INFRASTRUCTURE

No. 59

BRIDGE ENGINEERING (橋梁工学)

1. PERIOD

August 13, 1987 to October 30, 1987 (3-months)

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Fifteen (15)

3. QUALIFICATIONS

1) University graduates or equivalent with occupational experience of more than 3 years
2) Qualified in their respective fields
3) Presently engaged in highway construction
4) Under 35 years of age
5) Good working knowledge of English

4. DESCRIPTION OF TRAINING

1) Lectures and practical training
   - Structural analysis of bridges
   - Bridge design theory
   - Design and construction of reinforced concrete bridge
   - Design and construction of prestressed concrete bridge
   - Design and construction of composite beams
   - Design and construction of foundation
   - Aerodynamic design
   - Maintenance of bridge
2) Observation

5. FACILITIES AND INSTITUTIONS

Ministry of Construction

6. REMARKS

No. 60

HIGHWAY CONSTRUCTION (SEMINAR) (ハイウェイセミナー)

1. PERIOD

September 24, 1987 to November 15, 1987 (2 months)

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Fifteen (15)

3. QUALIFICATIONS

1) Graduated from any educational institute (technical) or equivalent
2) Qualified in their respective fields
3) Occupational experience of more than 5 years
4) Under 40 years of age
5) Good working knowledge of English

4. DESCRIPTION OF TRAINING

1) Lectures and practical training
   - Road system planning
   - Maintenance and repairs
   - Pavement earth work
2) Observation tours
   - Road Traffic Information Centre
   - Kansai district

5. FACILITIES AND INSTITUTIONS

1) Road Bureau, Ministry of Construction

6. REMARKS

No. 61

CONSTRUCTION ENGINEERING (CIVIL WORKS) (建設施工)

1. PERIOD

August 24, 1987 to December 14, 1987 (4.5 months)

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Ten (10)

3. QUALIFICATIONS

1) University or college graduates who are specialized in civil engineering, or equivalent

2) Occupational experience of more than 5 years in planning, design, execution and project control of construction

3) Good working knowledge of English

4) Under 40 years of age

4. DESCRIPTION OF TRAINING

1) Lectures
   - International Construction Project
   - Basic engineering
   - Construction Management
   - Construction Technology (Road and Others)

2) Observation
   - Visit and observation to construction site
   - Study tour

5. FACILITIES AND INSTITUTIONS

1) Ministry of Construction

2) Faculty of Engineering, Kyoto University

3) Osaka International Training Centre, JICA

6. REMARKS

No. 62

TECHNOLOGY FOR DISASTER PREVENTION (SEMINAR) (防災技術セミナー)

1. PERIOD

September 28, 1987 to December 14, 1987 (3 months)

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Nine (9)

3. QUALIFICATIONS

1) University graduates in the related sciences or technologies, or those who have equivalent qualifications in the field of disaster prevention administration

2) Should have experiences of more than seven (7) years in this field

3) Under 40 years of age

4) Good working knowledge of English

4. DESCRIPTION OF TRAINING

1) Lectures and discussions
   - Seismology and earthquake damage mitigation
   - Earthquake engineering
   - Prevention against tsunami and fire induced by an earthquake
   - Rainfall disaster and flood control
   - Human behavior at times of emergency

2) Advanced study on;
   - Geology
   - Floods
   - Earthquake

3) Observation tours

5. FACILITIES AND INSTITUTIONS

1) National Research Center for Disaster Prevention

2) Tsukuba International Centre, JICA

6. REMARKS

No. 63

SOIL ENGINEERING AND FOUNDATION (土質及び基礎工学)

1. PERIOD

October 19, 1987 to December 16, 1987 (2.5-months)

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Nine (9)

3. QUALIFICATIONS

1) University graduates or equivalent (soil engineering)
2) More than 8 years practical experience in central or local governments
3) Under 45 years of age
4) Good working knowledge of English

4. DESCRIPTION OF TRAINING

1) Lectures
   - Outline of earth structures
   - Outline of foundation of structures
   - Site exploration and laboratory soil test
   - Outline of ground water
   - Improvement of soil engineering properties
   - Evaluation of soil foundation design-case study
   - Others
2) Discussions with the guidance of Japanese lecturers
   - Soil improvement planning, foundation design, project feasibility, etc.
3) Practice
   - Soil survey method
   - Soil test method
   - Foundation design
4) Observation tours

5. FACILITIES AND INSTITUTIONS

Ministry of Construction

6. REMARKS

No. 64

REGIONAL DEVELOPMENT PLANNING (SEMINAR) (国土開発セミナー)

1. PERIOD

September 17, 1987 to October 31, 1987 (1.5 month)

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Nine (9)

3. QUALIFICATIONS

1) Presently engaged in the planning or implementation of national or regional development projects and policy

2) Under forty (40) years of age

3) Good working knowledge of English

4. DESCRIPTION OF TRAINING

1) Lectures and discussions
   - History of regional development policy in Japan
   - Population problems and regional development planning
   - Urban and rural area development planning
   - Land use plan, watet resources development plan, transportation plan and housing plan
   - Disaster countermeasure in Japan
   - Theory and method of regional development planning

2) Observation tours

5. FACILITIES AND INSTITUTIONS

National Land Agency

6. REMARKS

No. 65

RIVER and DAM ENGINEERING (河川及びダム工学)

1. PERIOD

July 16, 1987 to November 19, 1987 (4.5 months)

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Eleven (11)

3. QUALIFICATIONS

1) University graduates specialized in civil engineering or equivalent
2) Occupational experience of more than 3 years in the field of river administration or water resources development
3) Under 35 years of age
4) Good working knowledge of English

4. DESCRIPTION OF TRAINING

1) Introduction (Characteristics of river and the outline of river works in Japan)
2) Hydrology (Statistical procedure of hydrological data and the run-off analysis)
3) River Planning (only for River group) (techniques for river planning and design of river facilities)
4) Dam engineering (only for Dam group) (techniques for planning, design, construction, operation and maintenance of dam)
5) SABO (Erotion and sediment control) works
6) Individual training
7) Observation tours

5. FACILITIES AND INSTITUTIONS

1) Ministry of Construction
2) Tsukuba International Centre, JICA

6. REMARKS

Participants will be separated into two groups, namely River Group and Dam Group
River Group will learn the river improvement, and Dam Group will learn the techniques for dam project

No. 66

CITY PLANNING (都市計画)

1. PERIOD

August 6, 1987 to October 17, 1987 (2.5 months)

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Eleven (11)

3. QUALIFICATIONS

1) University graduates or equivalent with occupational experience of more than 3 years

2) Present engagement in city planning

3) Under 40 years of age

4) Good working knowledge of English

4. DESCRIPTION OF TRAINING

1) Lectures and discussions
   - Urban problems in Japan
   - Regional planning system in Japan
   - City planning system in Japan
   - Land-use planning and building regulations
   - Planning and development of transportation facilities
   - Planning and development of Parks and Greens
   - Planning and development of sewage system and water supply
   - Urban development project
   - Development of new resident cities
   - Housing plan

2) Observation tours

5. FACILITIES AND INSTITUTIONS

Ministry of Construction

6. REMARKS

No. 67

URBAN DEVELOPMENT (都市整備)

1. PERIOD

November 9, 1987 to December 22, 1987 (1.6 months)

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Seven (7)

3. QUALIFICATIONS

1) University graduates or equivalent with occupational experience of more than 3 years

2) Presently engaged in planning and/or implementation of urban development and redevelopment

3) Under forty (40) years of age

4) A sufficient command of spoken and written English

4. DESCRIPTION OF TRAINING

1) Lectures and observations — 15 days
   - Present situation of Japanese cities
   - Japanese policy for urban areas
   - Japanese administrative system and budget for urban development
   - Outline of city planning
   - Outline of Urban Development and Urban Facility Improvement
   - KUKAKU-SEIRI (Land Readjustment Project)
   - Urban Area Renewal Project
   - New Town Development Project

2) Presentation and Discussion of Country Report — 4 days

3) Free Discussion — 1 day
   Evaluation of various development and redevelopment measures and discussion on the applicability of each measures.

4) Observation tours — 9 days

5. FACILITIES AND INSTITUTIONS

Ministry of Construction

6. REMARKS

No. 68

HOUSING（住宅建設）

1. PERIOD

October 22, 1987 to December 14, 1987 (2 months)

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Eleven (11)

3. QUALIFICATIONS

1) Mid-career officers in charge of housing policy
2) University graduates or equivalent
3) Between 30 and 40 years of age
4) Good working knowledge of English

4. DESCRIPTION OF TRAINING

1) Lectures
   - Housing conditions and policies in Japan
   - Public housing supply
   - Housing finance
   - Urban planning system
   - Development of residential area
   - Modernization of housing production
   - Planning and development of new town
   - Housing problem and housing policy in developing countries
2) Group study
3) Presentation of country reports
4) Observation tours

5. FACILITIES AND INSTITUTIONS

Ministry of Construction

6. REMARKS

No. 69

BUILDING ENGINEERING (建築技術)

1. PERIOD

April 23, 1987 to June 24, 1987 (2 months)

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Thirteen (13)

3. QUALIFICATIONS

1) University graduates or eqivalents with occupational experience of more than five years
2) Be officials of the government or the related government organization
3) *Under 45 years of age*
4) Good working knowledge of English

4. *DESCRIPTION OF TRAINING*

1) Lectures
   - Introduction
   - Building standard law
   - Public building activities
   - Private building activities
   - Research and educational activities
   - Building planning technique
   - Standards, standardization and experiment
   - Building construction technique

2) Observation tours
3) Country report
4) Group study

5. FACILITIES AND INSTITUTIONS

Ministry of Construction

6. REMARKS

No. 70

SURVEYING AND MAPPING (MAP COMPILATION AND REPRODUCTION) (測量技術)

1. PERIOD

June 1, 1987 to December 5, 1987 (6.5 months)

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Ten (10)

3. QUALIFICATIONS

1) Be *junior engineers engaged* in map compilation and reproduction at present or in the near future, and have the knowledge of mathematics and chemistry of senior high school finished level or equivalent, with occupational experience of more than 3 years in the field of cartographic works or reproduction.

