyors, 7th edition, 1994. The following are the major subjects to be covered in the course. (1) lectures: computing, physics, hydrography (control and practice), environmental aspects, legal aspects, nautical science, nautical charting surveys, port and harbour surveys, electronic chart (2) practice data processing of harbour and coastal surveys, computer programming, control surveys, astronomy, cartography (3) field training on board survey vessels: harbour and coastal surveys, automatic hydrographic data acquisition system, navigation, seamanship, submarine geology
3. **QUALIFICATION OF APPLICANT** (1) technical college graduates or equivalents with at least two years occupational experience in hydrographic services (2) have obtained credits for two years' course of mathematics and physics at least on the level of technical college or equivalent educational institution (3) presently employed at the national hydrographic office or other pertaining organization responsible for carrying out hydrographic surveys of sea areas (4) not more than 40 years of age
4. **TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Hydrographic Department, Maritime Safety Agency
5. **REMARKS** On each subject, participants are required to pass an examination for the certificate of Category B Hydrographic Surveyor accredited by FIG/IHO International Advisory board. The certificate will not be awarded to the participant who has failed to pass the examination, and to cover necessary subjects due to insufficient attendance at lectures and field trainings.

## PLANNING AND MANAGEMENT OF NATIONAL MAPPING AND SURVEYING

Oct. 2, 2000 - Jul. 29, 2001, 8 participants

国家測量事業計画・管理 J-00-00692

1. **PURPOSE** The purpose of this course is to train the leading personnel capable of planning and managing the overall fields of surveying and mapping as national projects, so as to contribute to efficiently and effectively collect and prepare geographic information indispensable to produce and maintain the infrastructures of developing countries. At the same time, this course will deepen the participants' understanding of good ways to utilize the new surveying technologies which are useful to make the projects more efficient and sophisticated.
2. **MAIN FEATURES OF CURRICULUM** By the end of this course, the participants should be able to: (1) More deeply understand the planning and managing methods of national surveying and mapping projects, and various systems concerning surveying and mapping; (2) Better understand how to well utilize new surveying technologies such as the global positioning system (GPS), the geographic information system (GIS), and remote sensing; and (3) Consider how to deal with the globalizing society in this information age as national surveying and mapping organizations (through studying relevant cases of Japan and other countries) and understand that international cooperation is absolutely necessary. This course is composed of lectures and practices, and the participants will learn good survey administration and project management (laws, project planning and management, education, and providing information), how to effectively utilize new surveying technologies (GPS, GIS, digital photogrammetry, and remote sensing), and universal trends in the field of geographical information. Moreover, as technical studies, the participants will pick out individual study themes, and carry out researches, making report presentation. In addition they will go on study trips, visiting relevant institutions and facilities and learning the Japanese geography and topography.
3. **QUALIFICATION OF APPLICANT** The course participants must: (1) Be employed by national surveying and mapping organizations as technical/official in management levels (Head or Deputy Head of a division), or be engaged in equivalent work, with 7 or more years' job experience; (2) Be college/university graduates or their equivalents; and (3) Be 29 to 44 years of age.
4. **TRAINING INSTITUTIONS** (1) Tsukuba International Centre (TBIC), JICA (2) Geographical Survey Institute (GSI)
5. **REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for two weeks (50 hours).

## RADIO FREQUENCY MONITORING II

Sep. 28, 2000 - Nov. 18, 2000, 9 participants

電波監視 II J-00-00180

1. **PURPOSE** The purpose of this training course is to: (1) provide fundamental knowledge of radio frequency monitoring. (2) provide fundamental knowledge of radio regulatory schemes in Japan (3) provide knowledge of monitoring equipment utilized in Japan.
2. **MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on introduction of basic theory of radio monitoring and the system and techniques in Japan. The main themes of the course are; (1) outline of radio regulatory administration and legal system for radio regulations (2) practice of radio planning and monitoring
3. **QUALIFICATION OF APPLICANT** (1) person with practical experience in the field of radio regulatory administration (radio frequency monitoring, frequency management, etc.) (2) under 40 years of age (3) college graduate or equivalent
4. **TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) International Cooperation Division, Ministry of Posts and Telecommunications
5. **REMARKS**

## RAPID MAIL SERVICE

Oct. 16, 2000 - Nov. 4, 2000, 7 participants

急送郵便業務 J-00-03395

1. **PURPOSE** The present course aims to effect the transfer of technology used in rapid mail service operations to overseas managers of such operations and thus improve the quality of mail service between Japan and these countries.
2. **MAIN FEATURES OF CURRICULUM** (1) Explanation of Japan's rapid mail service and related areas (2) Observation (Osaka international mail office, Osaka International Mail Center, Tokyo international mail office, other locations) (3) Discussion with personnel from the mail service field (4) Formulation of improvement plans for participanting countries
3. **QUALIFICATION OF APPLICANT** Applicants should: (1) be managers in the rapid mail operations department of their country's mail service authority and have at least five years' experience (2) have a university degree or an equivalent level of specialist knowledge (3) be between 25 and 45 years of age
4. **TRAINING INSTITUTIONS** (1) JICA Osaka International Centre (2) International Postal Research Center
5. **REMARKS** The present course is offered for the first time in fiscal year 1998 to replace the discontinued course in Postal Operation Management for Island Regions.

## SEMINAR ON POSTAL SERVICE MANAGEMENT

Feb. 15, 2001 - Feb. 27, 2001, 12 participants

郵便事業経営セミナー J-00-00702

1. **PURPOSE** The purposes of this seminar are to provide the participants with the knowledge of current situations of postal services in Japan, and opportunities to examine and exchange views on the problems common among the participating countries through lectures, discussions and observations. Through the seminar, participants are expected to: (1) have an important understanding of present situations and problems of postal services in the participating countries, (2) be familiar with planning for development and better utilization of postal infrastructures, and for improvement of quality of postal services in a rapidly changing socioeconomic conditions, and (3) be able to discuss measures to be taken to cope with evolving needs from customers.
2. **MAIN FEATURES OF CURRICULUM** (1) Lecture: New postal services which are expected to have more demands in near future, such as the night redelivering service, collect on delivery mail service, electric mail service and postal commemorative service are to be included in the curriculum. In addition, technical support for the development of software for the customer control and quality control systems will be emphasized, for the purpose of increasing postal revenue. (2) Observation: Several observations of small-medium sized post offices are prepared with the opportunity of studying modern equipment and facilities.
3. **QUALIFICATION OF APPLICANT** Director generals or, at the least, officials who are higher than directors of the general affairs in the central governmental organizations, or be director generals or deputy director generals in regional postal bureaus.
4. **TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Postal Bureau, Ministry of Posts and Telecommunications (MPT)
5. **REMARKS** Country Reports will be highly utilized both for the selection of participants and for the Country Report presentation.

## EXECUTIVE'S SEMINAR ON POSTAL SAVINGS SERVICES

Mar. 4, 2001 - Mar. 18, 2001, 8 participants

郵便貯金国際幹部セミナー J-00-00403

1. **PURPOSE** The purposes of the seminar are: (1) to seek solutions to common problems in the participating postal administrations or national savings organizations, after providing know-how on the Japanese postal savings services and Japanese financial environments through a series of lectures and visits to related facilities. (2) to promote further mutual understanding and closer cooperation among all the participating countries and Japan in the financial field through discussions and presentations. Through the seminar, participants are expected: (1) to deepen the understanding of Japanese postal savings services and recognize the current situations of participating countries' postal savings services, and (2) to study and discuss overall aspects of each country's postal savings services, thus to find problems and the cue of their solutions
2. **MAIN FEATURES OF CURRICULUM** In this seminar, the emphasis is put on introduction of Japanese situations and exchange of views. 1. Lectures (1) General Introduction of Japanese Postal Savings (2) Japan's Financial System and Public Sector Financing (3) Management of Japanese Postal Savings Services (4) Asset and Liability Management of Japanese Postal Savings Services (5) Fund Management (6) Mechanization of Postal Savings Services (7) Sales Promotion Activities (8) Product Development (9) International Business 2. Country Report Session Each participant is requested to make a presentation on the current status of the Postal Savings Services or Remittance Services in his/her own country, followed by participation in discussions on how to solve the problems of each country. 3. Study Visits (1) Postal Savings Business Center (2) Ordinary Post Office (3) Special Post Office (4) Postal College (5) Private Enterprise (6) ATM Manufacturer
3. **QUALIFICATION OF APPLICANT** director or high-ranking official of savings organizations (Postal Savings Organization or, national/ governmental Savings Bank) or Postal Money Order and Postal Giro Organization
4. **TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Postal Savings Bureau, Ministry of Posts and Telecommunications
5. **REMARKS**

## INTEGRATED SERVICES DIGITAL NETWORK BASIC ENGINEERING

Jan. 9, 2001 - Feb. 17, 2001, 10 participants

ISDN基礎技術 J-00-00500

1. **PURPOSE** The purpose of the course is to provide engineers in the field of telecommunications with practical knowledge and techniques on the ISDN (Integrated Services Digital Network) basic technology, user-network interface, and peripheral technology necessary for introduction of ISDN services.
2. **MAIN FEATURES OF CURRICULUM** This course is designed for participants to understand the following: (1) outline of ISDN, network configuration, ISDN numbering plan, etc. (2) layer 1, 2, 3, circuit switching, packet switching, etc. (3) ISDN terminal, standardization trend, B ISDN (ATM), etc. The major subjects are; (a) outline of ISDN, (b) user-network interface, (c) ISDN network, (d) ISDN service and trend, (e) ISDN terminal equipment, (f) ISDN implementation plan, (g) practical study of terminal and analysis of protocol
3. **QUALIFICATION OF APPLICANT** (1) university graduate specialized in telecommunications and/or electrical engineering, or equivalent (2) under 40 years of age (3) working for telecommunication administrations or common carrier organizations with at least three years of practical experience in their own switching systems (4) have fundamental knowledge of ISDN (5) have fundamental knowledge of Digital Communication
4. **TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Training Institute, Nippon Telegraph and Telephone East Corporation (NTT EAST)
5. **REMARKS** Country Reports will be highly utilized both for the selection of participants and for the Country Report presentation.

## DIGITAL TELECOMMUNICATION NETWORK PLANNING AND DESIGNING

Sep. 26, 2000 - Nov. 18, 2000, 10 participants

ディジタル通信網計画設計 J-00-00508

1. **PURPOSE** The purpose of the course is to provide engineers in the field of telecommunications with practical knowledge and techniques on the outline of systems, fundamental network design, and network planning.
2. **MAIN FEATURES OF CURRICULUM** The curriculum comprises of three major components; (1) fundamental telecommunication network design (2) outline of various systems, and (3) telecommunication network planning. Case-study method is employed to obtain more concrete understanding of network planning. Observation trips to relevant factories and telecommunication facilities are planned to augment the training.
3. **QUALIFICATION OF APPLICANT** (1) university/college graduate in telecommunication, electrical engineering or electronics, or equivalent (2) working in telecommunication common carrier organizations with minimum experience of 3 years (3) currently engaged in network planning or so scheduled (4) expected to continue working for network planning after participating in the course (5) between 25 and 45 years of age
4. **TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Training Institute, Nippon Telegraph and Telephone East Corporation (NTT -East)
5. **REMARKS**

## DIGITAL TRANSMISSION SYSTEMS ENGINEERING

Sep. 18, 2000 - Dec. 4, 2000, 11 participants

ディジタル伝送技術 J-00-00344

1. **PURPOSE** To introduce the practical knowledge for the designing and administrative techniques on digital transmission system.
2. **MAIN FEATURES OF CURRICULUM** Lectures, practical exercises, discussions and observation tour. The main themes are: (1) digital transmission technology; digital multiplex hierarchy, analogue to digital conversion, synchronized multiplexing, video transmission system (2) optical fiber transmission technology; optical source and detector, line code, system design, transmission standard, transmission quality (3) optical fiber line technology, optical fiber transmission theory, characteristics of optical fiber, structure of optical fiber (4) microwave communication system; digital microwave communication, satellite communication, microwave network construction (5) relational technology; digital switching systems engineering, ISDN service, communication quality (6) planning design; transmission network, transmission line facility, digital radio-relay system, optical fiber cable (7) study tour & field trip
3. **QUALIFICATION OF APPLICANT** (1) university graduate or equivalent in telecommunication or electrical engineering (2) working for telecommunication administrations or common carrier organization for at least five years (3) having a knowledge of the basic concepts on the digital transmission engineering (4) under 40 years of age
4. **TRAINING INSTITUTIONS** (1) Chubu International Centre (CBIC), JICA (2) Training Institute, NTT West
5. **REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for two weeks (25 hours).

