

LOCAL ADMINISTRATION FOR ENVIRONMENT PROTECTION

Sep. 4, 2000 - Oct. 16, 2000, 6 participants

地方環境保全行政

J-00-03490

1. **PURPOSE** The purpose of this course is to provide participants administrative management skills on rural environmental administration.
2. **MAIN FEATURES OF CURRICULUM** The course curriculum consists of planning of environment management policy, rural environment regulations, planning & enforcement of rural environment regulations, and monitoring of rural environment conditions. All participants are expected to make and present action plan which is a future environment management model in their respective countries.
3. **QUALIFICATION OF APPLICANT** (1) administrators or researchers concerned with rural environment administration who have more than 5 years of working experience (2) between 30 and 40 years of age (3) university graduated or equivalent
4. **TRAINING INSTITUTIONS** Environment Management Bureau, Nagoya City Office
5. **REMARKS**

BREEDING AND ARTIFICIAL INSEMINATION IN CATTLE

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

牛育種・人工授精

J-00-00494

1. **PURPOSE** The purpose of this course is to provide participants with basic knowledge and practical techniques coupled with the latest information on cattle breeding, knowhow of A. I. (artificial insemination) and its administration system and thus to assist them in designing their own systems in their respective countries.
2. **MAIN FEATURES OF CURRICULUM** This course consists of common subjects for all participants and research work at laboratory and field. All participants are to take the following subjects. (1) Introduction to livestock industry (2) Breeding (3) Artificial insemination and reproductive physiology (4) Reproduction management (5) Embryo transfer
3. **QUALIFICATION OF APPLICANT** (1) be in nominated by their government (2) presently engaged in livestock administration, holding veterinary license or artificial inseminator's license (3) university graduate or equivalent academic background (4) proficient in spoken and written English (5) under 40 years of age (6) will be engaged in systematic development and promotion after absorbed from this training (7) be in good health, both physically and mentally, to undergo the training; (As the training for long period may give risks to the pregnant body, pregnancy is regarded as a disqualifying condition for participation to this training course.) (8) not be serving in the military
4. **TRAINING INSTITUTIONS** (1) Nihonmatsu Training Centre, JICA (2) National Livestock Breeding Center, Ministry of Agriculture, Forestry and Fisheries
5. **REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for 2 weeks.

EMBRYO TRANSFER TECHNOLOGY FOR CATTLE

Aug. 7, 2000 - Dec. 3, 2000, 8 participants

牛受精卵移植技術

J-00-00582

1. **PURPOSE** The purpose of the course is to provide the latest ET (embryo transfer) technique in Japan for livestock breeding personnel in countries faced with such necessities, and ultimately to contribute to the progress of animal industry by the application and improvement of the techniques under their respective countries' condition. The course provides basic theory and practical use of ET as well as its administration.
2. **MAIN FEATURES OF CURRICULUM** The course will consist mainly of lectures and practical training, in which the Centre staff and visiting professionals will give expertise and instruction on the respective subjects. This will be supplemented by observation trips to the related agencies and institutions. The subjects are as follows: (1) Outline of livestock industry (2) Reproductive physiology (3) Embryo transfer technology (4) Cryopreservation of embryos (5) Embryo transfer technology applications (6) ET-related technologies
3. **QUALIFICATION OF APPLICANT** (1) be nominated by their government (2) hold veterinarian's license, or artificial inseminator's license, and have sufficient experience and knowledge about artificial insemination technique. In this course, a non-surgical method is applied for practice drills in recovery and transplantation of embryo. This method requires applicants to have enough knowledge of, and have at least three years practical experience in AI or ET. (3) university graduate or equivalent academic background (4) over 27 and under 40 years of age, in principle (5) proficient in spoken and written English (6) be in good health to undergo the training course. Pregnancy is regarded as a disqualifying condition (7) not be serving in the military
4. **TRAINING INSTITUTIONS** (1) Nihonmatsu Training Centre, JICA (2) National Livestock Breeding Center, Ministry of Agriculture, Forestry and Fisheries
5. **REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for 3 weeks.

POULTRY PRODUCTION AND BREEDING TECHNOLOGY

Aug. 7, 2000 - Dec. 3, 2000, 9 participants

鶏育種・生産技術

J-00-00061

1. **PURPOSE** Although the course is named "Poultry Production and Breeding Technology", it should be noted that in Japan, "poultry industry" is almost a synonym of "chicken industry". Thus the course is designed to provide the participants with knowledge and technology on chicken. The purpose of the course is to transfer basic and practical knowledge and technique on chicken to the personnel engaged in the chicken industry in their own countries. It should be particularly emphasized that the course will train practical technicians engaged in directly instructing farmers, not researchers or administrators.
2. **MAIN FEATURES OF CURRICULUM** In this Course, participants are expected to be able to acquire knowledge and technique in the following items. (1) Outline of livestock industry (2) Poultry breeding and reproduction (3) Feed and production technology (4) Hygiene and feeding management (5) Farm management and marketing
3. **QUALIFICATION OF APPLICANT** (1) be nominated by their government (2) presently in charge of poultry relating activities, with more than three years' experience in this field (3) university graduate or equivalent academic background (4) proficient in spoken and written English (5) under 40 years of age (6) be in good health to undergo the training course. Pregnancy is regarded as a disqualifying condition (7) not be serving in the military
4. **TRAINING INSTITUTIONS** (1) Nihonmatsu Training Centre, JICA (2) National Livestock Breeding Centre, Ministry of Agriculture, Forestry and Fisheries
5. **REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for 3 weeks.

FORAGE CROPS PRODUCTION AND UTILIZATION

Mar. 12, 2001 - Aug. 12, 2001, 6 participants

飼料作物生産・利用技術

J-00-03475

- PURPOSE** The purpose of the course is to transfer advanced technology on forage production and utilization for cattle, through lectures and excursions. Participants will also acquire skills for improving forage situations while maintaining sustainability through practicals of various aspects of forage production and utilization including soil science, animal nutrition, etc.
- MAIN FEATURES OF CURRICULUM** The course covers various aspects of forage production and utilization technology. The major subjects are as follows; (1) Outline of livestock industry (2) Statistics for breeding and experiment (3) Soil science (4) Animal nutrition (5) Feed production and utilization technology (6) Feeding and management (7) Seed production
- QUALIFICATION OF APPLICANT** (1) be nominated by their government (2) be employed by a public organization which is doing administration, research and/or extension works on forage and pasture production and/or management (3) have working experience in forage and pasture management for at least 5 years (4) over 26 years and under 40 years of age (5) university graduate or equivalent academic background (6) be in good health to undergo the training course. Pregnancy is regarded as a disqualifying condition (7) not be serving in the military (8) proficient in spoken and written English
- TRAINING INSTITUTIONS** (1) Nihonmatsu Training Centre, JICA (2) National Livestock Breeding Center, Ministry of Agriculture, Forestry and Fisheries (MAFF)
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for three (3) weeks.

SWINE PRODUCTION AND BREEDING TECHNOLOGY

Jan. 3, 2001 - Apr. 29, 2001, 6 participants

豚育種・生産技術

J-00-00588

- PURPOSE** The purpose of the course is to transfer the latest technology and knowledge of swine production and breeding technology in Japan to participating countries facing such necessities. It is designed to train leading technologists who can promote swine breeding, and ultimately contribute to the progress of animal industry.
- MAIN FEATURES OF CURRICULUM** The course covers the whole range of swine production and breeding technology. The subjects are as follows: (1) new technology of swine breeding (2) feeding and management technology (3) disease and health control measures (4) artificial insemination technology using frozen semen (5) embryo transfer technology (6) meat analysis by scanning scope
- QUALIFICATION OF APPLICANT** (1) be nominated by their government (2) university graduate or equivalent academic background (3) have more than three years' occupational experience in the field of swine breeding at government institutes or universities (4) proficient in spoken and written English (5) under 40 years of age (6) be in good health to undergo the training course. Pregnancy is regarded as a disqualifying condition (7) not be serving in the military
- TRAINING INSTITUTIONS** (1) Nihonmatsu Training Centre, JICA (2) National Livestock Breeding Center, Ministry of Agriculture, Forestry and Fisheries (MAFF)
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for 3 weeks.

DAIRY FARMING AND RELATED TECHNIQUES

Aug. 13, 2000 - Nov. 2, 2000, 7 participants

酪農振興・検査技術

J-00-00334

- PURPOSE** The course is designed to train dairy specialists and technicians to be leaders in their fields, by providing basic, practical knowledge about the technique essential to strengthening dairy farming such as livestock health inspection techniques, sanitary methods and inspection techniques for maintaining meat and milk quality, etc., and to contribute to international relationships and the promotion of science.
- MAIN FEATURES OF CURRICULUM** This course consists of common subjects for all participants and elective specialized subjects. The followings are main items in common subjects. (1) feeding, management and reproduction in dairy cattle (2) diseases and their prevention in dairy cattle (3) improvement of sanitary conditions for housing and equipment (4) processing of meat and dairy products, and inspection techniques. Participants will be divided into two groups to cover one of the following subjects: (1) quality tests and sanitary inspection techniques in meat and milk products (2) animal husbandry techniques
- QUALIFICATION OF APPLICANT** (1) engaged in fields related to animal husbandry (2) university graduate or equivalent (3) over 25 and under 40 years of age
- TRAINING INSTITUTIONS** (1) Obihiro University of Agriculture and Veterinary Medicine
- REMARKS**

CLINICAL TECHNOLOGY FOR VETERINARY DIAGNOSIS

Aug. 21, 2000 - Nov. 26, 2000, 6 participants

獣医技術

J-00-03291

- PURPOSE** This course is designed to help veterinarians from developing countries to acquire knowledge and improve technical standards with emphasis on preventive health care, techniques for the diagnosis and treatment of animal diseases, guidance in food sanitation and hygiene and measures for the control of rabies and other virulent infectious diseases.
- MAIN FEATURES OF CURRICULUM** This course consists of lectures, practices and observations. (1) livestock raising management (2) internal medicine for animals (3) animal surgery (4) animal reproduction (5) prevention and control of mastitis in cattle (6) clinical pathology (7) food and environmental sanitation (8) prevention of rabies.
- QUALIFICATION OF APPLICANT** (1) clinical veterinarians or veterinarians who work for central or local government (2) have more than five years' experience in this field (3) university graduate with a degree of veterinary medicine or equivalent (4) under 35 years of age
- TRAINING INSTITUTIONS** (1) Hokkaido International Centre, Sapporo (HICS), JICA (2) Hokkaido Veterinary Medical Association
- REMARKS**

DIAGNOSTIC TECHNOLOGY FOR DISEASE OF FOOD ANIMALS

Aug. 28, 2000 - Mar. 1, 2001, 6 participants

食用動物疾病の診断技術

J-00-03364

- PURPOSE** In the interest of food hygiene, hygienic management to ensure the safety of animals (livestock and poultry) as a food source has become an urgent priority worldwide. As a result, conventional systems for hygienic testing of livestock and poultry are being fundamentally revised and new technology developed. In the present course, Japan's latest hygienic management technology for food animals will be introduced to participants from developing countries with the aim of raising technical standards in these countries.
- MAIN FEATURES OF CURRICULUM** The course will focus on basic training and especially on practical training. (1) Basic training: parasite testing technology, virus diagnostic technology, pathological testing technology, immunology. Serological testing technology, bacterial testing technology, theory and practice of clinical diagnostic technology (2) Applied training: field observation of livestock and poultry hygienic testing to gain an overall understanding; understanding of field conditions for basic operations (3) General training: (a) lecture on hygiene management theory including HACCP (hazard analysis critical control points) (b) observation of farms and food processing factories in view of the latest theory that ensuring the safety of food animals is a continuous task which must be enforced from farmyard to dinner table (c) elaboration of a comprehensive hygiene management system.
- QUALIFICATION OF APPLICANT** Applicants should: (1) be technicians with at least 3 years' experience and currently active in research or routine operations in the field (2) be qualified as veterinary surgeons or livestock or poultry inspectors (3) be no more than 35 years old
- TRAINING INSTITUTIONS** (1) JICA Osaka International Centre (OSIC) (2) College of Agriculture, Osaka Prefecture University
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for one month.
- OTHER** The present course is offered for the first time in fiscal year 1998 on the basis of a revision of the content of the discontinued course in Laboratory Diagnosis of Poultry Diseases, which was conducted five times in total.

DIAGNOSES AND CONTROL OF RABIES AND OTHER VIRAL ZOOSES

Jan. 8, 2001 - Mar. 18, 2001, 6 participants

狂犬病などのウイルス性人畜共通伝染病の診断法と予防法 J-00-03288

- PURPOSE** This course is designed for veterinarians in Asian and African regions that are stricken by urban-rabies characteristically stricken. The purpose of this course is to introduce technologies concerning diagnosis and control of rabies and other viral zoonoses to the regions and to improve and promote the measures to counter such problems in the regions.
- MAIN FEATURES OF CURRICULUM** This course consists of lectures, practices, and observations of related institutions, aiming at an effective technical guidance from both the theoretical and practicable viewpoints (1) lectures (a) general introduction to viral zoonoses (b) details of viral zoonoses and international epidemiology (c) clinical, epidemiological diagnosis, laboratory diagnosis, vaccination, immunological technique and quarantine; and (2) practice (a) animal inoculation of rabies virus, tissue culture and virological diagnosis.
- QUALIFICATION OF APPLICANT** (1) have more than three years' experience, in this field at government institute of public health or animal health, or university (2) qualified as a veterinarian, (3) under 35 years of age.
- TRAINING INSTITUTIONS** (1) Hokkaido International Centre, Sapporo (HICS), JICA (2) Graduate School of Veterinary Medicine, Hokkaido University
- REMARKS**

RESEARCH ON VETERINARY TECHNOLOGY

Mar. 26, 2001 - Oct. 7, 2001, 5 participants

獣医技術研究

J-00-03431

- PURPOSE** The targets of the course are veterinarians who are presently engaging in the research activities. The course is conducted with a view to nurture the researchers who can play leading role in development of the animal health technology which can contribute to promote the productivity of animal industry in their respective countries.
- MAIN FEATURES OF CURRICULUM** (1) General lectures on animal health technology and research methodology (14 days) (2) Field trips to the institutes and animal husbandry (10 days) (3) Individual research training at the laboratories (5 months)
- QUALIFICATION OF APPLICANT** (1) Presently engaging in the research activities on animal health (2) with 5 years of experience in relative field (3) over 25 years old and under 40 years old (4) graduated from university or with equivalent knowledge (5) with veterinary license
- TRAINING INSTITUTIONS** National Institute of Animal Health, Ministry of Agriculture, Forestry and Fisheries
- REMARKS** The course is organized on the basis of the training course on "Advanced Technology for Veterinary Diagnosis" which was conducted from 1992 to 1997.

ADVANCED STUDIES ON PROTOZOAN DISEASES

Oct. 8, 2000 - Sep. 9, 2001, 10 participants

上級原虫研究

J-00-03476

- PURPOSE** The purpose of this course is to promote human resources in the research field of protozoan diseases in participating countries by improving the skills and the competence of participants who are primarily responsible to lay the foundation for the development of control measures against the diseases in their respective countries.
- MAIN FEATURES OF CURRICULUM** This course mainly covers the following themes. After lectures of common subjects, all participants are attached to one of the most fitted research laboratory such as the following fields in accordance with the purpose and speciality of each participant. (1) research field of applied molecular immunology (2) research field of Hemoprotozoan and related infections (3) research field of African Trypanosomosis (4) research field of protective immune responses against Coccidiosis (5) research field of molecular vector-arthropodology (6) research field of Pathophysiology of animal and cells infected with protozoan parasites
- QUALIFICATION OF APPLICANT** (1) Bachelor of Science or Master of Science Degree in Biology, Zoology or of a related field, or a graduate of Veterinary Medicine or Medical Science (2) Currently employed as a permanent member of either a private or public (including teaching) institution, and/or research laboratory of an agency (3) More than three (3) years of working experience at the above institution (4) Be under forty-five (45) years of age
- TRAINING INSTITUTIONS** (1) Research Center for Protozoan Molecular Immunology, Obihiro University of Agriculture and Veterinary Medicine
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for four weeks. (100 hours)

PRESERVATION TECHNIQUES OF MEAT AND MEAT PRODUCTS

Jan. 21, 2001 - Jul. 13, 2001, 5 participants

食肉及び食肉加工品の保蔵技術

J-00-03298

- 1. PURPOSE** The purpose of this course is to provide lectures and practices (i.e., scientific overview and hygienic handling, techniques of meat processing and preservation), and thereby to contribute to improvement of meat products in quality.
- 2. MAIN FEATURES OF CURRICULUM** The following major subjects will be covered in the course; (1) methods of livestock slaughtering and carcass grading, biochemistry of post-mortal changes in flesh (2) acquire knowledge of levels of hygiene and types of additives in the stage of processing (3) acquire processing and preservation techniques; and (4) have become knowledgeable of packaging materials used for meat products, and the special characteristics of those materials.
- 3. QUALIFICATION OF APPLICANT** (1) technologist of the food processing factory or scientist of the food institution who is presently involved in the planning of food processing (2) university graduates or the equivalent (3) between 25 and 40 years of age.
- 4. TRAINING INSTITUTIONS** (1) Hokkaido Tokachi Area Regional Food Processing Technology Center
- 5. REMARKS** A compulsory intensive Japanese course will be conducted prior to the technical training for four weeks (100 hours).

SEMINAR ON COASTAL FISHERIES MANAGEMENT

Jul. 6, 2000 - Aug. 6, 2000, 10 participants

沿岸水産資源の管理行政

J-00-00664

- 1. PURPOSE** Common property fishery resources creates excessive competition among fishers and leads to resources depletion. Coastal fisheries are characteristically poorly managed because of problems such as muluti-species and surplus fishermen. Over several centuries, Japan's coastal fisheries villages have developed their own community based management system suitable to its natural and social environment. The programme will enhance the capability of participants involved in policy and planning of coastal and inland fisheries management through application of a holistic and participatory approach, using Japanese lessons.
- 2. MAIN FEATURES OF CURRICULUM** The programme is one-month duration and includes Japanese case studies on coastal fisheries management including legal, institutional and anthropological analysis. The situation and problems in participants' countries will also be analyzed. As an output from this program, all participants are requested to formulate a project plan for their coastal fisheries management.
- 3. QUALIFICATION OF APPLICANT** (1) director or government official at an equivalent level in charge of development planning in the fisheries sector and with more than five years' occupational experience (2) university graduate or equivalent (3) under 50 years of age
- 4. TRAINING INSTITUTIONS** Kanagawa International Fisheries Training Centre (KIFTC), JICA
- 5. REMARKS**

SUSTAINABLE MANAGEMENT OF MANGROVE ECOSYSTEMS

Aug. 24, 2000 - Nov. 12, 2000, 6 participants

持続可能なマングローブ生態系管理技術

J-00-00662

- 1. PURPOSE** The purpose of this course is for participants to acquire managerial technique for sustainable utilization of mangrove ecosystem by studying the characteristics of the ecosystem and by designing proper management plans. In this way, this course aims to contribute to the environmental conservation of the world.
- 2. MAIN FEATURES OF CURRICULUM** (1) understanding of mangrove ecosystems (2) effective utilization of mangrove ecosystems in the respect of resource production (3) survey of mangrove forest (4) re-production technology of mangrove ecosystems (5) extension method of techniques and making a technical report
- 3. QUALIFICATION OF APPLICANT** (1) be university graduate or equivalent, and be working presently in forest or mangrove field more than three years (2) be involved with mangrove management as a leader or a potential leader (3) not be more than 40 years old
- 4. TRAINING INSTITUTIONS** (1) Okinawa International Centre (OIC), JICA (2) International Society for Mangrove Ecosystems (ISME)
- 5. REMARKS**

APPLICATION OF SYMBIOTIC MICROORGANISMS IN TROPICAL AGRICULTURE AND FORESTRY

Aug. 28, 2000 - Dec. 6, 2000, 5 participants

熱帯農林業における共生微生物の利用技術

J-00-03452

- 1. PURPOSE** The purpose of this course is to provide practical knowledge on identification, manipulation and inoculation techniques of microorganisms (especially of symbiotic), whose effective use can increase agricultural and/or forestry production in the tropics. The course also focuses on how laboratory instruments are used in this field, in order to contribute to sustainable development in the tropics through sound utilization of natural products.
- 2. MAIN FEATURES OF CURRICULUM** In this course, the following major subjects will be covered through lectures, practices and observation trips: (1) function of symbiotic microorganisms in natural ecosystem (2) identification of symbiotic microorganisms (3) microorganism culture method (4) microorganism immobilizing technique (5) microorganism inoculation technique (6) carbonization technique and charcoal utilization
- 3. QUALIFICATION OF APPLICANT** (1) university graduates (preferably in agriculture, forestry or biology) or equivalent on higher qualification, and have been engaged in agricultural, forestry on microbiological research on education for over three years (2) under 40 years of age (3) university graduates
- 4. TRAINING INSTITUTIONS** (1) Osaka International Centre (OSIC), JICA (2) Biological Environment Institute, Kansai Environmental Engineering Center Co., Ltd.
- 5. REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for two weeks (45 hours).

PRACTICAL CASE STUDIES ON SUSTAINABLE FOREST MANAGEMENT

Aug. 14, 2000 - Nov. 4, 2000, 13 participants

持続可能な森林経営の実践活動促進

J-00-00699

1. **PURPOSE UNDER PLANNING**
2. **MAIN FEATURES OF CURRICULUM UNDER PLANNING**
3. **QUALIFICATION OF APPLICANT** (1) technical staff in charge of forest management in the governmental organizations and have more than five years of experience (2) university graduate or equivalent (3) not more than 45 years of age
4. **TRAINING INSTITUTIONS** (1) Hachioji International Training Centre (HITC), JICA (2) Forest Training Institute (FTI), Forestry Agency
5. **REMARKS** A compulsory intensive Japanese language will be conducted prior to the technical training for two weeks

FOREST RESEARCH

Aug. 14, 2000 - Nov. 19, 2000, 5 participants

森林研究

J-00-00501

1. **PURPOSE** The course is designed to upgrade knowledge and skill of the participants in the field of forest environment and forest biology research, so as to train researchers capable of playing important roles in this field.
2. **MAIN FEATURES OF CURRICULUM** This course comprises three sub-courses; "Forest", "Forestry" and "Forest Products". Each sub-course is conducted every three years. This year (Japanese Fiscal Year 2000), the sub-course "Forest Products" will be conducted. This course consists of common subjects for all participants (about one week) and individual research work in the laboratory (about 2 months). Each participant is to take one of the 20 subjects in the field of (1) Microbial Treatment of Wood (2) Chemical Conversion of Wood Components (3) Chemical Processing of Wood (4) Wood Improvement (5) Wood Characteristics (6) Wood Processing (7) Timber Engineering
3. **QUALIFICATION OF APPLICANT** (1) University/college graduate or equivalent (2) Research scientist of forest research organizations or universities with at least 5 years of occupational experience (3) Under 40 years of age. Note: This training course is not designed for administrators, but for research scientists.
4. **TRAINING INSTITUTIONS** (1) Tsukuba International Centre (TBIC), JICA (2) Forestry and Forest Products Research Institute, Ministry of Agriculture, Forestry and Fisheries
5. **REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for one weeks (25 hours).