2) Good working knowledge of English

3) Under thirty-five (35) years age

4. DESCRIPTION OF TRAINING

1) Introduction (Current activities for surveying and mapping in Japan and the activities for geodetic surveying of GSI)

2) Medium scale mapping and atlas compilation

3) Geographic survey

4) Map reproduction

5) Map information

6) Individual training

5. FACILITIES AND INSTITUTIONS

1) Geografical Survey Institute (GSI), Ministry of Construction

2) Tsukuba International Centre, JICA

6. REMARKS

No. 71

HYDROGRAPHIC SURVEY (水路測量)

1. PERIOD

April 30, 1987 to November 5, 1987 (6 months)

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Ten (10)

3. QUALIFICATIONS

1) University graduates or equivalents with some occupational experience in hydrographic servises
2) Present employment at national hydrographic office or other related organization
3) Under forty (40) years of age
4) Good working knowledge of English

4. DESCRIPTION OF TRAINING

1) General aspect of hydrographic survey
2) Geodesy
3) Map projection
4) Control survey
5) Coastlining
6) True north survey
7) Electronic survey
8) Sounding
9) Harbour survey planning
10) Submarine topography and geology
11) General aspect of ocean survey
12) Tide
13) Geomagnetism
14) Gravity
15) Outline of computer programming
16) General aspect of photogrammetric survey
17) Automatic data logging and processing system
18) Field training of harbour and coastal surveys, including tidal observation
19) Field training of ocean survey
20) Field training of geomagnetic observation
21) Data processing of harbour and coastal surveys
22) Data processing of ocean survey
23) Observation and study tour

5. FACILITIES AND INSTITUTIONS

Hydrographic Department, Maritime Safety Agency

6. REMARKS

No. 72

NAUTICAL CARTOGRAPHY（海図作製）

1. PERIOD

November 5, 1987 to February 14, 1988 (3.5 months)

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Eight (8)

3. QUALIFICATIONS

1) Junior college or special school graduates or equivalent

2) Qualified in their respective fields

3) Under 35 years of age

4) Good working knowledge of English

4. DESCRIPTION OF TRAINING

1) Lectures and practical training
   - Nautical chart in general
   - How to use chart
   - Principle of cartography
   - Collection and evaluation of chart information
   - Computer assisted cartography including practice
   - Practical training of planning, compiling, drafting and printing of chart

2) Observation tours

5. FACILITIES AND INSTITUTIONS

Hydrographic Department, Maritime Safety Agency

6. REMARKS

POSTAL SERVICE, TELECOMMUNICATION AND BROADCASTING

No. 73

RADIO FREQUENCY MONITORING (電波監視)

1. PERIOD

August 10, 1987 to October 3, 1987 (2 months)

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Nine (9)

3. QUALIFICATIONS

1) Be those who have practical experience in the field of radio regulatory administration (radio frequency monitoring, frequency management, etc.) or those who may engage in this field of work within a year,

2) Be college graduates or those who have the equivalent knowledge,

3) Have a sufficient command of spoken and written English,

4) Be under forty (40) years of age

4. DESCRIPTION OF TRAINING

1) Lecture
- –Outline of Radio Regulatory Administration Laws and Regulations of Radio Regulations
- –Frequency Management
- –Practice of Frequency Allocation
- –Radio Operators Qualification System
- –Organization and System of Monitoring Activities
- –Practical Rules of Monitoring Activities (Inspection, Detection of Illegal Frequency, Investigation of Interference and International Monitoring)
- –Site Selection of Monitoring Stations
- –Outline of monitoring facilities
- –Maintenance of Monitoring Equipment
- –Aeronautical Radio Station
- –Land Radio Communication Station (I), (II)
- –Maritime Radio Station
- –System for Telecommunications Administration Real-Time Service (STARS)

2) Practice
- –Monitoring Equipment
- –Operation of Monitoring Equipment (Measurement of Frequency and Frequency Band Width, Automatic Frequency Spectrum Recorder and Measurement of Field Strength, Direction Finder and Movie Monitoring VAN)
- –Practical study at the Telecommunications Dept. of the Kanto Telecommunications Administration Bureau
- –Practical study at the International Monitoring Dept. Kanto Telecommunications Administration Bureau

3) Observation tours

5. FACILITIES AND INSTITUTIONS

Ministry of Posts and Telecommunications

6. REMARKS

No. 74

POSTAL EXECTIVES' SEMINAR (郵政幹部セミナー)

1. PERIOD

March 6, 1988 to March 20, 1988 (0.5 month)

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Thirteen (13)

3. QUALIFICATIONS

1) Directors or high-ranking officials in charge of postal administration in governmental organizations

2) Good working knowledge of English

4. DESCRIPTION OF TRAINING

1) Lectures and discussions on problems concerning the management of postal services

2) Observation tours

5. FACILITIES AND INSTITUTIONS

Postal Bureau, Ministry of Posts and Telecommunications

6. REMARKS

No. 75

INTERNATIONAL TELEX COMMUNICATION ENGINEERING (国際テレックス通信技術)

1. PERIOD

August 24, 1987 to November 9, 1987 (2.5 month)

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Twelve (12)

3. QUALIFICATIONS

1) Be university graduates who majored in telecommunications and/or electrical engineering, or those who have the equivalent technical knowledge,

2) Be currently engaged in international telex communication engineering work,

3) Have a sufficient command of spoken and written English,

4) Be under forty-five (45) years of age

4. DESCRIPTION OF TRAINING

1) Lectures
   - —Fundamental of computer
   - —Latest telecommunication technology
   - —Consideration in Telex switching system planning
   - —Stored Program control switching system
   - —Other

2) Field practice at relevant KDD field offices

3) Observation tours

5. FACILITIES AND INSTITUTIONS

Kokusai Denshin Denwa Co., Ltd. (KDD)

6. REMARKS

No. 76

INTERNATIONAL TELECOMMUNICATION SERVICES (ADMINISTRATION AND COMMERCIAL) (国際通信業務)

1. PERIOD

April 23, 1987 to July 6, 1987 (2.5 month)

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Twelve (12)

3. QUALIFICATIONS

1) *University graduates or equivalent*

2) Presently engaged in traffic and commerical work of international telegraph or telephone services

3) Occupational experience of more than 5 years in the field of international telecommunication services

4) Good working knowledge of English

4. DESCRIPTION OF TRAINING

1) Lectures

– Management	Traffic Demand Forecast
	International Accounting
	Billing & Collection
	Circuit Planning
	Tariff
	Personnel Management
	Employees' Training in KDD
	Customer Relations Activities
	Audio-visual Training Method
– System	KDD's Telecom Facilities
	Fundamentals of Computers
	Telegraph Automation System
	Telex Switching System
	Telephone Switching System
	Submarine Cable
	Business Computerization
	Satellite Communication System
	Outline of ISDN
	Network Management
– Service & Operation	Trend of New Services
	Leased Circuit
	Telephone
	Telex
	Date Systems
	VENUS-P
	TV Transmission

2) Field Practice
Field Practice will be conducted at relevant KDD field offices.

3) Observation tours

5. FACILITIES AND INSTITUTIONS

Kokusai Denshin Denwa Co., Ltd. (KDD)

6. REMARKS

No. 77

INTERNATIONAL TELEPHONE COMMUNICATION ENGINEERING (国際電話通信技術)

1. PERIOD

January 11, 1988 to March 28, 1988 (2.5 months)

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Twelve (12)

3. QUALIFICATIONS

1) University graduates or equivalent, majoring in telecommunications and or electrical engineering
2) Under 45 years of age
3) Good working knowledge of English
4) Basic knowledge of telephone switching technology, and to be currently engaged in or expected to be engaged in the field of establishment and maintenance of international telephone switching network

4. DESCRIPTION OF TRAINING

1) Lectures
   - International telephone service operation: General. Semi-automatic operation and ISD Service
   - Considerations in telephone switching system and network planning
     (1) Planning of international telephone switching system
     (2) Traffic management
     (3) Specification of telephone switching system
         Network structure, Numbering plan, Routing plan and Signalling systems
     (4) Network planning

–Fundamental of Computer technology	(1) Basic computer technology (2) Programming technology
–Fundamental of electronic telephone switching technology	(1) Basic concepts of electronic switching system (2) PCM communication (3) Digital multi terminal, Digital synchronous terminal
–KDD Digital Switching system	(1) Outline of XE-20 Digital SWG System (2) Hardware of XE-20 Digital SWG System (3) Software (Call process) of XE-20 Digital SWG System (4) Operation & Maintenance of XE-20 Digital SWG System (5) Operation & Maintenance of XE-10 Digital SWG System (6) Outline of XE-1 SPC SWG System

