

MARINE TECHNIQUE (ENGINEER)

June 26, '95 - Dec. 8, '95, 5 participants

航海技術(機関士)

J-95-00380

- PURPOSE** The aim of the course is to hand over to the participants the marine technique and experience which Japan has long accumulated, and by so doing to make them conscious of the status quo of a higher marine technology and management. Furthermore, the participants, through their own training, are to acquire the knowledge and technique concerning the seamen's training methods, and after they return to their respective countries, they are expected to spread their fruits so gained among their successors.
- MAIN FEATURES OF CURRICULUM** This course consists of common subjects for all participants, seminar at laboratory (optional subjects), on board practice and observation tours. Common subjects (12 weeks) (1) boiler (2) steam turbine engine (3) diesel engine and gas turbine (4) propeller and shafting (5) auxiliary machinery (6) electrical engineering (7) automatic control (8) instrumentation (9) fuel oil and lubricant (10) thermodynamics, hydrodynamics, mechanics and materials (11) computer (12) marine propulsion system based on energy flow (13) engine room simulator training (14) maritime laws and international conventions (15) ship's survey inspection (16) safety management (17) practice on board Seminar at laboratory (optional subjects) (2 weeks) (1) steam plant (2) internal combustion engine (3) electrical engineering and electronics (4) auxiliary machineries (5) automatic control (6) instrumentation (7) information engineering (8) engine room simulator (9) propulsion
- QUALIFICATION OF APPLICANT** (1) in possession of the certificate of Third of higher Grade Maritime Officer (Engineer) with more than one year of seafaring, or those who have the equivalent knowledge and experience engaged in official affairs or education for maritime with more than one year (2) male, between 25 and 35 years of age (3) presumed to contribute to fostering mercantile officials or instructors who will play a leading role in this field in their respective countries
- TRAINING INSTITUTIONS** (1) Hyogo International Center (HIC), JICA (2) Marine Technical College
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for three weeks (75 hours).

MARITIME SEARCH AND RESCUE OPERATION AND MARITIME DISASTER PREVENTION

Aug. 21, '95 - Dec. 3, '95, 7 participants

救難防災

J-95-00343

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

AIDS TO MARINE NAVIGATION II

Aug. 24, '95 - Oct. 28, '95, 7 participants

航路標識II

J-95-00148

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

LINER SHIPPING BUSINESS

May 9, '95 - June 23, '95, 8 participants

定期船実務

J-95-00438

- PURPOSE** The purpose of the course is to provide participants with an opportunity to acquire basic knowledge and up-to-date information on liner shipping operations in Japan as well as those in global situations. For this purpose, the course provides lectures on shipping policy of Japan and liner shipping operation, centering on container operation. In addition, observation and study tours will contribute to better understanding of lectures as a supplement guide.
- MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on introduction of the Japanese system and basic information. The following major subjects will be covered in the course. (1) government administration for shipping (a) administration for international shipping of Japan (b) present situation and future planning of container terminals in Japan (c) administration for seafarers (2) maritime law (a) ocean carrier's liability (b) charter party and maritime arbitration (c) cargo claim (3) liner shipping business (a) liner shipping business and shipping conference (b) containerization in the shipping field (c) purchasing and leasing at container (d) management and operation at containers (e) container terminal operation (f) international combined transportation (g) activities of Japanese shipper's council (4) others around liner shipping business (a) liner shipping service of the world (b) profitability calculation in building new vessels (c) technological innovation at vessels (d) marine insurance
- QUALIFICATION OF APPLICANT** (1) university graduate or equivalent (2) have practical experience of more than three years in shipping business, and possess basic knowledge of the liner shipping business (3) presently engaged in shipping related services (4) under 35 years of age
- TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) International Shipping Division, Maritime Transport Bureau, Ministry of Transport. (3) Maritime International Cooperation Center of Japan (MICC)

SEMINAR ON PORT ADMINISTRATION AND MANAGEMENT

Sep 26, '95 - Nov. 24, '95, 17 participants

港湾管理運営セミナー

J-95-00440

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

PORT AND HARBOUR ENGINEERING II

May 9, '95 - Sep. 16, '95, 15 participants

港湾工学II

J-95-00035

- PURPOSE** The course is designed to contribute to cultivating the human resources development of port engineers who are expected to play an important role in port development in developing countries so as to improve the technology in solving various technical problems in port development.
- MAIN FEATURES OF CURRICULUM** This course consists of lectures, exercises, observations, intensive field study at the Onahama Port and discussions. It covers: (1) basic theories of port and harbour engineering (2) advanced technology for port development (3) port development in Japan
- QUALIFICATION OF APPLICANT** (1) university graduate or equivalent (2) presently engaged in civil engineering with more than three years of occupational experience (3) under 35 years of age
- TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Ports and Harbours Bureau, Ministry of Transport (3) Ports and Harbours Research Institute

DEVELOPMENT OF CONTAINER TERMINAL

Jan. 16, '96 - Mar. 10, '96, 8 participants

コンテナ埠頭整備計画

J-95-00331

- PURPOSE** The purpose of this training course is to help participants understand the background to containerization and methods of planning, construction, maintenance and management of container terminals as well as the containerization policy currently applied in Japan, and thus to help each of the participants figure out the future prospects for containerization in their respective countries.
- MAIN FEATURES OF CURRICULUM** This course mainly consists of lectures, intensive study at Kobe Port (one of the leading ports in Japan) and group work. Participants will be divided into several groups to study a subject which is chosen by them (such as engineering, computers, etc.) and to make presentations at the end of the course. The following are the major subjects to be covered in the course. (1) containerization and development of container terminals (2) method of planning container terminals (3) management and maintenance of container terminals
- QUALIFICATION OF APPLICANT** (1) presently engaged in or will be engaged in container terminal planning and/or container terminal management (2) university graduate or equivalent with more than five years of occupational experience in the field of ports and harbours (3) not less than 30 and more than 40 years of age
- TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Ports and Harbours Bureau, Ministry of Transport

SEMINAR ON AVIATION SECURITY

Jan. 25, '96 - Feb. 28, '96, 14 participants

航空保安セミナー

J-95-00318

- PURPOSE** The purpose of this seminar is to provide participants with the fundamental knowledge of aviation security practiced in Japan as a reference, including ICAO specifications, and with the opportunities to exchange views in the field of aviation security among participants and Japanese lecturers, this contributing to investigating the applicable improvements of aviation security in participating countries.
- MAIN FEATURES OF CURRICULUM** In this seminar, the emphasis is put on introduction of Japanese systems as a reference. The following major subjects will be covered in the seminar. (1) civil aviation (2) airport management and security guard (3) countermeasures against acts of unlawful interference (4) security control systems (preventive measures by air carriers, manuals, training of security personnel, security equipment, etc.) This seminar is designed so as to let participants (a) acquire the fundamental knowledge of international measures for aviation security, (b) acquire the fundamental knowledge of countermeasures for aviation security and of security control system practiced in Japan as a reference, (c) obtain the fundamental technical knowledge of security equipment, and (d) identify the problems of aviation security in each participating countries, and thus contributing to considering the improvement for the problems.
- QUALIFICATION OF APPLICANT** (1) university graduate in civil aviation or equivalent (2) currently employed by their governments or other public authorities for civil aviation (It is desirable to be in the leading positions of administrative and/or policy-planning sections for aviation security.) (3) have not less than five years of occupational experience in the field of aviation security (4) under 45 years of age
- TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Civil Aviation Bureau, Ministry of Transport (3) Airport Security Business Center (ASBC)

SEMINAR ON AIR TRAFFIC CONTROL

Oct. 17, '95 - Dec. 1, '95, 10 participants

航空管制セミナー

J-95-00400

- PURPOSE** The purpose of this seminar is to provide participants with an understanding of overall civil aviation activities in Japan, which include current organization, Air Traffic Control (ATC), Air Traffic Services (ATS)-related matters, planning/policy etc., thus giving them broader views to work out their own future plans and policies.
- MAIN FEATURES OF CURRICULUM** In this seminar, the emphasis is put on introduction of Japanese systems. The following is the subjects to be covered in the seminar, and it does not include any on-the-job training on ATC or training using simulator for ratings. (1) civil aviation and transportation (2) air traffic services at present and in future (3) air traffic control services
- QUALIFICATION OF APPLICANT** (1) university graduate or equivalent (2) currently employed by their government or by public authorities (3) engaged in managerial activities of Air Traffic Control and have occupational experience of not less than three years in the field of air traffic control, or be engaged in administrative work in the field of Air Traffic Services together with previous occupational experience in air traffic services (4) under 45 years of age
- TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Civil Aviation Bureau, Ministry of Transport (3) Air Traffic Control Association, Japan
- REMARKS** This seminar is not formulated to provide participants with ATC on-the-job training/training using simulator for ratings.

URBAN TRANSPORT SEMINAR

June 1, '95 - July 23, '95, 10 participants

都市交通セミナー

J-95-00222

- PURPOSE** The purpose of the seminar is to give knowledge of urban transport, especially mass transit system and opportunities to exchange views for the development of urban transport planning towards those who will follow in urban transport planning in future.
- MAIN FEATURES OF CURRICULUM** In this seminar, the emphasis is put on introduction of Japanese systems and experience. The main themes to be covered are: (1) urban transport policies and modern techniques in mass transit systems (2) problems of urban transport sector (3) framework of development study on better urban transport system in participating countries
- QUALIFICATION OF APPLICANT** (1) person with more than three years' experience in the field of transport who will be engaged in urban transport planning in future (2) under 30 years of age (3) university graduate or equivalent
- TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Second International Cooperation Division, Transportation Policy Bureau Ministry of Transport (3) Japan Transport Cooperation Association (JTCA)

COMPREHENSIVE URBAN TRANSPORTATION PLANNING

Sep 26, '95 - Nov. 29, '95, 10 participants

総合都市交通施設計画

J-95-00245

- PURPOSE** The purpose of the course is to provide participants with the knowledge of principle and the method of techniques on urban transportation planning in general through lectures, discussions and field studies such as planning principles of urban transportation, land use planning, transportation characteristics, systems of urban transportation survey, etc.
- MAIN FEATURES OF CURRICULUM** In this course, the following major subjects will be covered through lectures, discussions and observation trips: (1) urban transportation problems (2) planning principle of comprehensive urban transportation (3) methodology and planning techniques necessary for the draft of comprehensive urban transportation planning (4) methodology of evaluation necessary for the implementation of the project
- QUALIFICATION OF APPLICANT** (1) university graduate or equivalent with occupational experience of more than three years (2) under 35 years of age (3) presently engaged in the fields of survey, planning, management and administration on urban transport
- TRAINING INSTITUTIONS** (1) Tokyo International Center (TIC), JICA (2) City Bureau, Ministry of Construction (3) City Planning Association
- REMARKS** Country Reports will be highly utilized both for the selection of participants and for the Country Report presentation.

SEISMOLOGY AND EARTHQUAKE ENGINEERING II

Sep. 4, '95 - July 28, '96, 20 participants

地震工学II

J-95-00012

- PURPOSE** The purpose of the course is to contribute to upgrading the knowledge and technique of the participants in the field of seismology and earthquake engineering through lectures (including colloquiums, exercises, practical training, observation tours) and individual studies, so as to nurture researchers and engineers capable of playing an important role in these fields.
- MAIN FEATURES OF CURRICULUM** Participants will be divided into two groups: (1) seismology and (2) earthquake engineering by their request on application. This course consists of common subjects for all participants, individual subjects for each of the group, and individual training in the laboratory. The outline of the subjects on the training course are as follows. (1) both groups: general seismology and earthquake engineering, strong ground motion, mathematics, basic programming of computer, etc. (2) seismology group: computer, elasticity, data processing, seismic surface waves, interpretation of seismograms, seismicity and plate tectonics, study trip, individual study, etc. (3) earthquake engineering group: soil mechanics and dynamics, structural analysis and dynamics, earthquake resistant design of building structure, study trip, individual study, etc.
- QUALIFICATION OF APPLICANT** (1) university graduate or equivalent with professional experience of more than three years (2) well versed in basic mathematics such as differentiation and integration (3) under 35 years of age
- TRAINING INSTITUTIONS** (1) Tsukuba International Centre (TBIC), JICA (2) International Institute of Seismology and Earthquake Engineering (IISEE), Building Research Institute, Ministry of Construction
- REMARKS** (1) Those participants who have passed the examination on more than five subjects and submitted their individual study report will be granted a Diploma of IISEE.

SEMINAR ON SEISMOLOGY AND EARTHQUAKE ENGINEERING

(not conducted in JFY 1995)

地震工学セミナー

- PURPOSE** The purpose of this seminar is to renew the knowledge and expertise of engineers and seismologists who have previously participated in "The Group Training Course in Seismology and Earthquake Engineering" in International Institute of Seismology and Earthquake Engineering, or an equivalent course, by introducing up-to-date and advanced knowledge on earthquake disaster prevention technology in Japan and other countries.
- MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on report presentation and discussion by participants. The main themes are; (1) earthquake disaster prevention (2) restoration technology
- QUALIFICATION OF APPLICANT** (1) university graduate or equivalent with professional experience in the field of earthquake engineering for more than ten years, and preferably be engaged in a job suitable to the aim of this seminar (2) over 35 and under 55 years of age
- TRAINING INSTITUTIONS** (1) Tsukuba International Centre (TBIC), JICA (2) International Institute of Seismology and Earthquake Engineering (IISEE), Building Research Institute, Ministry of Construction
- REMARKS** This course is conducted every other year in principle. This year (in Japanese Fiscal Year 1995) it will not be conducted.

METEOROLOGY II

Aug. 17, '95 - Dec. 22, '95, 9 participants

気象学II

J-95-00187

- PURPOSE** The purpose of this course is to provide participants with general and practical fundamentals applicable to various areas of operational meteorological services, through lectures, exercises, study tours and technical visits thus motivating participants to improve the technical standards applicable to meteorological services. This is a revised version of the group training course in "Meteorology", after its completion in response to the continuous needs for this kind of training course.
- MAIN FEATURES OF CURRICULUM** This course mainly consists of lectures with appropriate exercises and study visits. The themes of lecture/exercises are; (1) theoretical basics and technologies for operational meteorological services (2) personal computers in meteorological services (3) meteorological satellite data (4) short, medium and long range forecasting methods including numerical weather prediction (5) selected topics from research activities at Japan Meteorological Agency.
- QUALIFICATION OF APPLICANT** (1) presently engaged in meteorological observation of forecasting for their governments or government-related public organizations (2) university graduate or equivalent (WMO Classes I and II) with more than three years of occupational experience in the field of operational/practical meteorological services (3) under 40 years of age
- TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Japan Meteorological Agency (JMA) (3) Meteorological Research Institute of JMA (4) Meteorological Satellite Centre of JMA (5) Meteorological College of JMA

SCIENCE AND TECHNOLOGY FOR DISASTER PREVENTION

Sep. 4, '95 - Dec. 3, '95, 9 participants

防災科学技術

J-95-00211

- PURPOSE** The course is designed to introduce beneficial knowledge of disaster prevention through case studies of Japanese experience and to upgrade administrative skills of personnel who are currently engaged in disaster prevention activities. The course focuses on comparative study of disaster prevention technologies exercised in different countries, and thereby contributes to the improvement of disaster prevention system.
- MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on introduction of comprehensive knowledge and technology on disaster prevention including Japanese experience through lectures, observation trips, report presentations, discussions and advanced study. The main themes are: (1) how to prevent disasters caused by hydrologic, meteorological and oceanographical events (2) earthquake prediction and hazard mitigation technology (3) how to predict landslides and volcanic eruptions and prevent their disasters
- QUALIFICATION OF APPLICANT** (1) scientist or engineer in the field of science and technology for natural disaster prevention (2) have more than seven years experience in the field of research or technical application for natural disaster prevention (3) university graduate from the field of science, engineering and other relevant fields or the equivalent with a fundamental knowledge of science and technology (4) under 40 years of age
- TRAINING INSTITUTIONS** (1) Tsukuba International Centre (TBIC), JICA (2) National Research Institute for Earth Science and Disaster Prevention (NIED)

VOLCANOLOGY AND VOLCANIC SABO ENGINEERING

Mar. 26, '96 - Sep. 22, '96, 8 participants

火山学・火山砂防工学

J-95-00401

- PURPOSE** The purpose of the course is to introduce participants to basic and modern concepts of volcanology and mitigation of volcanic disasters through lectures, exercises and field studies. For this purpose, the first half of the course is allotted to the common course and the second half is divided into two topics: volcanology and volcanic sabo engineering (volcanic disaster prevention engineering).
- MAIN FEATURES OF CURRICULUM** This course consists of three parts; (1) common subjects for all participants (2) training for sub-groups (3) individual training at university/research institute/technical center. For the second part, participants will be divided into the following two groups. (1) volcanology (a) up-to-date physical and geological concept of volcanism (b) theory of seismology, geodesy, geomagnetism, geotherm and geochemistry with the aid of exercises (c) methods of volcano monitoring, data analysis and interpretation emphasizing eruption forecasting (2) volcanic sabo engineering (a) basic theories necessary for study and planning of erosion and sediment control engineering (b) mechanism and structure of debris mud flows (c) engineering technology and administrative countermeasures against volcanic disaster
- QUALIFICATION OF APPLICANT** (1) university graduate or equivalent (2) not more than 35 years of age (3) presently engaged in the volcanic observation and/or disaster prevention (sabo works) and be scheduled to engage in the same field after completion of the course
- TRAINING INSTITUTIONS** (1) Tokyo International Center (TIC), JICA (2) Department of Erosion and Sediment Control, Ministry of Construction (3) Japan SABO Association
- REMARKS** (1) Country Reports will be highly utilized both for the selection of participants and for the country report presentation. (2) All the participants of this course are requested to bring Volcanological or Volcanic Sabo Engineering data necessary for the theme of studies during their individual programmes.