REFORESTATION PROMOTION LEADER

Aug. 29, 2000 - Nov. 19, 2000, 10 participants

森林造成指導者

J-00-00657

1. **PURPOSE** The purpose of this course is to upgrade the planning ability of participants who are responsible for the promotion of reforestation in degraded forest land in each country, by introducing policies, techniques and countermeasures in Japan as well as discussing the problems which participating countries confront.
2. **MAIN FEATURES OF CURRICULUM** The following major subjects will be covered in the course; (1) outline of forestry and wood industry in Japan (2) forestry and forest products administration, systems and organizations in Japan (3) forestry techniques in Japan (4) forestry techniques development and extension in Japan (5) observation tours in several forestry regions (6) presentation and discussion on forestry in participating countries
3. **QUALIFICATION OF APPLICANT** (1) be personnel in positions responsible for planning work in the central and local governmental forestry organizations (not be researcher of public organizations or instructor or professor of colleges/universities) (2) not more than 45 years of age (3) forestry universities/colleges graduates or equivalent with occupational experience of more than eight years in the field of forestry administration
4. **TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Japan Overseas Forestry Consultants Association (JOFCA) (3) Forestry Agency
5. **REMARKS**

CONSERVATION AND SUSTAINABLE USE OF FOREST BIOLOGICAL DIVERSITY

Jan. 8, 2001 - Mar. 4, 2001, 7 participants

森林保護地域等の管理・経営

J-00-00627

1. **PURPOSE** Though the training program, Participants are expected to acquire the technology and knowledge in the following items. (1) Condition of forestry and forest policy in Japan (2) Methods of conservation and sustainable use for preserved forest in Japan (3) Methods of conservation and sustainable use for preserved forest in developing countries
2. **MAIN FEATURES OF CURRICULUM** This course is designed to balance lecture and practice, and the main themes are: (1) Condition of forestry and forest policy in Japan (2) Methods of conservation and sustainable use for preserved forest in Japan (3) Methods of conservation and sustainable use for preserved forest in developing countries
3. **QUALIFICATION OF APPLICANT** (1) Technical staff in charge of forest management in the governmental organizations and have more than five years of experience (2) University graduate or equivalent (3) Not more than 45 years of age
4. **TRAINING INSTITUTIONS** (1) Hachioji International Training Centre (HITC), JICA (2) Forest Training Institute (FTI), Forestry Agency
5. **REMARKS**

NATURAL FOREST MANAGEMENT AND REGIONAL FORESTRY BY COMMUNITY PARTICIPATION

Aug. 13, 2000 - Oct. 24, 2000, 7 participants

天然林経営と住民参加による地域林業

J-00-03296

- PURPOSE** This course is designed for participants to acquire Japanese knowledge and techniques that improve natural forest quality and through accelerating natural regeneration, etc. The goal of this course is providing the skill and knowledge necessary to formulate appropriate forest management policies in their own countries
- MAIN FEATURES OF CURRICULUM** The following major subjects will be covered in the course; (1) Japanese forest and forest management systems (2) Natural forest management knowledge and techniques (Basic knowledge of natural forest, Natural forest management) (3) Denuded land restoration techniques (4) Forest management by community participants (General concepts of forest management by community participants, Promoting afforestation, The relationship between forests and sea, Activities of forest owner's cooperation, Management by forestry groups) (5) Observation concerning above Lectures (1) to (4)
- QUALIFICATION OF APPLICANT** (1) to be engaged in related to forestry management and has more than five years' experience (2) to be university graduate in forestry, or equivalent (3) to be under forty years of age. (4) to be proficient in spoken and written English (5) to be in good health. Pregnancy is regarded as a disqualifying for much field activities in this course (6) not to be serving in the military
- TRAINING INSTITUTIONS** (1) Japan Overseas Forestry Consultant Association (2) Hokkaido Forestry Bureau Obihiro Regional Forest Office (3) Hokkaido Government
- REMARKS** A compulsory intensive Japanese course will be conducted prior to the technical training for two weeks (28 hours)

FOREST SOILS

Aug. 17, 2000 - Dec. 24, 2000, 6 participants

森林土壌

J-00-00335

- PURPOSE** The course is designed to introduce the knowledge on forest soils and the method of the forest soil survey in Japan to those who are presently engaged in practice and research work in forestry in governmental organizations.
- MAIN FEATURES OF CURRICULUM** In this course, the following are the major subjects. (1) forest soil science (a) general description of forest soils (b) formulation, classification and distribution of forest soils (c) vegetation, productivity and water conservation with forest soils (d) soils and fertilizers for forestry nursery (e) forest soils in Okinawa (2) investigation into forest soils (a) methods of forest soil investigations (sampling and analysis) (b) soil mapping and utilization on forest maps (c) field research and investigations
- QUALIFICATION OF APPLICANT** (1) working in a forestry research organization or university with more than five years of occupational experience in forest soil research (2) university graduate or equivalent (3) 40 years of age or younger
- TRAINING INSTITUTIONS** (1) Okinawa International Centre (OIC), JICA (2) Japan Forest Technical Association (3) College of Agriculture, University of the Ryukyus
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for two weeks (50 hours).

MARINE AND BRACKISH AQUACULTURE

Jun. 27, 2000 - Nov. 4, 2000, 6 participants

海水養殖

J-00-00594

- PURPOSE** Marine capture fisheries are now fully exploited and further increase in production must come from aquaculture if future demand for fish is to be met. Japan is a pioneer in marine aquaculture and has developed businesses of seaweed, finfish and shellfish. Food safety of cultured fish, water/soil contamination, fish disease are areas of primary concern for Japan's aquaculture industries. The programme will enhance the management capability of participants engaged in the technical development of sustainable aquaculture practices in the marine and brackish sectors.
- MAIN FEATURES OF CURRICULUM** The program is four months duration. Program content includes lectures, discussion groups, study trips, observation tours, report making as well as "hands-on" practical training in fish pathology, seed production, and fish nutrition in the laboratory and at field stations around Japan. Aquaculture development strategies with emphasis on conservation of environment and food safety is a focus of the program.
- QUALIFICATION OF APPLICANT** (1) engaged in the strategic planning on marine aquaculture (2) more than 3 years experience on practice, research or technical development in marine aquaculture (3) university graduate (4) under 40 years of age
- TRAINING INSTITUTIONS** (1) Kanagawa International Fisheries Training Centre (KIFTC), JICA (2) Kajima Technical research Institute (3) Tokyo University of Fisheries (4) Nippon Veterinary and Animal Science University
- REMARKS** A two-week compulsory intensive Japanese language course (total 50 hours) will be conducted prior to the technical training.

FISHERIES MANAGEMENT AND COOPERATIVES

Aug. 1, 2000 - Nov. 4, 2000, 10 participants

漁業協同組合

J-00-00520

- PURPOSE** Many coastal fishers are in poverty and government's have difficulty devising appropriate countermeasures. Government measure usually includes fisheries extension, fisheries management, financing, marketing and infrastructure construction but good governance also requires a functional institution with fishers ownership to work efficiently and effectively. In Japan, fisheries cooperatives have been instrumental in assisting fishing villages to escape from poverty and has resulted in sustainable coastal fishing communities in rural and urban areas. The programme will enhance the management capability of participants involved in the coastal fisheries development to build fishermen's institution and to alleviate poverty.
- MAIN FEATURES OF CURRICULUM** The curriculum is based on around Japan's successful development of coastal fishing villages. The program focuses on mechanisms to establish economically viable fishery cooperatives and their integration into planning and management of coastal resources. The applicability of these key elements of the program is studied in relation to participants' home country situation. Also covered in the programme are poverty, the marine environment and gender issues. The programme is three-month duration and includes lectures, discussion groups, seminars, observation tours and study trips to various field stations in Japan. As a output of this course, all participants are requested to formulate a project plan for artisanal fisheries development in their home country.
- QUALIFICATION OF APPLICANT** (1) director or government official at an equivalent level in charge of development planning in the fisheries sector and with more than five years' occupational experience (2) university graduate or equivalent (3) under 50 years of age (4) more than 3 years work experience in fisheries cooperatives and coastal fisheries may be considered
- TRAINING INSTITUTIONS** Kanagawa International Fisheries Training Centre (KIFTC), JICA
- REMARKS** A week compulsory intensive Japanese language course (total 20 hours) will be conducted prior to practical training.

SEMINAR ON PLANNING AND MANAGING FISHING PORTS AND MARKETS

Jan. 9, 2001 - Feb. 18, 2001, 10 participants

漁港／市場の計画と管理

J-00-03463

- 1. PURPOSE** Fish landing and marketing facilities are a critical component of fisheries infrastructure and the basis of fishery development. However, to build physically and financially sustainable facilities is a complex task requiring a detailed understanding of the nature of fisheries, the marine environment, domestic and international fish markets and the habits of resource users and consumers. Japan can offer a unique opportunity to study these issues because of its experience in design, construction and management of over 3000 fishing ports and 1000 fish markets at all levels from small-scale artisanal fisheries to industrial complexes. The Japanese experience can assist in reducing the risks associated with development of new ports and marketing facilities. The programme will enhance the management capability of participants involved in the planning and management of those facilities.
- 2. MAIN FEATURES OF CURRICULUM** The programme is one-month duration and includes lectures, site visits, and examination of case studies and group discussions. Main topics covered are case studies on fish landing and marketing facilities in Japan, analysis on special features of marine food and its distribution system, marine construction and cost-Benefit analysis. As an output of this seminar, all participants are requested to formulate a project plan for those facilities.
- 3. QUALIFICATION OF APPLICANT** (1) director or government official at an equivalent level in charge of development planning in the fisheries sector and with more than five years' occupational experience (2) university graduate or equivalent (3) under 50 years of age
- 4. TRAINING INSTITUTIONS** (1) Kanagawa International Fisheries Training Centre (KIFTC), JICA (2) Kanagawa Prefectural Government fishing port office
- 5. REMARKS**

COASTAL FISHING TECHNIQUE FOR SUSTAINABLE RESOURCE USE

Feb. 27, 2001 - Jun. 24, 2001, 5 participants

持続可能な沿岸漁業

J-00-00679

- 1. PURPOSE** The code of conducts for responsible fisheries, adopted by the Twenty-eighth Session of the FAO Conference on 31 October 1995, sets out principles and international standards of behaviour for responsible practices with a view to ensuring the effective conservation, management and development of living aquatic resources, with due respect for the ecosystem and biodiversity. This program is for sustainable resource use course will prepare participants for work to strengthen the technical basis of sustainable fishing by modification of existing fishing gear, methods and practices and/or introduction of new conservation oriented fishing practices.
- 2. MAIN FEATURES OF CURRICULUM** The program is four months duration and includes lectures, discussion groups, observation tours, study trips, report making as well as sea-going fishing operations. The participants have practical training in the construction and operation of fishing gear based on Japan's coastal fishing experience. The programme puts emphasis on selectivity to minimize waste, discards, catch of non-target species and sizes. It also addresses fishery resources management, habitat disturbance, care of the catch and energy optimization.
- 3. QUALIFICATION OF APPLICANT** (1) engaged in training or extension service for coastal fishing techniques (2) more than 3 years experience in fishing gear design and operation (3) senior high school graduate or equivalent (4) under 40 years of age
- 4. TRAINING INSTITUTIONS** (1) Kanagawa International Fisheries Training Centre (KIFTC), JICA (2) Kagoshima University (3) Kitazato University
- 5. REMARKS** A two week compulsory intensive Japanese language course (total 50 hours) will be conducted prior to practical training.

SEMINAR FOR WOMEN'S ACTIVITIES IN FISHING VILLAGES

Nov. 7, 2000 - Dec. 17, 2000, 7 participants

漁村における女性指導者養成

J-00-03480

- 1. PURPOSE** The purpose of the seminar is to contribute to women's empowerment as well as gender oriented development of fishing communities by a introducing gender concept in rural development and methods to support women's activities in fishing villages to central/local government staff, fisheries community leaders and NGOs staff.
- 2. MAIN FEATURES OF CURRICULUM** The seminar consists of lectures, discussion, observation trips and report writing. The course covers the following issues: (1) current situation of Japanese fishing villages and women's role, (2) women's empowerment (3) improvement of living standards in fishing villages (income generation, environment, resource management, health, etc.). As an output of the seminar, all participants are requested to formulate an action plan for support of women's activities in their home country.
- 3. QUALIFICATION OF APPLICANT** (1) central/local government staff, fisheries community leader or NGO staff (2) engaged in the support of women's activities in fishing village with more than three years' occupational experience (3) under 50 years of age
- 4. TRAINING INSTITUTIONS** Kanagawa International Fisheries Training Centre (KIFTC), JICA
- 5. REMARKS**

MECHANICAL MAINTENANCE FOR SMALL SCALE FISHERIES

Jan. 9, 2001 - May 13, 2001, 8 participants

小型漁船の機関保守

J-00-00277

- 1. PURPOSE** One of the most important factors for increasing the safety and profitability of fishing operations, is the reliable performance of fishing boats and mechanical systems for catching and storage of fish and fisheries products. Although there has been a significant increase in the number and type of modern high technology boats in coastal fishing communities in developing countries, there has been a little effort placed on providing adequate training for boat operators in maintenance and repair. Consequently, it is often the case, many boats and refrigeration systems break down and remain idle because of a lack of skill to repair and maintain them. Training in mechanical repair and maintenance is both an important and urgent task to sustain coastal fishing communities.
- 2. MAIN FEATURES OF CURRICULUM** This is a "Training of trainers" type programme. The core of the programme is high-level practice at Japan's leading manufacturing companies of diesel engines, outboard motors, refrigeration, FRP, fish finder & GPS and hydraulic machinery.
- 3. QUALIFICATION OF APPLICANT** (1) engaged in training or extension service as instructor or assistant instructor for maintenance and repair of machines used in coastal fishing boats, refrigeration plants or hydraulic workshops. (2) more than 3 years experience in maintenance and repair (3) senior high school graduate (4) under 40 years of age
- 4. TRAINING INSTITUTIONS** (1) Kanagawa International Fisheries Training Centre (KIFTC), JICA (2) Yanmar Diesel Engine Co., Ltd. (3) Yamaha Motor Co., Ltd. (4) Nissan Refrigeration & Engineering Ltd. (5) Japan Radio co., Ltd. (6) Yokosuka Vocational Training School
- 5. REMARKS** A two week compulsory intensive Japanese language course (total 50 hours) will be conducted prior to practical training.

**SEMINAR ON FISHERIES DEVELOPMENT
PLANNING**

Jan. 9, 2001 - Feb. 25, 2001, 10 participants

水産開発セミナー

J-00-00518

- PURPOSE** Some of the most important aspects of fishery development are environmental issues. Oceans, lakes and rivers are the basis of the production and their pollution can be fatal to industry and society. On the other hand, fisheries can be the cause of pollution by toxic waste dumping, medicines and feed for aquaculture. Japan has suffered from several serious pollution cases of which Minamata is the most serious. This Japanese experience is very valuable to the countries which have a risk of environmental hazard. The purpose of this course is to widen the understanding on factors that affects the fishery environment and to enhance the strategic planning and management capabilities of senior personnel in government and industry.
- MAIN FEATURES OF CURRICULUM** The programme is one-month duration and includes lectures, study trips, work shops and group discussions. The focus is a case study on Minamata, sewage disposal and self-pollution of aquaculture sites.
- QUALIFICATION OF APPLICANT** (1) director or government official at an equivalent level in charge of development planning in the fisheries sector and with more than five years' occupational experience (2) university graduate or equivalent (3) under 50 years of age
- TRAINING INSTITUTIONS** (1) Kanagawa International Fisheries Training Centre (KIFTC), JICA (2) Kagoshima University
- REMARKS**

FRESHWATER AQUACULTURE

Feb. 20, 2001 - Jun. 17, 2001, 6 participants

淡水養殖

J-00-00610

- PURPOSE** Capture fisheries are now fully exploited and further increase in production must come from aquaculture if future demand for fish is to be met. Since fresh water aquaculture does not necessarily require complex techniques and large investment, it can be widely beneficial to any gender including highland facing protein shortage. Correctly used, it can be environment friendly and preserve biodiversity. In spite of its small production, Japanese aquaculture has made significant advances in bio and environment related technology. This course is designed to upgrade technical capability necessary for the development of sustainable aquaculture.
- MAIN FEATURES OF CURRICULUM** The program is four months duration and includes lectures, discussion groups, observation tours, study trips, report making as well as practical work in the laboratory and at field stations in Japan. The main topics covered are Aquaculture development strategy, Fish pathology, Seed production, and Fish nutrition, considering more emphasis on the conservation of environment and on the safety of fish for human food.
- QUALIFICATION OF APPLICANT** (1) engaged in the strategic planning on inland aquaculture (2) more than 3 years experience on practice, research or technical development in inland aquaculture (3) university graduate (4) under 40 years of age
- TRAINING INSTITUTIONS** (1) Kanagawa International Fisheries Training Centre (KIFTC), JICA (2) Saitama Prefectural Fisheries Experimental Station (4) Nippon Veterinary and Animal Science University
- REMARKS** A two week compulsory intensive Japanese language course (total 50 hours) will be conducted prior to the technical training.

**SEMINAR ON INTEGRATED INSHORE
RESOURCE MANAGEMENT IN TROPICAL SEA**

Sep. 28, 2000 - Nov. 3, 2000, 12 participants

熱帯沿岸資源管理

J-00-03426

- PURPOSE** Tropical inshore resources provide opportunities for generating employment and income for a variety of industry sectors including; fisheries, mariculture and tourism. The fragile nature of coastal ecosystems requires a wise and harmonious approach to development if industries are to be established on sustainable basis. This course is designed for persons involved in development of inshore tropical sea areas to discuss, review and observe integrated inshore development activities. Upon successful completion of the program participants are expected to carry out the following: (1) Formulate integrated coastal development strategies and plans for coastal fisheries, mariculture, resource enhancement and marine tourism (2) Assist in developing legislation associated with developing and sustaining inshore tropical areas, (3) Negotiate disputes associated with marine user conflicts and (4) Establish a framework for integrated management of coastal marine resources by private and public sector groups.
- MAIN FEATURES OF CURRICULUM** The subjects covered in the course are; fisheries cooperatives, fishing aggregating devices, recreational fishing and other marine leisure activities, management of sedentary resources, stock enhancement, mariculture, Eco-tourism, marine parks, craft industries, environmental degradation and the environmental study. The course includes lectures, case studies, discussion groups, moderated reporting sessions and field trip. Based on knowledge gathered during the program each participant will prepare a study report that describes how integrated development can be applied in a specific region in their home country.
- QUALIFICATION OF APPLICANT** (1) person presently engaged in fisheries, tourism or environment protection in coastal area as high ranking government official (2) university graduate or equivalent (3) under 55 years of age
- TRAINING INSTITUTIONS** (1) Okinawa International Centre (OIC), JICA (2) Kanagawa International Fisheries Training Centre (KIFTC), JICA (3) Okinawa Prefectural Government
- REMARKS** participants are advised to bring technical background information from their home country that help them prepare the study report.

**SUSTAINABLE USE OF MARINE
MICROORGANISMS AND MARINE NATURAL CHEM.**

Oct. 2, 2000 - Jul. 26, 2001, 5 participants

海洋微生物・海洋天然化学物質利用技術

J-00-03343

- PURPOSE** The purpose of this course is to contribute to upgrading knowledge and techniques of researchers in the field of sustainable utilization of marine microorganisms and natural substances existing in Oceania and Southeast Asia.
- MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on lectures and laboratory work concerning marine biotechnology. The curriculum consists of the following subject: (1) Isolation and cultivation of marine microorganisms (2) Natural products chemistry of marine organisms and microorganisms (3) Biofouling and marine biotechnology (4) Biochemistry and biotechnology on proteinacious adhesion substances.
- QUALIFICATION OF APPLICANT** (1) University graduates in the field of organic chemistry, micro biology, biological chemistry, or molecular biology. Master's or doctoral degree is preferable (2) Researchers, technical administrators belonging to national research institute or universities (3) under 40 years of age
- TRAINING INSTITUTIONS** (1) Tohoku Branch, JICA (2) Marine Biotechnology Institute Co., Ltd.
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for 2 weeks.

FISHERY TECHNOLOGY AND ENGINEERING

Mar. 26, 2001 - Jun. 22, 2001, 5 participants

漁業生産管理技術

J-00-03407

- 1. PURPOSE** This course is designed for the members of government and private sector who are currently engaged in the management of ocean technology and marine/seafood engineering, and aims at upgrading the participants' capability of technology and engineering management for their respective countries.
- 2. MAIN FEATURES OF CURRICULUM** (1) Operation and air pollution of marine engine (2) Ocean energy and applications of heat transfer system (3) Management of refrigerating machine (4) Structural integrity and sustainable technology (5) Design and manufacturing of ocean machinery (6) Mitigation technology in offshore environment (7) Intelligent control for fishery machinery (8) Fishery science and technology
- 3. QUALIFICATION OF APPLICANT** (1) University graduates (2) Basic Knowledge on fishery management and technology (3) English, TOEFL 550 or equivalent (4) Age; up to 40 years old, but over 30 years old
- 4. TRAINING INSTITUTIONS** National Fisheries University
- 5. REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for two weeks (50 hours)

FISH PATHOLOGY AND ENVIRONMENTAL MANAGEMENT OF AQUACULTURE

Aug. 21, 2000 - Nov. 26, 2000, 5 participants

魚類防疫・環境管理

J-00-00351

- 1. PURPOSE** This course is designed for those who belong to institutions of education and research, to understand the importance of environment control and practical techniques of preventing epizootics, which is important theme in aquaculture.
- 2. MAIN FEATURES OF CURRICULUM** The emphasis is placed on the ecology of aquaculture, and the practical techniques for preventing epizootics in fish. The curriculum is composed of lecture and technical training. The subjects covered in the course are: (1) coastal oceanography (2) environmental microbiology; (3) planktonology; (4) fish pathology; (5) prevention of epizootics in fish.
- 3. QUALIFICATION OF APPLICANT** (1) presently engaged in either in research or educational activities in aquaculture, with more than three years of occupational experience; (2) university graduate or the equivalent; (3) less than 40 years of age.
- 4. TRAINING INSTITUTIONS** (1) Kyushu International Centre (KIC), JICA (2) National Fisheries University, Ministry of Agriculture, Fisheries and Forestry
- 5. REMARKS** A compulsory 25-hour Japanese language course will be conducted prior to the technical training.

FISHERIES ORIENTED RESOURCE MANAGEMENT

May 8, 2000 - Sep. 28, 2000, 7 participants

資源管理型漁業

J-00-00336

- 1. PURPOSE** The purpose of the course is to enable the participants who belong to fisheries research institutes (university) and fisheries offices to understand the basic theory and techniques for the fisheries oriented resource management. After this course, it is expected of them to plan a suitable system for the sustainable fishery resource exploitation in their respective countries.
- 2. MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on understanding the idea of the fisheries oriented resource management, not on learning a certain specialized field or a technique in fisheries. It mainly covers: (1) theory of fisheries oriented resource management (2) method of researching marine ecosystem and aquatic community (3) method of preparing artificial reefs (4) method of seed stocking (5) making his/her own fisheries oriented resource management plan for his/her country
- 3. QUALIFICATION OF APPLICANT** (1) university graduate or equivalent and be experienced in business over five years (2) presently engaged in either research or educational activity in fisheries (3) not more than 40 years old
- 4. TRAINING INSTITUTIONS** Usa Marine Biological Institute, Kochi University
- 5. REMARKS**

HANDLING AND PRIMARY PROCESSING OF FISHERY PRODUCTS

May 30, 2000 - Sep. 3, 2000, 8 participants

漁獲物処理

J-00-00515

- 1. PURPOSE** Food security can be enhanced through responsible use of natural resources and rational utilization of captured and processed fish for human consumption. Artisanal fishers income and quality of catch can be improved by maintaining freshness and adding value through processing. In Japan, high quality fish such as Sashimi (raw fish) and a wide variety of processed products assures a high price for fishers and coastal communities. This programme will train participants in fish handling and processing techniques for maintenance of fresh fish quality and value added processing.
- 2. MAIN FEATURES OF CURRICULUM** The programme is four months duration and includes hands-on practice, visits to selected fish processing and handling companies, lectures, practical laboratory work, observation tours and report making. The main topics covered are Measuring and maintaining freshness, Post-mortem changes, Chilling and Freezing techniques, Smoking, Drying, Salting, Canning, and Surimi processing and food hygiene.
- 3. QUALIFICATION OF APPLICANT** (1) engaged in either production or technical development on handling and processing of fish and marine products and having more than three years' occupational experience in this field (2) high school graduate or equivalent (3) under 40 years of age
- 4. TRAINING INSTITUTIONS** (1) Kanagawa International Fisheries Training Centre (KIFTC), JICA (2) Tokyo University of Fisheries (3) National Research Institute of Fisheries Science
- 5. REMARKS** A two-week compulsory intensive Japanese language course (total 50 hours) will be conducted prior to the technical training.