2) Field practice
   Field practice will be conducted at relevant KDD field offices.
3) Observation tours

5. FACILITIES AND INSTITUTIONS

Kokusai Denshin Denwa Co., Ltd. (KDD)

6. REMARKS

No. 78

INTERNATIONAL DATA COMMUNICATIONS ENGINEERING (国際データ通信技術)

1. PERIOD

January 11, 1988 to March 21, 1988 (2.5 month)

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Ten (10)

3. QUALIFICATIONS

1) University graduates or equivalent, majoring in telecommunication and/or electrical engineering

2) Have a basic knowledge of Computer

3) Currently engaged or expected to engage in the engineering field of International Data Communication Services

4) Under 40 years of age

5) Have a sufficient command of spoken and written English

4. DESCRIPTION OF TRAINING

1) Lectures
   - Introduction to Data Communications
   - Data Transmission
   - Data Switching
   - International Data Communications Technologies
   - Data Communications Systems
   - New Communications Services
   - Current Status of Data Communications

2) Field practice
   Field practice will be conducted at relevant KDD field offices

3) Observation tours

5. FACILITIES AND INSTITUTIONS

Kokusai Denshin Denwa Co., Ltd. (KDD)

6. REMARKS

No. 79

DIGITAL SWITCHING SYSTEMS ENGINEERING (I) (ディジタル交換技術(基本))

1. PERIOD

May 14, 1987 to August 2, 1987 (2.5 months)

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Fifteen (15)

3. QUALIFICATIONS

1) Qualified in their respective fields
2) University graduates or equivalent
3) Working for telecommunication administrations or common career organizations
4) Sufficient practical experience on their own switching systems
5) Under 40 years of age
6) Good working knowledge of English

4. DESCRIPTION OF TRAINING

1) Lectures and practical training
   - Basic and Theoretical Technology for Telecommunications
     Basic telephone switching technology, Integrated services digital network, Telecommunication processing technology
   - Electronic switching system (ESS)
   - Practical exercise using D70
2) Observation tours

5. FACILITIES AND INSTITUTIONS

Nippon Telegraph and Telephone Corporation (NTT)

6. REMARKS

No. 80

DIGITAL SWITCHING SYSTEMS ENGINEERING (II) (ディジタル交換技術(応用))

1. PERIOD

September 28, 1987 to December 20, 1987 (3 months)

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Fifteen (15)

3. QUALIFICATIONS

1) University graduates or equivalent
2) Working for telecommunication administrations or common career organizations
3) Sufficient practical experience on their own switching systems
4) Under 40 years of age
5) Good working knowledge of English

4. DESCRIPTION OF TRAINING

1) Lectures and practical training
   – Basic and theoretical technology for switching system
   The basic concept of a telephone switching system, which consists of routing, numbering, signaling, charging plan and an outline of traffic theory, will be explained. This information will give the participants background data on fundamental functions regarding operations of a telephone switching system composing a part of a telephone network.

   – Electronic switching systems (ESS)

   (1) Stored programme characteristics, switching process, hardware and software configuration of the D70 ESS (Digital) will be explained.

   (2) A series of procedures from traffic forecasting to plant-design of the D70 system via equipment estimation will be explained, including a case study. Maintenance philosophy will be briefly presented.

   – Practical studies
   Participants will conduct practical exercise, using D70 installed at NTT's Central Training School, to increase the knowledge acquired during lectures as well as emphasizing practical applications of this data.

2) Observation tours

5. FACILITIES AND INSTITUTIONS

Nippon Telegraph and Telephone Corporation (NTT)

6. REMARKS

All participants are requested to submit a brief report written in English on the present situation of telecommunications, its future programs and its problems in applicants' country.

No. 81

DIGITAL TRANSMISSION SYSTEMS ENGINEERING (I) (ディジタル伝送技術(基本))

1. PERIOD

July 9, 1987 to October 16, 1987 (3.5 months)

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Fifteen (15)

3. QUALIFICATIONS

1) University graduates or equivalent.

2) Working for telecommunication administrations or common carrier organizations

3) Under 40 years of age

4) A sufficient command of spoken or written English

4. DESCRIPTION OF TRAINING

1) Lectures and practical training
   - Transmission system basic and theoretical knowledge
     In this subject, transmission techniques or concepts which intensify the understanding of transmission system are dealt with such as various amplifier circuits, modulator & demodulator and pulse circuits.
   - Frequency division multiplex systems
     Various kind of FDM systems are briefly explained, including the latest development trends.
   - Time division multiplex systems
     General knowledge of TDM, from the principles to introductions for actual systems, are dealt with.
   - Application technique
     Application technique required for transmission system is also given, such as transmission planning, plant designing and so forth.
   - Practical studies based on PCM-24B system and CP-12M coaxial cable system

2) Observation tours

5. FACILITIES AND INSTITUTIONS

Nippon Telegraph and Telephone Corporation (NTT)

6. REMARKS

All participants are requested to submit a brief report written in English on the present situation of telecommunications, its future programs and its problems in applicans' country.

No. 82

DIGITAL TRANSMISSION SYSTEMS ENGINEERING (II) （ディジタル伝送技術（応用））

1. PERIOD

July 20, 1987 to October 30, 1987 (3.5 months)

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Ten (10)

3. QUALIFICATIONS

1) Qualified in their repective fields

2) University or college graduates or equivalent who majored in telecommunication or electrical engineering

3) Working for telecommunication administrations or common carrier organization

4) Under 40 years of age

5) Good working knowledge of English

4. DESCRIPTION OF TRAINING

1) Lectures and practical training
   - Fundamental Knowledge of Digital Network
   - Digital Line Transmission System
   - Microwave Communication System
   - Practical Study
   - Administration Techniques
   - Practical Exercise

2) Observation tours

5. FACILITIES AND INSTITUTIONS

Nippon Telegraph and Telephone Corporation (NTT)

6. REMARKS

No. 83

RADIO COMMUNICATION ENGINEERING (無線通信技術)

1. PERIOD

July 30, 1987 to November 7, 1987

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Thirteen (13)

3. QUALIFICATIONS

1) University graduates or equivalent majored in telecommunication or electrical engineering
2) Working for telecommunication administrations or common career organizations
3) Under 40 years of age
4) Good working knowledge of English

4. DESCRIPTION OF TRAINING

1) Lectures and practical training
   - Basic radio communication engineering; FM transmission theory, digital transmission theory, microwave propagation
   - Radio communication systems; line-of-sight FM and digital systems, trans-horizon systems, satellite systems, mobile radio-systems and rural telecommunication system
   - Radio communication equipment; repeater, power plant antenna and components & devices
   - Practical experiments and system designing work

2) Observation tours
   - Fundamental knowledge of Digital Transmission
     Basic of digital transmission, Digital microwave communication technique, Radio propagation and diversity technique, Optical fiber transmission
   - Microwave communication system
     Satellite communication system, rural telecommunications, Mobile communication system, FM microwave TV transmission system
   - Microwave communication equipments
   - Practical study
     Transmission standards, Microwave relay system design
   - Administration techniques
   - Practical exercise
     PCM-24, Digital multiplexer, Optical fiber transmission system

5. FACILITIES AND INSTITUTIONS

Nippon Telegraph and Telephone Corporation (NTT)

6. REMARKS

No. 84

TELECOMMUNICATION OUTSIDE PLANT ENGINEERING （通信線路技術）

1. PERIOD

June 11, 1987 to September 19, 1987 (3.5 months)

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Fifteen (15)

3. QUALIFICATIONS

1) Qualified in their respective fields
2) University graduates or equivalent
3) Working for telecommunication administrations or common carrier organizations
4) Sufficient practical experience on telephone outside plant system
5) Under 40 years of age
6) Good working knowledge of Egnlish

4. DESCRIPTION OF TRAINING

1) Lectures and practical training
   - Digital Line Transmission System Engineering
   - Fundamental Knowledge of Outside Plant Engineering
   - Outside Plant Engineering
   - Design Engineering
   - Maintenance Engineering
   - Construction Engineering
   - Method of Measurement

2) Observation tours
   - Tour through a Factory
   - Procticing in Telephone Office
   - Kansai-Chugoku Tour

5. FACILITIES AND INSTITUTIONS

Nippon Telegraph and Telephone Corporation (NTT)

6. REMARKS

No. 85

TELECOMMUNICATION EXECUTIVES' SEMINAR (電気通信幹部セミナー)

1. PERIOD

September 27, 1987 to October 11, 1987 (0.5 month)

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Eleven (11)

3. QUALIFICATIONS

1) Qualified in their respective fields

2) Directors general or high-ranking officials responsible for management or administration of telecommunications in government or operational organizations

3) Good working knowledge of English

4. DESCRIPTION OF TRAINING

1) Lectures and practical training
   - Management of telecommunications
   - Introduction to telecommunication management in Japan
   - Present situation and future telecommunication management
   - Problems of telecommunication management particularly in participating countries
   - Various related institutions and manufacturing plants

2) Observation tours

5. FACILITIES AND INSTITUTIONS

Ministry of Posts and Telecommunications

6. REMARKS

No. 86

SATELLITE COMMUNICATION ENGINEERING (REGULAR) (衛星通信技術(普通))