BRIDGE ENGINEERING II

Aug. 10, '95 - Oct. 26, '95, 15 participants

橋梁工学II

J-95-00071

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

**CONSTRUCTION ENGINEERING II
(CIVIL WORKS)**

Aug. 7, '95 - Nov. 15, '95, 10 participants

建設施工II

J-95-00209

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

CONSTRUCTION PROJECT MANAGER

Sep. 4, '95 - Nov. 15, '95, 10 participants

建設施工管理者

J-95-00385

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

**SOIL MECHANICS AND FOUNDATION
ENGINEERING**

Oct. 12, '95 - Dec. 8, '95, 13 participants

土質及び基礎工学

J-95-00232

- PURPOSE** The purpose of this course is to introduce participants to new methods and knowledge concerning fundamental theory, applied technology, various structure designs, and evaluation methods in the field of soil mechanics and foundation engineering, which are essential for planning, implementation and management of public works and construction projects. NOTE: This course is designed for researchers or senior officials engaged in soil mechanics and foundation engineering. It is not recommended for administrative staff who do not have a fundamental knowledge of soil mechanics and foundation engineering.
- MAIN FEATURES OF CURRICULUM** In this course, the following major subjects will be covered through lectures, discussions and observation trips. (1) geotechnical engineering in general (2) earth structures (3) laboratory soil testing (4) soil exploration (5) soil improvement (6) foundation of structures (7) evaluation of design
- QUALIFICATION OF APPLICANT** (1) researcher or senior official in charge of geotechnical construction, administration or geotechnical construction projects, and have more than eight years of practical experience in central or local government, or government related organization (2) under 45 years of age (3) university graduate or equivalent, and have knowledge of soil mechanics and foundation engineering
- TRAINING INSTITUTIONS** (1) Tokyo International Center (TIC), JICA (2) International Affairs Division, Economic Affairs Bureau, Ministry of Construction (3) Japanese Society of Soil Mechanics and Foundation Engineering (JSSMFE)
- REMARKS** Country Reports will be highly utilized both for the selection of participants and for the Country Report presentation.

REGIONAL DEVELOPMENT POLICY SEMINAR

Oct. 3, '95 - Nov. 16, '95, 11 participants

国土開発セミナー

J-95-00258

- 1. PURPOSE** The purpose of the course is to provide the participants with the latest theoretical and practical knowledge of regional development policy through lectures, discussions and observation trips, thereby contributing to regional development in the participating countries.
- 2. MAIN FEATURES OF CURRICULUM** In this seminar, the emphasis is put on introduction of Japanese experience and discussions based on report presentation by participants. The seminar deals with planning, policy formulation and implementation of regional development. The major subjects are; (1) outline of regional development policy (2) specific study for regional development policy (3) case studies (4) discussions based on country reports and study reports
- 3. QUALIFICATION OF APPLICANT** (1) engaged in the planning or implementation of national or regional development projects and policies (2) university graduate or equivalent (3) under 40 years of age
- 4. TRAINING INSTITUTIONS** (1) Tokyo International Center (TIC), JICA (2) National Land Agency

SEMINAR ON ADMINISTRATION FOR DISASTER PREVENTION

Jan. 30, '96 - Mar. 3, '96, 15 participants

防災行政管理者セミナー

J-95-00402

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

RIVER AND DAM ENGINEERING II

Aug. 21, '95 - Dec. 3, '95, 11 participants

河川及びダム工学II

J-95-00169

- 1. PURPOSE** The course is designated to introduce recent technology and knowledge in the field of river and dam engineering to participants engaged in flood control or water resources development projects.
- 2. MAIN FEATURES OF CURRICULUM** (1) Participants will be divided into two groups-the river group and the dam group. The course consists of three parts-two months of common subjects for both groups, two weeks of specialized subjects designed for each group, and one week of individual research work in the laboratory. (2) Specialized subjects for the river Group are as follows: (a) River dynamics (b) Comprehensive flood loss prevention (c) river morphology (d) channel planning/design water level (e) embankment, revetment, groynes (f) sediment hydraulics/exercise (g) sabo planning (h) land slide prevention planning (i) design of sabo facilities/exercise (j) river management (k) tributary treatment (l) naturally diverse construction method (3) specialized subjects for the dam group are as follows: (a) outline of dam planning (b) geological investigation for dam construction (c) foundation treatment (d) design and construction of dam/exercise (e) design of spillway and gate/exercise (f) earthquake resistant design of dams (g) safety management of dams (h) operation and management of reservoirs (i) multipurpose dam law (j) case studies of dam designing
- 3. QUALIFICATION OF APPLICANT** (1) presently engaged in flood control works or water resources development projects (2) university graduate or equivalent with basic knowledge in civil engineering (3) occupational experience of more than five years in the field of execution of flood control works or water resources developments projects (4) under 35 years of age
- 4. TRAINING INSTITUTIONS** (1) Tsukuba International Centre (TBIC), JICA (2) Ministry of Construction
- 5. REMARKS** (1) A compulsory intensive Japanese language course will be conducted prior to the technical training for one week (25 hours).

CITY PLANNING II

Aug. 17, '95 - Oct. 19, '95, 11 participants

都市計画II

J-95-00027

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

URBAN DEVELOPMENT

Oct. 10, '95 - Dec. 3, '95, 11 participants

都市整備

J-95-00325

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

HOUSING POLICY

Oct. 12, '95 - Dec. 3, '95, 11 participants

住宅政策

J-95-00230

- 1. PURPOSE** The purpose of the course is to provide the participants with examples and experiences from Japanese housing policies and administration in order for them to contribute to the betterment of human living conditions in their countries.
- 2. MAIN FEATURES OF CURRICULUM** The course mainly consists of lectures, discussions, and observation, to cover the following themes. (1) outline of housing policies in Japan (2) general knowledge of housing administration, such as knowledge related to financial systems, new town development and urban renewal plans
- 3. QUALIFICATION OF APPLICANT** (1) mid-career official in charge or expected to take charge of housing policy at the central or local government level or at a related governmental organization (2) university graduate or equivalent (3) between 30 and 40 years of age
- 4. TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Housing Policy Division, Housing Bureau, Ministry of Construction (3) Building Center of Japan (BCJ)

SEMINAR ON IMPROVEMENT OF HOUSING AND LIVING ENVIRONMENTS

Jan. 25, '96 - Feb. 25, '96, 8 participants

住宅・住環境改善セミナー

J-95-00349

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

ARCHITECTURAL ENGINEERING

May 9, '95 - July 2, '95, 13 participants

建築技術

J-95-00270

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

SEMINAR ON ADVANCED TECHNOLOGY OF CONSTRUCTION

May 11, '95 - June 25, '95, 10 participants

建設工事先進技術セミナー

J-95-00479

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

SURVEY AND MAPPING II

July 31, '95 - July 7, '96, 8 participants

測量技術II

J-95-00048

- PURPOSE** This course is designed to contribute to upgrading the knowledge and skills of the participants in the field of surveying and mapping so as to train them to be capable of playing important roles in nationwide surveying and mapping projects, of conducting quality control and process control, and of applying advanced technologies in surveying and map making processes.
- MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on introduction of comprehensive knowledge and techniques in the whole process of surveying and map making including GPS, VLBI, GIS and remote sensing, etc. through lectures, discussions, workshop, practice and field trips. It mainly covers; (1) survey planning (2) geodetic surveying (3) cadastral survey (4) photogrammetry (5) map compilation (6) geographical survey (7) map reproduction (8) geographical information system
- QUALIFICATION OF APPLICANT** (1) surveyor presently in charge of surveying or mapping with more than three years of experience in this field (2) university graduate or equivalent (3) over 25 and under 35 years of age
- TRAINING INSTITUTIONS** (1) Tsukuba International Centre (TBIC), JICA (2) Geographical Survey Institute (GSI)
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for two weeks (50 hours).

HYDROGRAPHIC SURVEY (INTERNATIONAL ACCREDITED CATEGORY B COURSE)

Apr. 11, '95 - Nov. 12, '95, 10 participants

水路測量(国際認定B級)

J-95-00493

- PURPOSE** The course is designed to upgrade knowledge of modern theory and technique of hydrographic survey for personnel engaged in the field of nautical charting and port and near shore surveys at the Category B level of the International Standards of Competence for Hydrographic Surveyors.
- MAIN FEATURES OF CURRICULUM** The curriculum of this course is strictly complying with the requirements under the International Standards of Competence of Hydrographic Surveyors, 6th edition, 1991. The following are the major subjects to be covered in the course. (1) lectures: computing, physics, hydrography (control and practice), environmental aspects, legal aspects, nautical science, nautical charting surveys, port and harbour surveys, electronic chart (2) practice data processing of harbour and coastal surveys, computer programming, control surveys, astronomy, cartography (3) field training on board survey vessels: harbour and coastal surveys, automatic hydrographic data acquisition system, navigation, seamanship, submarine geology
- QUALIFICATION OF APPLICANT** (1) technical college graduate or equivalent with at least two years occupational experience in hydrographic services (2) have obtained credits for two years' course of mathematics and physics at least on the level of technical college or equivalent educational institution (3) presently employed at the national hydrographic office or other pertaining organization responsible for carrying out hydrographic surveys of sea areas (4) not more than 40 years of age
- TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Hydrographic Department, Maritime Safety Agency
- REMARKS** At the completion of this course, participants will take an examination for the certificate of Category B Hydrographic Surveyor accredited by FIG/IHO International Advisory board. The certificate will not be awarded to the participant who has failed to cover necessary subjects of the course or who has failed to pass the examination.

PHYSICAL OCEANOGRAPHIC SURVEY

(not conducted in JFY 1995)

海洋物理調査

- PURPOSE** The purpose of the course is to provide participants with a basic modern theoretical knowledge of oceanography as well as practical knowledge and techniques through lectures, practices, field training and observation and study tours.
- MAIN FEATURES OF CURRICULUM** In this course, the following major subjects will be covered. (1) lectures/practice (a) offshore physical oceanography (b) calibration of thermometrical instruments (c) chemistry of sea water (d) marine pollution research (e) wind waves (f) tide and tidal current (g) international oceanographic data exchange system (h) electronic computer programming (2) field training on board survey vessels (a) offshore oceanographic observation on "Shoyo" (1,900 tons) (b) tide and tidal current observation on "Kaiyo" (310 tons)
- QUALIFICATION OF APPLICANT** (1) presently employed at a national hydrographic office or other related organization, and currently engaged in physical oceanographic surveys and research, such as offshore and coastal oceanographic observations, tide and tidal current observations, or oceanographic data processing, analysis and management (2) have basic qualifications or some experience in hydrography, oceanography, or a relevant discipline, and be preferably college graduates or the equivalent with some occupational experience in oceanographic survey and research (3) no more than 40 years of age
- TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Hydrographic Department, Maritime Safety Agency
- REMARKS** This course is conducted alternately with the group training course "Nautical Charting" every other year. This year, "Nautical Charting" will be conducted, while "Physical Oceanographic Survey" will be conducted in Japanese Fiscal Year 1996.

NAUTICAL CHARTING

Nov. 16, '95 - Mar. 22, '96, 8 participants

海図作製

J-95-00332

- PURPOSE** The purpose of the course is to provide participants with: (1) modern theory of nautical charting based on the format established by the International Hydrographic Organization (2) knowledge and technique in drawing thematic charts to be used for preservation of marine environment and utilization of the ocean. In addition, the participants will be trained to become familiar with computer mapping technology, because the information science is developing day by day and so are the needs for the computers.
- MAIN FEATURES OF CURRICULUM** The curriculum of the course comprises lectures and practices in classroom, field training using a ship, and observation and study tours. The following subjects will be covered in the course. (1) Lecture (a) nautical charting (b) geodesy (c) general aspect of navigation (d) introduction to computers (e) mapping CAD (2) Practice (a) nautical charting (b) mapping CAD (3) Field training (a) navigation (aboard survey vessel Shoyo 1,900 T/T) (b) investigation at port
- QUALIFICATION OF APPLICANT** (1) presently employed at the national hydrographic office or other organizations which are engaged in carrying out hydrographic survey for safe navigation of ships, nautical charting and oceanographic survey for utilization of the ocean (2) not more than 35 years of age (3) junior college/special school graduate or equivalent
- TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Hydrographic Department, Marine Safety Agency
- REMARKS** The course is conducted alternately with the group training course "Physical Oceanographic Survey" every other year. This year (Japanese Fiscal Year 1995), this course will be conducted.

RADIO FREQUENCY MONITORING II

Aug. 15, '95 - Sep. 30, '95, 10 participants

電波監理II

J-95-00180

- PURPOSE** The purpose of this training course is to: (1) provide a fundamental knowledge of radio frequency monitoring; (2) provide up-to-date knowledge and techniques for the use and maintenance of monitoring equipment which is already in practical use in Japan.
- MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on introduction of basic theory of radio monitoring and the system and techniques in Japan. The main themes of the course are; (1) management processes for better quality of radio monitoring (2) application of latest techniques
- QUALIFICATION OF APPLICANT** (1) person with practical experience in the field of radio regulatory administration (radio frequency monitoring, frequency management, etc.) (2) under 40 years of age (3) college graduate or equivalent
- TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) International Cooperation Division, Ministry of Posts and Telecommunications

POSTAL EXECUTIVES' SEMINAR II

Feb. 22, '96 - Mar. 10, '96, 12 participants

郵便幹部セミナーII

J-95-00098

- PURPOSE** The purpose of this seminar are to provide the participants with the knowledge of current situations of postal services in Japan, and with opportunities to examine and exchange views on the problems common among the participating countries through lectures, discussions and observations.
- MAIN FEATURES OF CURRICULUM** In this seminar, the emphasis is put on introduction of Japanese situations and exchange of views. The main themes are; (1) present situations and problems of views of postal services in participating countries (2) development and better utilization of postal infrastructures (3) improvement of quality of postal services in rapidly changing socio-economic conditions (4) measures to cope with evolving needs from customers
- QUALIFICATION OF APPLICANT** (1) director general or equivalent high-ranking official in charge of postal administration in governmental organizations
- TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Postal Bureau, Ministry of Posts and Telecommunications

EXECUTIVES' SEMINAR ON POSTAL BANKING SERVICES

Sep. 24, '95 - Oct. 8, '95, 8 participants

為替貯金国際幹部セミナー

J-95-00403

- PURPOSE** The purposes of the seminar are: (1) to seek solutions to common problems in the participating postal administrations or national savings organizations, after providing know-how on the Japanese postal banking services and Japanese financial environment through a series of lectures and technical visits. (2) to promote further mutual understanding and closer cooperation among all the participating countries and Japan in the field of postal banking services through discussions and presentations.
- MAIN FEATURES OF CURRICULUM** This seminar covers the following topics: (1) general introduction of Japanese postal banking (a) role, present conditions and issues facing of postal banking services (b) "outline of the postal banking services in Japan" (video show) (c) history, organization and personnel of postal banking service (2) management of Japanese postal banking (a) products (b) sales promotion activities (c) fund management (d) computerization (e) international business (remittance, foreign currency exchange and T/C) (3) introduction of Japanese financial system financial deregulation and fiscal investment and loan programme (4) discussion present status of and problem facing savings institutions of developing countries
- QUALIFICATION OF APPLICANT** (1) director or high-ranking official of savings organizations (Postal Savings Organization or National/Government Savings Bank) or Postal Money Order and Postal Giro Organization
- TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Ministry of Posts and Telecommunications

**INTERNATIONAL TELECOMMUNICATION SERVICES
(ADMINISTRATION AND MANAGEMENT) II**

May 9, '95 - July 14, '95, 11 participants

国際通信業務管理II

J-95-00024

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

**INTERNATIONAL TELEPHONE COMMUNICATION
ENGINEERING**

Jan. 9, '96 - Mar. 9, '96, 12 participants

国際電話通信技術

J-95-00212

- 1. PURPOSE** The purpose of the course is to introduce participants to the digital switching system technology in construction work; operation and maintenance, operation administration and drawing up specification which is necessary for the construction of International telephone switching network.
- 2. MAIN FEATURES OF CURRICULUM** The emphasis is placed on the planning aspects of international telephone network; namely planning of switching system, numbering plan, signalling system, network planning & management. Lectures on operation and maintenance of international telephone switching system are featured to broaden participants' perspective. Observation trips to relevant facilities are organized to augment the lectures.
- 3. QUALIFICATION OF APPLICANT** (1) university graduate in telecommunications and/or electrical engineering or equivalent (2) have basic knowledge of switching system technology, and currently engaged in or expected to be engaged in the field of establishment and maintenance of international telephone switching network (3) under 40 years of age.
- 4. TRAINING INSTITUTIONS** (1) Tokyo International Center (TIC), JICA (2) Kokusai Denshin Denwa Co., Ltd. (KDD) (3) KDD Engineering and Consulting Inc. (KEC)