## RURAL TELECOMMUNICATION PLANNING

Feb. 6, 2001 - Mar. 18, 2001, 9 participants

ルーラル通信計画 J-00-00703

1. **PURPOSE** The purpose of the course is to introduce technological information on rural telecommunication systems to the participants so that they can acquire basic knowledge and skill concerning fundamental elements in making plans of actual network in rural areas of their countries.
2. **MAIN FEATURES OF CURRICULUM** The first part of the curriculum includes lectures on rural telecommunication network designing method, and on various rural telecommunication systems. The second part is a drill practice, which is intended to simulate the rural telecommunication network designing augmented by the application of economic analysis.
3. **QUALIFICATION OF APPLICANT** (1) university graduate specialized in telecommunications or equivalent (2) in charge of network planning or so scheduled (3) under 45 years of age
4. **TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) New ITU Association of Japan, Inc. (ITU-AJ)
5. **REMARKS**

## SATELLITE COMMUNICATION ENGINEERING AND APPLICATIONS

May 9, 2000 - Jul. 15, 2000, 11 participants

衛星通信応用技術 J-00-00652

1. **PURPOSE** This course will provide those who are in charge of planning, management and operation of satellite communications, with the opportunity to increase basic knowledge of the latest technology in satellite communication engineering, so as to make good use of the merits of advanced satellite communications in establishing/improving/operating their systems.
2. **MAIN FEATURES OF CURRICULUM** The curriculum mainly consists of lectures, discussions and practical exercises on (1) basic and advanced technologies of INTELSAT (2) basic and advanced technology of INMARSAT (3) some features of non-INTELSAT and non-INMARSAT systems (4) other related telecommunications systems (5) planning, administration and management in aspects (6) field practice at an earth station and observation trips to relevant facilities. Participants are required to take exams at the beginning and the end of the course.
3. **QUALIFICATION OF APPLICANT** (1) university graduates in telecommunications and/or electrical/electronic engineering or equivalent (2) have fundamental knowledge of radio communication engineering such as microwave propagation, microwave elements and microwave communication system (3) have experience of not less than three years in this field (4) currently engaged in the field of satellite communication services (especially international ones) (5) under 45 years of age
4. **TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Kokusai Denshin Denwa Co., Ltd. (KDD) (3) KDD engineering and Consulting Inc. (KEC)
5. **REMARKS**

## FIBER OPTICS OUTSIDE PLANT ENGINEERING

Jan. 8, 2001 - Mar. 14, 2001, 10 participants

光線路技術 J-00-00333

1. **PURPOSE** To train participants to be able to operate and maintain optical fiber transmission systems introduced or proposed in each country. The course outlines the basic theory of the optical fiber cable, optical devices, etc., and planning, designing and construction of the system. The training includes sufficient practical training in the transmission field.
2. **MAIN FEATURES OF CURRICULUM** Lectures, practical exercises, discussions and observation tour. The main themes are: (1) Optical Fiber Line Technology; theory, characteristics, structure, design, cable construction technology (2) Digital Transmission Technology; principle, digital multiplex hierarchy, analog to digital conversion, synchronized multiplexing (3) Optical Fiber Transmission Technology; optical source and detector, line code, system design (4) Other Outside Plant Technology; maintenance technology, practical exercise of civil engineering, metallic line cable technology and design (5) Other Technology; digital exchange system, ISDN service, wireless local loops, PHS (6) Administration Techniques (7) Field Trip
3. **QUALIFICATION OF APPLICANT** (1) university graduate or equivalent in telecommunication or electrical engineering (2) working for telecommunication administrations or telecommunication common carrier organizations for at least 5 years (3) having a knowledge of the basic concepts on the digital transmission engineering (4) under 40 years of age
4. **TRAINING INSTITUTIONS** (1) Chubu International Centre (CBIC), JICA (2) Training Institute, NTT West
5. **REMARKS** A compulsory intensive Japanese language course will be conducted along with the technical training for 25 hours.

## ADVANCED MICROWAVE TECHNOLOGY FOR TELECOMMUNICATIONS

May 22, 2000 - Aug. 5, 2000, 7 participants

高度マイクロウェーブ通信技術 J-00-00653

1. **PURPOSE** To introduce the basic and practical knowledge on digital radio communication engineering.
2. **MAIN FEATURES OF CURRICULUM** (1) Digital Radio Technology; Digital Radio, Satellite Communication, Rural Area Communications, Mobile Communication, Practical Exercise of 5G and 11G Microwave Method, Practical Exercise of Radio Network Design, Practical Exercise of Satellite Communication Technology (2) Digital Transmission Technology; Principle of Digital Transmission, Digital Multiplex Hierarchy, Analogue to Digital Conversion, Synchronized Multiplexing, Practical Exercise of Digital Transmission (3) ISDN Technology; Outline, User Network Interface, Using Method, Practical Exercise (4) Administration Techniques; Planning of Network Construction (5) Field Trip; NTT Show Room, Network Center, etc., Factories Relative Telecommunications (6) Observation Tour (KYOTO, HIROSHIMA) (7) New Technology; Multi-Media Service Technology, Wireless Local Loops, PHS (8) Others; Country Report Presentation
3. **QUALIFICATION OF APPLICANT** (1) university graduates specializing in telecommunications or electrical engineering, or those who have equivalent technical knowledge in this field (2) under 40 years of age (3) currently working for telecommunication administrations or common career organizations (except broadcasting stations), with at least three '3' years of practical experience on their own radio system
4. **TRAINING INSTITUTIONS** (1) Chubu International Centre (CBIC), JICA (2) Training Institute, NTT West
5. **REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for one week (25 hours).

## INTERNATIONAL DATA ENGINEERING AND APPLICATIONS

Aug. 29, 2000 - Oct. 21, 2000, 10 participants

国際データ応用技術 J-00-00267

1. **PURPOSE** The purpose of this course is to introduce to participants fundamental and up-to-date technology of international data communications such as data transmission, switching systems, communications protocols, terminal equipment, etc., through lectures as well as practice sessions at Kokusai Denshin Denwa Co., Ltd. (KDD).
2. **MAIN FEATURES OF CURRICULUM** The emphasis is put on introduction of theories mainly on the following subjects; (1) Introduction (new technology trends, trends in digital communications) (2) Switching Systems (software, packet switching, frame relay, ISDN, MHS, multimedia application, private link network, internet) (3) Transmission Systems (SDH, Immarsat and Mobile Communication System, Digital Satellite Communications, Optical Fiber Network and Technology, Network Management) (4) Research and Development (Multimedia Terminals, Multimedia Application, Image Compression Technology, ATM & B-ISDN)
3. **QUALIFICATION OF APPLICANT** (1) university graduate specializing in telecommunications and/or electrical engineering or equivalent (2) have basic knowledge of computer hardware, software and currently engaged in or expected to be engaged in the planning or the policy making of international data communications engineering (3) have experience of more than three years in the field of data communications (4) under 40 years of age
4. **TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Kokusai Denshin Denwa Co., Ltd. (KDD) (3) KDD Engineering and Consulting Inc. (KEC)
5. **REMARKS**

## INTERNATIONAL OPTICAL FIBER SUBMARINE CABLE SYSTEM ENGINEERING II

Jan. 9, 2001 - Mar. 4, 2001, 7 participants

国際光海底ケーブル通信技術 II J-00-03478

1. **PURPOSE** The purpose of this course is to enable participants to acquire general knowledge of international optical fiber submarine cable system.
2. **MAIN FEATURES OF CURRICULUM** The course mainly consists of lectures, discussions and observations. The main items covered in this course are as follows: (1) optical fiber communication (2) international optical fiber submarine cable system (3) planning of international optical fiber submarine cable system (4) maintenance (5) associated subjects (6) observation
3. **QUALIFICATION OF APPLICANT** (1) university graduates in telecommunications and/or electrical/electronic engineering, or equivalent (2) persons with fundamental knowledge of optical fiber system and digital communications (such as digital transmission principles of PCM, multiplexing, synchronization, etc.) (3) engaged in the field of international telecommunication services, and also currently engaged in or expected to be engaged in international optical fiber submarine cable system (4) under 40 years of age
4. **TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Kokusai Denshin Denwa Co., Ltd. (KDD) (3) KDD Engineering and Consulting, Inc. (KEC)
5. **REMARKS**

## INTERNATIONAL TELECOMMUNICATION SERVICES

May 9, 2000 - Jul. 15, 2000, 11 participants

国際通信業務サービス J-00-00650

1. **PURPOSE** This course is designed to renew and upgrade participants' knowledge and skill in administration and management of international telecommunication services through the study of both conventional and the latest telecommunication technologies and various services.
2. **MAIN FEATURES OF CURRICULUM** The curriculum mainly features lectures, discussions and practical exercises on (1) management and public relations activities (2) system and technologies (3) service and operation. Observation trips to relevant facilities are integrated to augment the programme. Participants are required to make a presentation on their future perspectives at the end of the course.
3. **QUALIFICATION OF APPLICANT** (1) university graduates or equivalents with occupational experience of more than five years in the field of international telecommunication services (2) presently engaged in administrative and managerial work of international telegraph or telephone services (3) under 45 years of age
4. **TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Kokusai Denshin Denwa Co., Ltd. (KDD) (3) KDD Engineering and Consulting Inc. (KEC)
5. **REMARKS**

## INTERNATIONAL ISDN TELECOMMUNICATION ENGINEERING AND APPLICATIONS

Aug. 29, 2000 - Oct. 21, 2000, 10 participants

国際通信総合サービスディジタル網応用技術 J-00-00674

1. **PURPOSE** The purpose of this course is to introduce the participants to fundamental knowledge about up-to-date international ISDN services and technologies such as digital transmission, digital switching, and user network interface, etc., through lectures and field trips.
2. **MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on introduction of theories mainly on the following subjects; (1) outline (a) new technology trends (b) outline of ISDN (c) broad band ISDN (2) basic technology and services (a) ISDN services (b) network operation (c) OSI (d) user-network interface (e) signaling system No. 7 (f) XC-31 FMBS (g) digital satellite communication system for ISDN (h) optical fiber transmission system (i) switching system terminals (j) ISDN layer/specification (k) terminals (3) related equipment (a) digital transmission (b) digital switching
3. **QUALIFICATION OF APPLICANT** (1) engineer engaged in the field of international telecommunication (2) person with a fundamental knowledge of digital communications (such as digital transmission principles of PCM, multiplexing, synchronization and digital switching) (3) between 26 and 42 years of age
4. **TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Kokusai Denshin Denwa Co., Ltd. (KDD) (3) KDD Engineering and Consulting Inc. (KEC)
5. **REMARKS**