1. PERIOD

April 23, 1987 to July 27, 1987 (3.0 months)

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Twelve (12)

3. QUALIFICATIONS

1) Qualified in their respective fields
2) University graduates or equivalent majored in telecommunications or electric/electronic engineering
3) Fundamental knowledge of microwave engineering such as microwave propagation, microwave elements and microwave communication system
4) Experience in the field of INTELSAT satellite communications service
5) Engaged in the field of satellite communication service
6) Good working knowledge of English
7) Under 40 years of age

4. DESCRIPTION OF TRAINING

1) Lectures and practical training
   - Outline of Microwave Communication Technology
   - Outline of Satellite Communication Technology
   - Satellite Communication System
   - Facilities of Satellite Earth Station
   - Operation and Maintenance of Satellite Earth Station
2) Observation tours
   - Earth station system configuration
   - Earth station facilities

5. FACILITIES AND INSTITUTIONS

Kokusai Denshin Denwa Co., Ltd. (KDD)

6. REMARKS

No. 87

SATELLITE COMMUNICATION ENGINEERING (ADVANCED) (衛星通信技術(上級))

1. PERIOD

August 24, 1987 to November 9, 1987 (2.5 month)

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Twelve (12)

3. QUALIFICATIONS

(1) Be university graduates who majored in telecommunications or electric/electronics engineering, or have completed the Group Training Course in the Satellite Communication Engineering (Regular) conducted by the Government of Japan, and have had experience of not less than three years in the field of INTELSAT satellite communication service since then,

(2) Have a sufficient command of spoken and written English,

(3) Be under forty-five (45) years of age,

4. DESCRIPTION OF TRAINING

1) Lectures and practical training
- INTELSAT System
- Satellite Communication and Radio Wave Transmission
- INTELSAT Communication System and Related Technology
- Facilities of Satellite Earth Station
- Maritime Satellite Communication
- Maintenance Management
- Field Practice

2) Observation tours
- KDD Facilities
- NTT Television Relay Center
- Mitsubishi Electric Kamakura Plant

5. FACILITIES AND INSTITUTIONS

Kokusai Denshin Denwa Co., Ltd. (KDD)

6. REMARKS

No. 88

TELECOMMUNICATION NETWORK PLANNING AND DESIGNING（通信網計画設計）

1. PERIOD

September 21, 1987 to December 13, 1987 (3 months)

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Fifteen (15)

3. QUALIFICATIONS

1) University graduates or equivalent majored in telecommunication or electrical engineering
2) Working in telecommunications or common carrier organizations
3) Under 40 years of age
4) Good working knowledge of English

4. DESCRIPTION OF TRAINING

(1) Lectures and practical training
   1) Telecommunication network design
   This study deals with design techniques required to establish a nation-wide telecommunication network.
   2) Outlines of various facilities
   Brief explanations of various facilities making up the network are given.
   3) Expansion planning techniques
   Yearly and long term expansion planning techniques, including practical exercises, are deals with.

(2) Observation tours to Kansai Area

5. FACILITIES AND INSTITUTIONS

Nippon Telegraph and Telephone Corporation (NTT)

6. REMARKS

No. 89

DATA COMMUNICATION ENGINEERING (データ通信技術)

1. PERIOD

November 2, 1987 to February 7, 1988 (3.0 months)

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Ten (10)

3. QUALIFICATIONS

1) Working for data communication services, such as in digital switching, digital transmission or digital processing

2) University graduates or equivalent

3) Have a sufficient command of spoken and written English

4) Under 35 years of age

4. DESCRIPTION OF TRAINING

1) Lectures
   - Basic and Theoretical Technology for Data Communication Systems
     The basic concept of a data communication system consisting of information network, data transmission, transmission control procedures and computer technology will be explained.
   - Digital Data Switching Systems
     The switching process, and the hardware and software of the D-50 system will be explained. This will include an outline of the various digital data switching systems in the world. Maintenance philosophy will be briefly presented.

2) Practical studies
   Participants will conduct practical exercises, using the D-50 system installed at NTT's training school, to increase knowledge acquired from lectures.

3) Observation tours

5. FACILITIES AND INSTITUTIONS

Nippon Telegraph and Telephone Corporation (NTT)

6. REMARKS

No. 90

OPTICAL FIBER CABLE TRANSMISSION TECHNOLOGY

（光ファイバーケーブル伝送技術）

1. PERIOD

February 11, 1988 to March 28, 1988 (1.5 month)

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Five (5)

3. QUALIFICATIONS

1) *University graduates or equivalent*

2) Sufficient practical experience on their own transmission system

3) Under 40 years of age

4. DESCRIPTION OF TRAINING

1) *Lectures and practical training*
   - Fundamental of transmission technology
   - Optical fiber cable
   - Optical fiber transmission system
   - Latest optical fiber transmission systems
   - Field practice
   - Measuring technic

2) Observation tours
   Kansai observation tour

5. FACILITIES AND INSTITUTIONS

Japan Telecommunications Engineering and Consulting Service

6. REMARKS

No. 91

COLOR TELEVISION ENGINEERING (FUNDAMENTAL)

（テレビジョン放送技術（基礎））

1. PERIOD

July 20, 1987 to October 5, 1987 (2.5 month)

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Twelve (12)

3. QUALIFICATIONS

1) Be engineers serving in a broadcasting organization with a few years of practical experience in TV engineering or those who have knowledge of TV engineering enough to undergo this training course.

2) Be college or university graduates or those who have the equivalent technical knowledge in electronic engineering.

3) Have a sufficient command of spoken and written English

4. DESCRIPTION OF TRAINING

1) Lecture and Practice
   a) Color television fundamentals and operation of equipment and materials for broadcasting use.
   b) Techniques and working process of programme production.
   c) Application of digital techniques and personal computer to broadcast engineering.
   d) Measurement and adjustment of broadcast equipment.
   e) Recent technical development.

2) Field Training
   a) VTR and Telecine
   b) Programme production
   c) Television transmitter
   } *option*

3) Study and observation tour
   – Various facilities of NHK
   – Broadcast-equipment manufacturers etc.

5. FACILITIES AND INSTITUTIONS

1) NHK Communications Training institute

2) NHK Broadcasting Center

6. REMARKS

No. 92

COLOR TELEVISION ENGINEERING (ADVANCED) (テレビジョン放送技術(上級))

1. PERIOD

January 18, 1988 to March 7, 1988 (2.0 months)

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Ten (10)

3. QUALIFICATIONS

1) Be engineers 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

2) Be college graduates or those who have the equivalent technical knowledge in electronic engineering

3) Have a sufficient command of spoken and written English

4) Be healthy enough to undergo the course of training

4. DESCRIPTION OF TRAINING

1) Lectures and Practices
   - Color TV standard system (NTSC, PAL, SECAM and others)
   - TV sub-control facilities
   - Color TV camera engineering (studio camera, handled camera, VTR in camera)
   - Broadcasting application of digital and micro computer technique
   - Video tape recorders and editors (1 inch C-format, 3/4 inch U-format, 1/2 inch β cam format and others.)
   - Outside and direct satellite broadcasting
   - Simple program production

2) Observations
   - NHK Broadcasting Center
   - NHK Technical Research Laboratories
   - Manufacturers

3) Observation tours
   - NHK Local Station
   - Kansai District

5. FACILITIES AND INSTITUTIONS

1) NHK Communications Training Institute

2) Other NHK facilities

6. REMARKS

No. 93

EDUCATIONAL TELEVISION PROGRAMME (FUNDAMENTAL)

（教育テレビジョン番組（基礎））

1. PERIOD

July 20, 1987 to September 21, 1987 (2.0 months)

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Ten (10)

3. QUALIFICATIONS

1) *University graduates or equivalent*
2) Qualified in their respective fields (as a programme director)
3) Occupational experience of 5 to 10 years
4) Under 35 years of age
5) Good working knowledge of English
6) Continue working in the above mentioned field after returning to home countries

4. DESCRIPTION OF TRAINING

1) *Lectures, discussions and practical training*
   - General idea of educaitonal television
   - The fundamental production technique for educational programmes
   - The applied production technique for educational programmes
   - Practical training in programme production.

2) Observation tours
   - An observation of local NHK stations, schools using school program and historical sites

* Besides the above-mentioned, observation studies on programming at studios, discussions with producers and exchanges of opinions with specialists in broadcasting for education in Japan, are also scheduled in the training course.

5. FACILITIES AND INSTITUTIONS

1) NHK Communications Training Institute
2) Other NHK facilities

6. REMARKS

All participants are requested to submit a report (written in English within 2,000 words) and TV programmes which was produced by your own TV station to NHK Communications Training Institute upon their arrival Tokyo.

No. 94

EDUCATIONAL TELEVISION PROGRAMME (ADVANCED) (教育テレビジョン番組(上級))

1. PERIOD

January 18, 1988 to March 7, 1988 (2 months)

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Eight (8)

3. QUALIFICATIONS

1) Be serving in a broadcasting corporation directly and continuosly as a producer or director with practical experience of more than 7 years and less than 12 years in the field of educational television programme production.