**INTERNATIONAL DATA COMMUNICATION
ENGINEERING**

Sep. 5, '95 - Nov. 3, '95, 11 participants

国際データ通信技術

J-95-00267

- 1. PURPOSE** The purpose of this course is to introduce to participants the fundamental and up-to-date technology of international data communications such as data transmission, switching systems, communications protocols, terminal equipment, etc., through lectures as well as practice sessions at the Kokusai Denshin Denwa Co. Ltd. (KDD).
- 2. MAIN FEATURES OF CURRICULUM** Major portion of the curriculum is allocated for lectures upon (1) introduction to data communication, (2) various data communication technologies, (3) KDD services and d) new communication services. Field practice and observation trips to relevant facilities are organized to supplement the lectures. Participants are required to take exams at the beginning and the end of the course.
- 3. QUALIFICATION OF APPLICANT** (1) university graduate specializing in telecommunications and/or electrical engineering or equivalent (2) have basic knowledge of computer hardware, software and currently engaged in or expected to be engaged in the planning or the policy making of international data communications engineering (3) have experience of more than three years in the field of data communications (4) under 40 years of age
- 4. TRAINING INSTITUTIONS** (1) Tokyo International Center (TIC), JICA (2) Kokusai Denshin Denwa Co., Ltd. (KDD) (3) KDD engineering and Consulting Inc. (KEC)

**DATA COMMUNICATION PROCESSING
ENGINEERING**

Jan. 9, '96 - Feb. 22, '96, 10 participants

データ通信処理技術

J-95-00288

- 1. PURPOSE** The purpose of the course is to provide data communication engineers working for telecommunication administrations or public telecommunications operating agencies in developing countries with a fundamental and practical knowledge of data communications engineering. Participants will obtain a basic mastery of data communication systems, especially with regard to the construction, maintenance and operation of these systems.
- 2. MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on introduction of concepts and basic theories on the following subjects: (1) network architecture (2) data communication systems (a) information network (b) data transmission (c) transmission control procedures (3) transmission control systems (4) digital data exchange systems (a) switching process (b) hardware and software of DSI system (c) outline of digital data switching systems presently in use in the world
- 3. QUALIFICATION OF APPLICANT** (1) presently engaged in data communication services (2) university graduate or equivalent (3) under 40 years of age
- 4. TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Central Training Institute (CTI), Nippon Telegraph and Telephone Corporation (NTT)

SATELLITE COMMUNICATION ENGINEERING II

May 9, '95 - July 21, '95, 11 participants

衛星通信技術II

J-95-00099

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

DIGITAL TELECOMMUNICATION NETWORK PLANNING AND DESIGNING

Oct. 24, '95 - Dec. 21, '95, 18 participants

デジタル通信網計画設計

J-95-00508

- PURPOSE** The purpose of the course is to provide engineers in the field of telecommunications with practical knowledge and techniques on the outline of systems, fundamental network design, and network planning.
- MAIN FEATURES OF CURRICULUM** The curriculum comprises three major components; namely (1) fundamental telecommunication network design, (2) outline of various systems, and (3) telecommunication network planning. Case-study method is employed to obtain more concrete understanding of network planning. Observation trips to relevant factories and telecommunication facilities are planned to augment the training.
- QUALIFICATION OF APPLICANT** (1) university /college graduate in telecommunication or electrical engineering, or equivalent (2) working in telecommunication common carrier organizations with minimum experience of 5 years (3) currently involved in network planning or expected to be put in charge upon their return (4) between 30 and 50
- TRAINING INSTITUTIONS** (1) Tokyo International Center (TIC), JICA (2) Central Training Institute (CTI), Nippon Telegraph and Telephone Corporation (NTT)

TELECOMMUNICATION OUTSIDE PLANT ENGINEERING TECHNIQUE

Aug. 14, '95 - Dec. 14, '95, 10 participants

通信線路技術指導者育成

J-95-00404

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

SEMINAR ON TELECOMMUNICATION MANAGEMENT

Oct. 8, '95 - Oct. 29, '95, 10 participants

電気通信経営管理セミナー

J-95-00507

- PURPOSE** The purpose of this seminar is to provide the participants with the knowledge of telecommunications companies' methodology of administration, management and privatization of NTT to cope with problems in the field of management. Another purpose is to introduce participants the latest technology for the future planning of respective countries.
- MAIN FEATURES OF CURRICULUM** This seminar covers the following topics. (1) management (2) planning (3) fund raising (4) equipment and material supply (5) training (6) marketing (7) privatization (8) overseas engineering cooperation (9) research and development (10) TQC (Total Quality Control)
- QUALIFICATION OF APPLICANT** (1) manager or equivalent ranking staff belonging to telecommunications-conducting-body (organization)
- TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Nippon Telegraph and Telephone Corporation (NTT)

**TELECOMMUNICATION EXECUTIVES'
SEMINAR II**

May 30, '95 - June 16, '95, 11 participants

電気通信幹部セミナーII

J-95-00064

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

**TELECOMMUNICATIONS NETWORK
(SWITCHING ENGINEERING)**

June 6, '95 - Aug. 5, '95, 14 participants

通信網(交換技術)

J-95-00216

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

**DIGITAL TRANSMISSION SYSTEMS
ENGINEERING**

Sep. 11, '95 - Dec. 10, '95, 12 participants

デジタル伝送技術

J-95-00344

- 1. PURPOSE** The purpose of the course is to introduce the practical knowledge for the designing and administrative techniques on digital transmission system.
- 2. MAIN FEATURES OF CURRICULUM** This course will be conducted in the form of lectures, practical exercises, discussions and observation. The main themes are: (1) digital transmission technology (2) optical fiber transmission technology (3) optical fiber line technology (4) microwave communication system (5) administration techniques
- 3. QUALIFICATION OF APPLICANT** (1) university graduate or equivalent in telecommunication or electrical engineering (2) working for telecommunication administrations or common carrier organization for at least five years (3) have a knowledge of the basic concepts on the digital transmission engineering (4) under 40 years of age
- 4. TRAINING INSTITUTIONS** (1) Nagoya International Training Centre (NITC), JICA (2) Suzuka Training Institute, NTT
- 5. REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for two weeks (50 hours).

FIBER OPTIC OUTSIDE PLANT ENGINEERING

Jan. 9, '96 - Mar. 16, '96, 10 participants

光線路技術

J-95-00333

- 1. PURPOSE** The purpose of the course is to train participants to be able to operate and maintain the optical fiber transmission system which has been introduced or proposed in each country. The course outlines the basic theory of the optical fiber cable, optical devices, etc., and planning, designing and construction of the system. The training includes sufficient practical training at the transmission field.
- 2. MAIN FEATURES OF CURRICULUM** This course will be conducted in the form of lectures, practical exercises, discussions and observation trip. The main themes are: (1) optical fiber line technology (2) optical fiber transmission technology (3) digital transmission technology (4) outside plant technology (5) administration techniques
- 3. QUALIFICATION OF APPLICANT** (1) university graduate or equivalent in telecommunication or electrical engineering (2) working for telecommunication administrations or telecommunication common carrier organizations for at least 5 years (3) have a knowledge of the basic concepts on the digital transmission engineering (4) under 40 years of age
- 4. TRAINING INSTITUTIONS** (1) Nagoya International Training Centre (NITC), JICA (2) Suzuka Training Institute, NTT
- 5. REMARKS** A compulsory intensive Japanese language course will be conducted along with the technical training for 36 hours.

INTERNATIONAL INTEGRATED SERVICE DIGITAL NETWORK TELECOMMUNICATION ENGINEERING

Sep. 5, '95 - Oct. 27, '95, 12 participants

国際ISDN通信技術

J-95-00457

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

INTEGRATED SERVICES DIGITAL NETWORK COMMUNICATION BASIC ENGINEERING

Jan. 9, '96 - Feb. 22, '96, 12 participants

ISDN基礎通信技術

J-95-00500

- 1. PURPOSE** The purpose of the course is to provide engineers in the field of telecommunications with practical knowledge and techniques on the ISDN (Integrated Services Digital Network) basic technology, user-network interface, and peripheral technology necessary for introduction of ISDN services.
- 2. MAIN FEATURES OF CURRICULUM** This course is designed to get the participants understanding; (1) outline of ISDN, network configuration, ISDN numbering plan, etc. (2) layer 1, 2, 3, circuit switching, packet switching, etc. (3) ISDN terminal, standardization trend, B ISDN (ATM), etc. The major subjects are; (a) outline of ISDN (b) user-network interface (c) ISDN network (d) ISDN service (e) ISDN terminal equipment (f) ISDN implementation plan (g) practical study (UNI)
- 3. QUALIFICATION OF APPLICANT** (1) university graduate majored in telecommunication or electrical engineering, or equivalent (2) under 40 years of age (3) working in telecommunication administration or common carrier organizations with at least three years of practical experience on their own switching systems
- 4. TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Central Training Institute (CTI), Nippon Telegraph and Telephone Corporation (NTT)

RURAL TELECOMMUNICATION ENGINEERING

Feb. 6, '96 - Mar. 16, '96, 10 participants

ル-ール通信技術

J-95-00458

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

CBT COURSEWARE DEVELOPMENT TECHNOLOGY FOR TELECOMMUNICATION

Oct. 24, '95 - Dec. 3, '95, 8 participants

電気通信CAI(コンピュータ利用による)教材作成技術 J-95-00459

- 1. PURPOSE** The purpose of the course is to provide participants who are in charge of training at telecommunications training centers with a fundamental knowledge of CBT courses and the ability to develop CBT courseware. Through this course, participants will be able to learn the basic concepts of learning theory and practice of course analysis, design, development and implementation/evaluation methods.
- 2. MAIN FEATURES OF CURRICULUM** The major subjects in this course are; (1) basic concepts of CBT theory (2) CBT project management (3) CBT storyboarding (4) CBT courseware production (5) latest information about CBT course development
- 3. QUALIFICATION OF APPLICANT** (1) university graduate or equivalent (2) person with sufficient practical experience at their own telecommunications training center, and preferably familiar with personal computers (3) under 40 years of age
- 4. TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Japan Telecommunications Engineering and Consulting Service (JTEC)

**TELEVISION PROGRAMME PRODUCTION
ENGINEERING II**

Jan. 16, '96 - Mar. 10, '96, 10 participants

テレビジョン番組制作技術II

J-95-00495

- 1. PURPOSE** This course mainly covers programme production engineering, such as production in studio, outdoor and post production, etc. Participants can expect not only to get the latest information on TV engineering but also to improve their skills in programme production.
- 2. MAIN FEATURES OF CURRICULUM** The curriculum is mainly dedicated to advance participants' theoretical knowledge of TV facilities through lectures and practice on (1) video equipment, (2) TV cameras and solid-state image devices, (3) application of digital technique, (4) VTR and VTR editing, (5) special video effects and computer graphics, (6) latest broadcast technique, (7) direct satellite broadcasting. Several observation trips are organized to augment the lectures.
- 3. QUALIFICATION OF APPLICANT** (1) engineer serving in a broadcasting organization with at least five years of practical experience in TV engineering, or those who have knowledge of TV engineering enough to undergo this training course. It should be noted that this group training course is targeted for engineers. Programme directors are not appropriate to participate in this course. (2) university/college graduate or equivalent in electronic engineering
- 4. TRAINING INSTITUTIONS** (1) Tokyo International Center (TIC), JICA (2) NHK Communications Training Institute

TELEVISION PROGRAMME PRODUCTION

Sep. 19, '95 - Dec. 2, '95, 10 participants

テレビジョン番組制作

J-95-00496

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

TELEVISION ENGINEERING

July 11, '95 - Sep. 23, '95, 10 participants

テレビジョン放送技術

J-95-00497

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

**TELEVISION SOCIAL EDUCATION
PROGRAMME II**

Jan. 16, '96 - Mar. 10, '96, 10 participants

テレビジョン社会教育番組II

J-95-00498

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

BROADCASTING EXECUTIVE'S SEMINAR II

Nov. 7, '95 - Nov. 24, '95, 9 participants

放送幹部セミナーII

J-95-00139

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

AUDIO BROADCASTING ENGINEERING

July 11, '95 - Sep. 10, '95, 10 participants

音声放送技術

J-95-00405

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

AGRICULTURAL CO-OPERATIVES II

May 8, '95 - July 9, '95, 17 participants

農業協同組合II

J-95-00007

- 1. PURPOSE** The purpose of this course is to provide the participants engaged in the agricultural cooperative services with the necessary information on methods and techniques for promoting agricultural cooperative movement, by introducing the Japanese experience in this field, so that they would be able to contribute to the further development of agricultural cooperative movement in their respective countries.
- 2. MAIN FEATURES OF CURRICULUM** This course consists of lecture/discussion mainly, and more than 30% of the program is allocated to field trip. Main topics are (1) agricultural production method through farm management group, (2) cooperative activities for improvement of home life of member farm households, and (3) measures for democratic operation/administration of agricultural cooperatives, and (4) measure for formulating longterm plan for agricultural development by agricultural cooperative and as exercises.
- 3. QUALIFICATION OF APPLICANT** (1) university or professional school graduates who are now engaged in the offices of cooperative service (2) expected to work in the co-operative movement at least for more than five (5) years after participation in the course (3) under forty five (45) years of age
- 4. TRAINING INSTITUTIONS** (1) Hachioji International Training Centre (HITC), JICA (2) Institute for Development of Agricultural Cooperation in Asia (IDACA)

AGRICULTURAL EXTENSION SERVICES FOR LEADER II

May 9, '95 - July 28, '95, 15 participants

農業普及指導者II

J-95-00008

- 1. PURPOSE** The purpose of the course is to provide participants with opportunities to understand agricultural extension services in Japan through lectures, practice, and observation tours. The course is also designed to give the participants practical suggestions on the application of agricultural guidance and to impart them with competence for leadership in agricultural guidance, through explanations of background, history, theory and practical methods of extension work.
- 2. MAIN FEATURES OF CURRICULUM** The following major subjects will be covered in the course: (1) background of extension service (2) outline of extension service (3) practice of extension activities (4) cultivation and training of extension workers (5) agribusiness (6) Country Report
- 3. QUALIFICATION OF APPLICANT** (1) administrator for agricultural extension service or subject-matter specialist (S.M.S.), engaged in training of extension workers, and have more than five years of occupational experience in this field (2) under 50 years of age (3) university graduate or equivalent
- 4. TRAINING INSTITUTIONS** (1) Tsukuba International Agricultural Centre (TIATC), JICA (2) Japan Agricultural Development and Extension Association (3) Extension and Education Division, Agricultural Production Bureau, Ministry of Agriculture, Forestry and Fisheries

WOMEN LEADERS OF FARM HOUSEHOLD DEVELOPMENT

Aug. 15, '95 - Oct. 28, '95, 12 participants

農家生活水準向上女性指導者

J-95-00406

- PURPOSE** The purpose of the course is to provide knowledge and technology related to the improvement of farm household lifestyles, and also to teach knowledge and technology necessary for rural women to develop their ability to utilize regional resources, such as agricultural products, etc.
- MAIN FEATURES OF CURRICULUM** This course includes a homestay program at Japanese families in addition to common forms of training such as lectures and practices. The course mainly covers the following themes. (1) utilization of existing agricultural products and resources in the region (2) human resources development (training and guidance) for rural women (3) improvement of living standard of farm households
- QUALIFICATION OF APPLICANT** (1) engaged in the improvement of rural living standards by developing women's abilities through planning and execution of instruction and training for persons such as rural women, agricultural extension officials and/or home living improvement extension officials in agricultural departments (2) female under 45 years of age and have experience of more than five years in this field
- TRAINING INSTITUTIONS** (1) Tsukuba International Agricultural Centre (TIATC), JICA (2) Rural Home and Family Living Improvement Study Association (3) Agricultural Production Bureau, Ministry of Agriculture, Forestry and Fisheries
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for two weeks (50 hours).

RICE PRODUCTION

Feb. 26, '96 - Oct. 25, '96, 7 participants

米生産

J-95-00010

- PURPOSE** The purpose of the course is to introduce practical knowledge and techniques of rice production to the participants who are engaged in agricultural extension or training of farmers.
- MAIN FEATURES OF CURRICULUM** This course consists of lectures, practices, experiments and study tours. It mainly covers: (1) lecture (a) rice agronomy (b) rice physiology (c) plant protection (d) soil and fertilizer (e) breeding (f) agricultural extension (g) farm economy (h) agricultural machinery (i) land improvement (2) practice and experiment (a) field experiment on specific subjects (b) laboratory experiments (c) field practices (3) study tour (a) farm household survey (b) agricultural research stations (c) agricultural cooperatives (d) extension offices (e) industries related to agriculture
- QUALIFICATION OF APPLICANT** Applicants should be: (1) technical official presently in charge of extension service of rice or training on rice (2) university graduate or equivalent (3) over 26 and under 35 years of age
- TRAINING INSTITUTIONS** Tsukuba International Agricultural Training Centre (TIATC), JICA
- REMARKS** A compulsory intensive Japanese language course will be conducted along with the technical training for three weeks (50 hours).