## INT'L TEL. COMMUNICATION (NETWORK MANAGEMENT AND OPERATION) ENGINEERING II

Jan. 9, 2001 - Mar. 4, 2001, 11 participants

国際電話通信技術 II J-00-03335

1. **PURPOSE** The purpose of the course is to contribute to the development of international telecommunications in developing countries through providing the participants who are engaged in designing and maintenance of the international telephone switching system with the knowledge and skills related to the international telephone communications such as telephone switching designing, maintenance, cable planning, network control and operation as well as introducing them to current technologies and services of the international telephone communication engineering.
2. **MAIN FEATURES OF CURRICULUM** The outlines of the course are: (1) network planning theory (2) telephone/ISDN services and network construction (3) digital switching techniques (4) introduction to the other related techniques and new services, and (5) observations and practices
3. **QUALIFICATION OF APPLICANT** (1) university graduate in telecommunications and/or electrical engineering or equivalent (2) have basic knowledge of computer and switching system technology, and currently engaged in or expected to be engaged in the field of establishment and maintenance of international telephone switching network (3) under 40 years of age
4. **TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Kokusai Denshin Denwa Co., Ltd. (KDD) (3) KDD Engineering and Consulting Inc. (KEC)
5. **REMARKS**

## INFO-COMMUNICATIONS EXECUTIVE'S SEMINAR

May 23, 2000 - Jun. 7, 2000, 10 participants

情報通信幹部セミナー　　J-00-00651

1. **PURPOSE** This seminar is designed to: (1) promote more cooperative relationships in the field of telecommunications, (2) familiarize the participants with the current situation in telecommunications administration and in the telecommunications business, (3) invite the participants to discuss improvement and expansion of telecommunications networks, which are crucial topics in every country.
2. **MAIN FEATURES OF CURRICULUM** In this seminar, the emphasis is put on introduction of the Japanese system and discussion among participants. The main themes are: (1) present status of telecommunications (2) telecommunications administrations (3) reform of telecommunications legal structures (4) new services, and (5) human resources development.
3. **QUALIFICATION OF APPLICANT** Directors-Generals or equivalent high-ranking officials responsible for management or administration for public telcommunications in governmental or operational organizations.
4. **TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Ministry of Posts and Telecommunications
5. **REMARKS**

## TELECOMMUNICATION OUTSIDE PLANT ENGINEERING TECHNIQUES

Aug. 7, 2000 - Dec. 2, 2000, 9 participants

通信線路技術者育成　　J-00-00616

1. **PURPOSE** The principal purposes of this training course are: (1) to provide engineers with knowledge of telecommunication line engineering to improve their leadership (2) to help participants to understand line techniques, line operation, maintenance systems so that they can manage to solve their problems (3) to promote international understanding through group activities and joining local communities
2. **MAIN FEATURES OF CURRICULUM** The course is conducted in the form of lectures, discussions and practice, emphasizing on the job training. Visits to related factories and industries are also arranged. The training subjects covered in the course are; (1) basic knowledge on outside equipment (2) construction (3) maintenance engineering (4) design engineering (5) construction and maintenance of communication equipment and devices (6) basic knowledge on inside plant (7) safety and quality control
3. **QUALIFICATION OF APPLICANT** (1) telecommunication engineer or supervisor with three years' practical experience in outside plant systems of telephone (2) university graduate or equivalent (3) 35 years of age or less
4. **TRAINING INSTITUTIONS** (1) Kyushu International Centre (KIC), JICA (2) Nippon Telegraph and Telephone West Corporation
5. **REMARKS** A compulsory 75 hour-Japanese language course will be conducted prior to the technical training.

## TELECOMMUNICATION OUTSIDE PLANT MAINTENANCE TECHNIQUE

Jan. 15, 2001 - Mar. 16, 2001, 10 participants

通信線路保全技術　　J-00-03391

1. **PURPOSE** participants in this training course will learn maintenance technology and management systems for telecommunication outside plants through lecture and exercises based on NTT's know-how. Improving the participants' skills will contribute to more effective use of existing outside plants and will secure good quality services. (1) Participants will understand new telecommunication outside plant technologies and obtain skills in maintaining outside plants effectively in their own countries (2) Participants will develop their skills in analyzing problems which deteriorate outside plant (3) Participants will understand the systematic methods for maintaining outside plants to ensure the highest reliability.
2. **MAIN FEATURES OF CURRICULUM** (1) New technologies for telecommunications outside plants. (lecture 5 days) (2) Maintenance management for telecommunications outside plants. (lecture 4 days, practice 2 days) (3) Operation, monitoring and emergency measures for telecommunications. (lecture 5 days, practice 1 day) (4) Skills for maintaining plants and detecting and repairing faults (5) Actions to be taken to improve the service quality. (lecture 2 days, practice 2 days) (6) Observation of outside plants using the new technology. (2 days)
3. **QUALIFICATION OF APPLICANT** (1) Occupation: supervising engineer of telecommunications outside plant maintenance (2) Business career: having worked for 5 to 15 years (3) Age: 28 to 40 years old (4) Academic background: a bachelor degree or equivalent id desirable.
4. **TRAINING INSTITUTIONS** (1) Kyushu International Centre (KIC), JICA (2) Kitakyushu Branch, Nippon Telegraph and Telephone Corporation (NTT)
5. **REMARKS** A compulsory 25 hour-Japanese language course will be conducted prior to the technical training.

## NETWORK BASIC ENGINEERING COURSE

May 16, 2000 - Jun. 29, 2000, 12 participants

通信網基本技術(交換技術者)　　J-00-00592

1. **PURPOSE** The purpose of the course is to introduce the configuration, maintenance and series of procedures from traffic forecasting to plant design of digital switching systems.
2. **MAIN FEATURES OF CURRICULUM** In this course, major technical aspects related to a telecommunications network will be discussed. The main focus, however, will be placed upon switching technology. The course curriculum covers: (1) digital switching system, using D70 system as an example (2) outline of such peripheral technology as transmission, radio communication, outside plant, common channel signalling, ISDN, etc. (3) traffic management, equipment estimation, maintenance management, economic comparison, etc. (4) practical exercise on D70 system.
3. **QUALIFICATION OF APPLICANT** (1) university graduates specializing in telecommunications and/or electrical engineering or equivalent (2) under 40 years of age (3) working for common career organizations with at least five years of practical experience on their own switching systems
4. **TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Training Institute (TI), Nippon Telegraph and Telephone East Corporation (NTT East)
5. **REMARKS**

## TRAINING COURSE ON TELECOMMUNICATION NETWORK PLANNING PRACTICE

Sep. 26, 2000 - Dec. 16, 2000, 6 participants

通信網計画設計者養成 J-00-00608

1. **PURPOSE** The purpose of the course is to provide engineers in the field of telecommunications with practical knowledge and techniques on the outline of systems, fundamental network design, and network planning.
2. **MAIN FEATURES OF CURRICULUM** The curriculum comprises of three major components; namely (1) fundamental telecommunication network design (2) outline of various systems, and (3) telecommunication network planning. Case-study method is employed to obtain more concrete understanding of network planning. Observation trips to relevant factories and telecommunication facilities are planned to augment the training (4) Practical Design based on the real data in respective countries.
3. **QUALIFICATION OF APPLICANT** (1) university/college graduate in telecommunication, electrical engineering or electronics, or equivalent (2) working in telecommunication common carrier organizations with minimum experience of 3 years (3) currently engaged in network planning or so scheduled (4) expected to continue working for network planning after participating in the course (5) between 25 and 45 years of age
4. **TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Central Training Institute (CTI), Nippon Telegraph and Telephone East Corporation (NTT East)
5. **REMARKS**

## SEMINAR ON TELECOMMUNICATIONS MANAGEMENT

Oct. 12, 2000 - Oct. 28, 2000, 10 participants

電気通信経営管理セミナー J-00-00507

1. **PURPOSE** The seminar aims to improve the participants' skills in resolving management-related problems arising in their respective countries by furthering the understanding of techniques for managing telecommunications operations. The focus will be on the development of the telecommunications industry in Japan, the process of privatization, and ways of dealing with the changeover. A discussion of the latest technological trends in the field will suggest future directions for the telecommunication networks of the respective countries.
2. **MAIN FEATURES OF CURRICULUM** This seminar covers the following topics. (1) management (2) planning (3) fund raising (4) equipment and material supply (5) training (6) marketing (7) privatization (8) overseas engineering cooperation (9) research and development (10) TQC (Total Quality Control)
3. **QUALIFICATION OF APPLICANT** (1) manager or higher ranking staff involved in the telecommunications industry or organization
4. **TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Central Training Institute (CTI), Nippon Telegraph and Telephone East Corporation (NTT East)
5. **REMARKS**

## TELECOMMUNICATIONS POLICY AND REGULATIONS

Oct. 24, 2000 - Nov. 16, 2000, 8 participants

電気通信政策 J-00-03481

1. **PURPOSE** The purpose of this course is to introduce the background, process, present situation and policy of the privatization of telecommmunications service in Japan in order to contribute to the formulation of policy and regulations related to the privatization in each participating country.
2. **MAIN FEATURES OF CURRICULUM** (1) Telecommunications policy in Japan (2) Management of private sector (NTT, KDD, NCC etc.) (3) Long-term policy in information telecommunications (4) Discussion on privatization policy
3. **QUALIFICATION OF APPLICANT** (1) in charge of policy making in telecommunication services (directors or equivalent) (2) several years of experience in the Ministry in charge of telecommunication (3) 30-50 years old (4) university graduates or equivalent
4. **TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Research Institute of Telecommunications and Economics
5. **REMARKS**

## TELECOMMUNICATIONS STANDARDIZATION

Jan. 22, 2001 - Mar. 11, 2001, 8 participants

電気通信標準化 J-00-03479

1. **PURPOSE** The purpose of this course is to introduce the participants to fundamental knowledge about the telecommunications standardization activities, by introducing Japanese experience and know-how such as the standardization structure, organization, up-to date international ISDN services and technology.
2. **MAIN FEATURES OF CURRICULUM** This course aims to present Japanese experience in telecommunications standardization, and covers; (1) administration (2) international standardization activities (especially in ITU) (3) standardization activities in Japan (4) previous trends of standardization activities (5) comprehensive study
3. **QUALIFICATION OF APPLICANT** (1) university graduate or equivalent (telecommunications technology) (2) official engaged in the field of telecommunications (3) under 45 years of age
4. **TRAINING INSTITUTIONS** (1) Hachioji International Training Centre (HITC) (2) Communications Policy Bureau, Ministry of Posts and Telecommunications (MPT)
5. **REMARKS**

## TELEVISION SOCIAL EDUCATION PROGRAMME II

Jan. 16, 2001 - Mar. 16, 2001, 10 participants

テレビジョン社会教育番組 II　　J-00-00498

1. **PURPOSE** The purpose of this course is to introduce production technology and methods of NHK educational TV programmes to the producers and directors who are engaged in socially informative TV programme production. The training will focus on educational TV programme production. The participants are expected to further understand importance of education by TV, and to acquire necessary programme production techniques such as planning ability, manner of presentation, etc. In addition, state-of-the-art technology and future prospects of the broadcasting field are also introduced.
2. **MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on introduction of Japanese system and situation. The course mainly covers; (1) trends in social education TV program (2) methods of TV program production (a) issuing cues (b) "complete program" production method (3) production techniques (a) video location shooting (b) editing (4) new technology
3. **QUALIFICATION OF APPLICANT** (1) serving and producing social education television programmes in a broadcasting corporation directly and continuously as a producer or director with practical experience of five to ten years (2) under 40 years of age
4. **TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) NHK Communications Training Institute
5. **REMARKS**