2) Be under forty (40) years of age,

3) Be graduates of college or universities,or have an equivalent educational background,

4) Continue working in the above mentioned field after returning to their home countries,

5) Good working knowledge of English

4. DESCRIPTION OF TRAINING

1) Lectures, discussions and practical training
   —General idea and role of Educational Television to get a general outlook of the current situation of ETV in the world.
   —Practice of Programme Production to acquire the know—how of producing programme.
   —Observation of Actual Production Site to get acquainted with the production system of NHK.
   —Introduction to New Technology/New Media surrounding broadcasting

2) Observation Tour to local station of NHK and primary school.

5. FACILITIES AND INSTITUTIONS

1) NHK Communications Training Institute

2) NHK Broadcasting Center

6. REMARKS

All participants are requested to submit a report (written in English within 2,000 words) and TV programmes which was produced by your own TV station to NHK Communications Training Institute upon their arrival in Tokyo.

No. 95

TELEVISION BROADCASTING MANAGEMENT （テレビジョン放送管理）

1. PERIOD

From May 7, 1987 to June 19, 1987 (1.5 month)

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Ten (10)

3. QUALIFICATIONS

1) Staff with ranks higher than division-chief engaged in administrative or planning department of a television broadcasting organization.

2) College or university graduates, between 30 and 40 years of age

3) Good working knowledge of English.

4. DESCRIPTION OF TRAINING

1) Lecture and discussion
- Television broadcasting
- Management system of public and private broadcasting
- The latest engineering system of broadcasting
- The comprehensive activities of television broadcasting system

2) Field observation and study tour

5. FACILITIES AND INSTITUTIONS

1) Hachioji International Training Centre, JICA

2) Ministry of Posts and Telecommunications

6. REMARKS

No. 96

BROADCASTING EXECUTIVES' SEMINAR (放送幹部セミナー)

1. PERIOD

November 15, 1987 to November 29, 1987 (0.5 month)

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Nine (9)

3. QUALIFICATIONS

1) Directors general or equivalent high-ranking officials responsible for management or administration of broadcasting in government or operational organizations

2) Good working knowledge of English

4. DESCRIPTION OF TRAINING

1) Lectures and Discussion
   - Outline of Broadcasting in Japan
   - Management and Organization of Broadcasters in Japan
   - New Media of Broadcasting
   - Personnel Management and Training
   - Utilization of Broadcasting Programs in Education
   - Free Discussion using the Country Reports

2) Observation tours

5. FACILITIES AND INSTITUTIONS

Ministry of Posts and Telecommunications

6. REMARKS

All applicants are requested to submit a brief report written in English on the present situation of broadcasting and its problems in an applicant's country

No. 97

RADIO BROADCASTING ENGINEERING (RADIO TRANSMITTING) (ラジオ放送技術)

1. PERIOD

July 20, 1987 to September 14, 1987 (2.5 months)

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Eight (8)

3. QUALIFICATIONS

1) College graduates or equivalent
2) Qualified in their respective fields
3) Occupational experience of more than 3 years
4) Good working knowledge of English
5) Between 23 and 45 years of age

4. DESCRIPTION OF TRAINING

1) *Lectures and practical training*
   - Transmitting system in general
   - Basic theory
   - Outline of MW transmitter
   - Transmitter circuit
   - Outline of MW antenna
   - MW antenna
   - Field practice at MW transmitting station
   - FM broadcasting transmission
   - FM transmitter
   - FM antenna and VHF propagation
   - Full solid-state transmitter
   - Solid-state TX circuits
   - MW propagation and field strength measurement
   - Shortwave transmitter and antenna
   - Practical training and observation

2) *Observation tours*

5. FACILITIES AND INSTITUTIONS

1) NHK Communications Training Institute
2) Other NHK facilities

6. REMARKS

All participants are requested to submit a brief report written in English on the present situation of radio broadcasting, its future programs and its problems in applicants' country.

AGRICULTURE

No. 98

AGRICULTURAL CO-OPERATION（農業協同組合）

1. PERIOD

From May 7, 1987 to July 11, 1987 (2-month)

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Fifteen (15)

3. QUALIFICATIONS

1) University or professional school graduates, engaged in the offices of co-operative service
2) Be requested to work in the co-operative movement after participation in the course
3) Under 45 years of age
4) Good working knowledge of English

4. DESCRIPTION OF TRAINING

1) Lecture & Discussion
   - Management of Agri. Coops
   - Economic Business & Credit Business of Agri. Coops
   - Mutual Insurance Business of Agri. Coops
   - Farm Guidance Activities of Agri. Coops
   - Establishment of Farming Complex
   - Educational, Better Living Activities of Agri. Coops
   - Establishment of the Regional Agriculture Promotion Plan
2) Field observation and study tour

5. FACILITIES AND INSTITUTIONS

1) Hachioji International Training Centre, JICA
2) The Institute for the Development of Agricultural Cooperation in Asia (IDACA)

6. REMARKS

No. 99

AGRICULTURAL EXTENSION SERVICE (農業普及)

1. PERIOD

August 3, 1987 to November 15 1987 (3.5 month)

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Fifteen (15)

3. QUALIFICATIONS

1) University graduates or equivalents

2) Engaged in extension work for farmers or those engaged in a training of farm advisers, subject matter specialist (sma) or administration officer related to the agricultural extension with more than three years of experience

3) Under 45 years of age

4) Good working knowledge of English

4. DESCRIPTION OF TRAINING

1) Lectures and practical training
   - Agriculture and its extension services in Japan
   - Basic theory of extension method
   - Extension activities in the countries of participants

2) Observation tours
   - Extension offices
   - Experimental research facilities

3) Field study
   - Administration and management of extension service and education by the local government
   - Visit to extension stations, experimental research institutions and private companies, etc.

5. FACILITIES AND INSTITUTIONS

1) Extension and Education Division, Agricultural Production Bureau, Ministry of Agriculture, Forestry and Fiseries

2) Japan Agricultural Development and Extension Association

6. REMARKS

No. 100

RICE PRODUCTION (米生産)

1. PERIOD

March 10, 1988 to October 29, 1988 (8.0 months)

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Eight (8)

3. QUALIFICATIONS

1) University graduates or equivalent

2) Presently engaged (or will be engaged,) in Agricultural training or extension service in the field of rice cultivation

3) Good working knowledge of English

4) Within 25 to 35 years of age

4. DESCRIPTION OF TRAINING

1) Lecture
   - —Agriculture in general
   - —Rice agronomy
   - —Soil and fertilizer
   - —Varietal improvement
   - —Rice physiology
   - —Plant protection
   - —Economy of rice farming and extension

2) Experiment and field practice

3) Study tour

5. FACILITIES AND INSTITUTIONS

Tsukuba International Agricultural Training Centre, JICA

6. REMARKS

No. 101

RICE CULTIVATION TECHNOLOGY（稲作技術）

1. PERIOD

February 8, 1988 to November 26, 1988 (10 months)

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Nine (9)

3. QUALIFICATIONS

1) University graduates with an occupational experience of more than five years in the field.
2) Presently engaged in the research work or education in the field of rice
3) Between twenty seven (27) and forty (40) years of age
4) A sufficient command of spoken and written English

4. DESCRIPTION OF TRAINING

1) Lecture
   --Agriculture in general
   --Rice agronomy
   --Soil and fertilizer
   --Varietal improvement
   --Rice physiology
   --Plant protection
   --Experimentation and data processing
2) --Experiment and field practice
3) --Study tour

5. FACILITIES AND INSTITUTIONS

Tsukuba International Agricultural Training Center, JICA

6. REMARKS

No. 102

HOME-LIFE IMPROVEMENT EXTENSION（生活改善普及）

1. PERIOD

May 25, 1987 to August 9, 1987 (3 months)

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Eight (8)

3. QUALIFICATIONS

1) Female
2) Qualified in their respective fields
3) Under 45 years of age
4) Good working knowledge of English

4. DESCRIPTION OF TRAINING

1) Lectures and practical training
   - Outline of agriculture and home-life in Japan
   - Agricultural improvement extension activieis
   - Home-life improvement extension activities
   - Technique for home-life improvement
2) Observation tours

5. FACILITIES AND INSTITUTIONS

1) Ministry of Agriculture, Forestry and Fisheries
2) The Rural Home and Family Living Improvement Study Association

6. REMARKS

No. 103

AGRICULTURAL STATISTICS (農林統計)

1. PERIOD

July 20, 1987 to October 12, 1987 (3 months)

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Fifteen (15)

3. QUALIFICATIONS

1) University graduates or equivalent
2) Govermental officials engaged in planning and administration in agricultural statistics
3) Under 40 years of age
4) Good working knowledge of Engish

4. DESCRIPTION OF TRAINING

1) Lectures and practical training
   - Agricultural situation and statistics in Japan
   - Method of statistical survey
   - Survey for the basic structure on agriculture
   - Survey on agricultural economics
   - Outline of Forestry, Fishery survey and Marketing information service
   - Utilization of computer

5. FACILITIES AND INSTITUTIONS

1) Statistics and Information Department, Economic Bureau, Ministry of Agriculture, Forestry and fisheries
2) *National Federation of Statistics Association on Agriculture & Forestry*

6. REMARKS

No. 104

VEGETABLE CROPS PRODUCTION (野菜生産)

1. PERIOD

February 4, 1988 to November 26, 1988 (10 months)

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Ten (10)

3. QUALIFICATIONS

1) University graduates with occupational experience for more than three years in their specialities

2) Presently engaged in extension service research work or training activity in the field of vegetable horticulture, or be agronomists who are to work in the said field having a good knowledge of vegetable cultivation

3) Between twenty seven (27) and thirty seven (37) years of age

4) A sufficient command of spoken and written English

4. DESCRIPTION OF TRAINING

The course deals with the following subjects through lectures, experiments, practices and observations in study tours, on major vegetable crops in Japan

1) Applicable method of intensive cultivation 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

The following major subjects will be covered in the course.