PRODUCTION DU RIZ

Feb. 26, '96 - Oct. 25, '96, 5 participants

米生産 (仏語)

J-95-00350

- BUT DE STAGE** Le stage a pour but, le transfert de connaissances de la riziculture pratiquée au Japon, aux stagiaires, et l'amélioration de leur niveau technique par le biais d'expérimentations pratiques. Ainsi ils pourront contribuer à l'amélioration de la production du riz dans leur pays, par la diffusion des connaissances techniques acquises au Japon.
- DUREE** de Février 28, 1994 à Octobre 21, 1994
- NOMBRE DE PARTICIPANTS QUI SONT ACCEPTEE** Cinq (5) (Un participant d'un pays en principe)
- PROGRAMME DE FORMATION** Les cours seront dispensés sous forme de conférence (25%), d'empirience, des travaux pratiques (50%), des observations (20%) et de présentation de rapport d'expérimentation.
- QUALIFICATION DES CANDIDATS** Les candidats doivent être: (1) chargés des services de formation agricole ou de mise en valeur dans le domaine rizicole, (2) titulaire d'un diplôme universitaire ou équivalent (3) capables de parler et comprendre parfaitement le français (4) âgés de moins de 35 ans (5) acquis de l'expérience de riziculture plus de 3 ans
- ORGANISME RESPONSABLE DU STAGE** Centre Internationale de Formation Agricole de Tsukuba (TIATC), JICA
- AUTRE** En règle générale, la langue française sera utilisée au cours du stage, lorsque le cours sera donné en japonais, l'interprète francophone se présentera. Le cours intensif de langue japonaise est organisé avant le stage de formation, pour trois semaines (50 heures).

RICE CULTIVATION TECHNOLOGY

Feb. 12, '96 - Nov. 18, '96, 8 participants

稲作技術

J-95-00291

- PURPOSE** The course is designed to introduce useful knowledge and new techniques in the field of rice to the participants who are engaged in research or education and to enable them master research methods.
- MAIN FEATURES OF CURRICULUM** This course consists of three major categories - lecture, experiment and field practice, and study tour. Knowledge and techniques of rice cultivation and method of research work are obtained. Above all, individual experiments are regarded as the utmost importance.
- QUALIFICATION OF APPLICANT** (1) presently engaged in the research work or education in the field of rice (2) university graduate or equivalent with occupational experience of more than five years in their specialities (3) between 27 and 40 years of age
- TRAINING INSTITUTIONS** Tsukuba International Agricultural Training Centre (TIATC), JICA
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for three weeks (50 hours).

VEGETABLE CROPS PRODUCTION II

Feb. 26, '96 - Sep. 20, '96, 9 participants

野菜生産II

J-95-00120

- 1. PURPOSE** The purpose of this course is to introduce participants to the scientific knowledge and technology of vegetable crops cultivation through their own observation of crops so that they can modify the technology they have acquired and apply it to the respective condition.
- 2. MAIN FEATURES OF CURRICULUM** This course consists of lectures, experiments, practices and observations in study tours, on major vegetable crops in Japan. The emphasis is put on experiments and practices in the field and laboratory in this course. In addition, individual experiments will be conducted by participants. The main themes are: (1) applicable method of intensive growing of major vegetable crops (2) fundamental knowledge on plant physiology, plant protection and soil in relation to high yielding in vegetable crops (3) principal matters pertaining to rationalization of vegetable marketing and circulation.
- 3. QUALIFICATION OF APPLICANT** (1) presently engaged in vegetable crops production, in the field of research, extension, education or administration (2) university graduate with the occupational experience of more than three years in their specialities (3) over 27 and under 37 years of age
- 4. TRAINING INSTITUTIONS** Tsukuba International Agricultural Training Centre (TIATC), JICA
- 5. REMARKS** An intensive Japanese language course will be conducted prior to the technical training for ten days (50 hours).

VEGETABLE SEED PRODUCTION

Feb. 5, '96 - Nov. 22, '96, 9 participants

野菜採種

J-95-00292

- 1. PURPOSE** The purpose of this course is to bring up agricultural engineers on vegetable seed production having a broad viewpoint and scientific knowledge both in theory and technology, through lectures on specialized subjects, experiments and practices on major vegetables and various study tours.
- 2. MAIN FEATURES OF CURRICULUM** This course consists of lectures, experiments, practices and observations in study tours, on major vegetable crops in Japan. The emphasis is put on experiments and practices in the field and laboratory. In addition, individual experiments will be conducted by the participants. The main themes are: (1) seed production method of major vegetable crops (2) seed technology on sorting, drying, storage and germinating of vegetable seeds (3) applicable method of varietal improvement of major vegetable crops
- 3. QUALIFICATION OF APPLICANT** (1) presently engaged in vegetable seed growing, seed technology or varietal improvement (2) university graduate with occupational experience of more than three years in their field of speciality (3) over 27 and under 37 years of age
- 4. TRAINING INSTITUTIONS** Tsukuba International Agricultural Training Centre (TIATC), JICA
- 5. REMARKS** An intensive Japanese language course will be conducted prior to the technical training for fifteen days (50 hours).

SUGAR CANE CULTIVATION

June 22, '95 - Feb. 25, '96, 5 participants

サトウキビ栽培

J-95-00322

- 1. PURPOSE** The purpose of this course is to introduce the participants to extensive knowledge and technology necessary for improving the productivity of sugar cane through lectures, experiments, practices and observation tours.
- 2. MAIN FEATURES OF CURRICULUM** This course consists of common subjects for all participants and individual work in the laboratory and field. Each participant is to take one of the following subjects for their individual work: (1) sugarcane agronomy (2) soil and fertilizer (3) sugarcane cultivation and mechanization
- 3. QUALIFICATION OF APPLICANT** (1) presently engaged in research work or extension service in the field of sugar cane cultivation (2) university graduate or equivalent (3) under 35 years of age
- 4. TRAINING INSTITUTIONS** (1) Okinawa International Centre (OIC), JICA (2) Okinawa Prefectural Agricultural Experiment Station
- 5. REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for eight weeks (225 hours).

PESTICIDE UTILIZATION AND SAFETY

Mar. 25, '96 - Aug. 30, '96, 7 participants

農薬の利用と安全性

J-95-00237

- 1. PURPOSE** The purpose of the course is to provide graduates who majored in plant protection (agricultural chemistry, plant pathology, entomology, weed science or environmental science and toxicology) in a university or the equivalents with fundamental and practical knowledge required for the safe use of pesticides for crops and environment protection. The course aims at upgrading their capability of selecting the most effective pesticide for a given pest, applying it at the most appropriate time and employing the most adequate application method. It also aims at assaying the pesticide residues in agricultural products and in the environment in order to evaluate the safety of pesticides.
- 2. MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on introduction of comprehensive knowledge on the following subjects through lecture, practice and field trip. (1) administration and laws pertaining to the use of pesticides (2) bioassay of pesticides (3) exposition of pesticides (4) pesticides in crops, foods and environment (5) application and application equipments (6) new technology
- 3. QUALIFICATION OF APPLICANT** (1) university graduate or equivalent (2) qualified in their respective fields (3) occupational experience of more than three years (4) between 26 and 40 years of age
- 4. TRAINING INSTITUTIONS** (1) Hyogo International Centre (HIC), JICA (2) Department of Plant Protection, Faculty of Agriculture, Kobe University (3) Hyogo Prefectural Agricultural Institute (4) Kobe Quarantine Station
- 5. REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for two weeks (50 hours).

**INTEGRATED PEST MANAGEMENT
FOR PLANT PROTECTION**

June 5, '95 - Sep. 22, '95, 7 participants

植物保護のための総合防除

J-95-00503

- PURPOSE** The course is designed to upgrade knowledge and skill of the participants in the field of plant protection, so as to train technical officials capable of playing practical roles in this field.
- MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on introduction of comprehensive knowledge on the following subjects through lecture, practice and field trip. (1) characteristics of host plants, pest and pathogen, environmental factors and the mutual relationships between the three (2) integrated pest management (3) individual studies: laboratory of plant pathology, entomology, genetics, agrochemical science (4) group studies: transplanting
- QUALIFICATION OF APPLICANT** (1) technical official presently in charge of plant protection in government, local bodies or collage staffs with three years or more experience in this field, (2) university graduate (3) above 25 and under 35 years of age
- TRAINING INSTITUTIONS** (1) Hyogo International Centre (HIC), JICA (2) Department of Plant Protection, Faculty of Agriculture, Kobe University
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for about several days.

PLANT GENETIC RESOURCES

May 8, '95 - Nov. 3, '95, 6 participants

植物遺伝資源

J-95-00275

- PURPOSE** This course is designed to contribute to upgrading knowledge and skill of the junior researchers in the field of plant genetic resources, so as to train participants to be capable of playing important roles in collection and preservation of plant genetic resources in their own countries.
- MAIN FEATURES OF CURRICULUM** This course consists of common subjects for all participants and individual training (5 months) in the laboratory. Each participant is to take one of the following subjects for their individual research: (1) utilization of tissue culture technique in wheat breeding (2) DNA diversity in oryza species (3) DNA tagging of some genes in rice (4) preservation of fruit tree pollen (5) seedbank management (6) seed pathology (7) identification, and characterization of microorganisms associated with PGR (8) cryopreservation of cultured cells, meristems, recalcitrant seeds and pollen (9) genetic studies on hybrid rice breeding (10) evaluation of chilling tolerance/cold hardiness and study on the mechanism of varietal differences.
- QUALIFICATION OF APPLICANT** (1) university graduate or equivalent (2) presently engaged in research work in the field of plant genetic resources with more than three years' experience (3) over 25 and under 35 years of age
- TRAINING INSTITUTIONS** (1) Tsukuba International Agricultural Training Centre (TBIC), JICA (2) National Institute of Agrobiological Resources (NIAR)
- REMARKS** (1) A compulsory intensive Japanese language course will be conducted prior to the technical training for two weeks (50 hours).

**PLANT QUARANTINE
(DISINFESTATION OF FRUIT FLIES)**

May 18, '95 - Oct. 17, '95, 5 participants

植物検疫(ミバエ類殺虫技術)

J-95-00407

- PURPOSE** The course is designed to introduce the advanced technique required for disinfestation of fruit flies to the participants who are engaged in plant quarantine. It is also hoped that this course will ultimately contribute to the promotion of fruit and vegetable exports. The method of fruit fly eradication and the applicability of the method in each country will be also introduced and examined in the course.
- MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on lectures, workshop practice and field trips. The main themes are: (1) plant quarantine in Japan (2) morphology and taxonomy of fruit flies (3) physiology and ecology of fruit flies (4) artificial rearing of fruit flies (5) disinfestation method of fruit flies (outline) (6) disinfestation test by vapor heat treatment and cold treatment (7) injury test of fruit fly by vapor heat treatment and cold treatment (8) eradication of fruit flies
- QUALIFICATION OF APPLICANT** (1) university graduate or equivalent (2) having experience in plant quarantine works and having sufficient knowledge about pests such as fruit flies (3) being presently engaged in the disinfestation programme of fruit flies or will be engaged in it as a technical expert (4) being not exceeding 40 years of age
- TRAINING INSTITUTIONS** (1) Okinawa International Centre (OIC), JICA (2) Naha Plant Protection Station, Ministry of Agriculture, forestry and Fisheries (3) Fruit-fly Eradication Project Office, Okinawa Prefectural Government
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for six weeks (150 hours).

SOIL ANALYSIS AND IMPROVEMENT

May 25, '95 - Aug. 11, '95, 8 participants

土壌分析改良

J-95-00408

- PURPOSE** The course is designed for specialists and technicians of soil analysis to be leaders in their fields by providing basic and practical knowledge about the technique essential to strengthening soil analysis and soil-improvement technique for maintaining higher agricultural food production, and to contribute to international relationship and the promotion of science.
- MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on introduction of Japanese experience and basic theories of soil analysis and improvement including laboratory experiments by participants: (1) general methods of soil analysis and improvement (2) advanced technique of soil analysis: using optical instruments (3) methods of soil improvement based on organic and inorganic fertilizers (4) systems of soil improvement using computers
- QUALIFICATION OF APPLICANT** (1) presently engaged in soil analysis or have experience in soil improvement (soil analysis includes fertilizer, water quality or plant nutrition) (2) neither expert nor beginner in the field of soil analysis, and have at least two-years experience in this field (3) over 25 and under 45 years of age
- TRAINING INSTITUTIONS** (1) Hokkaido Branch Office, JICA (2) Obihiro River Sewerage Treatment Plant (The City of Obihiro supports and assists the course throughout the duration along with the Obihiro University of Agriculture and Veterinary Medicine and other institutions.)

**EFFECTIVE UTILIZATION OF TROPICAL
AGRICULTURE AND FORESTRY RESOURCES**

July 13, '95 - Mar. 18, '96, 5 participants

熱帯農林資源の有効活用

J-95-00326

- 1. PURPOSE** The purpose of the course is to introduce participants to the concept, research and technique of the cultivation system of tropical agricultural production and the effective utilization of biological resources in the tropics, through lectures, experiments, practices and observation tours.
- 2. MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on lectures, discussions, indoor experiment, practices, field practices and observation tours. The main themes are: (1) technical application to the study of agricultural livestock production and marketing (a) photosynthesis and biotechnology (b) green-house techniques and hydroponics culture (c) nature farming (2) fundamental techniques for forest management and forest engineering (a) stand structure and mensuration (b) silvicultural operation system (c) forest policy and economy (d) physical properties of wood (e) chemical properties of wood
- 3. QUALIFICATION OF APPLICANT** (1) have experience of more than three years' laboratory research (2) have been engaged in research works (3) university graduate or equivalent (4) under 41 years of age
- 4. TRAINING INSTITUTIONS** (1) Okinawa International Centre (OIC), JICA (2) College of Agriculture, University of the Ryukyus
- 5. REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for five weeks (130 hours).

**AGRICULTURAL AND RURAL DEVELOPMENT
WITH ENVIRONMENTAL CONSERVATION**

Sep. 19, '95 - Dec. 9, '95, 21 participants

農業・農村開発環境保全

J-95-00474

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

**DISTRIBUTION OF FRESH FRUITS
AND VEGETABLES**

Sep. 4, '95 - Nov. 22, '95, 7 participants

青果物流通

J-95-00484

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

IRRIGATION AND DRAINAGE II

Feb. 12, '96 - Nov. 22, '96, 11 participants

灌漑排水II

J-95-00093

- 1. PURPOSE** The purpose of this course is to introduce systematically to civil engineers who are engaged in land improvement works, scientific knowledge and technology of small scale irrigation and drainage schemes.
- 2. MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on practices. The main practices are: (1) soil mechanics (2) hydraulics (3) concrete (4) irrigation water requirement (5) survey
- 3. QUALIFICATION OF APPLICANT** (1) presently engaged in practical works in irrigation and drainage (2) university graduate or equivalent with occupational experience of more than five years in their field (3) between 25 and 35 years of age
- 4. TRAINING INSTITUTIONS** Tsukuba International Agricultural Training Centre (TIATC), JICA
- 5. REMARKS** An intensive Japanese language course will be conducted prior to the technical training for three weeks (50 hours).

AGRICULTURAL LAND AND WATER RESOURCES DEVELOPMENT II

May 30, '95 - July 23, '95, 16 participants

農地水資源開発II

J-95-00159

- PURPOSE** The purposes of this course are to provide senior engineers in the field of agricultural land and water resources development with opportunities to learn about advanced agricultural land and water resources development technology in Japan and to increase their capability to make plans for agricultural and rural development projects (including planning, designing, and execution).
- MAIN FEATURES OF CURRICULUM** This course covers the following themes. (1) concept and ideas of agricultural land and water resources development (2) engineering aspects of agricultural land and water resources development (3) agricultural and rural development projects (a) method of planning and implementation (b) design criteria and standard for irrigation and drainage facilities (4) current situation and prospect of agricultural land and water resources development in the world (5) utilization of computer technology for agricultural land and water resources development
- QUALIFICATION OF APPLICANT** (1) presently engaged either in the task of agricultural land and water resources development or irrigation and drainage and have more than ten years of occupational experience in this field (2) under 50 years of age (3) university graduate or equivalent
- TRAINING INSTITUTIONS** (1) Tsukuba International Agricultural Training Centre (TIATC), JICA (2) Japanese Institute of Irrigation and Drainage (3) Agricultural Structure Improvement Bureau, Ministry of Agriculture, Forestry and Fisheries
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for two weeks (50 hours).

IRRIGATION WATER MANAGEMENT

May 8, '95 - Nov. 2, '95, 9 participants

水管理

J-95-00348

- PURPOSE** The purpose of this course is to introduce systematically to the civil engineers who are engaged in water management, scientific knowledge and technology of water management with gate operation, design of water management facilities for rice cultivation mainly.
- MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on practice. The main practice are; (1) hydraulic model simulation in open canal by using computer (2) design of irrigation facilities
- QUALIFICATION OF APPLICANT** (1) presently engaged in practical work in water management (2) university graduate or equivalent with occupational experience of more than five years in their field (3) between 25 and 35 years of age.
- TRAINING INSTITUTIONS** Tsukuba International Agricultural Training Centre (TIATC), JICA
- REMARKS** An intensive Japanese language course will be conducted prior to the technical training for two weeks (25 hours).