## TELEVISION PROGRAMME PRODUCTION

Jul. 4, 2000 - Sep. 15, 2000, 10 participants

テレビジョン番組制作　　J-00-00496

1. **PURPOSE** Producers and programme directors working for broadcasting stations in participating countries will be given opportunities to learn general knowledge and technical skills of programme production methods used in musical, cultural, dramatized and documentary production methods, and will receive suggestions for enriching their own TV programmes.
2. **MAIN FEATURES OF CURRICULUM** The curriculum consists of lectures on general concepts of educational television, and various production techniques, practical training in programme production, and observation of actual production sites and local NHK stations.
3. **QUALIFICATION OF APPLICANT** (1) Serving in a broadcasting corporation directly and continuously as a producer or director with practical experience of 2 to 7 years in the field of television programme production (2) Under 35 years of age (3) University/college graduate or equivalent
4. **TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) NHK Communications Training Institute
5. **REMARKS**

## TELEVISION ENGINEERING II

Jun. 27, 2000 - Sep. 15, 2000, 10 participants

テレビジョン放送技術 II　　J-00-00577

1. **PURPOSE** The purpose of the course is to systematically introduce knowledge of television broadcasting technology to participants who are engaged in the field of television broadcasting in participating countries. The training covers the technology of color television cameras, VTRs, studio equipment, transmission and reception.
2. **MAIN FEATURES OF CURRICULUM** Lectures cover such topics as (1) color TV fundamentals and operation and maintenance of broadcasting equipment (2) programme production techniques (3) application of digital techniques (4) measurement and adjustment of broadcasting equipment and (5) recent technical development. Lectures are supplemented by practices. Field trainings in small groups are organized to enhance the programme.
3. **QUALIFICATION OF APPLICANT** (1) engineers serving in a broadcasting organization with practical experience of three to five years in TV engineering (2) university/college graduates or equivalents in electronic engineering
4. **TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) NHK Communications Training Institute
5. **REMARKS**

## AUDIO BROADCASTING ENGINEERING II

Jan. 9, 2001 - Mar. 16, 2001, 10 participants

音声放送技術 II　　J-00-00609

1. **PURPOSE** The purpose of the course is to provide audio broadcasting engineers with theoretical and practical knowledge of the intermediate level of audio technique, and MW and FM transmitting, through lectures, exercises and practices.
2. **MAIN FEATURES OF CURRICULUM** Lectures and practices are provided upon (1) audio technique, (2) theory and practice of MW broadcasting, and (3) theory and practice of FM broadcasting. Field practice and observation trips to relevant broadcasting facilities are organized to enhance the curriculum.
3. **QUALIFICATION OF APPLICANT** (1) person in a technical line who has practical experience in the field of audio broadcasting enough (more than three years) to undergo this training course (2) between 25 and 35 years of age (3) college graduate or equivalent in audio broadcasting (4) to continue working in the above mentioned field after returning to home countries.
4. **TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) NHK Communications Training Institute
5. **REMARKS**

## BROADCASTING EXECUTIVES' SEMINAR II

Oct. 15, 2000 - Oct. 29, 2000, 9 participants

放送幹部セミナー II　　J-00-00139

1. **PURPOSE** The purposes of this Seminar are to introduce Japanese experiences, in the process of broadcasting development as well as present broadcasting activities and its related industries in Japan, to the participants, and to examine common problems in the field and to seek solutions through lectures, discussions and observations.
2. **MAIN FEATURES OF CURRICULUM** This seminar covers the following themes; (1) broadcasting situation in the participating countries (2) outline of Japanese broadcasters (organizations, activities, finances, management in general, etc.) (3) personnel management and training (4) different types of broadcasting technologies and their utilization (5) role and utilization of broadcasting in education
3. **QUALIFICATION OF APPLICANT** director general or equivalent high-ranking official responsible for management or administration of broadcasting in governmental or operational organizations
4. **TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Communication Policy Bureau, Ministry of Posts and Telecommunications
5. **REMARKS**

## JICA-NGO PARTNERSHIP TRAINING COURSE FOR PARTICIPATORY RURAL DEVELOPMENT (ASIAN COUNTRIES)

Jun. 27, 2000 - Aug. 3, 2000, 10 participants

NGOとの連携による参加型村落開発(アジア)　　J-00-03386

1. **PURPOSE** This training course is the first JICA-NGO partnership training course focusing on linkage of JICA and NGOs in community development. This course, intended for leaders of national NGOs in charge of project planning and designing, aims to facilitate the participants in acquiring ideas and skills for more effective implementation of rural development projects, and to contribute to the improvement of community welfare in their own country. At the same time, as one means to realize the goals above, the course will provide the participants with opportunities of discussion and case-studies with Japanese NGOs and ODA (JICA) officials in order to seek further effective linkage among local government, ODA (JICA), Japanese/International NGOs, local NGOs and the community.
2. **MAIN FEATURES OF CURRICULUM** The course is discussion-oriented by participatory training methodology. (1) Analyzing participants' experiences in "rural development" (2) Analyzing experiences of rural development in Japan and other Asian countries - Exposure to Japanese rural villages (3) Concept and reality of "Participatory Rural Development(PRD)" - What is "Participatory Rural Development"? - Concrete Approach for PRD - Roles and partnerships among ODA (JICA), Japanese and National NGOs, Local Government, and community - Formulation of Action Plan (4) Discussions with JICA and Japanese NGOs
3. **QUALIFICATION OF APPLICANT** Applicants should; (1) be serving in a leadership position of national/local NGOs engaging in participatory rural development projects in developing countries (2) be between 30 and 45 years of age (3) have at least five (5) years of field experience working in rural development projects (5) have fluent and sufficient command of written and spoken English in order to lead and facilitate discussions *capability of speaking English is essential to participate the course* In the light of the objectives of this course, those who meet the following conditions are preferable as a participant: - recommended by Japanese NGOs which has a partnership with nominee's organization - belonging to an organization which currently has partnership with JICA projects - recommended by JICA office
4. **TRAINING INSTITUTIONS** (1) JICA Osaka International Centre (2) Kansai NGO Council
5. **REMARKS** Staff of JICA and Japanese NGO may join the course

## OISCA FARMERS' DEVELOPMENT

Jan. 21, 2001 - Dec. 20, 2001, 18 participants

オイスカ農業者育成　　J-00-03331

1. **PURPOSE** To provide with theoretical and practical knowledge and techniques in the fields of crop production and agricultural machinery mainly through practical studies so that they can serve as agricultural leaders in their countries.
2. **MAIN FEATURES OF CURRICULUM** The emphasis is put on lectures, practical training and field studies. The course is generally conducted in Japanese. The main themes are; (1) rice cultivation (2) vegetable cultivation (3) fruit cultivation (4) land improvement (5) land survey (6) investigations and trials (7) agricultural machinery (8) Japanese language
3. **QUALIFICATION OF APPLICANT** (1) agricultural staff or those who are engaged in agriculture as progressive farmers with occupational experience of more than two years in their specialities (2) between 20 and 30 years of age (3) graduate of GCE 'O' Level (10 years education) or equivalent
4. **TRAINING INSTITUTIONS** (1) Chubu International Centre (CBIC), JICA (2) OISCA Nishi-Nippon Training Centre (3) OISCA Chubu-Nippon Training Centre
5. **REMARKS** A compulsory intensive Japanese language course will be conducted in parallel with the technical training and lectures at OISCA Training Centers for three months (300 hours).

## SUGAR CANE RESEARCH

no executed in FY 2000

サトウキビ研究

1. **PURPOSE** The purpose of this course is to introduce the participants to extensive knowledge and techniques necessary for improving the productivity of sugar cane through lectures, experiments, practices and observation tours.
2. **MAIN FEATURES OF CURRICULUM** This course consists of common subjects for all participants and individual work in the laboratory and field. Each participant is to take one of the following subjects for their individual work. (1) sugar cane agronomy (2) soil and fertilizer (3) plant biotechnology
3. **QUALIFICATION OF APPLICANT** (1) presently engaged in research work or extension service in the field of sugar cane cultivation (2) university graduate or equivalent (3) under 35 years of age
4. **TRAINING INSTITUTIONS** (1) Okinawa International Centre (OIC), JICA (2) Okinawa Prefectural Agricultural Experiment Station
5. **REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for one month
6. **OTHER** This course is conducted every other year in principal. This year (in Japanese Fiscal Year 1998), it is not to be conducted.

## CROPS CULTIVATION IN SUB-TROPICAL AREA (VEGETABLE)

Aug. 24, 2000 - Jan. 28, 2001, 5 participants

亜熱帯地域作物栽培(野菜) J-00-03382

1. **PURPOSE** The purpose of this course is to introduce extensive knowledge and techniques necessary for improving the productivity of vegetable through lectures, experiments, practices and observation tours.
2. **MAIN FEATURES OF CURRICULUM** This course consists of common subjects for all participants and individual work in the laboratory and field. Each participant is to take one of the following subjects for their individual work. (1) Vegetable bleeding (2) Vegetable Crops (3) Root and Tuber Crops Agronomy
3. **QUALIFICATION OF APPLICANT** (1) presently engaged in research or extension service in the field of Vegetable cultivation (2) university graduate or equivalent (3) under 35 years of age
4. **TRAINING INSTITUTIONS** (1) Okinawa International Centre (OIC) (2) Okinawa Prefectural Agricultural Experiment Station
5. **REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for four weeks

## RICE RESEARCH TECHNIQUES

Feb. 5, 2001 - Nov. 16, 2001, 6 participants

稲研究 J-00-00291

1. **PURPOSE** The course is designed to introduce useful knowledge and new techniques in the field of rice to the participants and to enable them to master research methods.
2. **MAIN FEATURES OF CURRICULUM** This course consists of three major components-lecture, experiment and field practice, and study tour. Knowledge and techniques of rice cultivation and method of research work are obtained. Above all, individual experiments are regarded as the utmost importance.
3. **QUALIFICATION OF APPLICANT** (1) presently engaged in the research work or education in the field of rice (2) university graduate or equivalent with occupational experience of more than three years in their specialities (3) between 25 and 37 years of age, and non Ph. D. holder
4. **TRAINING INSTITUTIONS** Tsukuba International Centre (TBIC), JICA
5. **REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for three weeks (50 hours).

## RICE CULTIVATION (ASIAN COUNTRIES)

Feb. 19, 2001 - Oct. 19, 2001, 9 participants

稲作(アジア諸国) J-00-03281

1. **PURPOSE** The purpose of the course is to introduce practical knowledge and techniques of rice production to the participants who are engaged in agricultural extension or training of farmers.
2. **MAIN FEATURES OF CURRICULUM** This course consists of lectures, practices, experiments and study tours. It mainly covers: (1) lecture (a) rice agronomy (b) rice physiology (c) plant protection (d) soil and fertilizer (e) rice breeding (f) agricultural extension (g) farm economy (h) farm machinery (i) land improvement (2) practice and experiment (a) field experiment on specific subjects (b) laboratory experiments (c) field practices (3) study tour (a) farm household survey (b) agricultural research stations (c) agricultural cooperatives (d) extension offices (e) industries related to agriculture
3. **QUALIFICATION OF APPLICANT** (1) technical official presently in charge of extension service of rice or training on rice (2) university graduate or equivalent (3) over 26 and under 35 years of age
4. **TRAINING INSTITUTIONS** Tsukuba International Centre (TBIC), JICA
5. **REMARKS** A compulsory intensive Japanese language course will be conducted along with the technical training for twe weeks (25 hours).
6. **OTHER** Next focused area is MIDDLE and SOUTH AMERICAN COUNTIRES, and ASIAN COUNTRIES in 2000.