1. Lecture
   (1) Agriculture in general
   (2) Cultivation in general
   (3) Cultivation in particular
   (4) Soil and fertilizer
   (5) Plant protection
   (6) Post harvest technology
2. Experiment and practice
3. Study tour

5. FACILITIES AND INSTITUTIONS

Tsukuba International Agricultural Training Centre, JICA

6. REMARKS

No. 105

VEGETABLE SEED PRODUCTION (野菜採種)

1. PERIOD

February 4, 1988 to November 26, 1988 (10 months)

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Ten (10)

3. QUALIFICATIONS

1) University graduates with occupational experience for more than three years in their specialities
2) Presently engaged in vegetable seed production or varietal improvement who are to work in the said field
3) Between twenty seven (27) and thirty seven (37) years of age
4) A sufficient command of spoken and written English

4.. DESCRIPTION OF TRAINING

The course deals with the following subjects through lectures, experiments, practices and observations in study tours, on major vegetable crops in Japan

1) Seed production method of major vegetable crops
2) Seed technology on sorting, drying, storage, and germination of vegetable seeds
3) Applicable method of varietal improvement of major vegetable crops

The following major subjects will be covered in the course.

1. Lecture
   (1) Agriculture in general
   (2) Cultivation in general
   (3) Seed production method
   (4) Seed technology
   (5) Varietal improvement
2. Experiment and practice
3. Study tour

5. FACILITIES AND INSTITUTIONS

Tsukuba International Agricultural Training Center, JICA

6. REMARKS

No. 106

CONTROL OF RICE DISEASES AND INSECT PESTS (稲病害虫防除)

1. PERIOD

June 1, 1987 to December 8, 1987 (6.5 months)

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Eleven (11)

3. QUALIFICATIONS

1) University graduates or equivalent
2) Qualified in their respective fields
3) Occupational experience of more than 3 years
4) Under 40 years of age
5) Good working knowledge of English

4. DESCRIPTION OF TRAINING

1) Lectures and practical training
   - General view on rice cultivation in Japan
   - General principles of rice diseases and insect pests control
   - Rice diseases
   - Rice insect pests
   - Pesticides and Application methods
2) Observation tours

5. FACILITIES AND INSTITUTIONS

1) Hyogo Prefectural Agricultural Research Centre
2) Department of Plant Protection, Faculty of Agriculture, Kobe University

6. REMARKS

No. 107

PESTICIDE UTILIZATION FOR PLANT PROTECTION (農薬利用)

1. PERIOD

January 18, 1988 to June 17, 1988 (5 months)

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Six (6)

3. QUALIFICATIONS

1) University graduates or equivalent
2) Qualified in their respective fields
3) Occupational experience of more than 3 years
4) Under 35 years of age
5) Good working knowledge of English
6) *Request to attain skill to operate* Gas Chromatograph during their stay in Japan

4. DESCRIPTION OF TRAINING

1) Orientation on Specific Subject
2) Training on Specific Subject Matters
   - Lecture
   - Experiment
   - Field Practice
   - Observation Tours and Visits
   - Evaluation

5. FACILITIES AND INSTITUTIONS

1) Hyogo International Center, JICA
2) Agricultural Experiment Station, Hyogo Prefectural Agricultural Research Center
3) Department of Plant Protection, Faculty of Agriculture, Kobe University
4) National Institute of Hygenic Sciences, Osaka Branch

6. REMARKS

No. 108

PLANT GENETIC RESOURCES（植物遺伝資源）

1. PERIOD

April 27, 1987 to July 5, 1987 (2.5 months)

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Ten (10)

3. QUALIFICATIONS

1) University graduates or the equivalent
2) Presently engaged in conservation or management of plant genetic resources
3) Under 45 years of age
4) Good working Knowledge of English

4. DESCRIPTION OF TRAINING

1) Introduction
2) Exploration and collection of plant genetic resources
3) Germplasm preservation
4) Elimination of diseases and pests from genetic stocks
5) Management of information
6) Individual training
7) Observations

5. FACILITIES AND INSTITUTIONS

1) National Institute of Agrobiological Resources (NIAR), Ministry of Agriculture, Forestry and Fisheries
2) Tsukuba International Centre, JICA

6. REMARKS

No. 109

SUGARCANE CULTIVATION (サトウキビ栽培)

1. PERIOD

June 25, 1987 to February 27, 1988 (8 months)

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Five (5)

3. QUALIFICATIONS

1) University graduates or equivalent
2) Presently engaged in research work or extension services in the field of sugar cane cultivation
3) Under thirty-five (35) years of age
4) A sufficient command of spoken and written English

4. DESCRIPTION OF TRAINING

1) Subcourse A
   – Sugar Cane Agronomy
2) Subcourse B
   – Soil and Fertilizer
3) Subcourse C
   – Sugar Cane Cultivation and Mechanization

5. FACILITIES AND INSTITUTIONS

1) Okinawa Prefectural Agricultural Experiment Station

6. REMARKS

No. 110

EFECTIVE UTILIZATION OF TROPICAL AGRICULTURE AND FORESTRY RESOURCE

(熱帯農林資源の有効利用)

1. PERIOD

July 23, 1987 to March 28, 1988 (8 months)

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Five (5)

3. QUALIFICATIONS

1) University graduates with more than three (3) years' research experience in their specialized field of training, or equivalent

2) Under forty (40) years of age

3) Have a sufficient command of spoken and written English

4. DESCRIPTION OF TRAINING

1) Subcourse A
   – Technical applications to crop production

2) Subcourse B
   – Effective utilization of agricultural materials microbiological and chemical techniques

3) Subcourse C
   – High utilization techniques of sugar cane and forest products

5. FACILITIES AND INSTITUTIONS

1) College of Agriculture, University of the Ryukyus

2) Okinawa International Centre (OIC), JICA

6. REMARKS

No. 111

IRRIGATION AND DRAINAGE (灌漑排水)

1. PERIOD

February 8, 1988 to November 26, 1988 (10 months)

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Twelve (12)

3. QUALIFICATIONS

1) University graduates or equivalents
2) Qualified in their respective fields
3) Occupational experience of more than 3 years
4) Between 25 and 35 years of age
5) Good working knowledge of English

4. DESCRIPTION OF TRAINING

1) Lectures and practical training
   - Principle of irrigation and drainage (Land improvement, meteorological measurement, hydraulic experiment, etc.)
   - Applied knowledge of irrigation and drainage (Planning, design of canals, head-work, fill-type dam, etc.)
   - Experiment (Hydraulics, concrete and soil mechanics)

2) Observation tours
   - National Research Institute of Agricultural Engineering, and construction sites, etc.
   - Land Improvement Projects
   - Dam Site (including underground dam)

5. FACILITIES AND INSTITUTIONS

Tsukuba International Agricultural Training Center, JICA

6. REMARKS

No. 112

AGRICULTURAL LAND AND WATER RESOURCES DEVELOPMENT (農地水資源開発)

1. PERIOD

June 15, 1987 to September 5, 1987 (3 months)

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Sixteen (16)

3. QUALIFICATIONS

1) Be presently engaged in the said field

2) University graduates or the equivalent academic background with occupational experience of more than 5 years

3) Under 45 years of age

4) Good working knowledge of English

4. DESCRIPTION OF TRAINING

1) Lectures and practical training
   - Outline of Japan's agriculture and land improvement project
   - Land reclamation and consolidation
   - Irrigation and Drainage System
   - Design criteria
   - Operation and maintenance facilities and water management

2) Observation tours
   - Present situation of agricultural land utilization and water resources development in Japan

5. FACILITIES AND INSTITUTIONS

1) Agricultural Structure Improvement Bureau, Ministry of Agriculture, Forestry and Fisheries

2) The Japanese Institute of Irrigation & Drainage

6. REMARKS

No. 113

FARM MECHANIZATION (農業機械化)

1. PERIOD

February 8, 1988 to October 29, 1988 (9 months)

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Ten (10)

3. QUALIFICATIONS

1) University graduates or equivalents
2) Qualified in their respective fields
3) Occupational experience of more than 3 years
4) Between 27 and 37 years of age
5) A sufficient command of spoken & written English

4. DESCRIPTION OF TRAINING

1) Lecture and practical training
   - Farm mechanization: Effective introduction of farm machinery (inspection and selection), its utilization and systematic mechanized farming connected with rice production
   - The related subject to mechanization: Rice cultivation, land consolidation, administration of mechanization and co-operative of farm machinery in Japan

2) Observation tours
   - Experimental and Research Institutes and other related organs

5. FACILITIES AND INSTITUTIONS

Tsukuba International Agricultural Training Centre, JICA

6. REMARKS

No. 114

AGRICULTURAL MACHINERY MAINTENANCE AND REPAIR (農業機械整備)

1. PERIOD

June 4, 1987 to December 19, 1987 (7 months)

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Ten (10)

3. QUALIFICATIONS

1) College graduates preferably Agricultural Engineers
2) Qualified in their respective fields
3) Occupational experience of more than 3 years
4) Under 40 years of age (Male only)
5) Good working knowledge of English