QUALITY ASSURANCE OF MARINE FOOD

Sep. 5, 2000 - Dec. 17, 2000, 8 participants

水産食品品質保証

J-00-00517

- PURPOSE** To supply safe food is basic responsibility of fisheries. However, fish is a highly perishable commodity and easily contaminated. Accidents resulting from food poisoning affect both human life and the viability of industry. In mass food processing, contamination of products may impact large numbers of the population. In Japan, about 15,000 fish processing factories, ranging from traditional small scale to high-tech large scale, produce various commodities. To assure quality and to export the products, inspection systems, good management practices and quality control are essential. In particular, quantitative systems such as HACCP is required for export of products. The programme will enhance the technical capability of participants to develop regulations, operational system and inspection practices for marine food quality assurance.
- MAIN FEATURES OF CURRICULUM** The program is three-month's duration and includes lectures, practical tests and analysis, report making, observation tours and study trips to various processing plants and factories in Japan. The topics covered are quality assurance (chilled, frozen, smoked, canned, and surimi), hygiene management, freshness tests and analysis, food poisoning bacteria and analysis of marine toxins.
- QUALIFICATION OF APPLICANT** (1) engaged in strategic planning on quality assurance of marine food (2) more than three years' occupational experience in inspection of fish and marine products (3) university graduate or equivalent (4) under 40 years of age
- TRAINING INSTITUTIONS** (1) Kanagawa International Fisheries Training Centre (KIFTC), JICA (2) Kitazato University
- REMARKS** A week compulsory intensive Japanese language course (total 20 hours) will be conducted prior to technical training.

DEVELOPMENT OF NEW MATERIALS AND ENVIRONMENT PROTECTION PROCESS

Aug. 7, 2000 - Jun. 3, 2001, 6 participants

新材料開発及び環境保全プロセス

J-00-03422

- PURPOSE** The objective of this training course is to assist the participants to attain fundamental aspects and technologies of the researches on the new materials development and/or environmental protection process. The researchers of Tohoku National Industrial Research Institute (TNIRI) help the participants to become technical experts on the job training. Participants are expected to master research and technical methods and to play a leading role to solve the technological problems on their own countries.
- MAIN FEATURES OF CURRICULUM** After a brief orientation, participants are assigned to laboratories and pursue the individual research works under the guidance of TNIRI's researchers for 9 months. TNIRI will offer the following research programs for the technical training. (1) Selective separation process of harmful ions, (2) Technologies for trace metal ion analysis, (3) Development of functional materials based on rare earth metals, (4) Development of inorganic functional materials, (5) New chemical process by supercritical fluids, (6) Development of highly tough metallic materials, (7) Corrosion and surface physics of metallic materials
- QUALIFICATION OF APPLICANT** (1) University graduates in the fields of chemistry, physics, metallurgy, material science or other related technologies with research experience of more than three years. Those who have Master's or doctoral degree are preferable. (2) Between 25 to 40 years of age.
- TRAINING INSTITUTIONS** (1) Tohoku Branch, JICA (2) Tohoku National Industrial Research Institute (TNIRI), Agency of Industrial Science and Technology, Ministry of International Trade and Industry
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for 2 weeks.

SUSTAINABLE MINERAL DEVELOPMENT

Jul. 24, 2000 - Nov. 16, 2000, 20 participants

環境調和型鉱業開発

J-00-00602

- PURPOSE** The purpose of the course is to enable the participants: (1) to deepen the knowledge of mining and environmental technology for sustainable mineral development through lectures, practices and field trips, and (2) to enhance the knowledge and technology necessary for their mining business and environmental issues after going back to their respective countries.
- MAIN FEATURES OF CURRICULUM** This course consists of lectures, practices and field trips. Participants will be divided into three groups in the following fields: (1) Exploration (2) Mining (3) Mineral processing and Metallurgy
- QUALIFICATION OF APPLICANT** (1) university/college graduates or equivalent who have basic knowledge of mineral mining (2) mining geologist, mining engineer, milling engineer, metallurgist or other engineer concerned with mining industry who are presently employed at government institutions or private companies in the field of mining development (3) have more than five years of practical experience (4) be proficient in spoken and written English (5) under approximately 40 years of age
- TRAINING INSTITUTIONS** (1) Tohoku Branch, JICA (2) International Institute for Mining Technology (MINETEC)
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for 2 weeks.

COAL MINE TECHNOLOGY

May 15, 2000 - Aug. 13, 2000, 12 participants

石炭鉱山技術

J-00-00601

- PURPOSE** The course is designed to introduce practical technology and knowledge in the field of coal mine technology (mainly for underground mines) to the participants, who are safe or production engineers at coal mines so that they can play important roles in contributing to the expansion and development of the coal mine industries.
- MAIN FEATURES OF CURRICULUM** This course consists of (1) safety (2) production (3) on site training at coal mine (4) theoretical studies.
- QUALIFICATION OF APPLICANT** (1) mining engineers (safety, production) presently engaged in the field of coal mine (2) university graduate or equivalent with basic knowledge of coal mine with occupational experience of more than three years (3) more than 30 years and less than 40 years of age
- TRAINING INSTITUTIONS** (1) Tsukuba International Centre (TBIC), JICA (2) Japan Coal Energy Center (JCOAL) (3) National Institute for Resources and Environment (NIRE), Agency of Industrial Science and Technology, Ministry of International Trade and Industry
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for a week (20 hours).

MARINE ENVIRONMENTAL MANAGEMENT FOR POLLUTANT SPILLS ASSOCIATED WITH PETROLEUM DEVELOPMENT

Oct. 1, 2000 - Oct. 21, 2000, 10 participants

石油鉱山開発に係る海洋汚染防止対策技術 J-00-03495

- 1. PURPOSE** This seminar is designed for the government officials (or the equivalents) in charge of administration of petroleum development in oil-producing countries. The purpose of this seminar is to develop participants' abilities of marine environmental management for pollutant spills.
- 2. MAIN FEATURES OF CURRICULUM** The following major subjects will be covered in this course, mainly by means of lectures: (1) environmental management system (2) environmental impact assessment (3) risk management system (4) risk analysis (5) oil well explosion (6) waste processing after drilling (7) oil spill contingency
- 3. QUALIFICATION OF APPLICANT** Applicants should be: (1) officials presently in charge of petroleum development in governments or related public institutions, with 3 or more years of occupational experience in this field, (2) above 25 and under 42 years of age, and (3) university graduates or the equivalents
- 4. TRAINING INSTITUTIONS** (1) Mine Safety Division, Environmental Protection and Industrial Location Bureau, Ministry of International Trade and Industry (MITI) (2) Safety and Environment Center for Petroleum Development (SEC), Engineering Advancement Association of Japan (ENAA)
- 5. REMARKS** Country Report will be highly utilized both for the selection of participants and for the country report presentation.

INTELLECTUAL PROPERTY FOR APEC ECONOMIES

Aug. 29, 2000 - Oct. 29, 2000, 20 participants

APEC工業所有権 J-00-03344

- 1. PURPOSE** Since countries in APEC region have been getting advanced in development of Industrial Property System comparing to other developing countries in these years, demands for higher level technical supports for policy or legislation reform planning and reinforcement of examination system on Industrial Property have also been increased. Taking these circumstances into account, this course is designed to provide the participants who are engaged in policy planning in this field in APEC region countries with knowledge and skills for harmonious establishment and effective operation of Industrial Property.
- 2. MAIN FEATURES OF CURRICULUM** The following themes will be covered in the course; (1) comparative theory of Industrial Property System (2) international protection and present status of Industrial Property (3) well-known trade marks and correspondence to the illegal commodities (4) roles of patent information and its application (5) exercise of privilege (6) economic value of Industrial Property (7) infringement cases of Industrial Property.
- 3. QUALIFICATION OF APPLICANT** (1) engaged in policy planning in the field of Industrial Property with more than 5 years experience (2) university graduates or equivalent (3) over 30 but under 55 years of age
- 4. TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) General Administration Department, Japanese Patent Office (3) Japan Institute of Invention and Innovation (JII)
- 5. REMARKS** This course is organized for APEC Economies.

SEMINAR ON STANDARDIZATION AND QUALITY SYSTEM FOR ASEAN COUNTRIES

Feb. 12, 2001 - Mar. 16, 2001, 8 participants

ASEAN標準化・品質システム J-00-03417

- 1. PURPOSE** This course is designed to upgrade the skills of participants from ASEAN countries who are expected to transfer such methods as quality system based on ISO (International Organization for Standardization) 9000 Series, and TQM (Total Quality Management) which encourages quality improvement activities in their respective countries. Through such methods, the course aims to activate market economy as well as to promote international trade.
- 2. MAIN FEATURES OF CURRICULUM** In this course, the emphasis is placed mainly on introduction of Japanese experience through practical lectures including case studies, various discussions, and factory visits. The main themes are: (1) philosophy of TQM (2) motivation (3) TQM methodology-adoption of SQC (Statistical Quality Control), QC (Quality Control) story, etc. (4) evaluation of TQM implementation (5) model course programing.
- 3. QUALIFICATION OF APPLICANT** (1) having occupational experience of at least 3 years in this field, and be engaged in the job of the same subject presently (2) between the age of 30 and 45 (3) university graduates
- 4. TRAINING INSTITUTIONS** (1) Osaka International Centre (OSIC), JICA (2) Japanese Standards Association.
- 5. REMARKS**

RESEARCH ON MEASUREMENT TECHNOLOGY AND STANDARD

Oct. 2, 2000 - Jul. 29, 2001, 5 participants

計測技術研究 J-00-03313

- 1. PURPOSE** This course is aimed at upgrading the measuring techniques of researchers and technicians of metrological laboratory in developing countries through intensive lectures, laboratory work, and study trips so as to contribute to the establishment of measurement standard in those countries.
- 2. MAIN FEATURES OF CURRICULUM** participants are expected to gain fundamental knowledge of measurement as well as broad knowledge of the legal metrology system. Furthermore, the following will also be gained depending on the theme participants select: (1) "measurement techniques": ability to accomplish research (2) "measurement standard": ability to accomplish calibration of measurement standard. The course is comprised of a common programme for all participants and individual research training. (1) common programme: (a) lectures (4 weeks; outline of National Research Laboratory of Metrology, legal metrology system, fundamentals of metrology, measurement control, etc.) (b) study trips (two 1 week trips, total of 2 weeks) (2) individual training: (8.25 months; participants are to choose one theme out of five themes offered.)
- 3. QUALIFICATION OF APPLICANT** (1) Researcher presently engaged in technical research work at governmental or semi-governmental organization with 5 years or more of experience (2) university graduates or equivalent (3) under 40 years of age.
- 4. TRAINING INSTITUTIONS** (1) Tsukuba International Centre (TBIC), JICA (2) National Research Laboratory of Metrology (NRLM), Agency of Industrial Science and Technology, Ministry of International Trade and Industry
- 5. REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for two weeks (50 hours).

**SEMINAR ON INDUSTRIAL STATISTICS
(FOR ASEAN COUNTRIES)**

Oct. 5, 2000 - Nov. 2, 2000, 12 participants

産業統計セミナー(アセアン諸国)

J-00-03472

- PURPOSE** The purpose of this course is to provide participants engaged in statistics with general knowledge of industrial statistics, and to contribute to further statistical development in each country. (Industrial statistics: Economic statistics implemented within industries such as the manufactures and commerce, to be more specific, including Census of Manufactures, Census of Commerce, Current Survey of Production, Indices of Industrial Production and Input-Output Tables, excluding the statistics of population, agriculture, construction, service and international trade in a broad sense.) *Commerce basically means domestic wholesale and retail trade **OBJECTIVES** (1) to acquire knowledge and technique as to planning, data collection, sample design, and publication, etc., regarding industrial statistics, (2) to acquire how to analyze statistics utilizing industrial statistics and how to operate personal computers, (3) to recognize the importance of industrial statistics which is internationally comparable. (including to acquire knowledge of construction of statistical database comparable among countries.)
- MAIN FEATURES OF CURRICULUM** Mainly consist of lectures on the following items: (1) Outlines of industrial statistics. (2) Various sorts of census surveys (manufactures and commerce) (3) Various sorts of current survey (production and commerce) (4) Enterprise based surveys (5) Various sorts of secondary statistics (Indices of Industrial Production and Input-Output Table, etc.) (6) Methods of analysis utilizing industrial statistics (7) Various sorts of classification (industrial classification, commodity classification, etc.) (8) Construction of statistical database (9) The importance of internationally comparable statistics (10) On-site observation of statistical practice, etc. (11) Industrial statistics of participants' countries (Presentation by participants, etc.)
- QUALIFICATION OF APPLICANT** (1) be officers currently engaged in the field of industrial statistics, (2) have more than 5 years of occupational experience in this field, (3) over 25 years of age but under 40 years of age, (4) have a sufficient knowledge of basic mathematics
- TRAINING INSTITUTIONS** (1) Research and Statistics Department, Minister's Secretariat, Ministry of International Trade and Industry (2) International Trade and Industry Statistics Association (3) Tokyo International Centre (TIC), JICA
- REMARKS**

LEGAL METROLOGY

Jul. 10, 2000 - Dec. 10, 2000, 6 participants

法定計量

J-00-00513

- PURPOSE** This course is organized for government officers working as senior verification officers responsible for verification and inspection of measuring equipment in the field of legal metrology. It will serve as a good opportunity to upgrade the level of legal metrology technology and to understand the state-of-the-art legal metrology system and the operational method available in Japan.
- MAIN FEATURES OF CURRICULUM** This course consists of common subjects for all participants as follows. (1) technical training (16 weeks) (a) legal metrology in general (i) measuring instrument industry in Japan (ii) outline of measurement administration in regional districts (iii) international measurement term and system of units (iv) measurement administration system (v) legal metrology of Japan and abroad (vi) metric convention (b) technical subjects (i) mass standards, temperature standards, length standards (ii) statistic theory (quality control), automatic control theory (iii) regulation of legal metrology, electronic type measuring instruments (iv) present situation of measurement of importing goods (v) international society and roles of measurement, thermophysical measurement, etc. (vi) length measuring meter and inspection, glass thermometer and inspection, taxi meter driving inspection, etc. (vii) inspection of verification standards (viii) verification of weighing instrument, water meter, gas meter, watt-hour meter (ix) periodical inspection, on-the-spot inspection (c) specialized institutes (i) Japan Electric Meters Inspection Corporation (JEMIC) (ii) Japan Quality Assurance Organization (JQA) (2) observation tour (1 week) (3) factory observation training (1 week)
- QUALIFICATION OF APPLICANT** (1) Currently engaged in the practical work of verification/inspection or its supervision in the field of legal metrology at governmental or semi-governmental institute with at least three years' occupational experience in this field. Researchers are excluded. (2) University graduate or equivalent. (3) Between 30 and 45 years of age.
- TRAINING INSTITUTIONS** (1) Tsukuba International Centre (TBIC), JICA (2) National Research Laboratory of Metrology (NRLM), Agency of Industrial Science and Technology, Ministry of International Trade and Industry (3) Japanese Conference on Administrative Guidance of Legal Metrology (JCAGLM), Secretariat: Tokyo Metropolitan Inspection Institute of Weights and Measures (TMIWM) (4) Weights and Measures Training Institute, Ministry of International Trade and Industry
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for two weeks (50 hours).

**IMPLEMENTATION OF CONFORMITY
ASSESSMENT FOR INDUSTRY**

Nov. 7, 2000 - Dec. 23, 2000, 10 participants

適合性評価実践(工業分野)

J-00-00623

- PURPOSE** The purpose of this course is to introduce to participants working in certification bodies, testing laboratories or inspection agencies, the certification system in Japan which has contributed greatly to quality assurance in the industrial field in Japan, as well as encouraging participants' interest in quality.
- MAIN FEATURES OF CURRICULUM** The main themes of this course are; (1) philosophy of the certification system (2) Japanese certification systems, particularly the JIS (Japanese Industrial Standards) Marking System (3) voluntary and compulsory certification systems (4) international movements related to certification systems (5) assessment procedures for assuring conformity with concerned standards (6) practical inspection procedures (7) promotion of quality products in each participating country.
- QUALIFICATION OF APPLICANT** (1) presently engaged in the work relating to certification, inspection and/or testing in the industrial field (2) under 40 years of age (3) university graduate or equivalent
- TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Standards Department, Agency of Industrial Science and Technology, Ministry of International Trade and Industry (3) Japanese Standards Association (JSA)
- REMARKS** This course mainly covers manufacturing fields such as the mechanical, electrical and electronic, and textile industries. It does not cover such fields as the agricultural, forestry, food, pharmaceutical, and service industries, etc.

FINE CERAMIC APPLICATION

May 8, 2000 - Jul. 24, 2000, 7 participants

機能性無機材料の開発応用

J-00-00603

- PURPOSE** The course is aimed at providing with applied technology, knowledge and information about Fine Ceramics and other High Technology Materials. The demand has been incessantly growing in recent years, so as to expedite the development of the respective countries.
- MAIN FEATURES OF CURRICULUM** Characteristics and applications of high technology materials, mainly fine ceramics, as Mechanical properties, Chemical durabilities, Thermal properties, Application at high temperature, Electronic properties, Magnetic properties, Application as sensor, Optical properties, Biological application, Composite ceramics materials, and other materials, as New metals, Composite materials, Others. The course is composed of lectures, discussions and observation tour (mainly factory visits). Lectures; (1) General information about high technology materials, (2) Powder synthesis, (3) Manufacturing technology of fine ceramics, (4) Chemical and physical properties of fine ceramics, (5) Test and evaluation methods of fine ceramics
- QUALIFICATION OF APPLICANT** (1) experts presently engaged in the field of mechanical, electrical, chemical and material engineering (2) university graduate or equivalent (3) between thirty '30' and forty '40' years of age
- TRAINING INSTITUTIONS** (1) Chubu International Centre (CBIC), JICA (2) Japan Fine Ceramics Center (JFCC)
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for one week (25 hours).

FUNCTIONAL ORGANIC MATERIALS TECHNOLOGY

Aug. 7, 2000 - Dec. 3, 2000, 6 participants

機能性有機材料工学

J-00-03406

- 1. PURPOSE** The participants of this course, who are researchers and engineers engaged in research on the synthesis of functional organic materials and the development of their applications and uses, will be introduced to techniques of synthesis, analysis through lectures, practices and observations. It is hoped that they will contribute to the development of knowledge and technologies in the relevant field in their countries.
- 2. MAIN FEATURES OF CURRICULUM** (1) instrumental analysis (lecture, practice) (2) textile processing and dyeing techniques (lecture) (3) detergent-cleaning techniques (lecture, practice) (4) environmental pollution control techniques (lecture, practice) (5) factory observation
- 3. QUALIFICATION OF APPLICANT** (1) holding bachelor's degree in organic chemistry, or organic industrial chemistry (especially, synthesis and application of color-stuff chemistry, dyes, detergents or organic chemicals' intermediates) or the equivalent (2) between 25 and 40 years of age (3) more than three 3 of experience of manufacture, application or research in organic chemical technology
- 4. TRAINING INSTITUTIONS** (1) Osaka International Centre (OSIC), JICA (2) Osaka Municipal Technical Research Institute (OMTRI)
- 5. REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for 2 weeks.

HIGH PERFORMANCE POLYMER TECHNOLOGY

Apr. 17, 2000 - Jul. 30, 2000, 6 participants

高性能高分子工学

J-00-03400

- 1. PURPOSE** The course aims to introduce to the participants knowledge and techniques concerning manufacture and quality control of polymer materials, and to foster competent specialists who are able to test and evaluate polymer materials, based on broad and profound knowledge and experience in their specialized field.
- 2. MAIN FEATURES OF CURRICULUM** In this course the emphasis is put on laboratory experiments. The main themes are: (1) properties of polymer materials and their manufacture (2) evaluation and testing techniques of polymer materials (3) molding techniques (4) application techniques of functional polymer materials
- 3. QUALIFICATION OF APPLICANT** (1) university/college graduate in chemistry or chemical engineering, or equivalent (2) at least 3 years of experience in polymer technology (3) between 25 and 35 years of age
- 4. TRAINING INSTITUTIONS** (1) Osaka International Center (OSIC), JICA (2) Osaka Municipal Technical Research Institute (OMTRI)
- 5. REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for two weeks.

PROCESSING AND CHARACTERIZATION OF INORGANIC MATERIALS AND METALS

Aug. 28, 2000 - Dec. 10, 2000, 5 participants

無機・金属材料

J-00-03454

- 1. PURPOSE** The purpose of this course is to provide knowledge and information on inorganic materials and technology, which is the basis of electronic manufacturing industries.
- 2. MAIN FEATURES OF CURRICULUM** In this course, the following major subjects will be covered through lectures, discussions and observation trips: (1) outline of inorganic materials and technology (2) inorganic materials process (3) materials analysis and characterization (4) evaluation of materials (5) data processing experiments (6) specialized training
- 3. QUALIFICATION OF APPLICANT** (1) technical officers or researchers in the field of inorganic materials (2) have more than 3 years' experience (3) between 25 and 35 years of age (4) have a master's degree or the equivalent
- 4. TRAINING INSTITUTIONS** (1) Osaka International Centre (OSIC), JICA (2) Osaka Municipal Technical Research Institute
- 5. REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for two weeks (45 hours).

BIOINDUSTRIES

May 15, 2000 - Jul. 10, 2000, 10 participants

バイオインダストリー

J-00-00357

- 1. PURPOSE** The course aims at providing with recent and practical knowledge on bioindustry.
- 2. MAIN FEATURES OF CURRICULUM** The course mainly covers (1) Outline of Biotechnology, (2) Fundamental Biotechnology; Plant Cell Engineering, Recombinant DNA, Bioreactor, Cell Fusion, Biotechnology-Supporting Technology, Human and Animal Cell Engineering, Physiologically Active Substances of Plants (3) Application of New-Technology; Biopharmaceuticals, Diagnostics, Industrial Enzymes, Molecular Biology Research, Food Industries, Chemical Industry, Bioremediation (4) Future Perspective of Biotechnology; Biosensing, Marine Biotechnology, Protein Engineering, Primates (5) Administrative Policy, Safety and Intellectual Proprietary rights of Products; New Policy for Biochemical Industry, Safety of Products, Patents
- 3. QUALIFICATION OF APPLICANT** (1) expert presently engaged in biotechnology or related technology at industry, research/educational institutes with more than five years of experience (2) university graduate or equivalent (3) between 30 to 45 years of age
- 4. TRAINING INSTITUTIONS** (1) Chubu International Centre (CBIC), JICA (2) Japan Bioindustry Association (JBA) (3) public institutes, universities, industries
- 5. REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for one week (25 hours).

INDUSTRIAL BIOTECHNOLOGY

Aug. 7, 2000 - Jun. 3, 2001, 5 participants

生命工学研究

J-00-00285

- PURPOSE** The course is designed for researchers presently engaged in biotechnology in their countries. Through laboratory work, basic knowledge and techniques in biotechnology and bioscience will be acquired and the ability to carry out research activities considered to be necessary for the industrial development in their own countries will be cultivated.
- MAIN FEATURES OF CURRICULUM** This course consists of individual training (9 months) in the laboratories. Each participant is to choose one out of the following nine subjects for their individual research after 1-week General Orientation and 2-week Japanese Language Training (1) Studies on thermophilic enzymes from hyperthermophiles using DNA sequence information (2) Production of Functional Lipids from Microorganism (3) Studies on triacylglycerol biosynthetic enzymes in oleaginous fungi and yeasts (4) Development of Biodegradable Plastics (5) Chemoenzymatic Synthesis of Sugar Based Polymer (6) Basic and Applied Studies on Environmental stress Response in Organisms (7) Development of new pharmaceutical compounds regulating life process in animal cells from not-yet-used natural resources (8) Studies on expression analysis of the mammalian hormone gene
- QUALIFICATION OF APPLICANT** (1) Researcher presently engaged in research work in the field have of biotechnology, (2) have occupational experience of more than three years in the said field after graduation of master's course or have occupational experience of more than five years after graduation of bachelor's course. Administrative officers are not qualified for this course (3) between 25 and 35 years of age
- TRAINING INSTITUTIONS** (1) Tsukuba International Centre (TBIC), JICA (2) National Institute of Bioscience and Human-Technology (NIBH), Agency of Industrial Science and Technology, Ministry of International Trade and Industry
- REMARKS** A compulsory intensive Japanese language course is to be conducted prior to the technical training for two weeks (50 hours).