## IMPLEMENTAL TECHNOLOGY FOR HORTICULTURE IN PROTECTED ENVIRONMENT

Sep. 4, 2000 - Dec. 10, 2000, 5 participants

実践施設園芸技術 J-00-00681

1. **PURPOSE** Provide knowledge and information on plant production in protected environments, such as computer controlled greenhouses, in order to increase the production of specific cash crops in participating countries. The course introduces simple facilities and proper techniques which now draw much attention.
2. **MAIN FEATURES OF CURRICULUM** In this course, the following major subjects will be covered through lectures, discussions and observation trips: (1) outline of horticulture institution (2) basics of cultivation technique (3) basics of computer technique (4) information on botanical organisms (5) economy and management of horticulture
3. **QUALIFICATION OF APPLICANT** (1) university graduates or the equivalent (2) technicians or educators involved in government-sponsored research or education in the field of agricultural engineering or horticulture in a protected environment (3) under 40 years of age (4) more than 3 years' experience
4. **TRAINING INSTITUTIONS** (1) Osaka International Centre (OSIC), JICA (2) College of agriculture, Osaka Prefecture University
5. **REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for two weeks (50 hours).

## SEMINAR ON ENVIRONMENTALLY SUSTAINABLE AGRO-FORESTRY THROUGH A SYMBIOTIC SYSTEM OF HUMAN AND NATURAL RESOURCES

Sep. 11, 2000 - Oct. 30, 2000, 10 participants

循環システムによる環境保全型持続農林業セミナー J-00-03428

1. **PURPOSE** The purpose of this seminar is to provide the participants with the outline and the concrete methods of the environmentally sustainable agriculture and forestry through a symbiotic system of human and natural resources. It also shows how the farmers' participation into the system and the cooperation between administration and universities are well working, thus to train the crucial personnel for self-development of respective countries.
2. **MAIN FEATURES OF CURRICULUM** The course will be conducted mainly in the form of lectures practices and observations. (1) outline and details of the symbiotic system of human and natural resources for environmentally sustainable agriculture and forestry (2) outline and details of technology on environmentally sustainable agriculture and forestry (3) observation of current situation of environmentally sustainable agriculture and forestry (4) promoting system and the cooperation structure of the symbiotic system of human and natural resources for environmentally sustainable agriculture and forestry (5) improvement of the status of rural women (6) presentation (on how to apply the methods of the participation of local residents, the cooperation among local organizations, administration and universities on environmentally sustainable agro-forestry through a symbiotic system of human and natural resources, to participants' respective cases)
3. **QUALIFICATION OF APPLICANT** (1) academic staff on agriculture or forestry in universities, or administrative officers in charge of agriculture or forestry in government or municipalities (2) with at least three years' experience in the field (3) between 25 years and 45 years of age
4. **TRAINING INSTITUTIONS** (1) Kyushu International Center (KIC), JICA (2) KARAMOSIA
5. **REMARKS** A compulsory 50-hours Japanese language course will be conducted prior to the technical training.

## SOIL DIAGNOSIS AND ENVIRONMENTAL CONSERVATION

May 14, 2000 - Aug. 19, 2000, 7 participants

土壌診断環境保全 J-00-00595

1. **PURPOSE** The course is designed for technical officers who are in charge of soil implovement by providing basic and practical knowledge related to soil diagnosis, soil improvement and agricultural environment management to achive higher food production, and to contribute to environmental friendly agriculture.
2. **MAIN FEATURES OF CURRICULUM** (1) outline of agriculture in Japan (2) general concepts and methods of soil diagnosis a) outline of soil diagnosis b) soil analysis method for chemical properties c) soil analysis method for Physical properties (3) general concepts and methods of suitable management for sustainable agriculture a) analysis od water quality b) analysis of heavy metals in soil
3. **QUALIFICATION OF APPLICANT** (1) presently engaged in soil diagnosis, which can contribute for environment-friendly agriculture production and have more than 2 years experiences (2) university graduates or equivalent (3) over 25 and under 40 years of age (4) be in good health (5) not be serving millitary
4. **TRAINING INSTITUTIONS** (1) Obihiro University of Agriculture and Veterinary Medicine (2) Obihiro City
5. **REMARKS**

## DISTRIBUTION OF FRESH FRUITS AND VEGETABLES

Aug. 28, 2000 - Nov. 10, 2000, 7 participants

生鮮食料品流通 J-00-00661

1. **PURPOSE** To contribute to the modernization of the fresh food distribution in participating countries where various deteriorations of products occur due to inefficiency of distribution system, participants will study the distribution from producing districts to retail market mainly focusing on the function of wholesale market that takes an important role to keep stable supply and to stabilize price of fresh fruits and vegetables.
2. **MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on introduction of Japanese experience and basic theories of distribution of fresh fruits and vegetables. The main themes are: (1) lectures (a) wholesale market (b) producing district (c) retail (d) consumer (2) practical training (a) wholesale market (3) field training (a) retail market and large scale retail store (b) producing districts
3. **QUALIFICATION OF APPLICANT** (1) administrator in charge of implementation of modernization measures for fresh food distribution or wholesale market, with practical experience of at least five years (2) under 40 years of age
4. **TRAINING INSTITUTIONS** (1) Osaka International Centre (OSIC), JICA (2) Osaka Municipal Central Wholesale Market
5. **REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for two weeks.

## INTRODUCTORY GENE MANIPULATION FOR AGRICULTURE

Jul. 31, 2000 - Dec. 10, 2000, 8 participants

農業生産のための遺伝子操作技術 J-00-00576

1. **PURPOSE** In the developing countries, the application of biotechnological methods to the plant agricultural sector is expected to be a solution to the many problems currently faced in this area. Through lectures and laboratory practice, course participants will learn the basics of gene manipulation technique and study agrobacterium-based technology for selective breeding of plant cells.
2. **MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on laboratory experiments. The main themes are: (1) culture of microorganisms (2) nucleic acid extraction and separation techniques (3) protein purification and antibody production (4) electrophoresis techniques of nucleic acid and proteins (5) transformation methods (6) DNA enzyme treatment techniques (7) detection and identification techniques for transformed products (8) DNA amplification by the PCR method (9) sequence analyses of nucleic acid and protein
3. **QUALIFICATION OF APPLICANT** (1) university graduate or equivalent (except those who hold a Ph.D. in genetic engineering) (2) researchers engaged in the field of agricultural products, and employees of governmental organizations in agricultural research (3) have experience of the handing and culture of microorganisms (4) under 35 years of age
4. **TRAINING INSTITUTIONS** (1) Osaka International Centre (OSIC), JICA, (2) College of Agriculture, Osaka Prefecture University
5. **REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for two weeks.

## AGRICULTURE-RELATED INFORMATION PROCESSING

Jan. 14, 2001 - Apr. 12, 2001, 8 participants

農業分野における情報処理技術 J-00-03300

1. **PURPOSE** This course will provide training on agriculture-related information network systems including computer programing focused on Agriculture Meteorology so that contribute the human development in the field of information processing in Agriculture
2. **MAIN FEATURES OF CURRICULUM** The following major subjects will be covered in the course; (1) Outline of Agriculture related information processing (2) Introduction to Agriculture information network system (3) introduction to computer programming (Access, Excel, etc.)
3. **QUALIFICATION OF APPLICANT** (1) engaged in agricultural administration or agricultural extension services, with more than 3 years' experience (2) be university graduate or its equivalent, with an interest in computers, (3) between 25 and 40 years of age. (4) to be proficient in spoken and written English (5) to be in good health. (6) not be serving in military
4. **TRAINING INSTITUTIONS** (1) Fujitsu Higashi-Hokkaido Systems Engineering, Ltd. (2) Obihiro University of Agriculture and Veterinary Medicine
5. **REMARKS**

## UPLAND FARMING MANAGEMENT

Jun. 15, 2000 - Aug. 16, 2000, 10 participants

畑作管理 J-00-03349

1. **PURPOSE** The purpose of the course is to support the improvement and stabilization of upland farming management in developing countries by introducing advanced and systematic upland farming management of Tokachi are famous as its large-scale upland farming in Japan
2. **MAIN FEATURES OF CURRICULUM** (1) Guidance about agriculture in Tokachi, Hokkaido (2) Cultivation techniques and information 1 (Experiment and Extension) (3) Cultivation techniques and information 2 (Cultivation techniques, Harvesting, Processing and Distribution of agricultural products, etc.) (4) Agricultural Cooperatives, mutual-aid system, Agricultural Machinery (5) Activities of Farmers in Tokachi Area
3. **QUALIFICATION OF APPLICANT** The ideal applicant will: (1) be involved in upland farming management with more than 3 years of experience (2) be a university graduate or its equivalent (3) be between 25 and 40 years of age (4) to be proficient in spoken and written English (5) be in good health (6) not be serving in military
4. **TRAINING INSTITUTIONS** (1) Agricultural Technology Center, City of Obihiro
5. **REMARKS**

## VEGETABLE CULTIVATION TECHNOLOGY FOR EXTENSION

Feb. 5, 2001 - Nov. 16, 2001, 9 participants

野菜栽培技術 J-00-00631

1. **PURPOSE** The purpose of this course is to grow practical technicians who can contribute to establish new vegetable cultivation techniques for their country by learning general technologies of vegetable production in Japan.
2. **MAIN FEATURES OF CURRICULUM** This course consists of lectures, experiments, practices and observations in study tour. Their proportion are set 1:3:1. Participants will learn the knowledge of vegetable cultivation by lectures, get its technology by experiments and practices and understand practical condition by observations. In addition, individual experiments will be conducted by the participants, in order to apply the gotten technology for their countries and to develope the ability of analyzing its result and making report. The main items are: (1) Vegetable Cultivation in General, (2) Vegetable Cultivation Technology such as Vegetable breeding and seed technology, Raising seedling, Soil fertility and diagnosis, Insects and diseases control, Cultivation method of vegetable, Cultivation of major vegetables, and Field trial method and (3) Sustainable Agriculture Technology in Vegetable.
3. **QUALIFICATION OF APPLICANT** Applicants should be: (1) presently engaging in vegetable production field such as extension officer, training instructor or researchers, (2) university graduates or diploma holders with the occupational experience of more than 3 years in their speciality, (3) no doctorate holder and (4) between 25 and 40 years of age.
4. **TRAINING INSTITUTIONS** Tsukuba International Centre (TBIC), JICA
5. **REMARKS** An intensive Japanese language course will be conducted prior to the technical training for two weeks (50 hours)

## APEC•ATC COURSE ON AGRICULTURAL FINANCE

Sep. 5, 2000 - Sep. 27, 2000, 10 participants

APEC・ATC農業金融研修 J-00-03488

1. **PURPOSE** The purpose of the course is to promote Agricultural policy and to complete supporting system of Agriculture for Agricultural finance and trusting service which is to strengthen Agricultural Production System in participants' countries by providing executive officers, staffs of central banks and agricultural finance agencies engaged in agricultural finance in APEC member developing countries with various understanding concerning the state of agriculture and agricultural finance in Japan and others.
2. **MAIN FEATURES OF CURRICULUM** The following major subjects will be covered in the course. (1) Agriculture in Japan (2) Outline of Agricultural Finance System (3) Agricultural Cooperative System (4) System of trusting services (5) Condition at farm household in Japan
3. **QUALIFICATION OF APPLICANT** (1) presently be administration officers, staffs of central banks and agricultural finance agencies engaged in agricultural finance (2) university graduate or equivalent with occupational experience of more than three years in their specialities (3) between 27 and 40 years of age (4) be guaranteed the continuous engagement in the administration of seedling and plant breeder's right
4. **TRAINING INSTITUTIONS** (1) Tsukuba International Centre (TBIC), JICA (2) Technical Cooperation Division, Economic Bureau, Ministry of Agriculture, Forestry and Fisheries (3) National Center for Seed and Seedling
5. **REMARKS**

## PLANT GENETIC RESOURCES

Apr. 24, 2000 - Oct. 27, 2000, 6 participants

植物遺伝資源 J-00-00275

1. **PURPOSE** This course is designed to contribute to upgrading knowledge and skill of the junior researchers in the field of plant genetic resources, so as to train participants to be capable of playing important roles in collection and preservation of plant genetic resources in their own countries.
2. **MAIN FEATURES OF CURRICULUM** This course consists of common subjects for all participants and individual training (5 months) in the laboratory. Each participant is to take one of the following subjects for their individual research; (1) Genetic diversity of PGR based on DNA and protein analysis (2) Understanding population genetic diversity of crop relatives in situ (3) Wild and weedy crop gene pools and their relationship to the cultigen (4) Evaluation of plant germplasms by isozyme analysis (5) Evaluation of genetic resources in breeding for quality improvement (6) Application of molecular techniques for plant breeding (7) Detection and classification of seed-borne microorganisms (8) Gene bank management and operations
3. **QUALIFICATION OF APPLICANT** (1) university graduate or equivalent non Ph. D. holder (2) presently engaged in research work in the field of plant genetic resources with more than three years' experience (3) over 25 and under 35 years of age
4. **TRAINING INSTITUTIONS** (1) Tsukuba International Centre (TBIC), JICA (2) National Institute of Agrobiological Resources (NIAR)
5. **REMARKS** (1) A compulsory intensive Japanese language course will be conducted prior to the technical training for two weeks (50 hours).