4. DESCRIPTION OF TRAINING

1) Lectures and practical training
   - Items relevant to maintenance and repair of agricultural machinery such as principle, structure, function, performance, method of testing, adjustment and inspection of various kinds of prime movers and agricultural machines
   - Fundamentals of mechanical engineering such as materials, machine elements, thermodynamics
   - Items related to agricultural machinery such as farm mechanization, its administrative policy in Japan, machinery utilization for rice cultivation as well as agricultural machinery production, inspection and management system
2) Observation tours

5. FACILITIES AND INSTITUTIONS

1) Member plants of Japan Farm Machinery Manufacturers Association and Other plants
2) Osaka International Training Centre, JICA (theoretical lecture)

6. REMARKS

No. 115

FARM MACHINERY DESIGN (農業機械設計)

1. PERIOD

March 10, 1988 to October 29, 1988 (8 months)

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Ten (10)

3. QUALIFICATIONS

1) University graduates from faculty of agricultural engineering or mechanical engineering
2) Qualified in their respective fields
3) Occupational experience of more than 3 years
4) Between 27 and 40 years of age
5) A sufficient command of spoken & written English

4. DESCRIPTION OF TRAINING

1) Lecture and Practical training
   - Design engineering: Machine design technology such as drawing & design of machine elements, its parts and simple farm machinery
   - Trial-make of simple farm machinery
   - Materials: Physical properties of metallic
     Strength of materials, and heat treatment of metal. Physical property of plant and soils.
   - Technology in common

2) Observation
   - Experimental and Research Institutes and other related organs

5. FACILITIES AND INSTITUTIONS

Tsukuba International Agricultural Training Centre, JICA

6. REMARKS

No. 116

POST-HARVEST RICE PROCESSING（初処理精米加工）

1. PERIOD

August 31, 1987 to November 30, 1987 (3 months)

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Fifteen (15)

3. QUALIFICATIONS

1) University graduates or equivalents

2) Senior technical administrators in the government or the public organizations engaging in planning and promoting improvements of all post-harvesting process of rice such as paddy drying, storage, rice milling, etc.

3) Under 45 years of age

4) Good working knowledge of English

4. DESCRIPTION OF TRAINING

1) Lectures and practical training
   - Food situation of Japan and Importance of rice
   - Production and export of agricultural machinery
   - Rice Control System
   - Activities of agricultural co-operatives
   - Characteistics of Japonica and Indica

2) Observation tours of machine making factory

5. FACILITIES AND INSTITUTIONS

1) Ministry of Agriculture, Forestry and Fisheries

2) Japan Rice Millers Association

6. REMARKS

ANIMAL HUSBANDRY

No. 117

TECHNICAL EXPERTS ENGAGED IN DAIRY FARMING AND RELATED INDUSTRIES

（酪農振興・検査技術）

1. PERIOD

September 28, 1987 to December 22, 1987 (3 months)

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Five (5)

3. QUALIFICATIONS

1) University graduates or equivalent
2) Be engaged in fields related to animal husbandry
3) Have a sufficient command of spoken and written English
4) Under 40 years of age

4. DESCRIPTION OF TRAINING

The purposes of the course are to train dairy specialists and technicians to be leaders in their fields by providing basic, practical 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.

5. FACILITIES AND INSTITUTIONS

Obihiro University of Agriculture and Veterinary Medicine

6. REMARKS

No. 118

POULTRY DEVELOPMENT (養　　鶏)

1. PERIOD

April 23, 1987 to September 28, 1987 (5.5 months)

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Eight (8)

3. QUALIFICATIONS

1) University graduates or equivalent
2) Occupational experience of more than 2 years
3) Between 26 and 40 years of age
4) Good working knowledge of English

4. DESCRIPTION OF TRAINING

1) Lectures and practical training
   - Feeding and management for layers and broilers
   - Breeding and improvement of strains
   - Incubation
   - Brooding and rearing
   - Hygiene and diseases
   - Feed
   - Poultry facilities and equipment
   - Extension work
   - Technical consultation
2) Observation tours

5. FACILITIES AND INSTITUTIONS

1) Okazaki National Poultry Breeding Station, Ministry of Agriculture, Forestry and Fisheries (MAFF)
2) National Institute of Animal Industry, Poultry Disease Laboratory, MAFF
3) Nagoya International Training Centre (NITC), JICA

6. REMARKS

No. 119

ARTIFICIAL INSEMINATION FOR CATTLE（家畜人工授精）

1. PERIOD

May 18, 1987 to October 16, 1987 (5 months)

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Six (6)

3. QUALIFICATIONS

1) University graduates or equivalent
2) Qualified in their respective fields
3) Under 40 years of age
4) Good working knowledge of English

4. DESCRIPTION OF TRAINING

1) Lectures and practical training
   – Breeding of cattle
   – Adjustment of feed
   – Feed management for dairy cattle
   – Artificial insemination
   – General aspect of livestock industry
2) Observation tours

5. FACILITIES AND INSTITUTIONS

Fukushima National Livestock Breeding Station, Ministry of Agriculture, Forestry and Fisheries

6. REMARKS

No. 120

EMBRYO TRANSFER FOR CATTLE (受精卵移植技術)

1. PERIOD

June 22, 1987 to November 5, 1987 (5 months)

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Five (5)

3. QUALIFICATIONS

1) Be university graduates or have the equivalent academic background:

2) Hold veterinarian's license, or artificial inseminator's license and have sufficient knowledge about artificial insemination:

3) Have a good command of English both spoken and written;

4) Be under forty (40) yeas of age in principle:

4. DESCRIPTION OF TRAINING

The purpose of the course is to provide the latest ET tecchniques in Japan for livestock breeding personnel in countries faced with the neccesity of it, and ultimately a contribute to the progress of animal industry by the application and improvement of the techniques under their respevtive countries' condition.

The course provides basic theory and practical use of ET as well as its administration.

5. FACILITIES AND INSTITUTIONS

Hidaka National Livestock Breeding Station, Ministry of Agriculture, Forestry and Fisheries.

6. REMARKS

No. 121

ANIMAL HEALTH RESEARCH（家畜衛生研究）

1. PERIOD

May 25, 1987 to November 19, 1987 (6 months)

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Ten (10)

3. QUALIFICATIONS

1) Qualified veterinarians in principle

2) Technicians or researchers. High priority is given to those who serve in veterinary colleges or national central veterinary institutions,

3) Not more than 40 years of age

4) Good working knowledge of English

4. DESCRIPTION OF TRAINING

1) Lectures and practical training
—Outline of animal husbandry and health administration in Japan
—Bovine, swine, avian and other livestock diseases

2) Specialized study will be conducted according to the participants' individual requests at the laboratories of the National Institute of Animal Health in principle or other institutes concerned in special cases

3) Observation tours

5. FACILITIES AND INSTITUTIONS

1) National Institute of Animal Health (NIAH), Ministry of Agriculture, Forestry and Fisheries

2) Tsukuba International Centre, JICA

6. REMARKS

FORESTRY

No. 122

REFORESTATION TECHNIQUES AND FOREST MANAGEMENT (森林造成技術者)

1. PERIOD

July 13, 1987 to October 22, 1987 (3.5 months)

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Fifteen (15)

3. QUALIFICATIONS

1) University graduates or equivalent
2) Engaged in planning work in the governmental forestry organizations
3) Occupational experience of more than 5 years
4) Under 40 years of age
5) Good working knowledge of English
6) Congenial to Japanese dishes because a part of training is given in the countryside

4. DESCRIPTION OF TRAINING

1) Lectures and practical training
   - Forestry planning, breeding, nursery practice, regeneration tree tending and forest conservation in Japan
   - Administration and management of the national forest in Japan
2) Observation tours

5. FACILITIES AND INSTITUTIONS

Forestry Agency, Ministry of Agriculture, Forestry and Fisheries

6. REMARKS

No. 123

WOOD INDUSTRIAL MACHINERY（木材工業機械）

1. PERIOD

October 1, 1987 to March 13, 1988 (5.5 months)

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Ten (10)

3. QUALIFICATIONS

1) University graduates or equivalent
2) Qualified in their respective fields
3) Occupational experience of more than 5 years
4) Between 28 and 40 years of age
5) Good working knowledge of English

4. DESCRIPTION OF TRAINING

1) Lectures and practical training
   - Lumber cutting and its equipment
   - Plywood machineries
   - Woodworking machineries
   - Wood processing techniques
   - Sawmill machinery

2) Observation tours

5. FACILITIES AND INSTITUTIONS

1) Industrial Research Institute, Aichi Prefecture
2) Nagoya International Training Centre (NITC), JICA
3) Industries

6. REMARKS

No. 124

FORESTRY AND FOREST PRODUCTS RESEARCH（林業林産研究）

1. PERIOD

August 17, 1987 to November 30, 1987 (3.5 months)

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Nine (9)

3. QUALIFICATIONS

1) University or college graduates or equivalent
2) Occupational experience of more than 5 years
3) Qualified in their respctive fields
4) Under 40 years of age
5) Good working knowledge of English or Japanese

4. DESCRIPTION OF TRAINING

Lectures and practical training

Lectures:
Forestry and Forest Products in Japan, Present Situation and Level of Forest Products Research in Japan

Individual Studies:
Individual studies for 51 days will be given during the training period at one of the following divisions.
(1) Forest Products Chemistry Division
(2) Wood Technology Division
(3) Wood Utilization Division

5. FACILITIES AND INSTITUTIONS

1) Forestry and Forest Products Research Institute, Ministry of Agriculture, Forestry and Fisheries
2) Tsukuba International Centre, JICA

6. REMARKS

Training Courses on Forestry and on Forest Products are provided every other year. In 1987, training course on forest products will be given.