POLYMER AND CHEMICAL TECHNOLOGY

Jun. 5, 2000 - Mar. 24, 2001, 5 participants

物質工学研究

J-00-00268

- PURPOSE** The course is designed for researchers of national research and educational institutions in participating countries, and provides the opportunity to study research methods and gain related knowledge through research on specialized themes selected by the participants themselves, and through introductory lectures. Field trips scheduled in the programme serve to further improve their knowledge in the practical field.
- MAIN FEATURES OF CURRICULUM** This course consists of common subjects for all participants (1 week) and individual training in the laboratory. Each participant is to take one of the following subjects for their individual research. (1) Synthesis of Functional Polymers and Their Characterization, (2) Remediation of Oil-Polluted Sea Water, (3) X-ray studies on the structural changes of liquid crystals and liquid crystalline polymers under hydrostatic pressure, (4) Transition-Metal Catalyzed Synthetic Reactions, (5) Environmentally-friendly Organic Chemical Processes, (6) Molecular Characterization of Synthetic Polymer materials, (7) Determination of Organic Pollutants in Environmental Samples, (8) Organic Synthesis under High Pressure, (9) Structure and Properties of Biodegradable Polymers, (10) R&D of Chemical Sensors using Plasma-Polymerized Films and Quartz Crystal Microbalance
- QUALIFICATION OF APPLICANT** (1) Researcher with a bachelor's degree, capable of carrying out basic research in the field of polymer and chemical technology (2) Currently engaged in research work in the field of polymer and chemical technology, and at least three years' occupational experience in the appropriate field. Administrative officers are not qualified for this course. (3) Between 25 and 40 years of age
- TRAINING INSTITUTIONS** (1) Tsukuba International Centre (TBIC), JICA (2) National Institute of Materials and Chemical Research (NIMC), Agency of Industrial Science and Technology, Ministry of International Trade and Industry
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for two weeks (50 hours).

ENVIRONMENTAL MANAGEMENT TECHNOLOGY IN PETROCHEMICAL INDUSTRIES

Sep. 11, 2000 - Nov. 20, 2000, 10 participants

石油化学工業における環境管理技術

J-00-03442

- PURPOSE** The purpose of this course is to introduce state-of-the-art technology currently being used for environmental management. In particular, this course focuses on Pollutant Release and Transfer Resister, Responsible Care, Life Cycle Assessment, Recycling, Environmental Expenditure Accounting, (with one section on safety included) in the petrochemical and other chemical industries. Participants will learn the theory and methods for keeping harmony between the economy and the environment, with the goal of contributing to the promotion of petrochemical industries and environmental conservation in developing countries.
- MAIN FEATURES OF CURRICULUM** The main content of this course includes an outline of environmental administration in Japan, environmental conservation measures taken by the country of Japan, case studies on Yokkaichi City, environmental monitoring system, safety regulations applicable to industrial complexes, air pollution control law, water pollution control law, waste disposal and public cleansing law, an introduction of the pollution control manager system, agreement on pollution control, environmental impact assessment, environmental management (including a session on safety) in companies in the petrochemical industry, trends in state-of-the-art technology in the petrochemical industry (Pollutant Release and Transfer Resister, Responsible Care, Life Cycle Assessment, Cleaner Production, Volatile Organic Compounds, Risk Assessment, Environmental Expenditure Accounting), and composition and presentation of a country/ job report and an action report.
- QUALIFICATION OF APPLICANT** (1) presently holding senior positions with more than five '5' years practical experience in the field of environmental conservation in petrochemical industry (2) university graduates or those who have the equivalent academic background (3) under forty '40' years of age
- TRAINING INSTITUTIONS** (1) Chubu International Centre (CBIC), JICA (2) International Center for Environmental Technology Transfer (ICETT)
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for one week (25 hours)

CATALYTIC SCIENCE

May 22, 2000 - Nov. 23, 2000, 8 participants

触媒科学研究

J-00-00337

- PURPOSE** The purpose of the course is to enable participants to understand both basic and practical aspects of catalysis on four main themes such as heterogeneous catalysis, homogeneous catalysis, surface science and electrocatalysis. It is aimed to help and encourage the participants through laboratory courses in one of these themes to engage themselves in catalytic research field in future.
- MAIN FEATURES OF CURRICULUM** This course mainly consists of individual research work at following laboratory. Each participant is to take one subjects for their individual research. (1) Laboratory of Active Surface Structure and Properties (2) Laboratory of Surface Reaction Dynamics (3) Laboratory of Interfacial Spectrochemistry (4) Laboratory of Catalytic Reaction Chemistry (5) Laboratory of Advanced Catalyst Design (6) Laboratory of Advanced Material Design (7) Laboratory of Catalysis in Organic Synthesis (8) Laboratory of Molecular Assemblies
- QUALIFICATION OF APPLICANT** (1) engaged in catalytic science, surface science, metal complex chemistry, electrochemistry, organic chemistry, inorganic chemistry, synthetic chemistry or related fields (biochemistry, material chemistry, applied chemistry, industrial chemistry, etc.); (2) have a master's degree or the equivalent with scientific experience of more than two years after university graduation; (3) between twenty-five (25) and forty (40) years of age.
- TRAINING INSTITUTIONS** (1) Hokkaido International Centre, Sapporo (HICS), JICA (2) Catalysis Research Center, Hokkaido University
- REMARKS**

**MECHANICAL SPARE PARTS FOR PLANT MAINTENANCE
(DESIGNING, MANUFACTURING, TESTING AND MANAGEMENT)**

Apr. 10, 2000 - Sep. 10, 2000, 7 participants

プラント用機械保全部品

J-00-03277

- 1. PURPOSE** The purpose of this course is to bring up the mechanical engineer who actually makes machine parts to use for plant maintenance. A curriculum is put together that it can impart necessary basic knowledges through lecture, practice and plant visit.
- 2. MAIN FEATURES OF CURRICULUM** The curriculum is consist of three main items. (1) basic knowledge of recent maintenance system (2) production control method for manufacturing machine part (3) manufacturing technology and inspection methods.
- 3. QUALIFICATION OF APPLICANT** (1) be a mechanical engineer with substantial leadership, who is in charge of production control, inventory control and manufacture of machine parts. (2) have a university degree in mechanical engineering or the equivalent (have graduated in other faculty or taken Dr. degree are not acceptable.) (3) be between 30 to 40 years of age
- 4. TRAINING INSTITUTIONS** (1) Kyushu International Centre (KIC), JICA (2) Kitakyushu International Techno-cooperative Association
- 5. REMARKS** A compulsory 25-hour Japanese language course will be conducted prior to the technical training.

STEEL PROPERTIES AND ITS APPLICATIONS

May 29, 2000 - Oct. 7, 2000, 8 participants

鋼材の加工と加工特性

J-00-03417

- 1. PURPOSE** The purpose of this training course is to provide participants with indispensable knowledge and techniques in the usage of steel, the selection of fabrication methods and conditions appropriate to the properties of each type of steel.
- 2. MAIN FEATURES OF CURRICULUM** Participants will understand steel properties and its application through acquiring knowledge of production methods, processes, property evaluation, testing and inspection methods of steel materials. The subjects covered in the course are: (1) fundamental properties of steel (2) steel production and properties (3) techniques of testing and inspection (4) casting, forging and welded structures, and (5) quality control.
- 3. QUALIFICATION OF APPLICANT** (1) Engineers presently engaging in occupation in the field of production, application or inspection of steel products with at least five years' occupational experience in these fields (2) university graduate or equivalent in metallurgy or mechanical engineering (3) 37 years of age or less
- 4. TRAINING INSTITUTIONS** (1) Kyushu International Centre (KIC), JICA (2) Kitakyushu International Techno-cooperative Association (3) Kyushu Institute of Technology
- 5. REMARKS** A compulsory 25-hour Japanese language course will be conducted prior to the technical training.

**HEAT TREATMENT & METAL FINISHING
TECHNOLOGY FOR IMPROVING METAL PROPERTY**

Aug. 28, 2000 - Dec. 18, 2000, 6 participants

材料性質改善処理技術

J-00-03446

- 1. PURPOSE** The course is designed to: (1) acquire knowledge and techniques on effective usage of materials (2) improve quality of materials and products in participating countries, and (3) lead their industries to minimize problems.
- 2. MAIN FEATURES OF CURRICULUM** (1) Basic Knowledge; substrate materials, sintered material, composite and new other materials, corrosion behavior and protection (2) Surface Finishing Technology; electroplating, electroless plating, electroforming, anodizing, galvanizing, metal plating on plastic substrate and other materials, physical vapor deposition [PVD] and chemical vapour deposition [CVD] with or without aid of plasma, plasma nitriding and carburization, chemical conversion treatment, Preparation of printed circuit board and electric parts by electroplating and electroless plating, Surface finishing technology for autos and other transport vehicle, etching process for electric lead frames (3) Related Technology; measurement of surface properties, resource and recycling of materials in surface technology, waste water treatment, equipment for the processes environmental treatment (4) Other Related Items; enameling and painting process, quality control method, Rectifier, required jigs, technical observation and training practice of main important processes, electroplating bath and chemicals, environmentally harmonic process.
- 3. QUALIFICATION OF APPLICANT** (1) university graduate or equivalent (2) presently engaged in research institutes on industries and qualified in their respective fields (3) occupational experience of more than two years (4) under 35 years of age
- 4. TRAINING INSTITUTIONS** (1) Chubu International Centre (CBIC), JICA (2) Industrial Research Institute, Aichi Prefectural Government (3) Aichi Industrial Research Association (AIRA) (4) private industries and other institutes
- 5. REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for two weeks (50 hours).

**ARC FURNACE & CONTINUOUS CASTING TECHNOLOGY WITH
ENERGY CONSERVATION & RECYCLING CONSIDERATION**

Aug. 28, 2000 - Dec. 4, 2000, 7 participants

製鋼における省エネルギーとリサイクル技術

J-00-03312

- 1. PURPOSE** To provide with comprehensive knowledge of controlling arc furnace and continuous casting operations, with consideration of energy conservation and recycling.
- 2. MAIN FEATURES OF CURRICULUM** The emphasis is put on lectures and observations. The main themes are: (1) steel material (2) electric arc furnace equipment and control units (3) electrical steel making and its control (4) continuous casting operation and computerized control (5) secondary refining technology (6) quality control (7) use of scrap materials (8) energy conservation (9) recycling technology
- 3. QUALIFICATION OF APPLICANT** (1) university graduate in metallurgical or mechanical engineering or equivalent (2) currently engaged in the field of electrical steel making for more than three '3' years; preferably at steel making plants and not be academic researchers or technicians (3) under '35' years of age.
- 4. TRAINING INSTITUTIONS** (1) Chubu International Centre (CBIC), JICA (2) Aichi Steel Works, Ltd. (3) Daido Steel Co., Ltd. (4) Chubu Steel Plate Co., Ltd. (5) Topy Industries Ltd. (6) other public institutions and private enterprises
- 5. REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for three weeks (25 hours).

MACHINE CONTROL IN HIGH-TECH INDUSTRIES

Oct. 23, 2000 - Mar. 18, 2001, 6 participants

ハイテク産業における機械制御

J-00-03414

- PURPOSE** The core equipment in the high-tech industries are the automatized production equipment of high reliability, high speed and high accuracy which comprehensively integrate technologies in terms of mechanicals, electricals, electronics, information, etc. and the progress in those related fields is extremely remarkable. The purpose of this course is to render the participants engaged in this field the comprehensive knowledge and skills in the above-mentioned fields respectively.
- MAIN FEATURES OF CURRICULUM** The training programme consists of lectures, practice and study tours on machine control in high-tech industries. The emphasis is put on providing participants with practical and applicable skills and knowledge as well as Japanese experience. The subjects covered in the course are (1) control theory (2) computer aided engineering (3) microcomputer (4) sensor and actuator (5) power electronics (6) hydraulics and pneumatics (7) industrial machines such as robot, CNC machine tool, construction machinery and factory automation, and study tours.
- QUALIFICATION OF APPLICANT** (1) be interested in studying the machine control and mechatronics and have more than 4 years of occupational experience in the field of process industries and assembly industries such as production and maintenance. (As this course has a wide coverage of technologies pertaining to machine control, applicants who have limited interest in acquiring knowledge of their own specialities in narrow scale of electrical and electronic aspects only will not be accepted.) (2) be a university graduate or equivalent in this field (3) be under 35 years of age
- TRAINING INSTITUTIONS** (1) Kyushu International Centre (KIC), JICA (2) Kitakyushu International Techno-Cooperative Association (KITA)
- REMARKS** A compulsory 25-hour Japanese language course will be conducted prior to the technical training.

PLANT MAINTENANCE ENGINEERING - GLOBAL ENVIRONMENT & PLANT MAINTENANCE -

Apr. 3, 2000 - Aug. 28, 2000, 7 participants

プラントメンテナンス技術-地球環境と設備保全(中近東・アフリカ) J-00-03449

- PURPOSE** The purpose of this course is to enhance the capability of maintenance managers or engineers of continuous process plants who intend to introduce a preventive maintenance system in a plant, or have already introduced the system but have problems in carrying out the system smoothly.
- MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on the introduction of basic subjects of computerized maintenance management and techniques, as well as practical maintenance technology and effective maintenance management on the factory floor through plant visits. The course covers: (1) computers and their applications (2) maintenance of automatic control systems (3) metal fatigue and fractography (4) equipment inspection techniques (5) non-destructive testing (6) tribology and abrasion resistance (7) lubrication techniques (8) heat treatment and hard facing
- QUALIFICATION OF APPLICANT** (1) engineer or manager with more than five years' occupational experience in the field of plant maintenance work (2) presently in charge of maintenance work in continuous process plants, such as iron and steel, oil refinery or chemical, cement plant, automotive plant, etc. (3) university graduate or equivalent (4) 45 years of age or less
- TRAINING INSTITUTIONS** (1) Kyushu International Centre (KIC), JICA (2) Kitakyushu International Techno-cooperative Association (3) Kyushu Institute of Technology (4) Nippon Steel Corporation
- REMARKS** A compulsory 25-hour Japanese language course will be conducted prior to the technical training.

TECHNIQUE D'ENTRETIEN: AUTOBUS ET CAMION

Jan. 9, 2001 - Mar. 23, 2001, 9 participants

バス・トラック整備技術(仏語)

J-00-03279

- PURPOSE** Ce cours est destiné aux mécaniciens travaillant à l'entretien des autobus et des camions poids-lourd. Il vise à leur fournir les connaissances fondamentales sur le mécanisme et le fonctionnement des véhicules diesel par les cours théorique et les travaux pratiques, ainsi que les techniques de réparation et d'entretien.
- MAIN FEATURES OF CURRICULUM** Le présent cours se caractérise par l'acquisition des techniques d'entretien efficace travers les cours théoriques et les travaux pratiques pour chaque matière. A la fin de ce stage, les participants auront acquis les connaissances fondamentales sur les théories, les techniques de réparation et d'entretien ci-dessous concernant les autobus et les camions: moteur diesel et équipement périphérique, boîte de vitesses, pompe d'injection, turbocompresseur, embrayage, direction, freinage, essieux avant et arrière et différentiel, équipement électrique
- QUALIFICATION OF APPLICANT** (1) possesseurs de plus de trois ans d'expérience dans le domaine de l'entretien et de la réparation des véhicules diesel (2) âgés de plus de 25 ans et de moins de 35 ans (3) dotés d'une connaissance suffisante de la langue française
- TRAINING INSTITUTIONS** (1) Hachioji International Training Centre (HITC), JICA (2) La Société de Construction Automobile de Hino (Hino Motors Limited)
- REMARKS** Le cours s'effectuera en français ou par traduction du japonais en français.

AUTOMATIC CONTROL (GENERAL INTRODUCTION)

Jul. 3, 2000 - Nov. 22, 2000, 7 participants

自動制御(基礎)

J-00-00310

- PURPOSE** This training course is programmed for those who specialized in mechanical engineering, electrical engineering and measurement in the faculty of technology at universities. The purpose of the course is to provide participants with basic theory and practice on automatic control, automatic control devices and related technology.
- MAIN FEATURES OF CURRICULUM** The course is conducted in the form of lectures, practice, exercise on simulator and factory observations, in order to enhance participants' basic and practical knowledge of automatic control to prevent malfunction and damage of the whole system in plant. The following subjects are mainly covered in the course: (1) basic of automatic control (2) basic of control theory (3) computer literacy (4) basic lesson and application of micro computers (5) process control (6) digital process control system simulation (7) sequence control, and (8) industrial electric control system
- QUALIFICATION OF APPLICANT** (1) Engineers with more than four years of occupational experience in the field of planning, production and maintenance of plants and machinery (2) presently engaged in automation (or will be engaged in near future) (3) university graduate or equivalent in electrical, control or mechanical engineering (4) 40 years of age or less
- TRAINING INSTITUTIONS** (1) Kyushu International Centre (KIC), JICA (2) Kitakyushu International Techno-cooperative Association (3) Mechanics and Electronics Research Institute, Fukuoka Industrial Technology Center
- REMARKS** A compulsory 25-hour Japanese language course will be conducted prior to the technical training.

PLANT MAINTENANCE MANAGEMENT

Jan. 8, 2001 - May 3, 2001, 9 participants

生産設備の保全管理

J-00-00629

- 1. PURPOSE** The purpose of this course is to enhance the maintenance management capability of managers and engineers in the maintenance departments of process industries. The course provides participants with training on effective and rationalized utilization of management resources such as workers, materials, equipment, information and funds. The course also aims at technical transfer of concrete maintenance management procedures required for the execution of preventive maintenance.
- 2. MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on the introduction of Japanese experience or the present state of the maintenance management of leading Japanese companies of various industrial fields to enable participants to apply and manage the maintenance function of each corporation in respective countries. The subjects covered in the course are: (1) outline of maintenance and its system (2) management of plants (3) computer literacy (4) management policy and control (5) maintenance of bearing (6) actual samples of corrosion and countermeasures (7) the diagnosis technique of machine (8) non-destructive tests (9) training of repairing techniques (10) improvement methods (11) repairing and change of parts (12) inspection of electric equipment manufacturing and maintenance of electric equipment (13) management and data (14) how-to make inspection plan (15) scheduled time for repairing and repairing plan (16) control of maintenance materials, and management of welding and assembling (17) activities of maintenance in Japanese leading factories.
- 3. QUALIFICATION OF APPLICANT** (1) have more than three years' occupational experience in the field of plant maintenance (2) university graduate or the equivalent in engineering (3) not less than 30 and not more than 40 years of age
- 4. TRAINING INSTITUTIONS** (1) Kyushu International Centre (KIC), JICA (2) Kitakyushu International Techno-Cooperative Association (KITA)
- 5. REMARKS** A compulsory 25-hour Japanese language course will be conducted prior to technical training.

RENOVATION OF PROCESS INDUSTRY EQUIPMENT

Feb. 12, 2001 - Jul. 1, 2001, 9 participants

装置産業設備のリノベーション

J-00-03459

- 1. PURPOSE** The purpose of this course is to enhance the capability of engineers by learning the basic knowledge of the utilization of existing equipment and facilities effectively, to find out the capability of the renovation, and to redesign existing equipment. The course also aims at providing the participants with skills in preparing purchase specifications of improved equipment parts.
- 2. MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on providing the participants with the basic techniques and their application as well as project management which will help them to upgrade their required techniques to improve their operation. The subjects covered in this course are: (1) basic techniques (a) introduction to renovation of industrial equipment (b) computer literacy (c) techniques improving of equipment (d) sequence control (e) process control (f) introduction to maintenance (g) maintenance management (h) equipment inspection technique (inspection using five sense, machine condition diagnosis technique) (i) rust prevention and corrosion prevention (j) welding processes (k) selection of materials (l) testing of materials (m) selection of motors and electrical control (n) nondistinctive inspection (o) CAD; (2) modification techniques (a) case study of plant design and practice (b) practice in design of heat exchange (c) design of pressure vessels (d) selection of equipment/devices and writing specifications thereof (e) selection of general purpose machines and writing specifications thereof (f) plan and design of piping (g) design of conveyor unit (h) case study of equipment renovation (i) in-plant training.
- 3. QUALIFICATION OF APPLICANT** (1) more than five year's experience in plant planning, construction or maintenance in process industries such as chemical, cement, oil refinery, iron and steel plant (2) university graduate or equivalent in mechanical or chemical engineering (3) 40 years of age or less.
- 4. TRAINING INSTITUTIONS** (1) Kyushu International Centre (KIC), JICA (2) Kitakyushu International Techno-cooperative Association (KITA)
- 5. REMARKS** A compulsory 25-hour Japanese language course will be conducted prior to the technical training.

MACHINE CONDITION DIAGNOSIS TECHNIQUES

Jun. 19, 2000 - Oct. 15, 2000, 8 participants

設備診断技術

J-00-00338

- 1. PURPOSE** This training course is set up for maintenance directors, managers and engineers who are responsible for planning, management and supervision of maintenance activities. The purpose of the course is to provide participants with knowledge of machine inspection techniques through practical training of condition based maintenance which is applied to machine condition diagnosis in Japan.
- 2. MAIN FEATURES OF CURRICULUM** The training course is programmed to help participants acquire knowledge on inspection techniques including condition diagnosis techniques and condition based maintenance in practice through a series of lectures, practice with simulators and plant observations. The following subjects are covered in the course: (1) introduction to maintenance management and engineering (2) reliability and maintainability engineering (3) fundamental of machine condition diagnosis technique (CDT) (4) vibration and its measurement (5) vibration analyzing instrument (6) diagnosis methods for rotating machines and elements (7) basic concept of condition based maintenance system (CBM) (8) non-destructive testing (9) maintenance management (10) application of computer system to CDT and maintenance control (11) practice of maintenance management and machine diagnosis (12) corrosion diagnosis (13) diagnosis of electrical machines (14) total productive maintenance (TPM)
- 3. QUALIFICATION OF APPLICANT** (1) presently engaged in maintenance work in process industries with more than five years of maintenance experience (2) more than one year of experience in computer operation (3) university graduate or equivalent in engineering (4) under 40 years of age
- 4. TRAINING INSTITUTIONS** (1) Kyushu International Centre (KIC), JICA (2) Kitakyushu International Techno-cooperative Association (KITA) (3) Kyushu Institute of Technology (KIT)
- 5. REMARKS** A compulsory 25-hour Japanese language course will be conducted prior to the technical training.

NON-DESTRUCTIVE INSPECTION TECHNIQUE II

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

非破壊検査技術 II

J-00-03357

- 1. PURPOSE** The purpose of the course is to provide the indispensable principle and techniques of non destructive inspection method for quality assurance of industrial products, e.g. non destructive testing of castings, forgings, rolled steel products or weldments, so as to develop their own industry.
- 2. MAIN FEATURES OF CURRICULUM** In this course, theory of non destructive inspection techniques, the selection of proper inspection method according to the proposed use as well as the knowledge and skills of evaluating inspection results will be studied through lectures, practice and field trips. It mainly covers: (1) radiographic examination (2) ultrasonic test (3) magnetic particle examination (4) penetration test (5) eddy current examination
- 3. QUALIFICATION OF APPLICANT** (1) university graduate in engineering (2) engineer of governmental inspecting organization or related organization (3) experience of welding structures and castings, or will be engaged in inspection work including non-destructive inspection (4) between 25 years and 40 years old of age
- 4. TRAINING INSTITUTIONS** (1) Kyushu International Centre (KIC), JICA (2) Kitakyushu International Techno-cooperative Association (3) Kyushu Institute of Technology (4) Fukuoka Industrial Technology Center
- 5. REMARKS** (1) A compulsory 25-hour Japanese language course will be conducted prior to the technical training.