## PLANT QUARANTINE (DISINFESTATION OF FRUIT FLIES)

Apr. 13, 2000 - Sep. 10, 2000, 5 participants

植物検疫(ミバエ類殺虫技術) J-00-00407

1. **PURPOSE** The course is designed to introduce the advanced technique required for disinfestation of fruit flies to the participants who are engaged in plant quarantine. It is also hoped that this course will ultimately contribute to the promotion of fruit and vegetable exports. The method of fruits fly eradication and the applicability of the method in each country will be also introduced and examined in the course.
2. **MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on lectures, workshop practice and field trips. The main themes are: (1) plant quarantine in Japan (2) morphology and taxonomy of fruit flies (3) physiology and ecology of fruit flies (4) artificial rearing of fruit flies (5) disinfestation method of fruit flies (outline) (6) disinfestation test by vapor heat treatment and cold treatment (7) injury test of fruit by vapor heat treatment and cold treatment (8) eradication of fruit flies
3. **QUALIFICATION OF APPLICANT** (1) being presently engaged in the disinfestation programme of fruit flies or will be engaged in it as a technical expert (2) university graduate or equivalent (3) having experience in plant quarantine works and having sufficient knowledge about pests such as fruit flies (4) being under 41 years of age
4. **TRAINING INSTITUTIONS** (1) Okinawa International Centre (OIC), JICA (2) Naha Plant Protection Station, Ministry of Agriculture, forestry and Fisheries (3) Fruit-fly Eradication Project Office, Okinawa Prefectural Government
5. **REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for six weeks (150 hours).

## PROTECTION OF PLANT BREEDERS RIGHTS

Oct. 16, 2000 - Dec. 16, 2000, 10 participants

植物新品種保護 J-00-03493

1. **PURPOSE** The purpose of the course is to contribute the establishment of the systems in order to protect the plant breeder's right in each country and its operation by giving participants the knowledge and information on the component of the systems, methods of procedure and detail examination techniques.
2. **MAIN FEATURES OF CURRICULUM** Through the training programme, participants are expected; (1) to understand the systems for the protection of the plant breeder's right and identify problems and its tasks by analyzing the state of the systems in their home countries (2) to understand procedures, methods and structure of organizations for efficient administrating of examinations (3) to understand how to work out the method for making the standard of examinations and also understand the examination techniques. This course consists of lectures, practices, experiments and study tours. It mainly covers: (1) background of plant breeder's right systems (2) outline of the systems in Japan (3) methods of examination procedure (4) techniques for the plant cultivation test.
3. **QUALIFICATION OF APPLICANT** (1) presently be public management executives engaged in the plant breeder's right and seedling administration or technical officer, researcher dealing with plant & seedling (2) university graduate or equivalent with occupational experience of more than five years in their specialities (3) between 30 and 50 years of age (4) be guaranteed the continuous engagement in the administration of seedling and plant breeder's right
4. **TRAINING INSTITUTIONS** (1) Tsukuba International Centre (TBIC), JICA (2) Seed and Seedling Division, Agricultural Promotion Bureau, Ministry of Agriculture, Forestry and Fisheries (3) National Center for Seed and Seedling
5. **REMARKS**

## AGRICULTURAL AND RURAL DEVELOPMENT WITH ENVIRONMENTAL CONSERVATION II

Sep. 11, 2000 - Nov. 29, 2000, 13 participants

農業・農村開発環境保全 II J-00-03474

1. **PURPOSE** The purpose of the training course is to provide improvement of planning and implementation techniques of engineers for agricultural and rural development projects mainly composed of irrigation and drainage, and agricultural land development. This training course is the general course that focuses on the introduction of agricultural and rural development under the consideration with environmental aspects.
2. **MAIN FEATURES OF CURRICULUM** This course mainly covers the following themes. (1) environmental considerations in survey, planning, design and implementation of agricultural and rural development projects (2) conservation technology for agricultural and rural development (3) framework of agricultural and rural development projects and environmental management and policies in Japan
3. **QUALIFICATION OF APPLICANT** (1) presently engaged in agricultural engineering (irrigation and drainage or rural development of agriculture) and have more than seven years of occupational experience in the field of the irrigation and drainage or rural development of agriculture (2) under 45 years of age (3) university graduate or equivalent
4. **TRAINING INSTITUTIONS** (1) Tsukuba International Centre (TBIC), JICA (2) The Japanese Institute of Irrigation and Drainage (JIID) (3) Agricultural Structure Improvement Bureau, Ministry of Agriculture, Forestry and Fisheries
5. **REMARKS**

## STATISTICAL INFO. SYSTEM FOR AGRICULTURE

Jul. 3, 2000 - Sep. 17, 2000, 8 participants

農業統計情報システム J-00-00568

1. **PURPOSE** The purpose of the course is to provide information on systematized methodology by using the computer to be adopted for such statistical operation like survey design and compilation of statistical information on agriculture.
2. **MAIN FEATURES OF CURRICULUM** The following major subjects will be covered in the course. (1) agricultural statistics (a) role (b) contents and methodology (2) agricultural census (3) sample survey (a) theory and methods (b) design of annual sample survey (sample census) of agricultural holdings (c) design of basic survey of livestock (d) design of crop survey (area survey, production survey) (4) method of computer use (a) programming (b) personal computer operation (5) remote sensing technology
3. **QUALIFICATION OF APPLICANT** (1) government official engaged in planning and administration of agricultural statistics (excluding forestry and fishery statistics) (2) university graduate or equivalent (3) not more than 40 years of age
4. **TRAINING INSTITUTIONS** (1) Tsukuba International Centre (TBIC), JICA (2) Statistics and Information Department, Ministry of Agriculture, Forestry and Fisheries (MAFF) (3) National Federation of Statistics Association on Agriculture and Forestry
5. **REMARKS**

## THE PERSONNEL FOR AGRICULTURAL EXTENSION PLANNING AND MANAGEMENT

May 7, 2000 - Jul. 20, 2000, 11 participants

農業普及企画管理者 J-00-00648

1. **PURPOSE** The participants, as agricultural extension leaders, are expected to plan and implement the training program for agricultural extension workers in their own countries. Through the training programme, participants are expected; (1) to acquire knowledge on the process in which present agricultural improvement & extension programs in Japan have been established through learning about the programs in Japan and their background in order to understand the factors of extension work (2) to compare the agricultural improvement & extension programs in their own countries with those in Japan through understanding the status quo of administration & management of the programs in Japan and point out the advantages and disadvantages of agricultural extension programs in their own countries (3) as a leader of agricultural extension services, to be able to make suggestions on the necessary measures to train extension workers in their own countries through understanding how extension programs in Japan are being proceeded (main extension methods and how to establish extension activities) (4) to understand how to educate and train extension workers who will take leadership in agricultural improvement & extension programs and to be able to apply the methods in their own countries
2. **MAIN FEATURES OF CURRICULUM** The following subjects are included through lectures, discussions and observation tours (1) Background of Extension Programs (2) Outline of Agricultural Improvement & Extension Programs (3) How to Proceed Extension Activities (4) Education & Training of Extension Staff (5) Application of the Training in their own countries
3. **QUALIFICATION OF APPLICANT** Applicants should: (1) be agricultural extension workers or subject-matter specialists (SMS) who are engaged in training of extension workers, and have more than 5 years of occupational experience in this field (2) be under 50 years of age (3) be university graduates or have equivalent academic background (4) have a sufficient command of spoken and written English.
4. **TRAINING INSTITUTIONS** (1) Tsukuba International Center, Japan International Cooperation Agency (2) Extension and Education Division, Agricultural Promotion Bureau, Ministry of Agriculture, Forestry and Fisheris (3) Japan Agricultural Development and Extension Association
5. **REMARKS**

## THE ROLE OF AGRICULTURAL COOPERATIVES TO BE PLAYED IN ACTIVATION OF RURAL ECONOMY

May 1, 2000 - Jul. 2, 2000, 14 participants

農村経済活性化に果たす農協の役割 J-00-00656

1. **PURPOSE** This training course aims to help upgrade the capacity and abilities of middle-cadre government officers engaged in cooperative development by imparting them necessary knowledge and information on the role and functions of agricultural cooperative for the revitalization of rural community.
2. **MAIN FEATURES OF CURRICULUM** This course consists mainly of lecture/discussion with more than 30% of its program being allocated to field trip. Main topics to be dealt with are; (1) ways to strengthen agricultural cooperative as well as to step up agricultural production through promoting formation of various members' voluntary groups including farm management group (2) cooperative activities for improvement of better living of member farmers and their families (3) method of performing democratic control, operation and management of agricultural cooperatives; and (4) method of formulating the long term perspective plans being drafted by agricultural cooperatives.
3. **QUALIFICATION OF APPLICANT** (1) university or professional school graduates who are now engaged in the offices of cooperative service (2) expected to work in the cooperative movement for more than five (5) years after their participation in the course (3) under forty-five (45) years of age
4. **TRAINING INSTITUTIONS** (1) Hachioji International Training Centre (HITC), JICA (2) Institute for Development of Agricultural Cooperation in Asia (IDACA)
5. **REMARKS**

## EMPOWERMENT OF RURAL WOMEN

Sep. 4, 2000 - Nov. 11, 2000, 11 participants

農村女性能力向上 J-00-00625

1. **PURPOSE** Introduce the methods to support activities of women who are in charge of the women's issue in governments and Subject Matter Specialist by giving instances, thus contribute to the regional development in which the role of women in each country is specified.
2. **MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on lectures, practice and field trips. The main themes are; (1) the current situation of rural policy, (2) methods to promote the rural development, (3) examples of regional development in which women's role is specified, (4) training of leaders for the efficient development by empowering women who are playing a central role in rural region.
3. **QUALIFICATION OF APPLICANT** (1) Subject Matter Specialist engage in home living improvement and rural development, person in charge of women's issue in government, which are engaged in the improvement of rural living standards of farm household by developing women's abilities through planning and execution of instruction and training, through the training program how to know the various methods about efforts to raise the status of rural women, participants are expected to be able to understand the importance of participatory development processes include the focus of WID and gender issue, (2) university graduate or equivalent, (3) from 25 to 45 years old.
4. **TRAINING INSTITUTIONS** (1) Tsukuba International Centre (TBIC), JICA (2) Training Institute for Rural Life Improvement, Ministry of Agriculture, Forestry and Fisheries, (3) Rural Empowerment and Life Improvement and Life Improvement Association
5. **REMARKS**

