

INFORMATION ON GROUP TRAINING COURSE IN
*PREVENTION OF CULTURED FISH DISEASE
AND FISH-BORNE DISEASE*
JFY 2006

集団研修：養殖魚の健康と安全管理

COURSE NO.: J-06-00351

May 30, 2006 – August 5, 2006



THE GOVERNMENT OF JAPAN
JAPAN INTERNATIONAL COOPERATION AGENCY



Preface

The Japanese Government extends official development assistance (ODA) to developing countries to support self-help efforts that will lead to economic progress and a better life for the citizens of those countries.

Since its foundation in 1974, the Japan International Cooperation Agency (JICA) has implemented Japan's technical cooperation under the ODA programme.

Currently, JICA conducts such activities as training, dispatch of experts, provision of equipment, project-type technical cooperation, development study, dispatch of cooperation volunteers (JOCV), and survey and administration of capital grant aid programmes.

The training programme for overseas participants is one of JICA's fundamental technical cooperation activities for developing countries. Participants come from overseas in order to obtain knowledge and technology in a wide variety of fields. The objectives of the JICA training programme are: (1) to contribute to the development of human resources who will promote the advancement of developing countries, and (2) to contribute to the promotion of mutual understanding and friendship.

This training course, which is planned and coordinated by JICA Chugoku International Centre (JICA Chugoku), is designed to provide participants with comprehensive knowledge for preventing fish disease and fish-borne diseases, and fish-processing methods. The knowledge obtained through the course will enable the participants to make policies or measures for enhancing the distribution of aquacultured fish in domestic and world market.

The subjects covered in the course are:

(1) prevention of epizootics in fish, (2) prevention of fish-borne diseases, (3) fish handling for high quality products, (4) fish processing, (5) laws relevant to trade of fishes, (6), etc.

I. ESSENTIAL FACTS

COURSE TITLE (No.)	Prevention of Cultured Fish Disease and Fish-Borne Disease (J-06-00351)
DURATION	May 30, 2006 – August 5, 2006
DEADLINE FOR APPLICATION	March 30, 2006 *for acceptance of JICA office (or the Embassy of Japan)
NUMBER OF PARTICIPANTS	8
LANGUAGE	English
PARTICIPANTS	Administrators who are in charge of promoting aquaculture, fish processing and distribution. Participants should be less than 45 years old.
COURSE OBJECTIVE	Participants will be provided with comprehensive knowledge for preventing fish-diseases and fish-borne disease, and the knowledge for distribution of high-quality fishes in domestic and international markets.
TRAINING INSTITUTION	<p>National Fisheries University Address: 2-7-1 Nagata-honmachi, Shimonoseki-shi, Yamaguchi, 759-6595, Japan Tel.: 81(*)- 832(***)-86-5111 Fax.: 81(*)-832(***)-86-7434 URL: http://www.fish-u.ac.jp/e-index.html</p> <p>JICA Chugoku International Centre (JICAChugoku) Address: 3-3-1 Kagamiyama, Higashihiroshima, Hiroshima Prefecture 739-0046 Japan Tel.: 81(*)-824(***)-21-5800 Fax.: 81(*)-824(***)-20-8082</p>
ACCOMMODATION	<p>(1) JICA Chugoku International Centre (JICAChugoku): from 30 May-10 June Address: 3-3-1 Kagamiyama, Higashihiroshima, Hiroshima Prefecture 739-0046 Japan Tel.: 81(*)-824(***)-21-5800 Fax.: 81(*)-824(***)-20-8082</p> <p>(2) JICA Kyushu International Centre (JICA Kyushu): after 11 June Address: 2-2-1 Hirano, Yahata Higashi-ku, Kitakyushu-shi, Fukuoka, 805-8505 Japan Tel.: 81(*)-93(***)-671-6311 Fax.: 81(*)-93(***)-671-0979</p> <p>This training course is managed by JICA Chugoku, but the accommodations are provided by JICA Kyushu throughout the technical training period because of the location of the training site. If no room is available at JICA Chugoku or Kyushu, JICA will arrange accommodations for participants at other appropriate places.</p>
ALLOWANCES & EXPENSES	<p>The Government of Japan provides the following allowances and covers the following expenses through JICA in accordance with relevant laws and regulations.</p> <p><u>Details:</u> Round-trip air ticket between an international airport designated by JICA and Japan, accommodation allowance, living allowance, outfit allowance, book allowance, shipping allowance, expenses for JICA study tours, free medical care for participants who become ill after arrival in Japan (costs</p>

	related to preexisting illness, pregnancy and dental treatment are not included), etc.
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(* ; country code for Japan ** ; area code for Higashihiroshima)