WELDING ENGINEER

Apr. 10, 2000 - Sep. 25, 2000, 8 participants

溶接技術者研修

J-00-00600

- PURPOSE** In order to bring up well-qualified engineers who are able to manage the welding construction and maintenance, the course provides theoretical and practical knowledge of welding technology.
- MAIN FEATURES OF CURRICULUM** Lecture, practical exercises and factory observations. The main themes are: (1) Welding processes and equipment; Physics of welding arc, gas-shielded metal arc welding, tungsten-inert gas welding, submerged arc welding, resistance welding, electron beam and laser beam welding, gas welding and other welding processes, surfacing, thermal cutting (2) Materials and their behavior during welding; alloys and phase diagrams, structure of the welded joint, cracking phenomena, cast irons, copper, titanium and aluminum (3) Construction and design; strength of materials, design principles of welded structure and behavior (4) Fabrication, applications engineering; quality assurance, welding stresses and distortion, plant facilities, health and safety (5) Fundamental practical operations (6) Observation and practice in industries, research institutes and educational facilities
- QUALIFICATION OF APPLICANT** (1) presently in charge of welding engineering, with three '3' years or more of experience in this field (2) university graduates or the equivalent (3) over twenty-six '26' and under thirty-five '35' years of age
- TRAINING INSTITUTIONS** (1) Chubu International Centre (CBIC), JICA (2) Japan Welding Engineering Society (3) Nagoya University
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for two weeks (25 hours).

LA GESTION ET L'ENTRETIEN D'ENGINS DE TRAVAUX PUBLICS

Aug. 29, 2000 - Nov. 26, 2000, 8 participants

建設機械整備 (仏語)

J-00-03280

- PURPOSE** Le cours est destiné au personnel technique ayant les services d'entretien et de gestion des machines de construction dans les pays participants et vise à leur fournir les informations récentes de notre pays sur la spécialité concernée pour contribuer, finalement au développement technique des pays respectifs par l'assimilation technique.
- MAIN FEATURES OF CURRICULUM** Le présent cours se caractérise par le déroulement du stage de quelques constructeurs d'équipements de construction. Cela facilitera l'acquisition de connaissances sur l'entretien et la réparation des équipements de construction ainsi que la gestion de l'atelier de l'entretien. Gestion théorique de l'équipement de construction, heure-homme standard de réparation, coût de possession de l'équipement de construction, gestion de l'atelier, carburant et lubrifiant, inspection des pièces, soudure. Pratique moteur, système d'embrayage, convertisseur de couple, boîte de vitesses, bulldozer, chargeur, excavateur hydraulique, compacteur.
- QUALIFICATION OF APPLICANT** (1) présent engagés plus en possession de plus de trois ans d'expérience dans le domaine de l'entretien d'équipement de construction (2) âgés de plus de 25 ans et de moins de 40 ans (3) dotés d'une connaissance suffisante de la langue française
- TRAINING INSTITUTIONS** (1) Hachioji International Training Centre (HITC), JICA ou Centre de Formation Internationale de Hachioji (2) Division de l'Équipement de Construction, Ministère de la Construction (3) Japan Construction Mechanization Association (JCMA) ou Association Japonaise de Mécanisation de Construction
- REMARKS** Le cours s'effectuera en français ou par traduction du japonais en français.

INTERNATIONAL MARITIME CONVENTIONS AND SHIP SAFETY INSPECTION

May 9, 2000 - Dec. 3, 2000, 20 participants

海事国際条約及び船舶安全検査

J-00-00636

- PURPOSE** The purpose of the course is to provide participants with fundamental and practical knowledge of international maritime conventions and applicable technology and procedures of ship inspection in accordance of the requirements of international standard, and thus contribute to global ship safety and preservation of marine environment.
- MAIN FEATURES OF CURRICULUM** This course consists of (1) Japanese language lesson, (2) Presentation of Country Report and discussion, (3) Technical lectures, (4) Practical training, (5) Presentation of Study Report and discussion, (6) Observation and study trip. The following major subjects will be covered in the technical lectures: SOLAS I (general), SOLAS II (hull structure, subdivision, stability, machinery, electrical equipment, fire safety measures), SOLAS III (lifesaving appliances), SOLAS IV (radio communication), SOLAS V (safety of navigation), SOLAS VI (carriage of cargo), SOLAS VII (carriage of dangerous goods), SOLAS IX (ISM), SOLAS XI (enhanced surveys), SOLAS XII (bulk carrier safety), MARPOL (marine pollution prevention), ILLC (load lines), TONNAGE (tonnage), COLREG (collision regulations), PSC (port state control), Plan Approval (hull & machinery), Ship Surveys (hull & machinery), and Quality Assurance. The practical training will be implemented on the job of ship inspection procedures.
- QUALIFICATION OF APPLICANT** Applicants should: (1) be an administration official in the field of ship safety (ship safety administration officers, ship inspectors, PSC officers etc.), (2) have a graduate degree in engineering or the equivalent, and have at least one year experience of (1) above, (3) have a sufficient command of spoken and written English, (4) be not more than forty (40) years old.
- TRAINING INSTITUTIONS** (1) Kanagawa International Fisheries Training Centre (KIFTC), JICA (2) Maritime Technology and Safety Bureau, Ministry of Transport (3) Overseas Shipbuilding Cooperation Centre (OSCC)
- REMARKS** This course has been newly established, responding to the needs of many developing countries, where there is an insufficient number of ship inspection officers. In this course, participants are expected (1) to learn appropriate technical knowledge and understand related requirements of IMO conventions in order to promote ship safety inspection, and (2) to take measure to secure the safety of human life and to preserve the global maritime environment as promoted by IMO.

MAINTENANCE OF CONSTRUCTION MACHINERY II

May 9, 2000 - Aug. 6, 2000, 8 participants

建設機械整備 II

J-00-00162

- PURPOSE** The purpose of the course is to provide participants with techniques and knowledge on planning and management of maintenance shops as well as maintenance of construction machinery.
- MAIN FEATURES OF CURRICULUM** Most part of the course is practical training in factories and workshops, using actual construction machinery. It covers; (1) theoretical aspects of management and maintenance (2) practical maintenance techniques of major components (engine, clutch, torque converter, transmission, power shift transmission, final drive, differential gear, brake, steering, hydraulic system, undercarriage, etc.) (3) practical maintenance/operation techniques of major machines (bulldozer, grader, wheel-loader, hydraulic excavator, crane, compaction machinery, dump truck, etc.)
- QUALIFICATION OF APPLICANT** (1) university graduates in mechanical engineering or equivalents with more than three years of occupational experience (2) under 40 years of age (3) presently engaged in or expected to be engaged in planning and administration work of construction machinery in the near future
- TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Construction Equipment Division, Economic Affairs Bureau, Ministry of Construction (3) Japan Construction Mechanization Association (JCMA)
- REMARKS** Country Reports will be highly utilized both for the selection of participants and for the Country Report presentation.

AUTOMOBILE TECHNOLOGY FOR THE IMPROVEMENT OF ENVIRONMENTAL PROBLEM

Oct. 23, 2000 - Dec. 16, 2000, 12 participants

環境改善のための自動車技術

J-00-03441

- PURPOSE** This course is intended for administrative engineers in leading posts to improve environmental problems caused by automobile. The participants in this course will undergo training of technology to protect environment including emission reduction technology and others. It is noted that the programme of this course is not aimed at offering techniques and know-how in automobile production and repair work.
- MAIN FEATURES OF CURRICULUM** By the end of the course, participants are expected to be able to explain to the engineers in their respective country about: 1. the Exhaust Emission Reduction Technology; 2. the Exhaust Emission Test Method; 3. the Automobile Technology with Clean Energy; 4. the Automobile Recycling; and 5. the Environmental Noise Reduction Technology
- QUALIFICATION OF APPLICANT** (1) Administrative engineer presently in leading posts in government institutions with at least three years (occupational) experience in environmental protection (2) University graduate in mechanical engineering or related field, such as environmental engineering or design engineering or equivalent (3) Between 25 and 40 years of age
- TRAINING INSTITUTIONS** (1) Tsukuba International Centre (TBIC), JICA (2) Japan Automobile Research Institute (JARI)
- REMARKS**

HIGH TECHNOLOGY OF METAL WORKS II

Aug. 28, 2000 - Jan. 22, 2001, 6 participants

金属加工高品質化技術 II

J-00-00175

- PURPOSE** To provide with techniques and knowledge on metal works engineering; die making and design, precision measurement, metal working and related technologies.
- MAIN FEATURES OF CURRICULUM** This course mainly covers: (1) Materials and Treatment; materials, powder metallurgy, heat treatment, surface modification (2) Cutting/Grinding; cutting mechanism, tools and condition, grinding, machining accuracy (3) Die Design/Making and CAD, CAM (4) Plastic Working; die & punch, press, drawing (5) Non-traditional Machining; electric discharge, laser beam, jet, chemical, electrochemical (6) Precision Measurement; hardness, surface roughness, roundness, contour, 3-D (7) Factory Automation; numerical control, industrial robots, mechatronics, FMS, CIM (8) Other Related Technologies
- QUALIFICATION OF APPLICANT** (1) engineer presently engaged in metal works technology at industries, research institutes or educational institutes with more than two years of experience (2) university graduate or equivalent (3) between 24 and 40 years of age
- TRAINING INSTITUTIONS** (1) Chubu International Centre (CBIC), JICA (2) National Industrial Research Institute of Nagoya (NIRIN) (3) Industrial Research Institute, Aichi Prefectural Government (AIRI) (4) Aichi Industrial Research Association (AIRA) (5) Nagoya University
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for four weeks (25 hours).

RESEARCH AND APPLICATION OF USEFUL MICROORGANISM

May 15, 2000 - Mar. 30, 2001, 5 participants

有用微生物の研究と応用

J-00-03338

- PURPOSE** The purpose of this course is to instruct a researcher the basic knowledge and techniques of biotechnology on themes relating to useful microorganisms. Each participant will be expected to learn research methods through laboratory work and contribute to microorganism-related industries.
- MAIN FEATURES OF CURRICULUM** The participants will select one subject among six subjects prepared for individual research training and engage in laboratory work under a instructor. Observation tours to relating research institutes and fermented companies will be conducted occasionally.
- QUALIFICATION OF APPLICANT** (1) presently engaged in research work in the field of biotechnology with more than three years occupational experience (2) Be a researcher with Master's degree (3) not more than 35 years of age.
- TRAINING INSTITUTIONS** (1) Chugoku International Centre (CIC), JICA (2) National Research Institute of Brewing
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for one week (25 hours).

BOOK PRODUCTION

Nov. 14, 2000 - Dec. 10, 2000, 10 participants

出版技術研修(学校における環境教育教材の制作) J-00-03484

- PURPOSE** It is highly requested to the Government of Japan to provide the technical cooperation to Asia and Pacific Region in the development of both software and hardware for the improvement of publication technique, to cope with the recent diversification of the publication needs in the region. Taking this circumstance into consideration, this course was designed for the purpose of contributing to the development of publication technique in the region by providing training on writing, editing, printing, binding, marketing, distribution techniques in Japan, which holds the highest standard in publication in the world. This training invites personnel in the field of publication in Asia and Pacific Region, such as writers, painters, designers, editors, printing technicians, and provides them with some practical training for the improvement of publication technique. This year, the training will be focused on the publication technique for "the environmental education materials".
- MAIN FEATURES OF CURRICULUM** (1) Lecture •Present condition of environmental problems and its education at schools in Japan •Present condition of publication of environmental education materials in Japan •Production of attractive environmental education materials for children (planning, collection of data and writing) •Environmental education materials produced with cartoons and new-media technology (2) Country Report Current problems of educational materials in Asia and Pacific Region (3) Practice Production of contents of the educational material from planning to writing. (4) Practical Training at the private enterprises
- QUALIFICATION OF APPLICANT** Applicants should; (1) have the professional experience in production of educational materials, such as planning, curriculum designing, writing at the government or private publication organization for more than five (5) years. (2) be between twenty-five (25) and forty-five (45) years of age, (3) be nominated by their government (4) have sufficient command of speaking and writing English (5) be in good health both physically and mentally, and (6) not be serving in the military
- TRAINING INSTITUTIONS** Asia/Pacific Cultural Centre for UNESCO (ACCU)
- REMARKS**

CERAMIC KILN & FIRING TECHNOLOGY

Sep. 4, 2000 - Feb. 26, 2001, 8 participants

セラミック窯炉及び焼成技術

J-00-00505

- 1. PURPOSE** To provide with knowledge and technology about kiln design, kiln construction, and firing etc. concerning ceramic products which conform to the actual conditions of participating countries.
- 2. MAIN FEATURES OF CURRICULUM** The emphasis is put on lectures, practical training and observations. The main theme are: (1) Introduction of Technical Training; orientation for technical training, observation of factories of the organization concerned, general introduction to kiln and firing (2) Kiln Design and Kiln Construction; fuels and combustion, refractory materials, heat retention and transfer, bricklaying, structure of kiln, kiln design, kiln construction, electric kiln, comprehensive discussion (3) Technology on Firing in the Kiln; theory of firing, loading and kiln furniture, firing technique (kiln atmosphere) (reduction firing), measurement and control over temperature, facilities for firing and maintenance, biscuit and glost firing, inspection and test of products, comprehensive discussion (4) Related Technology; ceramic products, ceramic plant and kilns, ceramic body and glaze, testing method and quality control, observation of factories comprehensive discussion (technical discussion)
- 3. QUALIFICATION OF APPLICANT** (1) university graduate or equivalent with the practical experience of more than three years in production at educational or research institutions related to ceramics (2) expert presently engaged in the field of ceramics (3) between 25 and 39 years of age
- 4. TRAINING INSTITUTIONS** (1) Chubu International Centre (CBIC), JICA (2) Technical Research Laboratory, Mino Yagyo Co., Ltd.
- 5. REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for three weeks (50 hours).

INDUSTRIAL POLLUTION CONTROL RESEARCH

Jul. 10, 2000 - Nov. 5, 2000, 6 participants

産業公害防止

J-00-00363

- 1. PURPOSE** This course is aimed at upgrading knowledge and techniques of scientists and researchers in the field of pollution control engineering, including computer technology, especially understanding knowledge and techniques in their own speciality through exercise and practical training on each subject in the individual research training.
- 2. MAIN FEATURES OF CURRICULUM** This course consists of common lectures for all participants (2 weeks) and individual research training in the laboratory. Common lectures are given to provide participants with fundamental knowledge of industrial pollution control. Participants will then choose a certain subject on pollution control technology, out of 18 subjects.
- 3. QUALIFICATION OF APPLICANT** (1) Scientist or researcher in the field of pollution control technology with at least three years' of occupational experience. Administrative officers are not qualified for this course (2) University graduate or equivalent (3) Knowledge of computer programming with FORTRAN or BASIC language in the course of simulation technology (4) Under 40 years of age
- 4. TRAINING INSTITUTIONS** (1) Tsukuba International Centre (TBIC), JICA (2) National Institute for Resources and Environment (NIRE), Agency of Industrial Science and Technology, Ministry of International Trade and Industry.
- 5. REMARKS**

SEMINAR ON EVALUATION OF NATIONAL R & D PROJECTS

Nov. 25, 2000 - Dec. 24, 2000, 10 participants

産業技術に係る研究開発プロジェクト評価セミナー J-00-03483

- 1. PURPOSE** It is significant to feed the results of investigation, analysis and assessment of the ongoing or completed national research and development projects back to the planning division for the effective optimal allocation of national resources. Taking this condition in to consideration, the course aims to provide knowledge and practical skills for the accurate assessment of the target, operation system. Technical outcome and economic effects of the projects to the participants by learning the present condition of research and development assessment in Japan and other advanced countries and their assessment method, as well as, understanding the economic effects produced by the national research and development projects.
- 2. MAIN FEATURES OF CURRICULUM** under planning
- 3. QUALIFICATION OF APPLICANT** under planning
- 4. TRAINING INSTITUTIONS** (1) Ministry of International Trade and Industry (2) Tokyo International Centre (TIC), JICA
- 5. REMARKS**

ENERGY MANAGEMENT

Jan. 15, 2001 - May 30, 2001, 6 participants

エネルギー管理

J-00-00628

- 1. PURPOSE** The purpose of this course is to develop the human resources who can control the energy and promote energy saving.
- 2. MAIN FEATURES OF CURRICULUM** In this course, the emphasis is laid on subjects that will help participants to practically and concretely solve the problems in the field of energy management of their own countries. The subjects covered in the course are: (1) understand and acquire the management ability necessary for proceeding the energy management (2) acquire the energy measurement techniques (3) basic automatic control techniques (4) acquire knowledge for selection of appropriate fuel (5) understand the problems of saving energy (thermal and electric energy) and improvement measures (6) understand the concept of equipment plannings and production plannings (7) understand the practical energy management and its latest trend through plant visits to local enterprises.
- 3. QUALIFICATION OF APPLICANT** Applicants should : (1) be those who work in private companies or governments (both central and local) with at least 5 years of energy management experience, (2) be graduates of university, who have majored in science, engineering or the equivalent, (3) have sufficient command of spoken and written English, (4) 45 years of age or less.
- 4. TRAINING INSTITUTIONS** (1) Kyushu International Centre (KIC), JICA (2) Kitakyushu International Techno-Cooperative Association
- 5. REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for one week (25-hours).

MANAGEMENT AND TECHNICAL STANDARD FOR HIGH PRESSURE ENERGY CONTAINERS

Aug. 28, 2000 - Oct. 16, 2000, 10 participants

エネルギー関連設備の管理と技術基準

J-00-03457

1. **PURPOSE** This course aims to provide lectures and practices for building inspection and standard formulation system in relation with safe manufacturing, storage, refining and usage of energy related pressure facilities.
2. **MAIN FEATURES OF CURRICULUM** To gain standard settling methods for enhancing energy output by safe pressure facilities for the sake of establishment of inspection system for those facilities.
3. **QUALIFICATION OF APPLICANT** (1) Government officer or quasi government officer (2) With more than 3 years' job experience (3) Under 40 years old (4) Holding Bachelor Degree or more
4. **TRAINING INSTITUTIONS** Japan High Pressure Institute
5. **REMARKS**

ENERGY CONSERVATION

May 16, 2000 - Jul. 6, 2000, 13 participants

省エネルギー

J-00-00315

1. **PURPOSE** The purpose of the course is to provide participants with information concerning administrative and technical aspects of Japan's energy conservation, so that later they will be able to use this knowledge in future energy conservation efforts in their own respective countries.
2. **MAIN FEATURES OF CURRICULUM** In this course, the following major subjects will be covered through lectures, discussions, group case studies, practice and observation trips. (1) Japanese energy conservation policy and present conservation situation in Japan (2) development of energy conservation and new technology in Japan (3) energy conservation situation in major Japanese industries (4) industrial energy conservation technology (5) methods for promoting energy conservation in industry (6) energy consumption measurement and data analysis (7) case study in promotion of energy conservation in a model factory
3. **QUALIFICATION OF APPLICANT** (1) university/college graduates or equivalents presently employed in government, governmental institutions, or industrial associations (2) currently engaged in work in the energy field for more than 3 years (3) be under 45 years of age
4. **TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Energy Conservation Center, Japan (ECC)
5. **REMARKS** Country Reports will be highly utilized both for selection of participants and for Comparative Studies.

TECHNOLOGY FOR G. H. G. S EMISSION MITIGATION

Jan. 22, 2001 - Mar. 12, 2001, 10 participants

地球温暖化防止技術

J-00-03376

1. **PURPOSE** As Japan is a party to the United Nations Framework Convention on Climate Change, the purpose of the course is to prepare a manual on the discharge and absorption of greenhouse-effect gases; provide the scientific and technological information required to formulate and execute a national action plan to counter global warming; and provide training in technologies for controlling global warming.
2. **MAIN FEATURES OF CURRICULUM** (1) Japan's global restoration plan and its comprehensive policies to promote measures related to energy and the environment (Lecture, 1 day) (2) Energy-saving technologies and other environmentally sound technologies (Lecture, 2 days) (3) Industrial and consumer applications of energy-saving technologies (Field work, 3 days) (4) Research on carbon dioxide treatment technologies; new energy and power generation; and energy-saving technologies for high-energy-consuming industries (Lecture, 1 day; Field work, 4 days) (5) Development of innovative environmental technologies (Lecture, 4 days; Field work, 6 days) Improving photosynthesis efficiency with carbon dioxide fixation technology; technologies for manufacturing useful substances through chemical reactions, such as methanol from carbon dioxide; efficient hydrogen manufacturing technology using photosynthetic bacteria and other microbes; reduction of carbon dioxide by optical catalyst (artificial photosynthesis); carbon dioxide fixation through catalytic hydrogenation and its effective application, etc.
3. **QUALIFICATION OF APPLICANT** (1) governmental engineer in charge of energy conservation and other environmental issues for more than ten '5' years (2) university graduate or possess equivalent professional experiences in this field (3) less than forty-five '45' years of age
4. **TRAINING INSTITUTIONS** (1) Chubu International Centre (CBIC), JICA (2) International Center for Environmental Technology Transfer
5. **REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for one week (25 hours).

SMALL SCALE HYDROPOWER ENGINEERING

Oct. 16, 2000 - Nov. 20, 2000, 8 participants

小水力発電技術

J-00-03432

1. **PURPOSE** This course is designed to provide useful information on small scale hydropower engineering method. Though urban areas in developing countries enjoy power supply system, mountaneous areas and islands are left as the place with little supply of electric power. This situation raises necessity to introduce not large scale power plants but small scale hydropower resource. In addition, this type of power generating system is focused on with environmental protection. This course provides technical information on maintenance system by resident's participation as well as technical issues for construction of the system.
2. **MAIN FEATURES OF CURRICULUM** (1) Methods of planning small scale hydropower plant (2) Methods of reseach of demands for small scale hydropower (3) Maintenace by resident's participation (4) Introduction of mechanical appliances for small scale hydropower generation
3. **QUALIFICATION OF APPLICANT** (1) administrators or engineers in power generation field (2) person with more than 3 (three) years of working experience related to above (1). (3) university graduate or equivalent between 26 and 45 years of age.
4. **TRAINING INSTITUTIONS** Chubu Electric Power Co., Inc.
5. **REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for one week (25 hours).