## INTEGRATED AGRI. & RURAL DEV'T THROUGH THE PARTICIPATION OF LOCAL FARMERS

Jun. 20, 2000 - Jul. 30, 2000, 10 participants

農民参加による農業農村開発 J-00-03287

1. **PURPOSE** Activation of rural areas is indispensable to achieve stabilization and improvement of agricultural production, thus to eliminate poverty in developing countries. This course is designed to train competent persons among those who will shoulder the development of rural areas aimed at improvement of rural communities, by incorporating methods for the advancement of communities and people, as well as knowledge and technologies related to general consolidation of rural areas, including improvement of circulation systems, reinforcement of farmers' organizations and utilization of the land and water resources.
2. **MAIN FEATURES OF CURRICULUM** This course consists of lectures, case studies on the concerned areas, on-the-spot training in rural districts, and observation studies at related facilities and general consolidated districts: (1) community development (introduction of cases for community development planning methods to establish organizations, promotion of participation of women in the development, agriculture and rural development projects with farmers' participation (2) Rural development (water management, distribution planning, community environment development plan, domiciliation environment etc.) (3) improvement of Agricultural Production (farm readjustment, land readjustment, agricultural management development plan, etc.) (4) maintenance and management methods (management of desolate lands and energy management for rural districts).
3. **QUALIFICATION OF APPLICANT** (1) an administrator of local government with more than ten years of practical experience who is presently concerned with agriculture and rural developments (2) university graduate or equivalent (3) under fifty years of age.
4. **TRAINING INSTITUTIONS** (1) Hokkaido International Centre, Sapporo (HICS), JICA (2) Japan Agricultural Land Development Agency
5. **REMARKS**

## SEED PRODUCTION OF UPLAND CROPS

Apr. 2, 2000 - Jul. 16, 2000, 7 participants

畑作物の種苗生産 J-00-03246

1. **PURPOSE** The purpose of this course is to provide technical officials and technicians with advanced and scientific knowledge and techniques required for sound seed production and applied cultivation method on upland crops such as potato, beans and maize through lectures, experiments and practices. It also aims to contribute to the improvement of demand and supply situation of foods and the diversification of dietary habits in participating countries.
2. **MAIN FEATURES OF CURRICULUM** This course mainly covers the following themes, and the emphasis is put on technical experience and practice. (1) apical meristem culture (2) fundamentals of breeding (3) plant propagation in net house (4) elimination of diseased plants (5) diagnosis of disease (6) production of serum for disease detection (7) crop cultivation (8) seed production (9) propagation and extension of disease-free seeds (10) storage and usage of genetic resources
3. **QUALIFICATION OF APPLICANT** (1) leading technical administrator and research worker engaged in seed production and related works of upland crops with more than five years experience (2) university graduate or equivalent (3) between 27 and 45 years of age
4. **TRAINING INSTITUTIONS** (1) Tokachi Station, National Center for Seeds and Seedlings, Ministry of Agriculture, Forestry and Fisheries (2) Tokachi Agricultural Experiment Station, Hokkaido (3) Upland Agriculture Research Center, Hokkaido National Agriculture Experiment Station, MAFF
5. **REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for seven days.

## MANAGEMENT OF NATURAL RESOURCES AND AGRICULTURAL PRODUCTION BY GIS (GEOGRAPHIC INFORMATION SYSTEM)

Nov. 20, 2000 - Dec. 18, 2000, 5 participants

GIS(地理情報システム)による天然資源・農業生産物の管理 J-00-03491

1. **PURPOSE** This training course provides basic knowledges and techniques of GIS (Geographic Information System) to researcher, administrative officers or staff in charge of extension of agricultural techniques and aims to contribute to the development of techniques or system of natural resources or agiriculutural products of each country.
2. **MAIN FEATURES OF CURRICULUM** (1) To understand basic theory and techniques of GIS (Geographic Information System). (2) To understand management method of natural resources or agiriculutural products by GIS. (3) To gain techniques to design and develop management system natural resources or agiriculutural products by GIS.
3. **QUALIFICATION OF APPLICANT** (1) university graduate or equivalent with occupational experience (2) researcher, administrative officers or staff in charge of extension of agricultural techniques with more than 3 years experience of practical experience (3) between 25 to 35 years of age. (4) Person who have already gained basic techniques of GIS is regarded as over qualification.
4. **TRAINING INSTITUTIONS** (1) Chubu International Centre (CBIC), JICA (2) Nagoya University, ICCAE (Internatinal Cooperation Center for Agricultural Education)
5. **REMARKS**

## INTEGRATED PEST MANAGEMENT FOR PLANT PROTECTION

May 29, 2000 - Sep. 10, 2000, 7 participants

植物保護のための総合防除 J-00-00503

1. **PURPOSE** The course is designed to upgrade knowledge and skill of the participants in the field of plant protection, so as to train technical officials capable of playing practical roles in this field.
2. **MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on introduction of comprehensive knowledge on the following subjects through lecture, practice and field trip. Lecture: (1) Basic concept and biological control insects (2) Basic concept and its application to plant disease control (3) Basic concept and utilization of genetic management in plant protection (4) Chemical and mechanical management in pest and disease controls (5) Safety guidelines for usage of agrochemicals (6) Integrated control of plant diseases (7) Insecticide and pest control (8) Integrated control of weed (9) Japanese agriculture in the present and future Practice: Individual studies in laboratory of plant pathology, entomology, genetics, agrochemical science Field trip: Tsukuba, Hyougo, Hiroshima
3. **QUALIFICATION OF APPLICANT** (1) technical official presently in charge of plant protection in government, local body or college with three years or more experience in this field, (2) university graduates (3) above 25 and under 35 years of age
4. **TRAINING INSTITUTIONS** (1) Hyogo International Centre (HIC), JICA (2) Department of Biological & Environmental Science, Faculty of Agriculture, Kobe University
5. **REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for 8 days (40 hours).

## EFFECTIVE UTILIZATION OF TROPICAL AGRICULTURE AND FORESTRY RESOURCES

Apr. 13, 2000 - Nov. 19, 2000, 5 participants

熱帯農林資源の有効利用 J-00-00326

1. **PURPOSE** The purpose of the course is to introduce participants to the concept, research methodologies and techniques concerning cultivation system of tropical agricultural production and effective production and utilization of biological resources in the tropics.
2. **MAIN FEATURES OF CURRICULUM** The course consists of lectures, discussions, indoor experiment, field practices, and observation tours. Participants will be given a series of lectures on agriculture and forestry in Japan, resource plants in the tropics, agricultural statistics, crop agronomy, and other general subjects before proceeding to subcourses of their own choice and to the optional programs for more detailed study. The subcourses offered for the current fiscal year are: (1) livestock production covering animal husbandry, animal nutrition, animal environment, and other subjects pertaining to the production, care, and marketing of livestock; (2) forestry including, among other subjects, forest management and engineering, stand structure and mensuration, remote sensing, and silvicultural operation; and (3) agricultural science with emphasis on crop agronomy, soilless cultivation, protected cultivation, tissue culture, and plant virus diseases.
3. **QUALIFICATION OF APPLICANT** (1) have more than three years of laboratory research experience (2) presently engaged in research work (3) university graduates or equivalent (4) under 36 years of age
4. **TRAINING INSTITUTIONS** (1) Okinawa International Centre (OIC), JICA (2) College of Agriculture, University of the Ryukyus
5. **REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for six weeks (130 hours).

## IRRIGATION WATER MANAGEMENT

May 22, 2000 - Nov. 17, 2000, 9 participants

水管理 J-00-00348

1. **PURPOSE** The purpose of this course is to enhance the technology and knowledge for design and planning of hydraulic facilities, and to introduce efficient water management technology of main canals through hydraulic analysis to irrigation engineers who are engaged in water management works of irrigation and drainage projects.
2. **MAIN FEATURES OF CURRICULUM** This course covers the following technology. (1) facilities design technology (2) irrigation and drainage technology (3) water management technology (4) hydraulic analysis and (5) related subjects. Participants will learn and acquire the theory, application and, comprehensive knowledge and technology through lectures, experiments and practices, study tours and observations of irrigation and drainage project sites.
3. **QUALIFICATION OF APPLICANT** (1) university graduate or equivalent with occupational experience of more than five years in their field (2) presently engaged in practical work in water management (3) between 25 and 35 years of age.
4. **TRAINING INSTITUTIONS** Tsukuba International Centre (TBIC), JICA
5. **REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for 30 hours.

## IRRIGATION, DRAINAGE AND RURAL DEVELOPMENT COURSE

Feb. 5, 2001 - Nov. 16, 2001, 11 participants

かんがい排水・農村開発 J-00-00682

1. **PURPOSE** The purpose of this course is to introduce systematically scientific knowledge and technology of the irrigation and drainage schemes to irrigation and drainage engineers who are engaged in agricultural development works.
2. **MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on practices. The main practices are; (1) soil mechanics (2) hydraulics (3) concrete (4) irrigation water requirement (5) survey
3. **QUALIFICATION OF APPLICANT** (1) presently engaged in practical works in irrigation and drainage (2) university graduate or equivalent with occupational experience of more than five years in their field (3) between 25 and 35 years of age
4. **TRAINING INSTITUTIONS** Tsukuba International Centre (TBIC), JICA
5. **REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for three weeks (60 hours).

## AGRICULTURAL IMPROVEMENT IN UPLAND CROPS AREA

Jun. 4, 2000 - Aug. 24, 2000, 5 participants

畑地帯における農業開発 J-00-00605

1. **PURPOSE** This course is designed for specialists and civil engineers engaged in agricultural and rural improvement projects. The participants will be expected to learn civil engineering methods (e.g. planning and implementation techniques) related to the improvement of agricultural production infrastructure, through the study of relevant projects, such as the construction of dams for agriculture, irrigation and drainage systems, etc. This course is also designed to deepen knowledge of agricultural and rural improvement projects aimed at maintaining a stable food supply, based on case studies of past projects.
2. **MAIN FEATURES OF CURRICULUM** This course will emphasize field observations in the Obihiro-Tokachi area (Hokkaido, Japan), which is regarded as one of the major sites of large-scale upland and dairy farming operations in Japan. It mainly covers the following subjects: (1) general systems of project implementation and civil engineering related to agricultural production infrastructure improvement projects, (2) civil engineering technology for agriculture and on irrigation and drainage systems, (3) methods of improving the living environment in rural areas
3. **QUALIFICATION OF APPLICANT** (1) be technical engineers with expertise in agricultural improvement projects, especially in irrigation and drainage systems for upland farming (2) have more than three years of practical experience (3) be at least 25 and no more than 45 years of age (4) be a university graduate or its equivalent (5) be in good health (6) not be serving in military
4. **TRAINING INSTITUTIONS** (1) Obihiro Development and Construction Department, Hokkaido Development Bureau
5. **REMARKS**