No. 125

FOREST SOILS (森林土壌)

1. PERIOD

September 10, 1987 to December 14, 1987 (3 months)

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Six (6)

3. QUALIFICATIONS

1) University graduates with occupational experience more than 5 years in the field of forest soil research

2) Presently serving at forestry research organizations or universities

3) Under forty (40) years of age

4. DESCRIPTION OF TRAINING

1) Fores Soil Science
   (1) General Description of Forest Soils
   (2) Formulation, Classification and Distribution of Forest Soils
   (3) Vegetation, Productivity and Water Conservation with Forest Soils
   (4) Soils and Fertilizers for Forest Nursery
   (5) Forest Soils in Okinawa

2) Investigation into Forest Soils
   (1) Methodology of Forest Soils Investigations
   (2) Formulation and Utilization of Soil Map
   (3) Field Investigations

3) Analysis Methodology of Vegetable Materials

4) Special Topics on Forest Soils
   (1) Experiment and Research on Forestry in Japan
   (2) Afforestation in Tropical Areas
   (3) Aerial Photograph and Soil Map
   (4) Analysis Methodology of Forest Utilization with Remote Sensing
   (5) Management of Forest and Soil

5) *Field Investigation Trips and Study Tours*

5. FACILITIES AND INSTITUTIONS

1) Forestry Agency, Ministry of Agriculture, Forestry and Fisheries

2) College of Agriculture, University of the Ryukyus

3) Okinawa International Centre (OIC), JICA

4) Japan Forest Technical Association

6. REMARKS

FISHERIES

No. 126

FISHERY COOPERATIVES （漁業協同組合）

1. PERIOD

July 2, 1987 to December 15, 1987 (5.5 months)

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Nine (9)

3. QUALIFICATIONS

1) University graduate or equivalent

2) Fishery cooperative experience of more than 3 years

3) Under 40 years of age

4) Good working knowledge of English

4. DESCRIPTION OF TRAINING

1) Lectures
   - Outline of fishery cooperatives, fish marketing, fisheries finance, fishery cooperative management, accounting of fishery cooperatives
   - Fisheries legislation, Fishery Cooperatives Law
   - Fisheries administration, Fisheries economics
   - Resource management
   - Other essential subjects related to fishing industry

2) Observation tours
   - Fishery cooperative associations
   - Fishing companies
   - Agriculture cooperatives
   - Fish markets
   - Fishermen's families
   - Fishing ports

5. FACILITIES AND INSTITUTIONS

Kanagawa International Fisheries Training Centre, JICA

6. REMARKS

No. 127

COASTAL FISHERIES EXTENSION I (PRACTICE) (沿岸漁具漁法 I 〔実技〕)

1. PERIOD

July 2, 1987 to December 15, 1987 (5.5 months)

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Sixteen (16)

3. QUALIFICATIONS

1) Senior high school graduates or equivalent
2) Fishery experience of more than 3 years
3) Under 40 years of age
4) Good working knowledge of English

4. DESCRIPTION OF TRAINING

1) Lectures and practice
   - Fishing gear and methods of coastal fisheries in Japan
   - On board training by training vessels
   - Fishing practice by commercial fishing boats
   - Net handling practice
   - Model net construction
   - Engine handling practice

2) Observation tours
   - Fishing ports
   - Fish markets
   - Fishing operations by commercial fishing boasts
   - Fish processing plants
   - Fishing Net & Rope Mfg. Plants

5. FACILITIES AND INSTITUTIONS

Kanagawa International Fisheries Training Centre, JICA

6. REMARKS

No. 128

COASTAL FISHERIES EXTENSION II (THEORY) (沿岸漁具漁法 II 〔理論〕)

1. PERIOD

January 11, 1988 to June 18, 1988 (5 months)

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Eight (8)

3. QUALIFICATIONS

1) University graduates or equivalent
2) Fishery experience of more than 3 years
3) Under 40 years of age
4) Good working knowledge of English

4. DESCRIPTION OF TRAINING

1) Lectures and practice
   - Fishing gear and methods of coastal fisheries in Japan
   - Designing of fishing gear
   - Relation between fish behaviour and fishing gear
   - Model fishing gear construction
   - Net forming experiment

2) Observation tours
   - Fishing ports
   - Fish market
   - Fisheries universities
   - Fishing operations by commercial fishing boats
   - Fishing Net & Rope Mfg. Plants
   - Fisheries experimental stations

5. FACILITIES AND INSTITUTIONS

Kanagawa International Fisheries Training Centre, JICA

6. REMARKS

No. 129

GENERAL AQUACULTURE (養殖一般)

1. PERIOD

January 11, 1988 to June 18, 1988 (5 months)

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Eight (8)

3. QUALIFICATIONS

1) University graduates or equivalent
2) Aquaculture experience of more than one year
3) Under 35 years of age
4) Good working knowledge of English
5) Engaging in Aquaculture Education, Extension and Research

4. DESCRIPTION OF TRAINING

1) Lectures and practice
   - Basic information about fisheries in Japan
   - Aquaculture in general
   - Fresh water and sea water fish culture
   - Shell-fish and sea algae culture
   - Induced spawning by hormone injection
   - Water quality analysis
   - Analysis of feed composition
   - Chlorella and rotifer culture
   - Artificial insemination and egg development

2) Observation tours
   - National and regional fisheries research laboratories
   - Prefectural fisheries experimental stations
   - University of fisheries
   - Private fish farms

5. FACILITIES AND INSTITUTIONS

Kanagawa International Fisheries Training Centre, JICA

6. REMARKS

No. 130

HULL AND ENGINE MAINTENANCE OF SMALL FISHING BOAT
（小型漁船の船体・機関保守）

1. PERIOD

January 11, 1988 to June 18, 1988 (5 months)

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Seven (7)

3. QUALIFICATIONS

1) Senior high school graduates or equivalent
2) Fishery boat or engine experience of more than 3 years
3) Under 40 years of age
4) Good working knowledge of English

4. DESCRIPTION OF TRAINING

1) Lectures and practice
   - Basic information about fisheries in Japan
   - Hull maintenance
   - Diesel engine and outboard engine
   - Marine auxiliaries
   - Knowledge and handling of FRP

2) Observation tours
   - Shipyards
   - Fishing ports
   - Marine engine factories
   - Marine engine operation by commercial fishing boats

5. FACILITIES AND INSTITUTIONS

Kanagawa International Fisheries Training Centre, JICA

6. REMARKS

No. 131

PRAWN PROPAGATION TECHNIQUE (エビ増養殖技術)

1. PERIOD

November 16, 1987 to August 22, 1988 (9.5 months)

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Six (6)

3. QUALIFICATIONS

Applicants should:

(1) Be nominated by their government in accordance with the procedures mentioned in B—2 below,

(2) Be presently engaged either in refractory production or research and have more than one (1) year of occupational experience in this field,

(3) Be junior college graduates or have the equivalent academic background,

(4) Have a sufficient command of spoken and written English,

(5) Be not more than thirty—five (35) years of age,

(6) Be in good health, both physically and mentally, to undergo the training. Pregnancy is regarded as a disqualifying condition for participation in the training.

4. DESCRIPTION OF TRAINING

1) Biology of Penaeus japonicus
2) Aqua propagation in general
3) Basic aquaculture of Penaeus japonics
4) Technique of Penaeus japonicus culture
5) Aquaculture and natural environment
6) Aquaculture and sickness control
7) Aquaculture and management of water quality

5. FACILITIES AND INSTITUTIONS

Ube Junior College

6. REMARKS

No. 132

MARINE RANCH (MARINE FARM) SYSTEM（海洋牧場システム）

1. PERIOD

August 31, 1987 to December 10, 1987

2. NUMBER OF PARTICIPANTS TO BE RECEIVED

Five (5)

3. QUALIFICATIONS

1) Be nominated by their government in accordance with the procedures mentioned in B-2 below,

2) Be university graduates or have the equivalent academic background,

3) Be presently engaged in either research or educational activity in fisheries,

4) Be not more than forty years old,

5) Have a sufficient command of spoken and written English,

6) Be in good health, both physically and mentally, to undergo the training. Pregnancy is regarded as a disqualifying condition for participation in the course.

4. DESCRIPTION OF TRAINING

1) Lectures
- Management of Water Quality
- Fisheries Hydrography
- Marine Botany and Planktology
- Techniques in Preparing Seaweed Beds
- Ichthyology
- Seed Production for Marine Fish and Shellfish
- Fisheries Engineering
- Planning of Marine Ranch Systems

2) Observation tours
- Seed Production Institute
  (Japan Farming Fisheries Center, Komoe in Kochi and Yashima in Takamatsu)
- Marine Fish Culture Farm
  (Fukui Prefectural Experimental Station)
- Marine Ranching Field
  (Ohita Prefectural Experimental Station)

5. FACILITIES AND INSTITUTIONS

Usa Marine Biologocal Institute
Kochi University

6. REMARKS