THERMAL-ELECTRIC POWER ENGINEERING

Aug. 28, 2000 - Nov. 12, 2000, 10 participants

火力発電

J-00-00578

- PURPOSE** This training program is intended for electrical and mechanical engineers of developing countries who are employed in the power supply sector of the governmental and private enterprises. Through the program, participants are expected to understand the electric power industry structure in Japan and to acquire technical knowledge related to the planning, construction, operation and maintenance of thermal power plants as well as environmental preservation techniques, with a view to contributing to the successful development of the electric power industries in the participating countries. Participants are expected: (1) to understand the system of electric industries/utilities in Japan, (2) to understand the overall technology related to the planning, construction, maintenance and management of thermal power plants, (3) to understand the techniques for environmental protection, and (4) to clarify the problems of the participating countries and investigate the steps taken in the future.
- MAIN FEATURES OF CURRICULUM** The course consists of lectures, observation, practice and discussion. The emphasis is put on introduction of Japanese situation and technical know-how. At the beginning of this program, a lecture on the organization, legislation, status of power supply in Japan will be given for the purpose of understanding the outline of the power supplying system practiced in this country. Then lectures and practices on the technologies applied to thermal plants in Japan will be given. In this unit, the generic thermal plant technology practiced in Japan will be covered from both electrical and mechanical perspectives. This unit covers following subjects: (1) Planning and management of thermal power plants (planning, construction, maintenance, safety measures and the management engineering, etc.), (2) Technology for environmental preservation (such as desulfurization, denitration and water treatment), (3) New technology (such as the innovation in power generation and the technique for fluidized bed).
- QUALIFICATION OF APPLICANT** (1) electrical and/or mechanical engineers who are in charge of design, construction, operation and maintenance at thermal electric power utilities, and have more than three years of experience in the field (2) under 40 years of age (3) technical college graduate or its equivalent
- TRAINING INSTITUTIONS** (1) Chugoku International Centre (CIC), JICA (2) Public Utilities Department Agency of Natural Resources and Energy, Ministry of International Trade and Industry (3) Japan Electric Power Information Center, Inc. (JEPIC) (4) The Chugoku Electric Power Co., Inc. (CEPCO)
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for one week (25 hours)

NUCLEAR POWER GENERATION

Jan. 9, 2001 - Mar. 14, 2001, 6 participants

原子力発電

J-00-00419

- PURPOSE** The purpose of the course is to provide the participants with general introductory information on the administrative and technical aspects of Japan's nuclear power industry, which includes experience gained through planning, design, construction and operation of nuclear power plants, so that the participants will be able to implement the future development plan of nuclear power in their countries.
- MAIN FEATURES OF CURRICULUM** Major subjects in this course are as follows: (1) lectures (a) outline of nuclear power generation in Japan safety regulation and administration for commercial nuclear power plants (b) major system of boiling water reactor and pressurized water reactor (c) construction of nuclear power plant (d) operation and maintenance (2) exercise (a) operation and plant behaviour related to plant start-up, shutdown and accidents, etc. by using a compact simulator (b) maintenance and inspection (non-destructive test)
- QUALIFICATION OF APPLICANT** (1) nuclear, electrical and/or mechanical engineers presently employed at governmental institutions or private companies in the field of electric power generation and have more than three years of occupational experience in this field (2) university graduate or equivalent (3) not more than 40 years of age
- TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Agency of Natural Resources and Energy, Ministry of International Trade and Industry (3) Japan Electric Power Information Center, Inc. (JEPIC) (4) Japan Atomic Power Company (JAPC)
- REMARKS**

**HYDRO-ELECTRIC POWER ENGINEERING
(FOR SUSTAINABLE DEVELOPMENT)**

Oct. 17, 2000 - Dec. 2, 2000, 8 participants

環境調和型水力発電

J-00-00647

- PURPOSE** The purpose of the course is to provide the participants with the latest information and knowledge concerning managing and technical aspects of the Japan's hydro-electric power industry so that the participants would be able to play their greater role for further progress and advancement of hydro-electric power generation in their respective countries.
- MAIN FEATURES OF CURRICULUM** The course is formulated to cover both aspects of "electrical/mechanical engineering" and "civil engineering" alternatively. This year (Japanese Fiscal 1999), electrical/mechanical engineering matters will be focused mainly. The following are the major subjects this year: (1) outline of Japan's electric power industry (2) Japan's government policy and regulation relating to Japan's electric power industry (3) method of planning, designing, construction and operation and maintenance technique of hydro-power stations from the view point of electrical/mechanical engineering
- QUALIFICATION OF APPLICANT** (1) electrical/mechanical engineers who are presently employed by governmental or private hydro-electric power utilities (2) technical college graduates or equivalents and have more than five and less than ten years of practical experience in the field of hydro-electric power engineering
- TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Agency of Natural Resources and Energy, Ministry of International Trade and Industry (3) Japan Electric Power Information Center (4) Electric Power Development Co., Ltd.
- REMARKS**

ELECTRIC POWER MANAGEMENT II

Aug. 28, 2000 - Oct. 12, 2000, 7 participants

電気事業経営 II

J-00-00153

- PURPOSE** To introduce Japan's electric power industry focusing on management methods adopted in Japan for maintaining stable supply of electric power to cope with the increasing power demand.
- MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on lectures, discussions and observations which mainly cover the following topics: (1) outline of the electric power industry in Japan (2) power development plan (3) power system planning and operation (4) power distribution (5) electricity sales (6) financial management (7) personnel development and labor management
- QUALIFICATION OF APPLICANT** (1) senior manager-class engineer in electric power utilities with at least ten years working experience (2) between 35 and 50 years of age
- TRAINING INSTITUTIONS** (1) Chubu International Centre (CBIC), JICA (2) Agency of Natural Resources and Energy, Ministry of International Trade and Industry (3) Japan Electric Power Information Center, Inc. (4) Chubu Electric Power Co., Inc.
- REMARKS**

ELECTRIC POWER SYSTEM MANAGEMENT

Sep. 5, 2000 - Oct. 18, 2000, 6 participants

電力系統技術

J-00-03396

1. **PURPOSE** Although electric power supply system in developing countries such as ASEAN and Latin America is gradually getting large, its reliability is so low that electric outages occur frequently. This course provides the information and the knowledge on efficient and reliable power supply system as well as operation of them through introduction of Japan's current technology to meet their requirements on improving power system reliability in their countries.
2. **MAIN FEATURES OF CURRICULUM** During technical training for 5 weeks, this course provides the general information on Japan's electric power industry for the first week at Japan Electric Power Information Center in Tokyo, and then technical information on electric power system for 4 weeks at Tohoku EPCO in Sendai. The course consists of lectures, site observations and practices using simulator. The following subjects will be covered, (1) Outline of Electric Power Industry in Japan (2) Planning & Analysis Method on Electric Power System (3) Construction, Maintenance & Operation on Transmission & Transforming Facilities (4) General Assignments on Power System Operation (5) Operation & Protection on Electric Power System.
3. **QUALIFICATION OF APPLICANT** (1) Electrical engineers who are currently in charge of transmission, transformation and/or power systems at electric power companies or related organizations, with between 5 and 20 years of work experience (2) University graduates or equivalent (3) Between 27 and 40 years of age
4. **TRAINING INSTITUTIONS** (1) Tohoku Branch, JICA (2) Tohoku Electric Power Co., Inc. (3) Japan Electric Power Information Center, Inc.
5. **REMARKS**

ELECTRIC POWER DISTRIBUTION SYSTEM MANAGEMENT

Aug. 21, 2000 - Oct. 19, 2000, 5 participants

配電システム管理

J-00-00512

1. **PURPOSE** The purpose of the course is to impart information on administrative and technical aspects of Japan's electric power distribution engineering system so that participants will be able to utilize the knowledge obtained from the course for the future development of this field in their countries. Note: This course deals with distribution systems from secondary sides of distribution substations to service wires and does not cover transmission lines or interior wiring. The voltage of distribution lines is approximately from 6 KV to 22 KV in Japan.
2. **MAIN FEATURES OF CURRICULUM** This course consists of lectures and visits. The main themes are: (1) outline of electric power industry in Japan (2) management techniques (total quality control, education system, safety measures, etc.) (3) power demand and supply schemes (4) transmission of electrical energy (5) distribution of electrical energy (automatic distribution system, etc.) (6) visits (power stations, factories which produce power distribution apparatus, etc.)
3. **QUALIFICATION OF APPLICANT** (1) electrical power engineer presently employed at governmental or private electric power utilities in the field of electric power distribution (2) between 30 and 40 years of age (3) technical university graduate or equivalent, and have more than 5 years of practical experience
4. **TRAINING INSTITUTIONS** (1) Osaka International Centre (OSIC), JICA (2) Agency of Natural Resources and Energy (3) Japan Electric Power Information Center, Inc. (JEPIC) (4) Kansai Electric Power Co., Inc. (KEPCO)
5. **REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for one week.

COAL CONVERSION AND UTILIZATION TECHNOLOGY

Sep. 4, 2000 - Sep. 2, 2001, 5 participants

石炭転換・利用技術

J-00-03289

1. **PURPOSE** This course aims to promote human resources in the research field of coal conversion and utilization technology in the Pan-Pacific countries by improving the skills and the competence of the participants who are primarily responsible to lay the foundation for the development of coal conversion and utilization technology in their own countries.
2. **MAIN FEATURES OF CURRICULUM** The course provides the participants with intensive research training in given Research Units of Hokkaido National Industrial Research Institute (HNIRI), lectures and observations in the field of coal conversion and utilization technology. Each unit offers certain specific research subjects as below: (1) Fluidized Bed Coal Combustion (FBC) and Control Technology of Gaseous Pollutants (2) Research on Coal Gasification (3) Coal Ash Utilization (4) Deashing of coal by oil agglomeration.
3. **QUALIFICATION OF APPLICANT** (1) research worker in the central or a local government with more than three years but less than 10 years of experience, (2) university graduate or equivalent, (3) between 25 and 35 years of age.
4. **TRAINING INSTITUTIONS** (1) Hokkaido International Centre, Sapporo (HICS), JICA (2) Hokkaido National Industrial Research Institute
5. **REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for 4 weeks.

COAL SCIENCE AND TECHNOLOGY

Sep. 11, 2000 - Nov. 29, 2000, 5 participants

石炭資源開発・利用

J-00-00312

1. **PURPOSE** The purpose of the training course is to provide participants with advanced knowledge and experience of coal exploration, exploitation, utilization and environmental engineering
2. **MAIN FEATURES OF CURRICULUM** The course is divided into two sections-introductory and advanced. In the first section, participants are to study the following basic topics. (1) coal geology (2) mining (3) chemistry (4) mechanical engineering for coal utilization (5) environmental engineering. Five series of lectures on advanced topics relevant to the modern coal industry in the mentioned fields will be provided in the second section. Each participant can take one or more series of lectures. Related experimental study is also scheduled. Participants are advised to bring their own themes to study in the laboratories at Kyushu University under the supervision of instructors.
3. **QUALIFICATION OF APPLICANT** (1) have more than three years' occupational experience in the field of coal science and technology (2) university graduate or equivalent (3) 45 years of age or less
4. **TRAINING INSTITUTIONS** (1) Kyushu International Centre (KIC), JICA (2) Kyushu University
5. **REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for one week (25-hours)

SOLAR POWER GENERATION AND ITS APPLICATION SYSTEM

Apr. 25, 2000 - Jul. 21, 2000, 5 participants

太陽光発電及び利用の技術システム

J-00-03451

- PURPOSE** The purpose of this course is to provide the knowledge and information on solar power generation and its application system (electrification in isolated islands, power resources of medical facilities, storage pump etc.), in order to solve the disharmony between development and environment in participating countries, especially in Oceanic countries.
- MAIN FEATURES OF CURRICULUM** In this course, the following major subjects will be covered through lectures, discussions and observation trips: (1) lecture; basis of, (a) semiconductor engineering (b) ray engineering (c) battery engineering (d) electrical engineering (e) environmental engineering (2) lecture; (a) manufacturing technique (b) preservation of regional environment (3) observation of private institution applying solar power technique system (4) design of the solar power generation system of minimum electric power in the specified study
- QUALIFICATION OF APPLICANT** (1) technical officials who are engaged in work in the field of electricity and/or energy (2) have more than 3 years' experience (3) between 25 and 45 years of age (4) university graduate majoring in science or engineering
- TRAINING INSTITUTIONS** (1) Osaka International Centre (OSIC), JICA (2) Faculty of Engineering, Osaka City University
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for two weeks. (50 hours)

SEMINAR ON NUCLEAR SAFETY AND REGULATION

May 9, 2000 - Jun. 6, 2000, 6 participants

原子力安全規制行政セミナー

J-00-00354

- PURPOSE** The purpose of the seminar is to introduce Japanese situation of nuclear safety and regulations in general as well as work-site systems for safety control of radiation through lectures and observation trips. Exchanges of opinions and information on participants' countries regarding their immediate problems will be encouraged.
- MAIN FEATURES OF CURRICULUM** In this seminar, the emphasis is put on introduction of Japanese systems by means of lectures and observation trips to various related organizations/facilities. The main themes to be covered in the seminar are: (1) regulations and administration for safety assurance and control in Japan (2) safety control at facilities using radioisotope and reactor.
- QUALIFICATION OF APPLICANT** (1) Administrators (section head or equivalent) in charge of national nuclear safety and regulation (2) have at least 3-year experience in the field mentioned above.
- TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Nuclear Safety Bureau, Science and Technology Agency (3) Japan Atomic Industrial Forum
- REMARKS**

NUCLEAR TECHNOLOGY

May 16, 2000 - Jun. 28, 2000, 6 participants

原子力基礎技術

J-00-00303

- PURPOSE** The purpose of the course is to provide scientists and engineers who are engaged in application of radioisotopes and operation of nuclear reactors with both fundamental and practical knowledge of nuclear technology for reconfirmation. As technology transfer, this course also aims to instruct them in essential techniques for safe handling of radioisotopes and safe operation and utilization of nuclear reactors.
- MAIN FEATURES OF CURRICULUM** This course mainly consists of common subjects for all participants, group exercises for two sub-groups, and individual practice in accordance with each participant's speciality. The major common subjects (lectures and laboratory exercises) are; (1) basic concepts and experiments (2) radiological protection (3) radiation monitoring (4) radiation and radioisotope application. Participants will be divided into two sub-groups to cover one of the following subjects of laboratory exercises. (A) radioisotope and radiation experiments (B) experiments and simulations of nuclear reactors
- QUALIFICATION OF APPLICANT** (1) university/college graduates in science or technology, or equivalents (2) have an experience of work for more than 3 years concerning radioisotopes and radiation (Group A), have an experience of work in a research reactor or in charge of planning a nuclear power plant construction (Group B) (3) under 35 years of age (Group A), under 40 years of age (Group B)
- TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Nuclear Technology and Education Center, Japan Atomic Energy Research Institute
- REMARKS**

GEOTHERMAL ENERGY AND ENVIRONMENTAL SCIENCES

Aug. 7, 2000 - Dec. 7, 2000, 10 participants

地熱エネルギーと環境科学

J-00-03443

- PURPOSE** The purpose of the training course is to provide participants with effective training in the field of science and engineering to enable them to plan, implement and evaluate geothermal development projects for the maximum utilization of available energy resources, taking environmental assessment into consideration.
- MAIN FEATURES OF CURRICULUM** The training course consists of lectures and project studies. (1) Compulsory lectures (Development Strategy of Geothermal Energy, Environmental Chemistry etc.) (2) Optional lectures (Division 1: Geothermal Geology, Environmental Geology etc. Division 2: Modeling of Geothermal Systems, Exploration Geophysics etc.) (3) Project studies (After the completion of the lectures, each participant will start individual research for four weeks or a particular subject, such as 1: Geothermal Geology, 2: Geothermal Reservoir Engineering, 3: Geophysical Exploration, 4: Hydrothermal and Environmental Geochemistry, 5: Geothermal Hydrology, 6: Geothermal Systems)
- QUALIFICATION OF APPLICANT** (1) have been engaged in the field of geothermal energy development for at least three years (2) university graduate or equivalent
- TRAINING INSTITUTIONS** (1) Kyushu International Centre (KIC), JICA (2) Energy Resources Engineering, Department of Earth Resources, Marine and Civil Engineering, Graduate School of Engineering, Kyushu University
- REMARKS** A compulsory 25-hours Japanese language course will be conducted prior to the technical training.

CORPORATE MANAGEMENT FOR ASIAN REGION

Jul. 3, 2000 - Jul. 23, 2000, 12 participants

アジア企業経営

J-00-03330

- 1. PURPOSE** The aim of the course is to contribute to economic growth and business expansion among private enterprises in Asia and the Pacific region by familiarizing managerial staff with key factors in Japan's economic growth, and with the phenomenon of Japanese-style business management which underpinned it. Through lectures, discussions and study visits, course participants will learn how Japanese industry, with its worldwide reputation for high-quality products, attained its present position, and about the production systems it employs.
- 2. MAIN FEATURES OF CURRICULUM** Major subjects (1) present situation and future prospects of Asian and Pacific economies (2) development of the Japanese economy (3) product quality and business management methods in Japan (a) market research and product planning (b) manufacturing strategy and supporting industry (c) sales strategy and aftersale service (d) Factory management characteristics (4) presentation of country reports (5) discussion (6) final presentation
- 3. QUALIFICATION OF APPLICANT** Applicants should: (1) be either an executive of a private enterprise nominated by a business organization such as Chamber of Commerce and Industry, or a government official engaged in formulation of industry promotion policies, (2) have a sufficient command of written and spoken English, (3) be between 30 and 50 years of age
- 4. TRAINING INSTITUTIONS** (1) Osaka International Centre (OSIC), JICA (2) Pacific Resource Exchange Center (PREX)
- 5. REMARKS** After returning home countries, participants are requested: (1) to give, in the participants' countries, presentation on the knowledge and skills gained through the seminar (2) to submit a report to the Osaka International Centre, JICA through a JICA office or diplomatic mission of Japan in the participants' countries within one (1) year after the course. This report is to include to what extent the acquired knowledge and skills have been utilized in the workplace of the participants.

PRODUCTION MANAGEMENT (THEORY AND PRACTICE ON WORK IMPROVEMENT)

Oct. 9, 2000 - Feb. 22, 2001, 8 participants

生産性向上技術

J-00-00340

- 1. PURPOSE** The purpose of the training course is to provide participants with opportunities to (1) understand technology and techniques accumulated in Kitakyushu area through its experience and research activities, (2) acquire knowledge on higher productivity through practical training and plant observations of Japanese factories, (3) introduce and utilize the acquired knowledge and techniques to solve their own problems in production.
- 2. MAIN FEATURES OF CURRICULUM** The subjects covered in the course are: (1) productivity and management engineering (2) typical organization of Japanese companies (3) factors affecting productivity (4) production management (5) value engineering (6) industrial engineering (7) work improvement (8) plant maintenance and total productive maintenance (9) single arrangement and "Poka-Yoke" (prevention of simple mistakes) (10) two-day improvement activity (11) quality control and statistical methods (12) QC circle activity (13) engineering economy (14) SE/OR (15) computer utilization in enterprise (16) CAD system (17) productivity improvement activity (18) basic production planning (19) employee education (20) QC New-7 Tools
- 3. QUALIFICATION OF APPLICANT** (1) more than 5 years' occupational experiences in the field of production management (2) university graduate or equivalent in engineering (3) 40 years of age or less
- 4. TRAINING INSTITUTIONS** (1) Kyushu International Centre (KIC), JICA (2) Kitakyushu International Techno-cooperative Association (KITA)
- 5. REMARKS** A compulsory 25-hour Japanese language course will be conducted prior to the technical training.

SENIOR TOP MANAGEMENT ON SUSTAINABLE INDUSTRIAL DEVELOPMENT

Oct. 16, 2000 - Nov. 26, 2000, 8 participants

持続可能な産業開発トップマネジメントセミナー J-00-03286

- 1. PURPOSE** The purpose of this seminar is to help participants understand that industrial development can coexist with environmental conservation. Participants will also be expected to understand what is to emphasize, according to the conditions of respective countries, in order to achieve industrialization of their countries.
- 2. MAIN FEATURES OF CURRICULUM** The seminar mainly consists of lectures, discussion and visits to companies and environmental conservation facilities. The main themes of this seminars are; (1) environmental preservation in Kitakyushu City (2) management in Japanese companies (3) production management and cost management (4) quality control, and (5) maintenance, energy-saving and data processing
- 3. QUALIFICATION OF APPLICANT** Applicants should be (1) senior production managers of enterprises or senior governmental officials who direct the industrial management (2) university graduates or with the equivalent academic background
- 4. TRAINING INSTITUTIONS** (1) Kyushu International Centre (KIC), JICA (2) Kitakyushu International Techno-cooperative Association (KITA)
- 5. REMARKS**

BUSINESS MANAGEMENT COOPERATION IN THE ASIA - PACIFIC

Jun. 13, 2000 - Jul. 25, 2000, 28 participants

太平洋民間協力

J-00-03327

- 1. PURPOSE** The participants will be exposed to the Pacific basin cooperation in the private sector through which they are expected to understand necessity for the trade and investment liberalization and facilitation, and the economic and technical cooperation. The intensive exposure will, in a middle and long range perspective, help them express and act in a positive and constructive manner, toward the realization of the goal (the trade and investment liberalization and facilitation) in collaboration with such international non-governmental organizations as PBEC, PECC, etc. through their respective channels.
- 2. MAIN FEATURES OF CURRICULUM** The following issues are dealt with in this training course, in a manner of interactively presenting them, to the extent that the participants will recognize necessity for the trade and investment liberalization and facilitation, and the economic and technical cooperation: (1) the prevailing situation and issues related to the trade and investment in the Pacific region (2) the characteristics of the Japanese market (3) development and environment (4) development of small and medium sized enterprises in Japan, and their present situation.
- 3. QUALIFICATION OF APPLICANT** (1) those engaged in the middle level management either in the privately or the publicly owned corporations (however, not including the government officials) (2) those qualified at the university level education, (3) those who have more than three years of practical business experience, and (4) those under 45 years of age.
- 4. TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Japan Member Committee, Pacific Basin Economic Committee
- 5. REMARKS**

CONSULTANCY SERVICE FOR SMALL INDUSTRIES

May 8, 2000 - Aug. 7, 2000, 9 participants

中小企業診断

J-00-03456

- PURPOSE** To provide those who extend their services to small-scale industries for promoting business efficiency, productivity and profitability with necessary knowledge and techniques for further development and promotion of small-scale industries.
- MAIN FEATURES OF CURRICULUM** This course consists of lectures, observations and practices. Lectures deal mainly with (1) system and measures for small industries in Japan (2) basic understanding of business management (3) techniques of business diagnosis. Observations are to small scale industries to understand the status in Japan. During the observation, Japanese professional consultant will make an advice on techniques of business diagnosis. At the end of the program, participants will be divided into two groups to conduct a one-week practical business diagnosis.
- QUALIFICATION OF APPLICANT** (1) expert assigned to business diagnostic services, management consultancy, and extension services at an organization dealing with development and promotion of small scale industries (2) university graduate or equivalent in this field. In addition, the basic knowledge to prepare financial statements of a business corporation is prerequisite condition for participation in this training course (3) having at least three years experiences of such activities as mentioned above, having already undergone the basic training on business management (4) between 30 and 45 years of age
- TRAINING INSTITUTIONS** (1) Chubu International Centre (CBIC), JICA (2) Aichi Industrial Research Association (3) Small and Medium Enterprise Management Consultants Association of Japan
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for two weeks (25 hours).