WATER RESOURCES DEVELOPMENT AND ITS USE IN ARID AREAS

Aug. 7, '95 - Nov. 20, '95, 9 participants

乾燥地水資源の開発と利用

J-95-00409

- PURPOSE** The purpose of the course is to enable the participants who are in charge of water resources development in arid and semi-arid areas to acquire the basic knowledge and technique for the development of water resources and effective use of water in the field of agriculture, thereby contributing to the solution of the problems which arise from the shortage of water and hence food in those areas.
- MAIN FEATURES OF CURRICULUM** In this course the emphasis is put on report presentation, lectures which introduce Japanese experience of agricultural practice and water resources use at arid or sandy area, and discussion by participants. It mainly covers: (1) national environment of arid areas (2) run-off analysis (3) river and groundwater engineering (4) facilities of water storage and water supply (5) agriculture practice of arid areas (6) irrigation, drainage and water quality (7) water management (8) water resources planning
- QUALIFICATION OF APPLICANT** (1) presently engaged in either research or educational activity and have more than two years of occupational experience in this field (2) university graduate or equivalent (3) not more than 40 years of age
- TRAINING INSTITUTIONS** (1) Chugoku Branch Office, JICA (2) Tottori University
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for two weeks (50 hours)

FARM MECHANIZATION II

Feb. 26, '96 - Nov. 15, '96, 10 participants

農業機械化II

J-95-00050

- PURPOSE** The purpose of the course is to systematically introduce the scientific knowledge and technology on farm mechanization such as effective selection, introduction and utilization of farm machinery, and systematic mechanized farming in the extension field.
- MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on the field and laboratory experiments on farm mechanization for paddy cultivation and for upland crop cultivation. It mainly covers: (1) field performance tests of farm machinery and analysis of the result before its introduction to their countries (2) mechanization planning and its evaluation process, and applicable knowledge concerned with farm mechanization system (3) accurate and safety utilization method of measuring instruments and tools (4) experiment method such as field performance test of farm machinery under the existing conditions at the necessary level (5) technical know-how on trouble shooting and minor repair of farm use engine (6) safety operation and maintenance technique of farm machinery (7) study on micro-computer for experiments and farm mechanization system analysis
- QUALIFICATION OF APPLICANT** (1) university graduate or equivalent (2) agricultural engineer and/or agronomist having more than three years experience on farm mechanization (3) between 25 and 42 years of age
- TRAINING INSTITUTIONS** Tsukuba International Agricultural Training Centre (TIATC), JICA
- REMARKS** (1) A compulsory intensive Japanese language will be conducted prior to the technical training for two weeks (50 hours). (2) During training period the participants are to join the annual meeting of Japanese Society of Agricultural Machinery.

FARM MACHINERY DESIGN

Feb. 12, '96 - Oct. 11, '96, 10 participants

農業機械設計

J-95-00276

- 1. PURPOSE** The purpose of the course is to introduce scientific knowledge and technology on designing, trial making and performance testing of farm machinery, mainly for crop production, which is adoptable to the participants' country conditions.
- 2. MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on the actual designing and trial making of farm machinery and performance testing of trial-made machinery. The main themes are: (1) mechanism and performance of farm machinery and farm energy such as windmill and solar-dryer (2) designing methodology, trial-making process and testing methodology of trial-made farm machinery (3) accurate and safety utilization method of measuring instruments, tools and applicable utilization of micro-computer (4) analyzing and processing methodology of metallic and other materials concerned of manufacturing farm machinery (5) report making and presentation for symposium (6) study tour to university, research institutes and farm machinery manufacturing companies
- 3. QUALIFICATION OF APPLICANT** (1) university graduate from faculty of agricultural engineering or mechanical engineering (2) design engineer or research engineer with experience of more than three years in the design, research or development of farm machinery (3) between 27 and 42 years of age
- 4. TRAINING INSTITUTIONS** Tsukuba International Agricultural Training Centre (TIATC), JICA.
- 5. REMARKS** (1) A compulsory intensive Japanese language will be conducted prior to and along with the technical training for two weeks (50 hours). (2) during the training period the participants are join and to present the report at the annual meeting of Japanese Society of Agricultural Machinery.

FARM MACHINERY TESTING

Mar. 4, '96 - June 29, '96, 10 participants

農業機械評価試験

J-95-00446

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

AGRICULTURAL MACHINERY MANAGEMENT

May 8, '95 - Nov. 16, '95, 10 participants

農業機械管理

J-95-00433

- 1. PURPOSE** This course is designed for leading agricultural engineers in the field of agricultural machinery management, as an opportunity to acquire the following knowledge and skills: (1) better understanding of agricultural machinery performance (2) Selection of agricultural machinery appropriate to the operation area, soil quality and variety of crops (3) improvement of managerial ability, i. e. cost analysis, etc. (4) practical knowledge on agricultural machinery maintenance and repair (5) ability to instruct others in workshop management (Notice: the agricultural machinery in this course is especially for rice cultivation.)
- 2. MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on the workshop practice and lectures at agricultural machinery companies. The main themes are: (1) principal agricultural machinery (a) fundamentals of mechanical engineering (b) principles and structure of agricultural components (c) disassembling, reassembling and maintenance (d) field operation (2) agricultural machinery management (a) farm mechanization planning, machine selection, cost analysis, mechanized farming system, working management, etc.
- 3. QUALIFICATION OF APPLICANT** (1) leading agricultural engineer with at least three years experience in the field of agricultural machinery management and/or instruction in their respective organizations (2) over 30 and under 45 years of age (3) university graduate or equivalent
- 4. TRAINING INSTITUTIONS** (1) Osaka International Centre (OSIC), JICA (2) Kyoto University (3) some Japanese agricultural machinery companies
- 5. REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for one week.

POST-HARVEST RICE PROCESSING

Sep. 19, '95 - Dec. 10, '95, 10 participants

米の収穫後処理技術

J-95-00514

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

POULTRY PRODUCTION AND BREEDING TECHNOLOGY

Aug. 21, '95 - Dec. 22, '95, 9 participants

鶏育種・生産技術

J-95-00061

- 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.
- MAIN FEATURES OF CURRICULUM** In this Course, participants are expected to be able to acquire knowledge and technique in the following items: (1) feeding and management (2) breeding (3) other peripheral techniques of production and breeding
- QUALIFICATION OF APPLICANT** (1) presently in charge of poultry raising activities, with more than two years' experience in this field (2) university graduate or equivalent with occupational experience (3) over 26 and under 40 years of age
- TRAINING INSTITUTIONS** (1) Tohoku Branch, JICA (2) National Livestock Breeding Centre, Ministry of Agriculture, Forestry and Fisheries

BREEDING AND ARTIFICIAL INSEMINATION IN CATTLE

May 22, '95 - Sep. 9, '95, 8 participants

牛育種・人口授精

J-95-00494

- 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.
- 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) general aspects of livestock industries (2) cattle breeding (3) artificial insemination (4) extension of artificial insemination (5) deep frozen semen (6) reproductive disorder (7) cattle management
- QUALIFICATION OF APPLICANT** (1) university graduate or equivalent with practical experiences (2) presently engaged in livestock administration, holding veterinary licenses of artificial inseminator's licenses; (3) under 40 years of age (4) will be engaged in systematic development and promotion after absorbed from this training.
- TRAINING INSTITUTIONS** (1) Tohoku Branch, JICA (2) National Livestock Breeding Center, Ministry of Agriculture, Forestry and Fisheries

EMBRYO TRANSFER FOR CATTLE

Aug. 14, '95 - Dec. 1, '95, 6 participants

受精卵移植技術

J-95-00317

- PURPOSE** The purpose of the course is to provide the latest ET (embryotransfer) 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.
- 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) general aspects of livestock industry (2) cattle breeding and reproduction (3) feeding management for cattle (4) artificial insemination (5) embryo transfer
- QUALIFICATION OF APPLICANT** (1) *hold veterinarian's license, or artificial inseminator's license, and have sufficient experience and knowledge about artificial insemination technique (2) university graduate or equivalent (3) staff member of institute or university that participates in the improvement of animal reproduction (4) over 25 and under 40 years of age, in principle *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.
- TRAINING INSTITUTIONS** (1) Tohoku Branch, JICA (2) National Livestock Breeding Center, Ministry of Agriculture, Forestry and Fisheries
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for 3 weeks.

TWINNING AND INVITRO FERTILIZATION TECHNOLOGY FOR CATTLE

Jan. 8, '96 - Apr. 12, '96, 6 participants

双子生産・体外受精技術

J-95-00444

- PURPOSE** The purpose of the course is to provide the latest technique of twinning and IVF (for cattle) in Japan to technical specialists in animal reproduction from countries that need such technology and to contribute to the progress of livestock industries. The participants are expected to apply and improve upon the technique introduced in this course so as to adapt it to the situation in their respective countries.
- 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) general aspects of livestock industry in Japan (2) embryo transfer (ET) (3) twinning (4) in vitro fertilization
- QUALIFICATION OF APPLICANT** (1) *hold veterinarian's license, or artificial inseminator's license, and have sufficient experience and knowledge in the field of animal reproduction (2) university graduate or equivalent *Twinning and IVF techniques are based on ET techniques. In this course, a non-surgical method is applied for practice drills in recovery and transplantation of embryo. This method requires proficiency in artificial insemination (AI) by the Rect-vaginal method. Therefore, applicants must have enough knowledge of, and have at least three years' practical experience in AI.
- TRAINING INSTITUTIONS** (1) Tohoku Branch, JICA (2) National Livestock Breeding Center, Ministry of Agriculture, Forestry and Fisheries

DAIRY FARMING AND RELATED INDUSTRIES

Aug. 24, '95 - Nov. 15, '95, 7 participants

酪農養育・検査技術

J-95-00334

- 1. 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.
- 2. 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 milk, 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
- 3. 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
- 4. TRAINING INSTITUTIONS** (1) Hokkaido Branch Office, JICA (2) Obihiro University of Agriculture and Veterinary Medicine

FOREST SOILS

Aug. 3, '95 - Dec. 3, '95, 6 participants

森林土壌

J-95-00335

- 1. 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.
- 2. 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
- 3. QUALIFICATION OF APPLICANT** (1) university graduate (2) having more than five years of experience in the field of forest soil research (3) presently serving at forestry research organizations or universities (4) under 40 years of age
- 4. TRAINING INSTITUTIONS** (1) Okinawa International Centre (OIC), JICA (2) Japan Forest Technical Association (3) College of Agriculture, University of the Ryukyus
- 5. REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for two weeks (50 hours).

FOREST MANAGEMENT AND PLANNING

Aug. 14, '95 - Nov. 12, '95, 15 participants

森林管理計画

J-95-00445

- 1. PURPOSE** The purpose of this course is to provide participants with an opportunity of; (1) studying the technology, knowledge on the various land survey which form the basis of the Japanese system of forest management and planning (2) practicing forest management planning so that they may contribute to the conservation and development of forest resources in their home countries.
- 2. MAIN FEATURES OF CURRICULUM** This course is designed to balance lecture and practice, and the main themes are: (1) forest management in Japan (2) methods of forest management planning (3) rural development and forest policy (4) final forum
- 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, Forestry Agency
- 5. REMARKS** A compulsory intensive Japanese language will be conducted prior to the technical training for two weeks (50 hours).

FOREST RESEARCH

Aug. 14, '95 - Nov. 26, '95, 5 participants

森林研究

J-95-00501

- 1. PURPOSE** The course is designated to contribute to upgrading 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 these field.
- 2. MAIN FEATURES OF CURRICULUM** This course is composed of the three sub-courses; "Forest", "Forestry" and "Forest Products". Each sub-course is conducted every three years. This year (Japanese fiscal 1995), the sub-course on "Forest" will be given. 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 following subjects for their individual research. (1) forest stand dynamics and site environment (2) functions for soil and water conservation and disaster prevention (3) forest microbiology (4) ecology and management of forest insects (5) ecology and management of wildlife
- 3. QUALIFICATION OF APPLICANT** (1) university / college graduate or equivalent with occupational experience of more than five years in the field of forest research (2) research scientist of forest research organizations or universities (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 two weeks (50 hours).

WOOD BASED MATERIALS APPLICATION TECHNOLOGY

Aug. 14, '95 - Dec. 7, '95, 7 participants

木質材料高度利用技術

J-95-00386

- 1. PURPOSE** The course designed to contribute to upgrading knowledge of the participants in the field of wood industry through lectures and observations, so as to enable them to contribute to the development of wood technology and effective utilization of wood resources in their own countries.
- 2. MAIN FEATURES OF CURRICULUM** In the course, the emphasis is put on lectures and practical training. The main themes are: (1) wood resources and their utilization (2) production technology of improved woods (3) wood based materials and surface finishing technology (4) wood based materials and adhesive agents (5) research and development for wood based materials processing
- 3. QUALIFICATION OF APPLICANT** (1) university graduate or equivalent (2) occupational experience of more than five years in the field of wood industry, belonging to a governmental organization (3) under 40 years of age
- 4. TRAINING INSTITUTIONS** (1) Nagoya International Training Centre (NITC), JICA (2) universities and public institutes
- 5. REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for two weeks (75 hours).

SEMINAR ON FISHERIES DEVELOPMENT PLANNING

Oct. 17, '95 - Dec. 10, '95, 7 participants

水産開発セミナー

J-95-00518

- 1. PURPOSE** The course is designed to upgrade the planning capabilities of participants who are involved in fisheries development planning.
- 2. MAIN FEATURES OF CURRICULUM** the course includes general and special subject areas. The program is designed to cover critical aspects of fisheries development planning in developed and developing countries to ensure that participants are exposed to a wide spectrum of experiences and development strategies. The principal topics of general subject area are: (1) fisheries development and supporting systems in Japan (2) fisheries development strategies and project formulation (3) fish resource management-biology and economics (4) infrastructure development for fisheries (5) financial development for fisheries (6) poverty, women and participation in fishing communities (7) coastal zone management and fisheries development. The special subject will be set each year. In 1995, the special subject is "Coastal community development".
- 3. QUALIFICATION OF APPLICANT** (1) a director or an equivalent level government official who is presently in charge of development planning in the fisheries sector and with more than five years' occupational experience (2) an university graduate or equivalent (3) between 30 and 40 years of age
- 4. TRAINING INSTITUTIONS** Kanagawa International Fisheries Training Centre (KIFTC), JICA

FISHERIES MANAGEMENT AND COOPERATIVES (INTENSIVE)

June 27, '95 - Oct. 22, '95, 8 participants

漁業協同組合(インテンシブ)

J-95-00520

- 1. PURPOSE** This course is designed to upgrade the administrative skills of personnel working in the following positions; government officers who organize fishermen's cooperatives, staffs of fishermen's cooperative and financial institutes who offer credit to fishermen or fishermen's cooperatives.
- 2. MAIN FEATURES OF CURRICULUM** The curriculum is composed of lectures on: (1) Fishermen's cooperatives, introduction of Japanese experiences (2) proper utilization of fish resources through fishermen's organizations (3) upgrading the living standard of coastal fishermen by fishermen's cooperatives, and (4) related subjects including fish trade and marketing, aquaculture development and post harvest technology. In addition, discussion meetings on these subjects and field trips are included in the program.
- 3. QUALIFICATION OF APPLICANT** (1) A staff of fishermen's cooperative, an official of the government in related fields, and a bank staff who offers credit to fishermen's cooperative (2) More than three years' occupational experience (3) An university graduate or equivalent (4) under 40 years of age
- 4. TRAINING INSTITUTIONS** Kanagawa International Fisheries Training Centre (KIFTC), JICA
- 5. REMARKS** A two week compulsory intensive Japanese language course (total 50 hours) will be conducted prior to practical training.

FISHING GEAR DEVELOPMENT AND DESIGN

Sep. 5, '95 - Dec. 10, '95, 7 participants

漁具開発設計

J-95-00215

- 1. PURPOSE** The purpose of the course is to provide the participant with a basic knowledge on how to carry out research and development for the purpose of improving existing fishing gear or introducing new ones.
- 2. MAIN FEATURES OF CURRICULUM** This course will be delivered through a series of lectures, case studies and practical fishing gear sessions. The key subjects areas are: (1) basic theory of fishing gear design and improvement (2) case studies of fishing gear development and improvement in Japan (3) evaluation of newly introduced fishing methods (4) model net making, construction and testing (small scale set new and gill net).
- 3. QUALIFICATION OF APPLICANT** (1) an university graduate or equivalent (2) more than three years' occupational experience in fishing gear and methods research and development (3) less than 40 years of age
- 4. TRAINING INSTITUTIONS** Kanagawa International Fisheries Training Centre (KIFTC), JICA
- 5. REMARKS** A compulsory intensive Japanese language course (total 40 hours) will be conducted after lecture in the evening.

COASTAL FISHING TRAINING AND EXTENSION

Apr. 4, '95 - Sep. 3, '95, 7 participants

沿岸漁業訓練普及

J-95-00432

- 1. PURPOSE** The course is designed for instructors and extension workers to enable them to upgrade their practical knowledge and skills on various coastal fishing techniques and in technology transfer.
- 2. MAIN FEATURES OF CURRICULUM** The course will be delivered through a series of lectures and practical fishing gear sessions. The key subject areas are: (1) general knowledge of the coastal fisheries of Japan (2) theoretical knowledge and practical skills in construction and operation of various fishing gears (3) basic knowledge on the proper management of fishing grounds and fishery resources and proper use of fishing machines and auxiliary equipment (4) fisheries extension service and its example.
- 3. QUALIFICATION OF APPLICANT** (1) A senior high school graduate or equivalent (2) more than three years' occupational experience in coastal fisheries (3) less than 35 years of age
- 4. TRAINING INSTITUTIONS** Kanagawa International Fisheries Training Center (KIFTC), JICA
- 5. REMARKS** A compulsory intensive Japanese language course (total 24 hours) will be conducted after lectures in the evening.