## AGRICULTURAL LAND AND WATER RESOURCES DEVELOPMENT II

May 23, 2000 - Jul. 30, 2000, 13 participants

農地水資源開発 II　　J-00-00159

1. **PURPOSE** The purposes of this course are to provide senior engineers in the field of agricultural land and water resources development with the opportunity to learn about advanced technology in Japan and to increase their capability to make plans for agricultural and rural development projects (including planning, designing, and execution).
2. **MAIN FEATURES OF CURRICULUM** This course covers the following themes. (1) concept and ideas of agricultural land and water resources development (2) engineering aspects of agricultural land and water resources development (3) agricultural and rural development projects (a) method of planning and implementation (b) design criteria and standard for irrigation and drainage facilities (4) current situation and prospect of agricultural land and water resources development in the world (5) utilization of computer technology for agricultural land and water resources development
3. **QUALIFICATION OF APPLICANT** (1) presently engaged either in the task of agricultural land and water resources development or irrigation and drainage and have more than seven (7) years of occupational experience in this field (2) under 45 years of age (3) university graduate or equivalent
4. **TRAINING INSTITUTIONS** (1) Tsukuba International Centre (TBIC), JICA (2) The Japanese Institute of Irrigation and Drainage (JIID) (3) Agricultural Structure Improvement Bureau, Ministry of Agriculture, Forestry and Fisheries
5. **REMARKS**

## AGRICULTURAL MACHINERY MANAGEMENT UTILIZED MICRO-COMPUTER

Apr. 24, 2000 - Oct. 29, 2000, 10 participants

電算機利用農業機械管理　　J-00-03448

1. **PURPOSE** This course is designed for leading agricultural engineers in the field of agricultural machinery management to acquire the following knowledge and skills: (1) better understanding of agricultural machinery performance (2) selection of agricultural machinery appropriate to the operation area, soil quality and variety of crops (3) improvement of managerial ability, i.e. cost analysis, etc. (4) practical knowledge on agricultural machinery maintenance and repair (5) ability to instruct others in workshop management (Notice: the agricultural machinery in this course is especially for rice cultivation.)
2. **MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on the workshop practice and lectures at agricultural machinery companies. The main themes are: (1) principal agricultural machinery (a) fundamentals of mechanical engineering (b) principles and structure of agricultural components (c) disassembling, reassembling and maintenance (d) field operation (2) agricultural machinery management (a) farm mechanization planning, machine selection, cost analysis, mechanized farming system, working management, etc.
3. **QUALIFICATION OF APPLICANT** (1) leading agricultural engineer with at least 3 years' experience in the field of agricultural machinery management and/or instruction in their respective organizations (2) over 28 and under 40 years of age (3) university graduate or equivalent
4. **TRAINING INSTITUTIONS** (1) Osaka International Centre (OSIC), JICA (2) Kyoto University (3) some Japanese agricultural machinery companies
5. **REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for one week.

## FARM MECHANIZATION

Feb. 12, 2001 - Nov. 10, 2001, 10 participants

農業機械化　　J-00-03466

1. **PURPOSE** The purpose of the course is to systematically introduce the scientific knowledge and techniques on farm mechanization such as effective selection, introduction and utilization of farm machinery, and systematic mechanized farming in the extension field.
2. **MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on the field and laboratory experiments on farm mechanization for paddy cultivation and for upland crop cultivation. It mainly covers: (1) field performance tests of farm machinery and analysis of the result before its introduction to their countries (2) mechanization planning and its evaluation process, and applicable knowledge concerned with farm mechanization system (3) accurate and safety utilization method of measuring instruments and tools (4) experiment method such as field performance test of farm machinery under the existing conditions at the necessary level (5) technical know-how on trouble shooting and minor repair of farm use engine (6) safety operation and maintenance technique of farm machinery (7) study on personal computer use for data analysis and report making of experiments and farm-household practice.
3. **QUALIFICATION OF APPLICANT** (1) university graduate or equivalent (2) agricultural engineer and/or agronomist having more than three years experience on farm mechanization (3) between 25 and 42 years of age
4. **TRAINING INSTITUTIONS** Tsukuba International Centre (TBIC), JICA
5. **REMARKS** During training period, the participants are: (1) to join in the annual meeting of Japanese Society of Agricultural Machinery and some have a presentation of technical report after screening (2) to stay at a Japanese farm house for the farm-household practice.

## FARM MACHINERY DESIGN

Feb. 5, 2001 - Oct. 19, 2001, 10 participants

農業機械設計　　J-00-00276

1. **PURPOSE** The purpose of the course is to introduce scientific knowledge and techniques on designing, trial making and performance test of farm machinery, mainly for crop production, which is adoptable to the participants' country conditions.
2. **MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on the actual designing and trial making of farm machinery and performance test of trial-made machinery. The main themes are: (1) mechanism and performance of farm machinery and farm energy such as windmill and solar-dryer (2) designing methodology, trial-making process and testing methodology of trial-made farm machinery (3) accurate and safety utilization method of measuring instruments, tools and applicable utilization of personal computer (4) analyzing and processing methodology of metallic and other materials concerned of manufacturing farm machinery (5) report making and presentation for symposium (6) study tour to university, research institutes and farm machinery manufacturing companies (7) Japanese farm house and manufacturing factory practice
3. **QUALIFICATION OF APPLICANT** (1) university graduate from faculty of agricultural engineering or mechanical engineering (2) design engineer or research engineer with experience of more than three years in the design, research or development on farm machinery (3) between 27 and 42 years of age
4. **TRAINING INSTITUTIONS** Tsukuba International Centre (TBIC), JICA.
5. **REMARKS** During the training period, the participants are to join in the annual meeting of Japanese Society of Agricultural Machinery and some have a presentation of technical report after screening.

## APPLICATION OF AUTOMATION TECHNOLOGY TO FARM MACHINES

Jun. 19, 2000 - Oct. 2, 2000, 7 participants

畑作機械開発手法 J-00-03450

1. **PURPOSE** The purpose of this course is to provide agricultural engineers with an understanding of the principles and mechanism of farm (except paddy faming; so throughout) machinery, to be able to develop, improve and repair farm machinery in their respective countries. Moreover, participants will acquire knowledge of fundamental technology for the agri-mation of farm machinery, which will aid computer-assisted research and development of agricultural machinery.
2. **MAIN FEATURES OF CURRICULUM** This course mainly covers the following themes. (1) farm machinery theory and practice (2) training in agri-mation based on an understanding of the improvements necessary in farming (3) computer programming (C-language) (4) training in relay control; programmable control; microcomputer (Z80) use; sensor use; pneumatic control; etc.
3. **QUALIFICATION OF APPLICANT** (1) researcher, educational instructor and engineer engaged in improvement, development and research activities of farm machinery (excluding paddy farming) (2) have enough knowledge of operating computers (3) more than five years experience in the field of farm machinery (excluding paddy farming) (4) be university graduate or its equivalent (5) between 25 and 45 years of age (6) be in good health and able to undergo the training (7) not be serving in military
4. **TRAINING INSTITUTIONS** (1) Obihiro City Industrial Technology Center (2) Obihiro University of Agriculture and Veterinary Medicine
5. **REMARKS**

## FARM MACHINERY TESTING FOR FARM MECHANIZATION

Mar. 19, 2001 - Jun. 24, 2001, 8 participants

農業機械化のための農業機械評価試験 J-00-03473

1. **PURPOSE** The purpose of this course is to systematically introduce the knowledge and techniques required for the testing and evaluation of farm machinery.
2. **MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on the actual testing and evaluating methodology of farm machinery. The actual testing practices are conducted under the authorized testing cord. The main themes are: (1) testing and evaluation of farm machines to determine the performance characteristics, rate of work, durability, safety, ease of operation (2) testing and evaluation method in laboratory and field (3) accurate utilization of testing and measuring instruments (4) data acquisition, data processing and data analyzing by micro-computer (5) farm machinery testing system and administration (6) farm mechanization features (7) study tour to university, research institutes and farm machinery manufacturing companies.
3. **QUALIFICATION OF APPLICANT** (1) university graduate in agricultural engineering or mechanical engineering (2) test engineer or qualified engineer in testing of farm machinery with experience of more than three years (3) between 25 and 50 years of age
4. **TRAINING INSTITUTIONS** (1) Tsukuba International Centre (TBIC), JICA (2) Bio-oriented Technology Research Advancement Institution (BRAIN)
5. **REMARKS** (1) A compulsory intensive Japanese language course is conducted prior to the technical training for 10 days (30 hours). (2) During training period, the participants are to join in the annual meeting of Japanese Society of Agricultural Machinery.

## FOOD PROCESSING AND PRESERVATION TECHNOLOGY

Jan. 15, 2001 - Mar. 25, 2001, 7 participants

食品加工・保全技術 J-00-03309

1. **PURPOSE** This course, intended for the researchers of food related subjects and engineers engaged in food processing, aims to provide proper food processing technologies as well as preservation technologies to protect foodstuffs from deterioration. For the purpose of transferring the basic technological framework related to food processing and preservation, the goals to be attained are settled as follows: (1) to understand laws related to quality control and environmental preservation, (2) to acquire technologies used for the production of processed agricultural foods and fermented foods, techniques for packaging and pasteurization, and in addition, knowhow of waste water treatment, and. (3) to acquire techniques for the evaluation of processed agricultural foods and fermented foods.
2. **MAIN FEATURES OF CURRICULUM** The Course consists of lectures, labpratory practices, observation, discussions and report making. It covers the following subject; (1) Nation-wide and prefectural states of commerce/ industry, food processing trade, policies and legislation in Japan, (2) Food producing technology (the outline of agricultural raw materials and utilization/processing methods), (3) Analytical technology (the methods for analyzing foodstuffs, additives, water quality and microorganisms), (4) Preservation technology (the outline of food preservation technology and then deepen the acquired knowledge of keeping freshness, pasteurizing, and package designing), (5) Individual training
3. **QUALIFICATION OF APPLICANT** (1) senior technical staff engaged in research and development of food processing and preservation, or quality control of processed foods in the national/local government, or related public organizations (2) more than 3 years experience in the field (3) university graduate or equivalent (4) under 45 years of age
4. **TRAINING INSTITUTIONS** (1) Chugoku International Centre (CIC), JICA (2) Hiroshima International Centre (3) Hiroshima Prefectural Food Technology Research Center
5. **REMARKS** The compulsory intensive Japanese language course will be conducted prior to the technical training for 25 hours (1 week). The course mainly deals with following food materials: rice, wheat, beans, orange, grape, cabbage, and chineseleaf, etc.

## POST-HARVEST RICE PROCESSING

Aug. 21, 2000 - Nov. 17, 2000, 10 participants

米の収穫後処理技術 J-00-00514

1. **PURPOSE** The purpose of the course is to contribute to the planning, guidance and extension of technical improvement in this field in the government and public organizations of each country. It also aims to contribute to the improvement in effective processing technology and to prevent quantitative and qualitative losses by giving participants the knowledge and information on post-harvest rice processing in Japan, such as harvesting, drying, husking, grading, inspection, storage, milling, utilization of by-products, etc.
2. **MAIN FEATURES OF CURRICULUM** The following major subjects will be covered in the course. (1) rice production and marketing (2) characteristics of rice (indica and japonica subspecies) (3) harvesting, threshing and drying-machinery operation (4) storage-facility control and management (5) milling-machinery/equipment operation (6) quality control and inspection-system and testing equipment (7) utilization of by-products (husks, bran and brokens)
3. **QUALIFICATION OF APPLICANT** (1) senior technical administrator in government or public organizations engaged in planning and promoting the improvement of all post-harvest rice processes (not to be researcher, instructor or professor at college or university) (2) under 45 years of age (3) university graduate or equivalent
4. **TRAINING INSTITUTIONS** (1) Tsukuba International Centre (TBIC), JICA (2) Japan Grain Inspection Association (3) Food Agency, Ministry of Agriculture, Forestry and Fisheries
5. **REMARKS**