SEMINAR ON SMALL AND MEDIUM ENTERPRISES DEVELOPMENT POLICIES

May 8, 2000 - Jun. 18, 2000, 10 participants

中小企業政策セミナー

J-00-00704

- PURPOSE** This course is designed to provide a practical understanding of how SME policy is implemented in Japan under current economic conditions, with particular reference to the manufacturing sector, as well as to enhance policy making capacities in the area of SME promotion. Through the training course, participants are expected; - to deepen their knowledge of the history and present state of Japan's SME policy, - to investigate how Japan's experience can be adapted to their own country's circumstances, and - to consider how their country's strategic capacity in the planning of SME policy can be improved.
- MAIN FEATURES OF CURRICULUM** This course consists of common subjects for all participants. The main themes are: (1) background of the Japanese economy (2) history and the present situation of public policy and programs towards small business-finance, management, technology, subcontracting system, grouping system, internationalization.
- QUALIFICATION OF APPLICANT** (1) university/college graduate, or equivalent (2) senior administrative officials engaged in the formulation of small business policy, with experience of at least 5 years (3) under 45 years of age (4) have a sufficient command of English, equal to TOEFL score of more than 550 points or an equivalent spoken and written standard
- TRAINING INSTITUTIONS** (1) Osaka International Centre (OSIC), JICA (2) Japan International Cooperation Center
- REMARKS**

SEMINAR ON LEGAL SYSTEM RELATED TO DIRECT INVESTMENT

Feb. 12, 2001 - Mar. 25, 2001, 15 participants

投資環境法整備

J-00-03368

- PURPOSE** This course, offered to senior administrators directly in charge of encouraging direct investment from abroad or officials responsible for legislative formulation, aims to contribute to the institution and development of legislation designed to promote direct investment in participating countries.
- MAIN FEATURES OF CURRICULUM** This course consists of lectures and visits. The main themes are: (1) Legal aspects of Japanese corporate operation (Establishment and Dissolution, Capital Procurement, Tax and Accounting) (2) Japanese policy for attraction of overseas investment (3) case study on feasibility of direct investment (4) round table discussions
- QUALIFICATION OF APPLICANT** (1) university graduate or equivalent (2) senior government officials in charge of policy on legal aspects at their countries' Board of Investment, or responsible for legislative formulation on foreign direct investment, with professional experience of at least seven years (3) between 30 and 50 years of age
- TRAINING INSTITUTIONS** (1) Osaka International Centre (OSIC), JICA (2) Kyoto Comparative Law Center
- REMARKS**

SHIPBUILDING AND QUALITY MANAGEMENT SYSTEM

Jan. 9, 2001 - Aug. 6, 2001, 8 participants

造船と品質保証制度

J-00-00685

- PURPOSE** The purpose of this course is to provide participants with fundamental and practical knowledge, and applicable technology of ship design and construction, quality management, and also ship repair and maintenance, and thus to contribute to the development of shipbuilding and quality management system in developing countries.
- MAIN FEATURES OF CURRICULUM** This course consists of (1) Japanese language lesson, (2) Presentation of Country Report and discussion, (3) Technical lectures, (4) Practical training, (5) Presentation of Study Report and discussion, (6) Observation and study trip. The following major subjects will be covered in the technical lectures: Basic design, Hull structural design, Outfitting design, Propulsion engine, Electric equipment, Hull construction and welding, Quality assurance (including ISO 9000 series), Hull repair and maintenance, Machinery repair and maintenance, Engine installation, Production control, Cost estimation, Ship inspection and IMO conventions. The practical training will be implemented on the job of ship construction, repairing and maintenance.
- QUALIFICATION OF APPLICANT** Applicants should: (1) be an engineer in the field of shipbuilding and marine engineering (hull and machinery engineers, owners superintendents, instructors / lecturers etc.), (2) have a graduate degree in engineering or the equivalent, and have at least one year experience of above-mentioned field, (3) have a sufficient command of spoken and written English, (4) be no more than forty (40) years old.
- TRAINING INSTITUTIONS** (1) Kanagawa International Fisheries Training Centre (KIFTC), JICA (2) Maritime Technology and Safety Bureau, Ministry of Transport (3) Overseas Shipbuilding Cooperation Centre (OSCC)
- REMARKS** This course has been newly established, responding to the needs of many developing countries, where there is an insufficient number of experienced shipbuilding and repair engineers and the quality assurance system might not be well established.

PRODUCTIVITY MANAGEMENT

Apr. 10, 2000 - Jun. 11, 2000, 10 participants

実践的総合生産性向上

J-00-00355

- 1. PURPOSE** The course is designed to update the administrative and managerial skills of personnel who are currently engaged in the administration or management of production, or related job or position.
- 2. MAIN FEATURES OF CURRICULUM** The highlight of the program is the in-plant practice for productivity improvement. Main topics by lecture: Production control and system, Improvement of total productivity, Implementation of low cost automation, Basic design of training for human resource development, Main practice: Productivity improvement practice in plant
- 3. QUALIFICATION OF APPLICANT** (1) official presently in charge of plant management in manufacturing sector in central or provincial governments or in local bodies, with 5 or more years of work experience in this field, or those who have same status more than managers in private company (2) have sufficient practical knowledge and ideas on: (a) improvement of plant-level productivity (b) production management techniques and their application methods (c) practical methods of quality control, cost control and delivery time control (d) reduction of constraints which hinder productivity (e) improvement of overall plant operations which hinder productivity (3) have sufficient leadership concerned on total productivity improvement through administration and management of production (4) university graduate or equivalent (5) between 30 and 40 years of age
- 4. TRAINING INSTITUTIONS** (1) Hachioji International Training Centre (HITC), JICA (2) Japan Productivity Center for Socio-Economic Development (JPC-SED)
- 5. REMARKS**

MANAGEMENT OF CHAMBERS OF COMMERCE AND INDUSTRY

Nov. 14, 2000 - Dec. 16, 2000, 10 participants

商工会議所マネジメント(アジア・西太平洋)

J-00-03409

- 1. PURPOSE** The purpose of this course is to give leading managers of Chambers of Commerce and Industry a knowledge of how to manage industrial associations and how to promote small- and medium-sized businesses. In addition, this course aims to contribute to the development of human resources that are necessary for fully augmenting the social structure, industrial activities and economic growth.
- 2. MAIN FEATURES OF CURRICULUM** The following major subjects will be covered in the course during lectures in Tokyo and a field trip: (1) seminar programme on Japan's foreign trade, overseas economic cooperation, and management and activities of Chambers of Commerce and Industry (2) discussions of country reports (3) observation of activities by the Japan and Tokyo Chamber of Commerce and Industry, other related offices, and commercial facilities in Tokyo (4) study trip (5) summary, evaluation and closing ceremony.
- 3. QUALIFICATION OF APPLICANT** (1) be managers/directors of sections in the Chambers of Commerce and Industry or other similar organizations, or governmental officials who are in charge of these organizations (2) be university graduates or possess equivalent knowledge (3) be under 45 years of age (4) have more than 5 years of practical experience in this field.
- 4. TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) The Japan Chamber of Commerce and Industry (JCCI)
- 5. REMARKS**

INVESTMENT PROMOTION SEMINAR (1) (ASIAN COUNTRIES)

Apr. 11, 2000 - May 19, 2000, 11 participants

投資促進セミナー(1)(アジア諸国)

J-00-03321

- 1. PURPOSE** Direct investments from developed nations, including grants and technical transfers, are effective for stimulating industrial development of countries facing difficulties in local procurement and securing essential factors such as capital and technology. In addition, improvement of investment promotion programmes requires cultivation of capable personnel in relevant positions of authority. This seminar is designed primarily for government officials of Asian countries, who are responsible for soliciting investments from overseas sources. Since it is essential, in receiving such investments, to understand the investor nation, the emphasis will also be put on understanding the comprehensive or total background of Japan, including its business practices and organizational structures in Japan.
- 2. MAIN FEATURES OF CURRICULUM** The main theme of this seminar is to clarify and analyze the current situation and problems of his/her own country's investment promotion.
- 3. QUALIFICATION OF APPLICANT** (1) university graduates or equivalents (2) under 40 years of age (3) officials who belong to governmental or semi governmental organizations (e.g. investment promotion organization) with more than five years of practical experience in administration of overseas investment
- 4. TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) World Trade Center Tokyo, Inc. (WTCTO)
- 5. REMARKS** This course is organized for Asian countries.

INVESTMENT PROMOTION SEMINAR (2) (LATIN AMERICAN COUNTRIES)

Jun. 22, 2000 - Aug. 3, 2000, 11 participants

投資促進セミナー(2)(中南米諸国)

J-00-03320

- 1. PURPOSE** Direct investments from developed nations, including grants and technical transfers, are effective for stimulating industrial development of countries facing difficulties in local procurement and securing essential factors such as capital and technology. In addition, improvement of investment promotion programmes requires cultivation of capable personnel in relevant positions of authority. This seminar is designed primarily for government officials of the countries of Latin America, who are responsible for soliciting investments from overseas sources. Since it is essential, in receiving such investments, to understand the investor nation, the emphasis will also be put on understanding the comprehensive or total background of Japan, including its business practices and organizational structures in Japan.
- 2. MAIN FEATURES OF CURRICULUM** The main themes of this seminar are: (1) analysis of the current situation and problems of his/her own country's investment promotion (2) research paper writing on "Selection of Potential Japanese Investors"
- 3. QUALIFICATION OF APPLICANT** (1) university graduates or equivalents (2) under 40 years of age (3) officials who belong to governmental or semi governmental organizations (e.g. investment promotion organization) with more than five years of practical experience in administration of overseas investment
- 4. TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) World Trade Center Tokyo, Inc. (WTCTO)
- 5. REMARKS** This course is organized for Latin American countries.

SEMINAR ON MARKETING FOR JAPANESE MARKET

Oct. 23, 2000 - Nov. 19, 2000, 9 participants

日本市場マーケティングセミナー

J-00-03369

1. **PURPOSE** The purpose of this seminar is to contribute to the promotion of export to Japanese market by introducing distribution systems and the marketing method in Japan.
2. **MAIN FEATURES OF CURRICULUM** This course covers; (1) the importance of export promotion and its influence to the country's economy (2) characteristics of Japanese distribution system (3) desirable marketing strategy to meet consumers' needs.
3. **QUALIFICATION OF APPLICANT** (1) college graduate or equivalent (2) individual in leadership position in export promotion at either central or local government or an official in business organizations, such as, the Chamber of Commerce and Industry, association of manufacturers or distributors, etc. (3) between 30 and 50 years of age
4. **TRAINING INSTITUTIONS** (1) Osaka International Centre (OSIC), JICA (2) Pacific Resource Exchange Center (PREX)
5. **REMARKS**

INTELLECTUAL PROPERTY RIGHTS

May 8, 2000 - Aug. 6, 2000, 10 participants

国際知的財産権

J-00-00705

1. **PURPOSE** This course is intended for specialists who are in a leading post to prepare and promote policies and measures for technology transfer and for the protection of intellectual properties. The participants will be trained in highly specialized matters such as legal practices regarding technology transfer and legislation regarding intellectual properties in Japan. The course aims not only to help foster specialists in technology trade but also to develop and promote legal systems for the protection of intellectual properties.
2. **MAIN FEATURES OF CURRICULUM** This course consists of lectures, tutorial studies and discussions including final symposium. The main themes are: (1) outline of Japanese law (2) intellectual property right system in general (3) IPR in Japan: Industrial Property Rights, Copyright Act, Unfair Competition Prevention Act (4) legal practices concerning technology transfer (5) tutorial instruction (6) case study (7) symposium on intellectual property rights (a) participants are requested to report on the current issue regarding the trend of intellectual property rights in their countries
3. **QUALIFICATION OF APPLICANT** (1) senior administrators in charge of legislation of intellectual property rights or in charge of policy making, or in the position of making technical suggestion in their fields with practical experience of at least 3 years in this field (2) under 45 years of age
4. **TRAINING INSTITUTIONS** (1) Osaka International Centre (OSIC), JICA (2) Kyoto Comparative Law Center
5. **REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for one week (25 hours).

FOREIGN TRADE DEVELOPMENT

Aug. 28, 2000 - Dec. 3, 2000, 10 participants

貿易促進

J-00-00208

1. **PURPOSE** The purpose of the course is to provide leading officers presently engaged in foreign trade administration with practical knowledge of Japanese market and various aspects of international transactions through lectures and observations (field trips). It is also intended to convey Japanese historical experience and trade practices in achieving economic development through trade promotion, thus assisting the participants to figure out effective measures toward promoting trade with Japan.
2. **MAIN FEATURES OF CURRICULUM** In this course, the emphasis is place on introduction of comprehensive knowledge on the following subjects, through lectures and field trips: (1) Theoretical analysis of international economy (a) trend of international economy (b) international trade and economic development (c) the balance of payments and foreign exchange policy (d) trade, investment and international cooperation (e) development of Japanese economy (f) international logistics (2) Practical analysis of Japanese market (a) structure and characteristics of Japanese market (b) behavior and attitude of Japanese consumer (c) methods of Japanese management (d) the role of Japanese trading firms (e) the role Japanese small scale industries in trade development (f) case study on successful access to Japanese market (3) Practical analysis on trade-supporting institutions (a) central and local governments (b) Japan External Trade Organization (c) The Chamber of Commerce and Industry (d) customs (e) financial institution (4) Observation (a) leading industries, high tech. industries, heavy & chemical industries, and traditional industries (5) Others (individual research, etc.)
3. **QUALIFICATION OF APPLICANT** (1) university graduates or equivalents with occupational experience of more than three years (2) leading officers in administration of foreign trade (3) no less than 26, and not more than 40 years of age
4. **TRAINING INSTITUTIONS** (1) Hyogo International Centre (HIC), JICA (2) Kobe International Center for Cooperation and Communication (3) Kobe University (4) Kobe Customs, Ministry of Finance
5. **REMARKS** A compulsory intensive Japanese language course will be conducted for 8 days prior to the technical training

TRADE PROMOTION POLICY SEMINAR (AFRICA, MIDDLE-EAST COUNTRIES)

Sep. 21, 2000 - Nov. 2, 2000, 10 participants

貿易振興政策セミナー(アフリカ・中近東)

J-00-03322

1. **PURPOSE** The main purpose of this seminar is to inform the participants of recent knowledge and background information in the field of international trade in connection with Japan and the Japanese, directly and indirectly stressing some successful export promotion cases executed by Japanese enterprises and organizations. Through this knowledge and information, the participants can figure out effective measures to expand the volume of their own exports in the future.
2. **MAIN FEATURES OF CURRICULUM** The main themes of this seminar are: (1) acquisition of the accurate knowledge and necessary information about the successful development of trade by Japanese enterprises (2) analysis of situation/problems of his/her own country's trade promotion (3) research paper writing on "How to Penetrate into Japanese Market-Improvement of Product or Selection of Suitable Distribution Channels"
3. **QUALIFICATION OF APPLICANT** (1) university graduate or equivalent (2) senior official who belongs to governmental or semi governmental organizations (e.g. trade promotion organization) with more than five years of practical experience in the administration of international trade (3) under 40 years of age
4. **TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) World Trade Center Tokyo, Inc. (WTCTO)
5. **REMARKS** This course is organized for African, and Middle-Eastern countries.

TRADE AND INVESTMENT INSURANCE

Sep. 26, 2000 - Oct. 25, 2000, 10 participants

貿易保険

J-00-03342

1. **PURPOSE** The purpose of this seminar is to facilitate each country's trade insurance system by providing training programs on trade insurance system and its management through presentation and demonstration to officials of governments and governmental organizations in charge of trade insurance system. The program places emphasis on helping participants, who are beginners or have no experience in the trade insurance business, to have the basic knowledge of trade insurance.
2. **MAIN FEATURES OF CURRICULUM** This course mainly consists of lectures, discussions and field studies, and covers the following: (1) the purpose, the role and the characteristics of Trade and Investment Insurance (2) the outline of Trade and Investment Insurance System in Japan (risk management, short-term insurance, claims and recoveries, and others) (3) the visits to the trade insurance related institutions and companies
3. **QUALIFICATION OF APPLICANT** (1) officials of governments or governmental organizations related to trade or trade insurance (2) with little practical experience in the Trade Insurance and (3) with sufficient command of spoken and written English.
4. **TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Japan Trade and Investment Insurance Organization (JTIO), TOKYO
5. **REMARKS**

PRACTICES OF EXPORT CONTROLS

Nov. 8, 2000 - Dec. 9, 2000, 10 participants

輸出管理実務(アジア諸国)

J-00-03425

1. **PURPOSE** The Details of this course are under planning
2. **MAIN FEATURES OF CURRICULUM** The Details of this course are under planning
3. **QUALIFICATION OF APPLICANT** The Details of this course are under planning
4. **TRAINING INSTITUTIONS** The Details of this course are under planning
5. **REMARKS**

SUSTAINABLE TOURISM DEVELOPMENT

Aug. 14, 2000 - Oct. 12, 2000, 10 participants

観光開発と環境保全

J-00-03307

1. **PURPOSE** Through the training program, Participants are expected: (1) To acquire the method of planning on how to find and develop regional tourism resources, (2) To acquire the method on how to analyze the relationship between tourism development and other regional resources, such as local industries, infrastructures, etc. and, (3) To acquire the method on how to develop sustainable tourism in coordination with the environment.
2. **MAIN FEATURES OF CURRICULUM** It mainly covers: (1) Tourism promotion in Japan (2) Measures for sustainable tourism development (3) Case studies of policies and measures taken by the local governments in Hiroshima Prefecture
3. **QUALIFICATION OF APPLICANT** (1) be presently engaged in tourism planning and development at tourism-related ministries and agencies (including preservation of cultural and historical assets, (2) have a university degree or equivalent with the work experience related to sustainable tourism development and participation of local communities, (3) have a sufficient command of written and spoken English (TOEFL 550 or equivalent), (4) be under thirty-five (35) 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, (7) not be serving in the military.
4. **TRAINING INSTITUTIONS** (1) Chugoku International Centre (CIC), JICA (2) The International Tourism Development Institute of Japan (ITDIJ)
5. **REMARKS** Japanese language course will be provided prior to the technical training for one week (25 hours).

TOURISM PROMOTION AND MARKETING

May 30, 2000 - Jul. 23, 2000, 16 participants

観光振興とマーケティング

J-00-03455

1. **PURPOSE** The purpose of this seminar is to furnish participants with skills and know-how to promote tourism in a sustainable manner in each of their countries.
2. **MAIN FEATURES OF CURRICULUM** In this seminar, the following major subjects will be covered through lectures, discussions, presentation and observations. (1) Japanese tourism policy and related industries (2) concrete development methods for marketing and advertising for international tourism promotion (3) concrete development methods for marketing and advertising for domestic tourism promotion
3. **QUALIFICATION OF APPLICANT** (1) university graduates or the equivalent (2) currently engaged in tourism promotion activities in the governmental or other public tourism organizations with the occupational experience of more than three years (3) under 40 years of age
4. **TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Transport Policy Bureau, Ministry of Transport (3) International Tourism Development Institute of Japan (ITDIJ)
5. **REMARKS**

**VIDEO PRODUCTION FOR INSTRUCTIONAL,
TRAINING AND PROMOTIONAL ACTIVITIES**

Aug. 17, 2000 - Dec. 15, 2000, 8 participants

ビデオ制作

J-00-00473

1. **PURPOSE** The course is designed to help participants acquire fundamental knowledge and skills production and utilization of video media for educational training and its spread in participating countries.
2. **MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on video program production. The main themes are: (1) basic theory of audiovisual communication (2) case study of utilization of video media (3) technique of video materials and production (4) exercises (5) observation (6) final production
3. **QUALIFICATION OF APPLICANT** (1) has been engaged in planning, production and utilization of video media in public institutions. This course is not designed for those who are working in television stations (2) having within 5 years experience (3) under 35 years of age (4) university graduate or equivalent
4. **TRAINING INSTITUTIONS** (1) Okinawa International Centre (OIC), JICA (2) Japan International Cooperation Center (JICE)
5. **REMARKS**

**JAPANESE LANGUAGE FOR TECHNICAL
COOPERATION**

Sep. 21, 2000 - Apr. 1, 2001, 11 participants

技術協力のための日本語

J-00-00421

1. **PURPOSE** The purpose of this course is to provide Japanese language training for those who are directly or indirectly engaged in technical cooperation projects of JICA, so that they will (1) facilitate better communication with JICA experts in Japanese, (2) promote smoother and more effective implementation of JICA cooperation projects, (3) understand Japanese people, society and culture.
2. **MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on lectures, practice and field trips. The main themes are: (1) writing practice of Hiragana, Katakana, and Kanji (Chinese Character) (2) pronunciation (3) basic sentence structure (4) conversation (5) reading and composition skills.
3. **QUALIFICATION OF APPLICANT** (1) presently engaged directly or indirectly in JICA's cooperation programmes (2) university graduate or equivalent (3) under 35 years of age, except ex-Japanese Course participants (4) wait at least one year before reapplying for this course in the case of ex-Intensive Japanese Language Course participants
4. **TRAINING INSTITUTIONS** (1) Okinawa International Centre (OIC), JICA (2) Japan International Cooperation Center (JICE)
5. **REMARKS**

**JAPANESE LANGUAGE FOR TECHNICAL COOPERATION
(INTERMEDIATE AND ADVANCED LEVEL)**

Sep. 21, 2000 - Apr. 1, 2001, 5 participants

技術協力のための日本語(中上級)

J-00-00422

1. **PURPOSE** The purpose of this course is to provide Japanese language training for those who are directly or indirectly engaged in technical cooperation projects of JICA and also be able to speak basic Japanese, so that they will (1) facilitate better communication with JICA experts in Japanese, (2) promote smoother and more effective implementation of JICA cooperation projects (3) understand Japanese people, society and culture.
2. **MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on lectures, practice and field trips. The main themes are: (1) writing practice of Kanji (Chinese Character) (2) pronunciation (3) advanced sentence structure (4) conversation (5) reading and composition skills, for persons who have studied introductory Japanese.
3. **QUALIFICATION OF APPLICANT** (1) presently engaged directly or indirectly in JICA's cooperation programmes (2) have 500 basic Japanese vocabulary (3) university graduate or equivalent (4) under 40 years of age (5) wait at least one year before reapplying for this course in the case of ex-Intensive Japanese Language Course participants.
4. **TRAINING INSTITUTIONS** (1) Okinawa International Centre (OIC), JICA (2) Japan International Cooperation Center (JICE)
5. **REMARKS**

**DESIGNING AND PRODUCING DIGITAL MEDIA
FOR EDUCATION**

Jan. 4, 2001 - Apr. 28, 2001, 8 participants

教育・訓練分野におけるデジタル/マルチメディア教材制作 J-00-00491

1. **PURPOSE** The purpose of this course is to foster qualified specialists who are able to produce effective and efficient educational materials. The course is designed to enable participants; (1) to learn basic theory in planning, producing and using digital media for education (2) to acquire basic production skills. Main objectives of this course are as follows; (1) To Understand basic concepts of educational media communication and apply them in practice. (2) To acquire basic production skills in digital educational materials. (3) To understand application of educational media through lectures, exercises, a field trip and case studies
2. **MAIN FEATURES OF CURRICULUM** The course is made up of lectures, hands on production exercises and a field trip. Main training contents are: (1) Basic Theory: basic theory in multimedia communication, planning, designing and evaluating educational media, basic concept of the Internet (2) Basic Skill: Internet (WWW, e-mail), DTP, Digital Images both still and motion (3) Production Exercises: application of basic theory and basic skill in production multimedia material for education
3. **QUALIFICATION OF APPLICANT** (1) Teachers, instructors and others who have more than two years of experience in planning, producing and utilization of educational media (2) university graduate or equivalent (3) have basic skills in operation of personal computer (4) under 40 years of age
4. **TRAINING INSTITUTIONS** (1) Okinawa International Centre (OIC), JICA (2) Japan International Cooperation Center
5. **REMARKS** The course is conducted entirely in English.

PRODUCTION OF AUDIO VISUAL COMMUNICATIONS MEDIA

May 6, 2000 - Aug. 25, 2000, 8 participants

視聴覚メディア制作

J-00-00437

- 1. PURPOSE** The purposes of this course are (1) to introduce basic theory and practice of audiovisual technology in the area of IEC (Information, Education and Communications) to the participants who are engaged in production and utilization of the audiovisual media (2) to enhance production and the effective application of audiovisual media in human communication by the participants' organizations
- 2. MAIN FEATURES OF CURRICULUM** The emphasis of this course is put on the basic production skills of audiovisual media. Main subjects covered in the course are: (1) basic theories in audiovisual communications media (2) basic video (3) desk top publishing (4) slide (5) other presentation media (6) final production
- 3. QUALIFICATION OF APPLICANT** (1) person who plays a role in planning, production and utilization of audiovisual media with two to five years of experience. This course is not designed for those who are working in television stations (2) university graduate or equivalent (3) under 40 years of age
- 4. TRAINING INSTITUTIONS** (1) Okinawa International Centre (OIC), JICA (2) Japan International Cooperation Center (JICE)
- 5. REMARKS**

SCIENCE EXPERIMENT IN PRIMARY EDUCATION (SOUTH ASIAN COUNTRIES)

Sep. 10, 2000 - Dec. 16, 2000, 8 participants

小学校における理科実験教育(南西アジア諸国) J-00-03297

- 1. PURPOSE** The course is designed for teachers' trainers for primary education. The course will introduce science practices utilizing simple experiment equipment and materials at the *Obihiro Youth Science Museum. Participants will also join in extra-curricular school activities and visit various education facilities. The purpose of this course is to acquire knowledge and techniques for primary science education. (i.e., instruction of science education, performing of experiments) *The Obihiro Youth Science Museum is a community-based facility established by the Obihiro City Board of Education, for the purpose of providing the opportunity for youths (primary school students) to perform science experiments outside the school environment.
- 2. MAIN FEATURES OF CURRICULUM** The following major subjects will be covered in the course; (1) overview of Japanese education (2) introduction of primary science education (3) education taking place in science-activity facilities for children
- 3. QUALIFICATION OF APPLICANT** (1) be a teachers' trainer for primary education (2) have at least five years' experience in the field (3) be at least high-school graduates or equivalent, and be holder of certificate for teaching primary education (4) between 25 and 45 years of age
- 4. TRAINING INSTITUTIONS** (1) Obihiro Youth Science Museum (2) Hokkaido University of Education, Sapporo Campus
- 5. REMARKS** A compulsory intensive Japanese course will be conducted prior to the technical training for three weeks (75 hours).