GENERAL AQUACULTURE

Jan. 9, '96 - June 24, '96, 9 participants

養殖一般

J-95-00236

- 1. PURPOSE** The course is designed to upgrade basic knowledge and technique of aquaculture for those who are involved in extension or research work. The training program is designed to cover various kinds of aquatic organisms, such as fin fish, molluscans, crustaceans and algae in not only seawater, but also brackishwater and freshwater.
- 2. MAIN FEATURES OF CURRICULUM** This course is designed with emphasis placed on introduction of Japanese technical expertise and basic scientific theories of aquaculture and will be delivered through lectures laboratory experiments and study tours. The main lecture subjects are; seed production, ichthyology, nutrition, genetics, physiology, histology, pathology, water quality management, biostatistics. Laboratory experiments include; artificial insemination and seed production including larval rearing, food organism culture (marine chlorella, diatom, rotifer and atremia), pituitary extraction and hormone injection, fish anatomy and histology, formula food manufacture and digestibility analysis, water quality analysis. Additionally, upon request by participants, one month is allocated for an individual experiment on the following aquatic animals; *Paralichthys olivaceous*, *Pagrus major*, *Oreochromis niloticus*, *Cyprinus carpio* and *Penaeus japonicus*.
- 3. QUALIFICATION OF APPLICANT** (1) a person presently engaged in aquacultural extension or research work with more than two years' experience in this field (2) an university graduate or equivalent (3) under 35 years of age
- 4. TRAINING INSTITUTIONS** Kanagawa International Fisheries Training Centre (KIFTC), JICA
- 5. REMARKS** A two week compulsory intensive Japanese language course (total 50 hours) will be conducted prior to the technical training.

PRAWN PROPAGATION TECHNIQUE

Feb. 20, '96 - July 29, '96, 6 participants

エビ増養殖技術

J-95-00410

- 1. PURPOSE** The purpose of the course is to train the participants to become technical supervisors for prawn farm workers in prawn propagation and to contribute to the development and expansion of prawn propagation in their respective countries. For this purpose, the participants are to learn prawn propagation technique in Yamaguchi Prefecture, which faces the Seto Inland Sea and has been enjoying the leading position in *penaeus japonicus* (P. J.) culture technique in Japan. Related general aquaculture techniques will be also taught.
- 2. MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on report presentation, lectures which introduce Japanese experience and basic theories of Prawn (P. J.) culture, and workshop practice of Prawn (P. J.). It mainly covers: (1) biology of P. J. (2) seedling production of P. J. (3) technique of P. J. (4) sickness control and feeds of P. J. (5) freshness preservation and marketing system of prawns (6) seedling production of fishes and shellfishes (7) aqua propagation in general
- 3. QUALIFICATION OF APPLICANT** (1) presently engaged either in practical production or research and have more than one year of occupational experience in this field (2) above junior college graduate or equivalent (3) not more than 35 years of age.
- 4. TRAINING INSTITUTIONS** (1) Chugoku Branch Office, JICA (2) Fisheries Bureau of Yamaguchi Prefecture (3) Yamaguchi Prefectural Nankai Sea Farming Center
- 5. REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for five weeks (125 hours).

MARINE RANCH (MARINE FARM) SYSTEM

July 10, '95 - Dec. 9, '95, 7 participants

海洋牧場システム

J-95-00336

- 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 management of marine ranch (marine farm). After this course, it is expected of them to plan a suitable system for the fishery resources in their respective countries.
- 2. MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on understanding the idea of the marine ranch (marine farm) system, not on learning a certain specialized field or a technique in fisheries. It mainly covers: (1) theory of marine ranch (marine farm) management (2) method of fisheries hydrography (3) method of preparing seaweed beds (4) method of seed production of shrimp, shellfish and marine fish (5) method of artificial reefs (6) making his/her own marine ranch (marine farm) programme 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** (1) Shikoku Branch Office, JICA (2) Usa Marine Biological Institute, Kochi University
- 5. REMARKS** A compulsory intensive Japanese language course will be conducted for two weeks in the early days of the course.

**FISH PHYSIOLOGY AND PREVENTION OF
EPIZOOTICS**

Mar. 4, '96 - June. 16, '96, 5 participants

魚類生理・防疫

J-95-00351

- 1. PURPOSE** The purpose of this course is to enable the participants who belong to an institution of education and research to understand the basic theory and technique for fish physiology and the prevention of epizootics which are important theme in aquaculture, and thereby contributing to the improvement of the aquaculture industries in their respective countries.
- 2. MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on basic knowledge of fish physiology, fish nutrition and bacteriology, as well as mastering practical techniques to solve specific problems in epizootics which fish cultivation industry in developing countries are facing. The subjects covered in the course are: (1) principles of aquaculture (2) fish nutrition (3) water quality management (4) fish physiology (5) bacteriology (6) fish pathology (7) prevention of epizootics in fish
- 3. QUALIFICATION OF APPLICANT** (1) presently engaged either in research or educational activity and have more than three years of occupational experience in this field (2) university graduate or equivalent (3) be not more 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** (1) A compulsory 25 hour Japanese language course will be conducted prior to the technical training.

**HULL AND ENGINE MAINTENANCE OF
SMALL FISHING BOAT**

Jan. 27, '95 - Dec. 10, '95, 7 participants

小型漁船の船体・機関保守

J-95-00277

- 1. PURPOSE** The purpose of the course is to provide the participants with practical training in hull and engine maintenance and repair for fishing boat less than 50 G. T.. The course is designed for persons engaged in training fishermen in hull and engine repair and maintenance.
- 2. MAIN FEATURES OF CURRICULUM** This course focuses on knowledge and techniques of maintenance and repair of small fishing boats, engines and other fishing equipment with emphasis on practical training. The key subject areas are: (1) diesel engines (2) outboard motors (3) refrigeration equipment (4) electrical equipment for marine use (5) maintenance of FRP fishing boats.
- 3. QUALIFICATION OF APPLICANT** (1) a senior high school graduate or equivalent (2) more than three years' occupational experience in engine maintenance of fishing boats (3) between 25-40 years of age
- 4. TRAINING INSTITUTIONS** Kanagawa International Fisheries Training Centre (KIFTC), JICA
- 5. REMARKS** A two week compulsory intensive Japanese language course (total 50 hours) will be conducted prior to practical training.

**HANDLING AND PROCESSING OF FISH AND
MARINE PRODUCTS**

Apr. 4, '95 - Aug. 6, '95, 6 participants

漁獲物処理

J-95-00515

- 1. PURPOSE** The objective of this course is to provide practical knowledge and technology training in fish and marine product handling and processing which contribute to; the prevention of post harvest loss, the stable supply of fish and marine products, an increase in added value in order to promote fish and marine product consumption and exports. The course is designed for persons engaged in production or research in these fields.
- 2. MAIN FEATURES OF CURRICULUM** This course will be delivered through a series of lectures, practical training sessions and field trips. Participants will acquire knowledge and technologies on salted, dried and smoked food, frozen fish and artificial preservatives, and processing and handling of fish and shellfish on boats. The main lecture subjects are; fish and shellfish condition after death, freshness maintenance, agent additives, food preservation and preservatives, bacterial infection and intoxication, chemistry and utilization of seaweed, fish skin and glue, taste-active components, marine products processing technology, onboard processing of fish and shellfish, overland transportation of fishery products. Practical sessions include; processing of jelly fish, drying, smoking, salting and seasoned product, micro-organism test, food analyzing method, material freshness and product quality, method of judging freshness.
- 3. QUALIFICATION OF APPLICANT** (1) an engineer currently in either production or research on handling and processing of fish and marine products and having more than three years' occupational experience in this field (2) a university graduate or equivalent (3) between 25 and 40 years of age
- 4. TRAINING INSTITUTIONS** Kanagawa International Fisheries Training Centre (KIFIC), JICA
- 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

Aug. 8, '95 - Dec. 3, '95, 6 participants

水産食品品質保証

J-95-00517

- 1. PURPOSE** The objective of this course is to provide quality inspection knowledge and technology training in processed fish and marine products for the promotion of domestic fish consumption and export. The course is designed for persons engaged in production of processed fish and marine products or involved in research and education on quality control and inspection.
- 2. MAIN FEATURES OF CURRICULUM** This course will be delivered through a series of lectures, practical training sessions in processing factories and inspection laboratories. Participants will acquire knowledge and technologies on inspecting bacteria, canned food, frozen food and food additives, and on analysis of toxic substances in fish and shellfish. The main lecture subjects are; spoilage of marine products objective and subjective methods for measuring freshness, product processing technologies, quality and integrity analysis of fishery products, canned food inspection, frozen food inspection, marine toxins, toxic substances of fish and shellfish, bacterial food poisoning, chemical interaction of marine food composition, HACCP, laws and ordinances of marine food quality. Practical sessions include; freshness test of fish, quality assurance in canned fish.
- 3. QUALIFICATION OF APPLICANT** (1) an engineer currently in either production or research on handling and processing fish and marine products and having more than three years' occupational experience in this field (2) a university graduate or equivalent (3) between 25 and 40 years of age
- 4. TRAINING INSTITUTIONS** Kanagawa International Fisheries Training Centre (KIFIC), JICA
- 5. REMARKS** (1) A two week compulsory intensive Japanese language course (total 50 hours) will be conducted prior to technical training.

COAL MINE SAFETY

Sep. 11, '95 - Dec. 10, '95, 9 participants

石炭鉱山保安

J-95-00269

- 1. PURPOSE** The course is designated to introduce practical technology and knowledge in the field of coal mine safety to participants, who are safety engineers at coal mines, mine safety officers or official field inspectors so that they can play important roles in their fields.
- 2. MAIN FEATURES OF CURRICULUM** This course consists of common subjects for all participants (about two and a half months) and individual study in the laboratory (about one week). (1) the following are common subjects (lecture): (a) mining policy (b) mine safety policy (c) international cooperation of mine safety (d) inspection of underground appliances (e) prevention of underground labor accidents (f) accident analysis (g) underground work environment (h) ventilation (i) explosives and blasting (j) rock mechanics (k) mine support (l) gas and coal dust explosions (m) static electricity (n) safety appliances (o) safety measurement (p) mine fire (2) each of participants is to take one of the following subjects for their individual study: (a) rock mechanics, AE measurement (b) mine ventilation (c) safety appliances (d) explosion proof instruments
- 3. QUALIFICATION OF APPLICANT** (1) presently engaged in the field of coal mine safety (2) university graduate or equivalent with basic knowledge of mine safety with occupational experience of more than three years (3) under 35 years of age
- 4. TRAINING INSTITUTIONS** (1) Tsukuba International Centre (TBIC), JICA (2) National Institute for Resources and Environment, Ministry of International Trade and Industry (3) Japan Technical Co-operation Center for Coal Resources Development

MINERAL PROCESSING AND METALLURGY

Sep. 19, '95 - Aug. 7, '96, 6 participants

選鉱製錬

J-95-00294

- 1. PURPOSE** The purpose of the course is to introduce the participants to the essential and latest knowledge and various experimental technique for instrumental analysis in the field of mineral processing and extractive metallurgy envisaging that participants may become competent enough to assume responsibilities and thereby contributing to the progress of the industries and research laboratories in their own countries.
- 2. MAIN FEATURES OF CURRICULUM** The course consists of common subjects for all participants and individual research work in the laboratory. Each participant is to choose one of the following laboratories for their individual research. (1) materials refining div. (a) mechanical refining lab. (b) physical refining lab. (c) chemical refining lab. (d) photo-induced refining lab. (e) anticontamination lab. (2) morphological control div. (a) gas-phase processing lab. (b) liquid-phase processing lab. (c) melt-phase processing lab. (d) solid-phase processing lab. (e) multiphase processing lab. (3) materials analysis div. (a) atomic scale composition analysis lab. (b) atomic scale morphology lab. (c) system engineering lab. (4) new metallurgical resources
- 3. QUALIFICATION OF APPLICANT** (1) engineer or researcher (2) university graduate or equivalent in mining and metallurgy or similar subjects, with more than three years of occupational experience in a related field (3) presently engaged in the research works at universities, vocational institutes, research and development divisions in industries (4) over 25 and under 35 years of age
- 4. TRAINING INSTITUTIONS** (1) Tohoku Branch, JICA (2) Institute for Advanced Materials Processing (SOZAIKEN), Tohoku University
- 5. REMARKS** A compulsory intensive Japanese language course will be conducted for 200 hours prior to the technical training and for about 100 hours more along with it.

MINING AND METALLURGY

July 24, '95 - Nov. 20, '95, 20 participants

資源開発

J-95-00441

- 1. PURPOSE** The purpose of the course is to enable the participants: (1) to deepen understanding of the present situation in the Japanese mining industry and the relationship between the mining industry and other industries through lectures and field trips, and (2) to enhance the knowledge and technology necessary for their mining business after going back to their respective countries. Coal mining industry will not be covered in this course.
- 2. MAIN FEATURES OF CURRICULUM** This course consists of lectures and observation tour. Participants will be divided into three groups to cover one of the following subjects: (1) Exploration (2) mining (3) mineral processing and metallurgy
- 3. QUALIFICATION OF APPLICANT** (1) university / college graduate or equivalent who has basic knowledge of mineral mining (2) mining geologist, mining engineer, milling engineer, metallurgist and 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) under 40 years of age
- 4. TRAINING INSTITUTIONS** (1) Tohoku Branch, JICA (2) International Institute for Mining Technology (Minetec)
- 5. REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for 3 weeks.

RESEARCH AND DEVELOPMENT ON MATERIALS AND RESOURCES

Sep. 25, '95 - May 29, '96, 5 participants

材料および資源に関する技術研究

J-95-00412

- 1. PURPOSE** The purpose of the course is to assist the participants in understanding the essential aspects of research and in cultivating a pioneer spirit of research through participation in the research themes with Government Industrial Research Institute (GIRIT) and discussion with GIRIT's researchers. GIRIT's researchers will help participants become technical experts and research planners who can carry out similar work by themselves so as to promote this field in their own countries. The purpose of this course is not to acquaint the participants with known technologies that can be immediately applied in their countries, but rather to assist the participants in mastering methods of research and planning with the objective of gaining greater technical knowledge.
- 2. MAIN FEATURES OF CURRICULUM** After the technical orientation, participants will pursue individual research work under a designated research subject for about eight months. The following six groups in GIRIT will offer programs for the technical training. (1) separation and chemical analysis group (2) electrochemical corrosion-testing group (3) mechanical property group (4) thermal science-design and analysis group (5) computer aided instrumentation group (6) ultrasonic measurement of materials group
- 3. QUALIFICATION OF APPLICANT** (1) university graduate in the field of chemical, mining, mechanical or other related technology with occupational experience of more than three years. Master's or doctoral degree is preferable. (2) between 25 and 35 years of age
- 4. TRAINING INSTITUTIONS** (1) Tohoku Branch, JICA (2) Government Industrial Research Institute, Tohoku, (GIRIT), Agency of Industrial Science and Technology, Ministry of International Trade and Industry.

SENIOR CLASS SEMINAR ON SMALL INDUSTRY DEVELOPMENT II

July 6, '95 - Aug. 5, '95, 12 participants

中小企業開発セミナーII

J-95-00074

- 1. PURPOSE** The purpose of the seminar is to provide senior class officials in governmental or semi-governmental agencies with some hints and ideas for formulating and implementing better development policies for small industry through review and comparison of policies taken in Japan and those of participating countries. Participation in the seminar will be of great value to participants in development and promotion of small industry in their countries.
- 2. MAIN FEATURES OF CURRICULUM** This seminar will be conducted in the form of lecture, observation and discussion and the curriculum consists of four main parts as follows; (1) orientation (lecture and observation) (a) general environment for small industries (2) Japanese case study (lecture and observation) (a) financing (b) tax and credit (c) management (d) technology (e) human resources (3) international comparative study (presentation and discussion) (a) ancillarization (b) rural industrialization (c) export-oriented industrialization (d) institutional set-ups (industrial estate, cooperative) (4) applicability study (presentation and discussion) (a) Subjects are decided according to the needs of the participants
- 3. QUALIFICATION OF APPLICANT** (1) university graduate or equivalent (2) senior administrative official in charge of implementation and/or planning of small industry development (3) occupation experience of more than five years (4) more than 30 years of age
- 4. TRAINING INSTITUTIONS** (1) Nagoya International Training Centre (NITC); JICA (2) Aichi Industrial Research Association (3) Special Steering Committee for S. I. D. Seminar

IMPLEMENTATION OF TQC AND STANDARDIZATION ACTIVITIES II

June 22, '95 - Sep. 3, '95, 13 participants

TQC・標準化活動実践II

J-95-00105

- 1. PURPOSE** The purpose of this course is for managers and engineers (who are involved in promoting quality control and performing the related actual work in standardization organizations, quality control organizations or enterprises) to acquire knowledge about the necessity for TQC and standardization, as well as the related philosophy and techniques, as the foundations for the development of manufacturing industries. Upon return to their respective countries, it is expected that the participants will effectively apply this knowledge in actual operations, as well as provide an active basis for TQC and standardization to flourish, as supporters and advisors in these fields.
- 2. MAIN FEATURES OF CURRICULUM** The purpose of this course is for the participants to acquire this knowledge through lectures on the concepts of overall theory, quality theory, control theory regarding the basics of and need for TQC and standardization, and the techniques for solving quality problems and the methods of managing a TQC organization, and through group seminars and visits to factories where these concepts are in actual use.
- 3. QUALIFICATION OF APPLICANT** (1) working for promotion of standardization and/or quality control with experience of more than three years in government office, public corporation, public or private institute, or private company. (2) under 40 years of age (3) university/college graduate or equivalent
- 4. 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)

SEMINAR ON INDUSTRIAL STANDARDIZATION AND QUALITY CONTROL

Oct. 24, '95 - Nov. 18, '95, 9 participants

工業標準化・品質管理シニアセミナー

J-95-00316

- 1. PURPOSE** This Seminar is designed to give informative knowledge and ideas on actual implementation of standardization and quality control activities to participants; (1) by showing the experiences and the current situation of Japanese activities, and (2) by having discussion with Japanese leaders and policy makers of such activities.
- 2. MAIN FEATURES OF CURRICULUM** The main themes of this course are: (1) role of standardization in industrial development (2) how to promote nation-wide standardization (3) the current situation and the future direction of international standardization activities (4) what QC is and how to promote it in companies
- 3. QUALIFICATION OF APPLICANT** (1) working for promotion of industrial standardization and/or quality control either in government office, public corporation, public or private institute, or private company (2) senior-class staff (director of department or its equivalent) presently engaged in policy-making of industrial standardization and/or quality control (3) university graduate or equivalent (4) between 35 and 50 years of age
- 4. 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

INDUSTRIAL PROPERTY SYSTEM

Sep. 7, '95 - Nov. 9, '95, 9 participants

工業所有権制度

J-95-00242

- 1. PURPOSE** The purpose of this course is to offer an opportunity to the participants to obtain basic practical knowledge and techniques needed for smooth operation of the industrial property system, especially concerning the role of this system in technological development and transfer of technology. Participants will also be provided with a basic knowledge of the Japanese legal system of the industrial property rights, and organizations responsible for implementation of the industrial property system and patent documentation. Participants will then be able to contribute to the further development of the industrial property system in their respective countries.
- 2. MAIN FEATURES OF CURRICULUM** This course consists of common subjects for all participants and group work. After common lectures, participants will be divided into two groups in accordance with their specialities as follows: **Group A**) For general administration officers in industrial property offices or related organizations **Group B**) For patent, design or trademark examiners or prospective examiners
- 3. QUALIFICATION OF APPLICANT** (1) official who has experience as: a general administration officer in the industrial property offices or related organizations (Group A), or an examiner for patent, design or trademark applications or its equivalent (Group B) (2) under 40 years of age (3) university graduate or equivalent
- 4. TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Japanese Patent Office (JPO), Ministry of International Trade and Industry (3) Japan Institute of Invention and Innovation (JII)

SEMINAR ON INDUSTRIAL PROPERTY

June 6, '95 - July 1, '95, 6 participants

工業所有権セミナー

J-95-00261

- 1. PURPOSE** This Seminar is designed to offer the participants with an opportunity to reconfirm the importance of industrial property (IP) System for the economic and technological development through studying the Japanese experiences, and discuss some ideas for further development of management of IP system in their home countries.
- 2. MAIN FEATURES OF CURRICULUM** The main themes of this seminar are: (1) Japanese IP system and its management and administration (2) role of IP system for economic and technology development in Japan (3) further development of management of IP system in participating countries
- 3. QUALIFICATION OF APPLICANT** (1) senior official of a competent government ministry or agency (industrial property office or its supervisory ministry) whose duties concern industrial property policy-making (2) university graduate or equivalent (3) between 30 and 50 years of age
- 4. TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Japanese Patent Office (JPO), Ministry of International Trade and Industry (3) Japan Institute of Invention and Innovation (JIII)

CERTIFICATION SYSTEMS

Jan. 11, '96 - Mar. 11, '96, 10 participants

認証検査制度

J-95-00235

- 1. PURPOSE** The purpose of this training course is to introduce the certification system which has contributed a great deal to quality assurance in Japan to all participants working in certification bodies, testing laboratories or inspection agencies in developing countries to encourage their interest in quality.
- 2. 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
- 3. QUALIFICATION OF APPLICANT** (1) presently engaged in the work relating to certification, inspection and/or testing (2) under 40 years of age (3) university/college graduate or equivalent
- 4. TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Japanese Standards Association (JSA) (3) Standards Department, Agency of Industrial Science and Technology, Ministry of International Trade and Industry

LEGAL METROLOGY

July 17, '95 - Dec. 17, '95, 6 participants

法定計量

J-95-00513

- 1. PURPOSE** This course is organized for government officers who are designated as senior verification officers and are responsible in verification and inspection of measuring equipments in the field of legal metrology. The purpose is to provide practical training of verification and inspection. It will serve as a good opportunity to upgrade the level of the legal metrology technology and to understand the state of the art legal metrology system and the operational method available in Japan.
- 2. 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) regional administration and inspection station (iv) international measurement term and system of units (v) measurement administration system (vi) legal metrology of Japan and abroad (b) technical subjects (i) mass standards, temperature standard, length standard (ii) statistic theory (quality control), automatic control theory (iii) regulation of legal metrology, electronic type measuring instruments (iv) metric convention (v) present situation of exporting goods (vi) international society and roles of measurement, thermophysical measurement, etc. (vii) length measuring meter and inspection, glass thermometer and inspection, taxi meter driving inspection, etc. (viii) inspection of verification standards (ix) verification of weighting instrument, water meter, gas meter, watt-hour meter (x) periodic 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)
- 3. QUALIFICATION OF APPLICANT** (1) university graduates or the equivalent. (2) presently engaged in legal metrology at governmental or semi-governmental services with an occupational experience of more than three (3) years in this field. Researchers are excluded. (3) Over 25 and 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 (3) Japanese Conference on Administrative Guidance of Legal Metrology (JCAGLM), Secretariat: Tokyo metropolitan Inspection Institute of Weights and Measures (TMIIWM)
- 5. REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for three weeks (75 hours).

CERAMIC KILN AND FIRING TECHNOLOGY

Sep. 11, '95 - Mar. 1, '96, 8 participants

セラミック窯炉及び焼成技術

J-95-00505

- 1. PURPOSE** The course is aimed at providing researchers presently engaged in the development work at research institute on educational institutions, or engineers in the private, medium and small enterprises with knowledge and technology about kiln design, kiln construction, and firing etc. concerning ceramic products which conform to the real conditions of participant's countries. It is expected that, upon completion of the course, the participant will be able to contribute to the improvement of quality of local ceramic products as well as firing technology in manufacturing local ceramic products.
- 2. MAIN FEATURES OF CURRICULUM** In the course, the emphasis is put on lectures, practical training and observations. The main theme are: (1) introduction of technical training (2) kiln design and kiln construction (3) technology on firing in the kiln (4) related technology
- 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) presently engaged in the field of ceramics (3) between 25 and 39 years of age
- 4. TRAINING INSTITUTIONS** (1) Nagoya International Training Centre (NITC), 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 (105 hours).

HIGH TECHNOLOGY MATERIALS APPLICATION (Fine Ceramics, Composites, Metals)

May 8, '95 - July 30, '95, 7 participants

ファイナセラミックス応用技術

J-95-00387

- PURPOSE** The course is aimed at providing engineers who are at present engaged in the field of mechanical and metal industries with applied technology, knowledge and information about functional materials as mentioned in sub-title above, whose demand has been incessantly growing in recent years, so as to expedite the development in their respective countries.
- MAIN FEATURES OF CURRICULUM** This course mainly covers: (1) inorganic materials (ceramics) mechanical properties, chemical durability, thermal properties, application at higher temperatures, electronic radiation, magnetic properties, application as sensor, optical properties, biological application, establishment and utilization of data base (2) other materials metallic materials composite materials
- QUALIFICATION OF APPLICANT** (1) university graduate or equivalent (2) occupational experience of more than three years (3) between 26 and 40 years of age
- TRAINING INSTITUTIONS** (1) Nagoya International Training Centre (NITC), JICA (2) Japan Fine Ceramics Center (JFCC) (3) Government Industrial Research Institute, Nagoya (GIRIN) (4) public institutes and private industries
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for one week (30 hours).

CATALYTIC SCIENCE

Aug. 29, '95 - Feb. 22, '96, 5 participants

触媒科学研究

J-95-00337

- PURPOSE** The purpose of the course is to enable participants to understand both basic and practical aspects of catalysis on four main themes in catalysis: 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 laboratory. Each participant is to take one of following subjects for their individual research. (1) heterogeneous catalysis-A (advanced catalyst design) (a) catalysis for environmental chemistry and saving natural resources and energy (eg. utilizing and replacing freon gas) (2) heterogeneous catalysis-B (metal complex catalysis) (a) catalysis for removing the harmful gas (nitrogen monoxide) from cars and thermal power plants etc. which causes air pollution and acid rain (3) homogeneous catalysis (catalysis in fine organic synthesis) (a) catalytic asymmetric of optically active compounds applied to medicines and agricultural chemicals (4) surface science (surface structure and properties) (a) surface phenomena such as chemical reaction and crystal growth, etc. (b) design and construction of sophisticated equipment such as low-energy electron diffraction and high-energy electron diffraction (5) electrocatalysis (interfacial energy conversion) (a) high efficiency of energy conversion in electrochemical systems, typically, transportable fuel cell used as advanced fuels (b) electrochemical aspects of cold fusion (nuclear fusion in cold temperature)
- QUALIFICATION OF APPLICANT** (1) engaged in surface chemistry, organic chemistry, synthetic chemistry, applied chemistry, industrial chemistry, materials chemistry, catalytic science, electrochemistry or related fields (2) have a master's degree or be equivalent with scientific experience of more than two years after university graduation (3) over 25 and under 40 years of age
- TRAINING INSTITUTIONS** (1) Hokkaido Branch Office, JICA (2) Catalysis Research Center, Hokkaido University

POLYMER AND CHEMICAL TECHNOLOGY

May 15, '95 - Mar. 10, '96, 7 participants

物質工学研究

J-95-00268

- PURPOSE** The course is designed for researchers of national research institutes and educational institutions in developing countries, and gives the opportunity to learn research methods and gain related knowledge through research on specialized themes selected by the participants themselves. Field trips scheduled in the programme are 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) structure and properties of oriented semi-crystalline polymers (2) synthesis and characterization of photofunctional polymers (3) environmental analysis of organic materials (4) synthesis of specialized surfactants and their application (5) thermosensitive polymers (6) plasma surface modification of polymeric materials (7) chemical synthesis of biodegradable polymers (8) characterization of superstructure of high-performance polymers (9) structures and physical properties of polymer blends (10) preparation and characterization of liquid-crystalline polymers (11) aggregation mechanism of organic molecules on the solid/liquid surfaces (12) utilization of high-pressure technique in the fats and oils industry (13) construction of highly ordered liquid aggregates (14) studies on rheological properties of fiber/particle reinforced polymer melts (15) studies on fracture toughness and morphology of polymer blends (16) spinning of porous hollow fibers and their characterization (17) development of inorganic membranes and membrane reactors (18) an advanced technique for treatments of waste water containing organic materials (19) elimination and degradation of toxic substances in liquid and gas phases (20) removal of inorganic pollutants from industrial effluent (21) new carbon chemistry--- synthesis, purification and characterization of novel carbon materials
- QUALIFICATION OF APPLICANT** (1) a researcher with a bachelor's degree, capable of carrying out basic research in the field of polymer and chemical technology (2) presently engaged in research work in the field of polymer and chemical technology, and have occupational experience of more than three years in the said field. Administrative officers are not qualified for this course (3) over 25 and under 40 years of age
- TRAINING INSTITUTIONS** (1) Tsukuba International Centre (TBIC), JICA (2) National Institute of Materials and Chemical Research (NIMC)
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for two weeks (50 hours).

BIOINDUSTRIES

May 8, '95 - July 30, '95, 8 participants

バイオインダストリー

J-95-00357

- PURPOSE** The course aims at providing experts who are at present engaged in research/educational institutions or industries with more knowledge on bioindustry.
- MAIN FEATURES OF CURRICULUM** This course mainly covers: (1) Japanese bioindustry (2) material production in biotechnology (3) fermentation industry in Japan (4) plant cell engineering (5) recombinant DNA technology (6) bioreactor, cell fusion, biomolecule purification (7) bio-tec supporting equipment and system (8) utilization of microbial cell and energy (9) alcohol production from biomass (10) food biotechnology, microbial and enzyme conversion (11) materials for molecular biology (12) marine biotechnology, human and animal cell engineering (13) enzyme industries, biosensing (14) new development of bioindustry policy
- QUALIFICATION OF APPLICANT** (1) expert presently engaged in biotechnology and related technology at industry, research/educational institutes with more than five years of experience (2) university graduate or equivalent (3) between 28 to 45 years of age
- TRAINING INSTITUTIONS** (1) Nagoya International Training Centre (NITC), JICA (2) Japan Bioindustry Association (JBA) (3) public institutes, universities, industries
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for two weeks (50 hours).

ORGANIC FINE-CHEMICALS TECHNOLOGY

Aug. 14, '95 - Dec. 10, '95, 6 participants

有機ファインケミカルズ工学

J-95-00381

- PURPOSE** The participants of this course, who are researchers and engineers engaged in research on the synthesis of organic fine-chemicals and the development of their applications and uses, will be introduced to techniques of synthesis, analysis and control of environmental pollution 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.
- MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on laboratory experiments. The main themes are: (1) industrial organic chemistry (lecture) (2) instrumental analysis (lecture, practice) (GC, LC, MASS, NMR, IR, UV, EA, light scattering, zeta potential, ion chromat, capillary GC, DSC) (3) organic synthetic chemistry (lecture, practice) (4) organic chemistry and organic structure (5) synthesis of color-material (e. g., dye-stuff), and application techniques (lecture, practice) (6) textile processing and dyeing techniques (lecture) (7) synthetic methods of intermediate products of pharmaceutical drugs and pesticides (lecture, practice) (8) detergent-cleaning techniques (lecture, practice) (9) adsorption materials techniques (lecture, practice) (10) environmental pollution control techniques (lecture, practice) (11) factory observation
- QUALIFICATION OF APPLICANT** (1) holding master's degree in organic chemistry, or organic industrial chemistry (especially, synthesis and application of color-stuff chemistry, dyes, detergents or organic chemicals' intermediates), (2) between 25 and 40 years of age (3) more than three years of experience of manufacture, application or research in organic chemical technology
- TRAINING INSTITUTIONS** (1) Osaka International Centre (OSIC), JICA (2) Osaka Municipal Technical Research Institute (OMTRI)
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for one week.

INDUSTRIAL BIOTECHNOLOGY

May 22, '95 - Mar. 17, '96, 5 participants

生命工学研究

J-95-00285

- PURPOSE** The course is designed for researchers presently engaged in biotechnology in developing countries. Through laboratory work, basic knowledge and techniques in biotechnology and bioscience will be acquired, and ability to independently carry out research applicable to industrial needs in the own countries will be cultivated.
- MAIN FEATURES OF CURRICULUM** This course consists of individual training (9 months) in the laboratory. Each participant is to take one of the following subjects for their individual research: (1) studies on basic technologies in bioorganic chemistry (2) studies on the mechanism of tumor metastasis (3) genetic molecular engineering (4) studies on signal transduction of environmental stimuli in higher plant cells (5) characterization of microbial ecosystems of biodegradation of oil in sea water (6) production of functional lipids from microorganism (7) studies on microbial lipidic bioactive substances (8) development of biodegradable plastics (9) analysis and gene engineering of biological nitrogen fixation (10) effective utilization of biomass using enzyme (11) biochemical and biophysical studies on stress response in yeast, *saccharomyces cerevisiae*
- QUALIFICATION OF APPLICANT** (1) a researcher with a bachelor's degree, capable of carrying out basic research in the field of biotechnology (2) presently engaged in research works in the field of biotechnology, are have occupational experience of more than three years in the said field. 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
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for two weeks (50 hours).

POLYMER MATERIALS AND TECHNOLOGY

May 15, '95 - Sep. 3, '95, 6 participants

高分子材料工学

J-95-00394

- 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.
- 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
- 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
- TRAINING INSTITUTIONS** (1) Osaka International Center (OSIC), JICA (2) Osaka Municipal Technical Research Institute (OMTRI)
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for two weeks.