SEMINAR ON LOCAL EDUCATIONAL ADMINISTRATION (SUB-SAHARAN AFRICAN COUNTRIES)

Jan. 22, 2001 - Feb. 26, 2001, 10 participants

地方教育行政セミナー(サブ・サハラアフリカ諸国) J-00-03295

- 1. PURPOSE** This course aims to provide an opportunity for administrators in charge of local education to understand the local educational administration system of Sapporo City, through a curriculum comprised of lectures, discussions and visits/study trips pertaining to educational administration of Sapporo City and thereby to improve local educational administration in developing countries.
- 2. MAIN FEATURES OF CURRICULUM** The course consists of lectures and visits/field trips. Each curriculum is organized to provide effective training from the viewpoint of both theory and practice as follows: (1) educational administration of Sapporo City (2) compulsory education (primary education and lower secondary education in Japan) (3) school and social education in Sapporo.
- 3. QUALIFICATION OF APPLICANT** (1) be personnel in charge of the administration of local education in the central or local government (2) university graduates, or equivalent (3) under 45 years of age.
- 4. TRAINING INSTITUTIONS** (1) Hokkaido International Centre, Sapporo (HICS), JICA (2) Sapporo Education Research Institute
- 5. REMARKS**

SCIENCE EDUCATION

Aug. 28, 2000 - Oct. 29, 2000, 6 participants

科学教育

J-00-03444

- 1. PURPOSE** The purpose of this course is to enable the participants to acquire appropriate techniques in teaching science at secondary level. The emphasis will be on teaching methodology by using experiment and/or observation, especially by using discarded and/or natural materials.
- 2. MAIN FEATURES OF CURRICULUM** It mainly covers: (1) basic principles of science education (2) methodology of experiment concerning physics, chemistry, biology, earth science
- 3. QUALIFICATION OF APPLICANT** (1) a secondary school science teacher or researcher on science education in an education research institute/university/college. Administrative officers are not qualified for this program (2) university graduate or equivalent (3) be not more than 35 years of age.
- 4. TRAINING INSTITUTIONS** (1) Chugoku International Centre (CIC), JICA (2) Faculty of School Education, Hiroshima University (3) Faculty of Education, Hiroshima University (4) Hiroshima prefectural Education Center, (HIPEC).
- 5. REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for one week (25 hours).

INDUSTRIAL TECHNOLOGY EDUCATION

Jun. 12, 2000 - Jul. 29, 2000, 10 participants

産業技術教育

J-00-03436

- PURPOSE** This course was designed for administrative officers, educators at technical education institutes and researchers in charge of curriculum planning and teachers training programmes related to industrial technology education. The purpose of this course is to deepen the knowledge of Industrial Technology Education Planning officers or educators, researchers at the technical education institutes or schools.
- MAIN FEATURES OF CURRICULUM** (1) Educational administration in Japan (2) Industrial technology Education in Japan (3) Teacher's training in Japan (4) Detailed curriculum and methods of industrial technology education at secondary schools in Japan (5) Action plan presentation
- QUALIFICATION OF APPLICANT** (1) be officials in policy making for educational administration of Central or Local government in industrial technology education with more than 5 (three) years of working experience. (3) be between 25 and 45 years of age.
- TRAINING INSTITUTIONS** (1) Chubu International Centre (CBIC), JICA (2) Aichi University of Education
- REMARKS**

SEMINAR FOR OFFICERS OF WOMEN'S EDUCATION

Feb. 13, 2001 - Mar. 10, 2001, 9 participants

女性の教育問題担当官セミナー

J-00-03285

- PURPOSE** The purpose of the seminar is (1) to study the countermeasures to expand the educational opportunity for women in developing countries through the lectures and discussions of Japan's current educational programming system, (2) to exchange views and information on various issues
- MAIN FEATURES OF CURRICULUM** The seminar covers the following: (1) lectures and observations (a) present state of educational system and reform in Japan (b) drawing up of curriculums and the course of study (c) teacher training in Japan, etc. (d) visits to kindergarten, elementary school (2) discussions focusing on several topics relating to education (3) country report presentation and discussion to identify various problems and measures to improve the education for women in participating countries (a) current situation of women (b) current situation in education (c) important issues of women's education
- QUALIFICATION OF APPLICANT** (1) a government, and an administrative officer in charge of curriculum development/ planning and extension of education, especially for women (2) university graduate or equivalent (3) have more than 5 (five) years of occupational experience
- TRAINING INSTITUTIONS** (1) Institute for International Cooperation (IFIC), JICA (2) Lifelong Learning Bureau, Ministry of Education, Science and Culture (3) National Women's Education Centre
- REMARKS**

SECONDARY EDUCATION DEVELOPMENT

Oct. 16, 2000 - Nov. 20, 2000, 6 participants

中等教育開発

J-00-03433

- PURPOSE** This course was designed for administrative officers, educators and researchers in charge of curriculums planning and teachers training programmes related to secondary education. The purpose of this course is to deepen the knowledge of Secondary Education Planning officers or educators, researchers at the Education Ministries or schools.
- MAIN FEATURES OF CURRICULUM** (1) Curriculum development for technical high schools (2) Teachers training for programme development
- QUALIFICATION OF APPLICANT** (1) administrators or educators at technical education institutes and researchers in charge of curriculum planning and teachers training programmes related to secondary education. (2) person with more than 5 (five) years of working experience related to above (1). (3) university graduate or equivalent (4) be between 28 and 40 years old.
- TRAINING INSTITUTIONS** (1) Chubu International Centre (CBIC), JICA (2) Department of Education, Nagoya University
- REMARKS**

ROBOT TECHNOLOGY (CONTROL DEVICES)

Aug. 14, 2000 - Feb. 11, 2001, 5 participants

ハイテクロボット制御技術(職業訓練指導員)

J-00-00313

- PURPOSE** The purpose of this course is to provide senior instructors of vocational training institutes with an opportunity to acquire up-to-date technology and knowledge in the field of controls for robot.
- MAIN FEATURES OF CURRICULUM** This course covers the following topics. (1) sensor devices (2) measuring and control (3) small motors and their control technology (4) speed control induction motor (5) sequence control technique (6) computer application technology (7) power electronics (8) Special Lecture
- QUALIFICATION OF APPLICANT** (1) university graduate or equivalent (except doctor degree holders) (2) engaged in vocational training/education in relevant areas (3) more than 3 years' experience in the said field (4) not more than 40 years of age
- TRAINING INSTITUTIONS** (1) Hachioji International Training Centre (HITC), JICA (2) Polytechnic University (PTU), Employment and Human Resources Development Organization of Japan
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for four weeks (100 hours).

MECHATRONICS

Apr. 17, 2000 - Jan. 25, 2001, 8 participants

メカトロニクス訓練

J-00-00571

- PURPOSE** The purpose of this training course is to offer skill improvement training to personnel who are currently involved in machining technology and who wish to acquire comprehensive knowledge, skills and techniques related to mechatronics technology. The course further aims to impart to them an understanding of the present situation of mechatronics in Japanese industry through on-site observation and to make them aware of the importance of relevant technologies and standardization of quality and processing, which are indispensable to the introduction of mechatronics in their countries. With this knowledge it is hoped participants will be in a position to contribute to the human resources development of their home countries. Participants should be intending to resume their activity in this field after completion of the course.
- MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on workshop practice and introduction of Japanese experience. The main themes are: (1) production engineering (2) machining technology (3) control technology (4) XY table production and assembly
- QUALIFICATION OF APPLICANT** (1) instructor at technical high school or vocational training school in the field of mechanical or machining technology (a) only applicable to the persons who have completed all the basic mechanical subjects, the person of the electrical fields will be excluded from its application (2) university graduate or equivalent (3) between 25 and 35 years of age
- TRAINING INSTITUTIONS** (1) Osaka International Centre (OSIC), JICA (2) Osaka Prefectural Higashi-Yodogawa Advanced Vocational Training School (HAVOT)
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for two weeks.

AUTOMOTIVE MAINTENANCE ENGINEERING II

Apr. 17, 2000 - Oct. 22, 2000, 10 participants

自動車整備技術 II

J-00-03303

- PURPOSE** This course is designed for technical instructors who are engaged in vocational training. The purpose of this course is to provide them with expertise on automotive maintenance, and thereby to improve their knowledge and skills in respective countries.
- MAIN FEATURES OF CURRICULUM** This course consists of lectures and practices on (1) basics of automotive maintenance (2) engine maintenance method (3) electric equipment method (4) car body maintenance method, and (5) industrial engineering.
- QUALIFICATION OF APPLICANT** (1) technical instructor in the field of automotive maintenance (2) have more than 5 years' experience (3) under 35 years of age (4) graduate from technical high school (5) have sufficient abilities in speaking and reading English.
- TRAINING INSTITUTIONS** (1) Osaka International Centre (OSIC), JICA (2) Higashi-Yodogawa Advanced Vocational Training School (HAVOT)
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for two weeks.

SEMINAR ON TRAINING MANAGEMENT IN VOCATIONAL TRAINING INSTITUTIONS

Jun. 12, 2000 - Aug. 6, 2000, 10 participants

職業訓練管理セミナー

J-00-00345

- PURPOSE** The purpose of this seminar is to introduce to the participants the current situation of the human resources development administration, and the management of vocational training institutions in Japan, and to provide them with an opportunity for making a comparative study on management and programming of vocational training between Japan and their countries as well as among the participating countries, and thereby to contribute to the improvement of vocational training in each country.
- MAIN FEATURES OF CURRICULUM** To achieve the above purpose, the following major subjects have been carefully selected, so that the participants will acquire the understanding necessary to apply and/or to make recommendations for the improvement of vocational training institutions in their countries. (1) the economic, social and historical background and the present situation as well as the human resources development administration in Japan (2) the management of vocational training institutions and facilities, such as human management, operation management and physical management (3) programming of vocational training, such as training needs and development of training courses (4) the management of vocational training institutions and facilities in the participating countries
- QUALIFICATION OF APPLICANT** (1) heads presently engaged in management of a vocational training institution, with the expectation to continue to work in the same field (2) between 30 and 50 years of age
- TRAINING INSTITUTIONS** (1) Hachioji International Training Centre (HITC), JICA (2) The Overseas Vocational Training Association (OVTA)
- REMARKS**

SEMINAR ON ENHANCING VOCATIONAL TRAINING

Oct. 23, 2000 - Dec. 8, 2000, 11 participants

職業訓練向上セミナー

J-00-00632

- PURPOSE** By the end of the seminar period, the participants are expected to be able to understand: (1) The economic, social and historical background and the present situation of the human resources development in Japan. (2) The management and technique of vocational training course planning, analysis of training needs, course development. (3) The pedagogy at vocational training institution. (4) The methodology of making teaching materials.
- MAIN FEATURES OF CURRICULUM** (1) Methodology of Vocational Training (2) Teaching materials of Vocational Training
- QUALIFICATION OF APPLICANT** (1) Active vocational training instructor in industrial field with five or more years experience in public vocational training institution, and be expected to work in the same field in future. (2) Between thirty (30) and forty-five (45) years of age.
- TRAINING INSTITUTIONS** OVERSEAS VOCATIONAL TRAINING ASSOCIATION (OVTA)
- REMARKS**

WOODWORK ENGINEERING COURSE FOR VOCATIONAL TRAINING INSTRUCTORS

Apr. 3, 2000 - Dec. 17, 2000, 5 participants

職業訓練指導員・造形工学

J-00-03445

- PURPOSE** The course aims to provide participants engaged in vocational/technical profession with requisite technology and information available in Japan, so that they could share the outcomes of the training to enhance technical standard and productivity in their respective countries.
- MAIN FEATURES OF CURRICULUM** This course comprised of lectures and practices, mainly covers: (1) Woodworking System in Production (2) Furniture Construction (3) Paint Technology (4) Mechanical Processing (5) Paint Technology (6) NC router Machining (7) Human Factors Engineering (8) Testing Properties of Wood and Wood based Materials (9) Visual Information (10) Planning of Products Design
- QUALIFICATION OF APPLICANT** (1) presently engaged in vocational training as an instructor of woodwork engineering (2) have a sufficient command of spoken and written English (3) not less than twenty-five, and not more than forty years of age (4) good health, both physically and mentally, to undergo the course of training. As training over a long period may pose risks to pregnant women, pregnancy is regarded as a disqualifying condition for participation in this training course (5) not be a former participant in the same course (6) not be serving in the military
- TRAINING INSTITUTIONS** (1) Hachioji International Training Centre (HITC), JICA (2) Polytechnic University (PTU), Employment and Human Resources Development Organization of Japan (EHDO)
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for five weeks (125 hours).

VOCATIONAL TRAINING INSTRUCTORS (ARCHITECTURAL ENGINEERING)

Apr. 3, 2000 - Dec. 17, 2000, 5 participants

職業訓練指導員(建築工学)

J-00-00377

- PURPOSE** The course aims to provide participants engaged in vocational/technical profession with requisite technology and information available in Japan, so that they could share the outcomes of the training to enhance technical standard and productivity in their respective countries.
- MAIN FEATURES OF CURRICULUM** This course comprised of lectures and practices, mainly covers: (1) Production System of Construction (2) Spatial Structures (3) Earthquake Engineering (4) Architectural Planning and Design (5) Architectural CAD (6) Building Construction (7) Environmental Engineering of Building and Equipment (8) Design of Structure (9) Wooden Construction System
- QUALIFICATION OF APPLICANT** (1) presently engaged in vocational training as an instructor of architectural engineering or related field at a vocational training center, junior college or university (2) university graduate with at least three years of occupational experience in this field (3) have a sufficient command of spoken and written English (4) not less than twenty-five, and not more than thirty-five years of age (5) good health, both physically and mentally, to undergo the course of training. As training over a long period may pose risks to pregnant women, pregnancy is regarded as a disqualifying condition for participation in this training course (6) not be a former participant in the same course (7) not be serving in the military
- TRAINING INSTITUTIONS** (1) Hachioji International Training Centre (HITC), JICA (2) Polytechnic University (PTU), Employment and Human Resources Development Organization of Japan (EHDO)
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for five weeks (125 hours).

VOCATIONAL TRAINING INSTRUCTORS

Apr. 3, 2000 - Dec. 17, 2000, 15 participants

職業訓練指導員(機械工学系)

J-00-00575

- PURPOSE** The course aims to provide participants engaged in vocational/technical profession with requisite technology and information available in Japan, so that they could share the outcomes of the training to enhance technical standard and productivity in their respective countries.
- MAIN FEATURES OF CURRICULUM** This course consists of 2 subcourses, A) Mechanical Engineering for Production and B) Automotive Mechanical Engineering. Mechanical Engineering for Production, comprised of lectures and practices, mainly covers: (1) Machining Technology (2) Precision Measurement (3) Deformation on Processing (4) Metallic Materials and Material Testing (5) Control Engineering (6) Quality Control (7) Numerical Control Equipment (8) CAD/CAM/CAE/CAT (9) Pneumatic Equipment (10) Industrial Design Automotive Mechanical Engineering comprised of lectures and practices, mainly covers: (1) Materials for Automobile (2) Automotive Engineering (3) Internal Combustion Engines (4) Mechanism of Automobile (5) Air-Conditioning of Automobile (6) Coating for Automobile Repair (7) Robot and FA System (8) Welding
- QUALIFICATION OF APPLICANT** (1) presently engaged in vocational training as an instructor of mechanical engineering for industry or automotive mechanical engineering at a vocational training center, junior college, university (2) university graduates with at least three years of occupational experience in this field (3) have a sufficient command of spoken and written English (4) not less than twenty-five, and not more than thirty-five years of age (5) good health, both physically and mentally, to undergo the course of training. As training over a long period may pose risks to pregnant women, pregnancy is regarded as a disqualifying condition for participation in this training course (6) not be a former participant in the same course (7) not be serving in the military (8) except doctor degree holders
- TRAINING INSTITUTIONS** (1) Hachioji International Training Centre (HITC), JICA (2) Polytechnic University (PTU), Employment and Human Resources Development Organization of Japan (EHDO)
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for five weeks (125 hours).
- OTHER** Number of participants; 8 participants (Mechanical Engineering for Production), 7 participants (Automotive Mechanical Engineering)

VOCATIONAL TRAINING INSTRUCTORS (INFORMATION AND COMPUTER ENGINEERING)

Apr. 3, 2000 - Dec. 17, 2000, 9 participants

職業訓練指導員(情報工学)

J-00-00504

- PURPOSE** The course aims to provide participants engaged in vocational/technical profession with requisite technology and information available in Japan, in order to share the outcomes of the training to enhance technical standard and productivity in their respective countries.
- MAIN FEATURES OF CURRICULUM** This course comprised of lectures and practices, mainly covers: (1) Optical Fiber Communication System (2) Database (3) Information Processing (4) Computer Programming (5) Image Engineering (6) Multimedia Contents Development
- QUALIFICATION OF APPLICANT** (1) presently engaged in vocational training as an instructor of information and computer engineering at a vocational training center, junior college or university (2) university graduates with at least three years of occupational experience in this field (3) have a sufficient command of spoken and written English (4) not less than twenty-five, and not more than thirty-five years of age (5) good health, both physically and mentally, to undergo the course of training. As training over a long period may pose risks to pregnant women, pregnancy is regarded as a disqualifying condition for participation in this training course (6) not be a former participant in the same course (7) not be serving in the military
- TRAINING INSTITUTIONS** (1) Hachioji International Training Centre (HITC), JICA (2) Polytechnic University (PTU), Employment and Human Resources Development Organization of Japan (EHDO)
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for five weeks (125 hours).

**VOCATIONAL TRAINING INSTRUCTORS
(ELECTRONIC ENGINEERING) II**

Apr. 3, 2000 - Dec. 17, 2000, 10 participants

職業訓練指導員(電子工学) II

J-00-00378

- 1. PURPOSE** The course aims to provide participants engaged in vocational/technical profession with requisite technology and information available in Japan, so that they could share the outcomes of the training to enhance technical standard and productivity in their respective countries.
- 2. MAIN FEATURES OF CURRICULUM** This course comprised of lectures and practices, mainly covers: (1) Semiconductor Engineering (2) Electronic Devices (3) Optical Electronics (4) Magnetic Engineering (5) Sensor Engineering (6) Automatic Control (7) Electronic Circuits Engineering (8) Computer Programming (9) Image Engineering
- 3. QUALIFICATION OF APPLICANT** (1) presently engaged in vocational training as an instructor of electronic engineering or related field at a vocational training center, junior college or university (2) university graduates with at least three years of occupational experience in this field (Except doctor degree holders) (3) have a sufficient command of spoken and written English (4) not less than twenty-five, and not more than forty years of age (5) good health, both physically and mentally, to undergo the course of training. As training over a long period may pose risks to the pregnant women, pregnancy is regarded as a disqualifying condition for participation in this training course (6) not be a former participant in the same course (7) not be serving in the military
- 4. TRAINING INSTITUTIONS** (1) Hachioji International Training Centre (HITC), JICA (2) Polytechnic University (PTU), Employment and Human Resources Development Organization of Japan (EHDO)
- 5. REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for five weeks (125 hours).

ADVANCED MICROBIAL ENZYME TECHNOLOGY

Apr. 3, 2000 - Aug. 6, 2000, 5 participants

応用微生物酵素工学

J-00-03399

- 1. PURPOSE** The purpose of the course is to introduce to participants knowledge and techniques required for microbial enzyme technology such as cultivation of microorganisms, production and purification of enzymes and properties and action of enzymes, through lectures, experiments and observations. (Note that the course is focused on introducing basic knowledge and techniques of microbial enzyme technology.)
- 2. MAIN FEATURES OF CURRICULUM** This course consists of common subjects for all participants and individual research work in laboratory. Each participant is to take one subject for his/her individual research
- 3. QUALIFICATION OF APPLICANT** (1) master's degree, or bachelor's degree with as much academic knowledge and technical experience as the former, and major in biochemistry, fermentation technology or applied microbiology (2) between 25 and 35 years of age (3) more than three years experience in fermentation technology or enzyme technology
- 4. TRAINING INSTITUTIONS** (1) Osaka International Centre (OSIC), JICA (2) Osaka Municipal Technical Research Institute (OMTRI)
- 5. REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training.

**SEMINAR ON HUMAN RESOURCES
DEVELOPMENT ADMINISTRATION**

Nov. 6, 2000 - Dec. 15, 2000, 13 participants

職業能力開発行政セミナー

J-00-00346

- 1. PURPOSE** The purpose of the seminar is to introduce to the participants the current situation of human resources development administration in Japan specifically placing emphasis on vocational training, and to provide them an opportunity of making a comparative study on the said field between Japan and the participating countries as well as among their countries, and thereby to contribute to the improvement of the human resources development administration in the respective countries.
- 2. MAIN FEATURES OF CURRICULUM** To achieve the above purpose, the following major subjects have been carefully selected, so that the participants will acquire the understanding necessary to apply and/or to make recommendations for the improvement of human resources administration in their countries. (1) the economic, social and historical background and the present situation concerning the human resources development administration in Japan (2) establishment of training policy and strategy for human resources development administration in Japan (3) general methods of management and operation of various types of vocational training institutions in Japan (4) present situation of human resources development in enterprises (5) human resources development administration among the participating countries
- 3. QUALIFICATION OF APPLICANT** (1) at least a director of the department in the central government who is presently engaged in the human resources development administration (2) between 35 and 50 years of age
- 4. TRAINING INSTITUTIONS** (1) Hachioji International Training Centre (HITC), JICA (2) Human Resources Development Bureau, Ministry of Labour
- 5. REMARKS**

**HUMAN-RADIATION INTERFACE; APPLICATION AND SAFETY OF
RADIATION IN MEDICAL, BIOLOGICAL, AND ENVIRONMENTAL**

Oct. 24, 2000 - Nov. 25, 2000, 8 participants

ヒト-放射線インターフェース:医学・生物学・環境科学における放射線の利便と安全 J-00-03334

- 1. PURPOSE** The purpose of this course is to give the participants knowledge on Human-Radiation Interface in view of medical, biological and environmental sciences and to transfer the latest techniques through lectures, practices of one's specialty and interest, study tours and seminars to promote sound and rational development in the field of application and safety control of radiation in each developing country by means of: (1) systematic and fundamental knowledge on radiation use for medical biology and environmental radiation protection (2) understanding of latest knowledge and techniques (3) human resource development in this radiation field in line with each country's condition.
- 2. MAIN FEATURES OF CURRICULUM** (1) Lectures: Radiation and human, energy industries and radiation, the past and future of radiation, etc. (2) Experiments: Basic test of radiometry, radiation medicine, radiation biology, etc. (3) Observation: Exercises of radiation health control, industries concerned, radiotherapy, etc. (4) Practice: Select one of followings practices of clinical radiotherapy, diagnosis of nuclear medicine, radiation health control, measurement of environmental radiation, radiation individual biology, etc.
- 3. QUALIFICATION OF APPLICANT** (1) medical doctor of radiologist/radiological technologist or be engaged with radiologists (university graduate or equivalent) (2) resume the same field of work after returning home (3) under 50 years of age
- 4. TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) National Institute of Radiological Sciences, Science and Technology Agency
- 5. REMARKS** This course is conducted only for RCA member countries.
- 6. OTHER** The objectives of this course are; (1) to understand biological influences on the level of molecule, cell and individual (2) to learn the actual condition, principle and procedures of safety protection in natural and work environment (3) to acquire clinical knowledge, skills of the principle of therapy and diagnosis by radiation of every kind such as X-ray, neutron ray and baryon, and radio medicine (4) to understand and apply the above researches, and to acquire the latest knowledge concerning each participant's present specialty and further needs, and to obtain the ability to introduce the latest techniques in a required way.