ADVANCED GLASSES TECHNOLOGY

Jan. 15, '96 - July 7, '96, 6 participants

先進ガラス材料

J-95-00443

- PURPOSE** This course is organized to introduce comprehensive knowledge of advanced glass materials to engineers, technologists and researchers well versed in glass technology. It is hoped that this course will be of help in fostering glass technologists who can play a leading role in research & development and study groups in the field of glass technology in developing countries.
- MAIN FEATURES OF CURRICULUM** This course consists of common subjects for all participants and individual research work at laboratory. (1) lectures: advanced glass materials (8 days) (2) practices: preparation of glass samples, atomic absorption method (6 days) (3) specialized training (5 months) Each participant is to take one of the following subjects for their individual research. (a) study of glass structure (b) structure and physical properties of ion-implanted glass (c) chemical resistance of glass (d) crystallization of glass under microgravity (e) separation property of porous glass (f) preparation and structure of halide glass, excluding fluorine (g) quartz glass
- QUALIFICATION OF APPLICANT** (1) university graduates with a minimum of a masters degree in a technology-related subject (2) senior engineer employed by governmental research or educational institution, or government companies; and engaged in research and development and/or manufacture in the field of glass technology, OR senior engineer employed by private companies and engaged in research and development and/or manufacture in the field of glass technology (3) under 35 years of age (4) at least three years' occupational experience in this field
- TRAINING INSTITUTIONS** (1) Osaka International Centre (OSIC), JICA (2) Osaka National Research Institute, Osaka (ONRI)
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for two weeks.

**QUALIFIED METAL CASTING TECHNOLOGY II
(ADVANCED FOUNDRY ENGINEERING)**

Sep. 4, '95 - Mar. 1, '96, 5 participants

高品位鑄物技術II

J-95-00021

- PURPOSE** The purpose of the course is to provide engineers who are presently engaged in research institutes or industries with techniques and knowledge on problems of quality and productivity of metal castings; from sand control, modern moulding processes and casting design to melting control of metals, especially ferrous metal castings.
- MAIN FEATURES OF CURRICULUM** This course mainly covers: (1) foundry sands and modern moulding processes (2) casting design (3) melting and casting techniques (4) equipment modernizations (5) advanced materials and technologies
- QUALIFICATION OF APPLICANT** (1) engineer presently engaged in actual works of foundry engineering/technology at industry/research or educational institute with more than five years of experience (2) university graduate or equivalent (3) between 27 and 40 years of age
- TRAINING INSTITUTIONS** (1) Nagoya International Training Centre (NITC), JICA (2) Government Industrial Research Institute, Nagoya (GIRIN) (3) Industrial Research Institute, Aichi Prefectural Government
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for four weeks (100 hours).

**SURFACE MODIFICATION TECHNOLOGY FOR MATERIALS
(ANTI-CORROSION, SURFACE TREATMENT OF METAL, NON-METAL, NEW-MATERIALS) I**

May 8, '95 - Sep. 14, '95, 5 participants

表面改質技術(金属・非金属・新材料及び防食)II

J-95-00066

- PURPOSE** The aim of the course is to help the senior administrative engineers of governmental organizations to have broader views on construction engineering by introducing the latest techniques and information related to construction engineering, thus to contribute to the development of human resources in this field of developing countries.
- MAIN FEATURES OF CURRICULUM** This course mainly covers: (1) materials (metals and metallurgy, corrosion of metals non-metals, (composites and new materials) (2) surface modification technology (electro-electroless plating and coating, electroforming, anodising, vacuum metallizing, plasma coating, PVD, CVD, powder coating, phosphating, metal colouring, surface hardening & strengthening, ion-plating, ceramic film coating) (3) related technology (resource recycling, waste water treatment, equipment modernization)
- QUALIFICATION OF APPLICANT** (1) university graduate or equivalent (2) qualified in their respective fields (3) occupational experience of more than two years (4) under 40 years of age
- TRAINING INSTITUTIONS** (1) Nagoya International Training Centre (NITC), JICA (2) Industrial Research Institute, Aichi Prefectural Government (3) Nagoya University (4) private industries and other institutes
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for three and a half weeks (85 hours).

**ARC FURNACE AND CONTINUOUS CASTING
CONTROL TECHNOLOGY**

Oct. 30, '95 - Mar. 1, '96, 8 participants

電炉・連続管理技術

J-95-00204

- PURPOSE** The purpose of this training course is to provide engineers who are presently engaged in the field of electrical steel making with comprehensive knowledge of controlling arc furnace and continuous casting operations.
- MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on lectures and observations. The main themes are: (1) steel materials (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
- 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 years preferably at steel making plant and not be academic researches or technicians (3) under 35 years of age
- TRAINING INSTITUTIONS** (1) Nagoya International Training Centre (NITC), JICA (2) Aichi Steel Works, Ltd. (3) Chubu Steel Works, Ltd. (4) Daido Steel Co., Ltd. (5) Topy Industries Ltd. (6) other public institutions and private enterprises
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for three weeks (80 hours).

STEEL PROPERTIES AND ITS APPLICATIONS

June 5, '95 - Oct. 7, '95, 9 participants

鋼材の加工と加工特性

J-95-00256

- 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.
- 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 (5) quality control
- QUALIFICATION OF APPLICANT** (1) have more than three years' occupational experience in the field of production, fabrication or inspection of steel products (2) university graduate or equivalent in metallurgy or mechanical engineering (3) 35 years of age or less
- TRAINING INSTITUTIONS** (1) Kyushu International Centre (KIC), JICA (2) Kitakyushu International Techno-cooperative Association (3) Kyushu Institute of Technology
- REMARKS** A compulsory 25 hour Japanese language course will be conducted prior to the technical training.

HEAT TREATMENT TECHNOLOGY

Sep. 11, '95 - Dec. 7, '95, 8 participants

熱処理技術

J-95-00260

- PURPOSE** The purpose of the course is to train the participants who are engaged in research institutes or industries with techniques and knowledge on heat treatment; especially for motor vehicle and related industries so as to enable them to contribute to promotion and modernization of industries in their countries through upgrading the reliability of machinery and metallic products.
- MAIN FEATURES OF CURRICULUM** This course mainly covers: (1) carbon steels, alloyed steels, metal composites (2) heat treatment furnaces and related installations (3) annealing, tempering, quenching, normalizing, carburizing, nitriding, etc. (4) related technologies; ion-nitriding, surface modification, etc.
- QUALIFICATION OF APPLICANT** (1) engineer presently engaged in heat treatment technology at industry/research or educational institutes with more than two years of experience (2) university graduate or equivalent (3) between 30 and 40 years of age
- TRAINING INSTITUTIONS** (1) Nagoya International Training Centre (NITC), JICA (2) Industrial Research Institute, Aichi Prefectural Government (3) Aichi Industrial Research Association (AIRA)
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for two weeks (50 hours).

MAINTENANCE OF CONSTRUCTION MACHINERY II

May 16, '95 - Aug. 13, '95, 9 participants

建設機械整備II

J-95-00162

- 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 this course is practical training at 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 graduate in mechanical engineering or equivalent 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 Center (TIC), JICA (2) Construction Equipment Division, Ministry of Construction (3) Japan Construction Mechanization Association (JCMA)

D'ENTRETIEN ET DE REPARATION DE L'EQUIPEMENT DE CONSTRUCTION

Sep. 18, '95 - Dec. 17, '95, 8 participants

建設機械整備(仏語)

J-95-00319

- BUT** 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.
- CARACTÉRISTIQUES DU COURS** Le présent cours se caractérise par le déroulement de stage à 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. Théorique gestion 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 des vitesses, bulldozer, chargeur, excavateur hydraulique, compacteur
- CAPACITÉS DES CANDIDATS** (1) à 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 35 ans (3) dotés d'une connaissance suffisante de la langue française
- INSTITUTION DU STAGE** (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
- REMARQUES** Le cours s'effectuera en français ou par traduction du japonais en français.

MÉCANIQUE AUTOMOBILE VÉHICULES DIESEL (AUTOBUS, CAMIONS POIDS-LOURD)

Jan. 8, '96 - Mar. 24, '96, 11 participants

バストラック整備技術(仏語)

J-95-00234

- BUT** 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 le cours théorique et les travaux pratiques, ainsi que les techniques de réparation et d'entretien.
- CARACTÉRISTIQUES DU COURS** Le présent cours se caractérise par l'acquisition des techniques d'entretien efficaces à 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 périphériques, boîte des vitesses pompe d'injection distributrice, freinage essieux avant et arrière et différentiel, équipement électrique
- CAPACITÉS DES CANDIDATS** (1) en possession de plus de trois ans d'expérience dans le domaine de l'entretien et la réparation des véhicules diesel (2) âgés de plus de 25 ans et de 35 ans (3) dotés d'une connaissance suffisante de la langue française
- INSTITUTION DU STAGE** (1) Hachioji International Training Centre (HITC), JICA (2) La Société de Fabrication Automobile de Hino (Hino Motors Limited)
- REMARQUES** Le cours s'effectuera en français ou par traduction du japonais en français.

**AUTOMATIC CONTROL
(GENERAL INTRODUCTION)**

July 3, '95 - Nov. 22, '95, 7 participants

自動制御(基礎)

J-95-00310

- PURPOSE** This training course is programmed for those who specialized in mechanical engineering, electrical engineering and measurement in the faculty of technology at university. 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 cultivate participants' own basic and practical knowledge of automatic control so as 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) sequency control (8) industrial electric control system
- QUALIFICATION OF APPLICANT** (1) have more than four years of occupational experience in the field of production, planning of plants and machinery (2) presently engaged in automation, or will be engaged in, in the near future (3) university graduate in electrical, control or mechanical engineering, or equivalent (4) 40 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) Fukuoka Industrial Technology Center, Mechanics and Electronics Research Institute
- REMARKS** A compulsory 25 hour Japanese language course will be conducted prior to the technical training.

PLANT MAINTENANCE MANAGEMENT

Jan. 15, '96 - May 18, '96, 9 participants

保全管理

J-95-00413

- PURPOSE** The purpose of this course is to enhance the maintenance management capability of the managers and engineers in the maintenance departments of processing industries. The course provides the 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.
- 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
- 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
- TRAINING INSTITUTIONS** (1) Kyushu International Centre (KIC), JICA (2) Kitakyushu International Techno-cooperative Association
- REMARKS** A compulsory 25 hour Japanese language course will be conducted prior to the technical training.

**MACHINE CONDITION DIAGNOSIS TECHNIQUE
(INSPECTION TECHNIQUE FOR PLANT MAINTENANCE)**

June 26, '95 - Oct. 21, '95, 9 participants

設備診断技術

J-95-00338

- PURPOSE** This training course is set up for maintenance directors, managers and engineers in developing countries who are responsible for planning, management and supervision of maintenance activities. The purpose of the course is to provide participants with new inspection techniques for plant maintenance including the latest diagnosis techniques and condition based maintenance system.
- MAIN FEATURES OF CURRICULUM** The training course is programmed to help participants acquire knowledge on inspection techniques including the latest 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 control (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)
- QUALIFICATION OF APPLICANT** (1) presently engaged in maintenance work in industrial plants and have more than three years of maintenance experience (2) have more than one year of experience in computer operation (3) university graduate in engineering or equivalent (4) 35 years of age or less
- TRAINING INSTITUTIONS** (1) Kyushu International Centre (KIC), JICA (2) Kitakyushu International Techno-cooperative Association (3) Kyushu Institute of Technology
- REMARKS** A compulsory 25 hours Japanese language course will be conducted prior to the technical training.

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

May 29, '95 - Oct. 26, '95, 8 participants

プラント用機械保全部品

J-95-00339

- PURPOSE** This training course is set up for the plant maintenance managers or engineers in charge of spare parts control, procurement or manufacture of the parts. The purpose of the course is to enable participants to: (1) make out the plannings, designs or documents necessary to order spare parts for the domestic manufacturer (2) develop their ability to instruct and control the quality, cost or delivery for the domestic parts manufacturer (3) develop their ability to improve parts for prolonging useful life or reclaim broken or damaged parts
- MAIN FEATURES OF CURRICULUM** Participants will acquire the knowledge and techniques required for the domestic production or reclamation of spare parts. The main themes are: (1) basic subjects on machine parts and unit design techniques (2) systematizing inventory control of spare parts for repairs (3) analyzing the causes of machine parts breakdown (4) choosing proper materials as well as improving the materials by heat treatment or surface processing (5) improving parts design for longer life (6) preparation of technical specification for ordering spare parts and/or basic knowledge required for instructing parts manufacturers (7) techniques on reclaiming broken or damaged spare parts (8) applying computer to design and control of spare parts
- QUALIFICATION OF APPLICANT** (1) have 5 to 15 years' occupational experience in the field of maintenance engineering (2) in charge of spare parts making, purchasing and controlling of spare parts (3) university graduate or the equivalent in mechanical engineering (4) between 27 and 40 years of age
- TRAINING INSTITUTIONS** (1) Kyushu International Centre (KIC), JICA (2) Kitakyushu International Techno-cooperative Association (3) Fukuoka Industrial Technology Center
- REMARKS** A compulsory 25 hour Japanese language course will be conducted prior to the technical training.

HIGH TECHNOLOGY OF METAL WORKS II

Sep. 11, '95 - Mar. 1, '96, 6 participants

金屬加工高品質化技術II

J-95-00175

- PURPOSE** The course aims at providing engineers who are at present working at research institutes or industries 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) metal works technologies (2) die-making and design including CAD/CAM (3) precision measurement technology (4) related technologies; heat treatment, surface modification, etc.
- QUALIFICATION OF APPLICANT** (1) engineer presently engaged in metal works technology at industry/research or educational institutes with more than two years of experience (2) university graduate or equivalent (3) between 26 and 35 years of age
- TRAINING INSTITUTIONS** (1) Nagoya International Training Centre (NITC), JICA (2) Government Industrial Research Institute, Nagoya (GIRIN) (3) Industrial Research Institute, Aichi Prefectural Government (4) Aichi Industrial Research Association (AIRA)
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for four weeks (100 hours).

FACTORY MANAGEMENT FOR PRODUCTION MANAGERS IN MACHINING INDUSTRY

May 8, '95 - Sep. 14, '95, 5 participants

生産工程管理技術

J-95-00266

- PURPOSE** The purpose of the course is to provide production managers and industrial engineers with practical knowledge and application on process design and improvement related to jigs and fixtures vis-a-vis factory management. Furthermore, the course aims to develop the capability to establish an effective production system which can fully utilize existing manufacturing technology and skill.
- MAIN FEATURES OF CURRICULUM** In the course, the emphasis is put on lectures, practical training and observations. The main themes are: (1) industrial development from macroscopic viewpoint (2) practical knowledge of jigs and fixtures (3) application of jigs and fixtures to process design and improvement (4) practices of plant management (5) plant improvement techniques (6) integrated production system
- QUALIFICATION OF APPLICANT** (1) university graduate or equivalent with occupational experience of more than five years (2) in charge of production management, industrial engineering, production engineering, etc. (production manager, supervisor and industrial engineer are most preferable, engineers in other field of engineering will be acceptable.) (3) under 45 years of age
- TRAINING INSTITUTIONS** (1) Nagoya International Training Centre (NITC), JICA (2) CHU-SAN-REN (Central Japan Industries Association) (3) related industries
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for two weeks (85 hours).

AIR-CONDITIONING ENGINEERING

Aug. 7, '95 - Dec. 6, '95, 6 participants

空調技術

J-95-00383

- PURPOSE** This course is organized for the purpose of fostering middle class administrative engineers who are equipped with comprehensive techniques and knowledge required to design, install, operate, and maintain various kinds of most advanced air-conditioning systems. It is expected of them to train engineers and give them proper instructions and advice, after finishing this course.
- MAIN FEATURES OF CURRICULUM** This course consists of lectures and practices as follows: (1) hardware (fundamentals of air conditioner) (2) software (general study of air conditioning systems) (3) quality control (a) process management (b) quality control technology (4) practice (a) general work of system design (b) drawing up plans (c) application designing of equipment (d) execution of general design work (5) factory visits for related equipment
- QUALIFICATION OF APPLICANT** (1) graduates from university majoring in the field of mechanical engineering or electrical engineering (2) under 40 years of age (3) experience of at least three years in air-conditioning engineering including system layout
- TRAINING INSTITUTIONS** (1) Osaka International Centre (OSIC), JICA (2) Kanaoka Training Center, Sakai Plants, Daikin Industries Ltd. (3) Daikin Plant Co., Ltd.
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for two weeks.

MATERIAL HANDLING SYSTEM IN THE PLANT FOR HIGH PRODUCTIVITY

Nov. 27, '95 - Apr. 21, '96, 7 participants

工場搬送システム

J-95-00414

- PURPOSE** The ratio of haulage in total production cost is considerably large in manufacturing. Therefore, in order to reduce production costs, it is very important to plan and introduce appropriate material handling in factories. Considering the above condition, this training course aims at instructing participants about planning and basic design of equipment used in material handling in plants.
- MAIN FEATURES OF CURRICULUM** (1) basis of physical distribution, and the outline of physical distribution equipment (2) factory plan and distribution management (3) planing and case studies of product distribution in factories (4) outline of industrial engineering (5) basic design of distribution equipment (cranes) by personal computer and CAD (6) plant maintenance and maintenance management
- QUALIFICATION OF APPLICANT** (1) university graduates in engineering or the equivalent (2) be engineers who have at least 3 years of occupational experience in the field of plant equipment (3) 40 years of age or less
- TRAINING INSTITUTIONS** (1) Kyushu International Centre (KIC), JICA (2) Kitakyushu International Techno-cooperative Association
- REMARKS** (1) A compulsory 25 hour Japanese language course will be conducted prior to the technical training.