II. CURRICULUM

The following major subjects will be covered in the course:

(1) Lectures

The contents of the major lectures are as follows;

1. Prevention of Epizootic in Fish

Diseases of freshwater fish, marine fish and shrimp caused by bacteria, virus and parasites
Use of pathogen-free eggs
Diagnosis and treatment of fish diseases

2. Immunology of Fish & Crustaceans

Comparison of the defence systems of fish and shrimp with those of higher animals
Practical methods to induce prophylaxes against epizootic disease in aquaculture
Vaccination and immunostimulation techniques

3. Fish Handling after Harvest

Importance of hygienic and rapid handling of caught-fish
Icing and freezing protocol

4. Fish Freshness

K-value for determination of freshness
Fish decay process

5. Fish Borne Disease

Gastroenteritis occurs at the consumption of fish
Identification of Pathogenic Bacteria

6. Possible Chemical Hazards at the Consumption of Fish

Chemical hazards caused when consuming fish
Guideline for the usage of drugs in Japan
Problem of drug resistance bacteria in fish

7. Fish Cooking in Japan

Introduction of traditional Japanese fish cooking methods

8. Fish Processing in Japan

Boiled fish paste
Salted cod roe
Fermented fish food

9. HACCP

Hazards analysis and control of critical point for the safety of food

10. Japanese Law relevant to Fisheries

Law relevant to aquaculture in Japan
Food Sanitation Law
Quarantine Law

Law concerning standardization and proper labelling of agricultural and forest products

Lectures are given for 4 hours per day, from 10:00 to 12:00 and from 13:00 to 15:00.

Subject (Lectures)	Days	Hours	Percentage
Aquaculture in the world	0.5	4	5.4
Prevention of Epizootic in Fish	3.0	12	16.2
Immunology of Fish & Crustaceans	3.0	12	16.2
Fish Handling after Harvest	1.0	4	5.4
Fish Freshness	1.5	6	8.1
Fish Borne Disease	1.5	6	8.1
Possible Chemical Hazards at the Consumption of Fish	2.0	8	10.4
Fish Cooking	0.5	2	2.7
Fish Processing	1.0	4	5.4
HACCP	1.0	4	5.4
Japanese Law relevant to Fisheries	3.0	12	16.2
Total	18.0	74	100

(2) Experimentation and Practical Training

The contents of experimentation and practical training are as follows;

1. Prevention of Epizootic in Fish

Diagnosis of fish disease

Identification of disease bacteria isolated from fish and shrimp with conventional and advanced techniques using antibody and PCR

2. Immunology of Fish & Crustaceans

Collecting, handling and staining fish leukocytes and shrimp hemocytes

Measurement of fish and shrimp phagocytic activity demonstrating relative immunity

3. Fish Handling after Harvest

Hands-on practicals of spiking, bleeding, and chilling

Determination of fish body temperature during chilling

Observation of rigor mortis

4. Fish Freshness

Determination of K-value for measuring the freshness of fishes

Observation of fish body colour change to measure the freshness

5. Pathogenic Bacteria Isolated from Fish

Enumeration of coliform bacteria and pathogenic bacteria dependent on Japanese standards

6. Possible Chemical Hazards at the Consumption of Fish

Demonstration of Gas-Mass spectrograph method for the determination of hazardous substances

7. Fish Cooking

Demonstration of Japanese traditional cooking methods; cleaning, grilling, and boiling of fish

8. Designing of Food Processing System

Seminar in designing of fish processing process

*Each experiment is conducted for 5 hours per day, from 10:00 to 12:00 and from 13:00 to 16:00.

Subject (Experimentation and Practical Training)	Days	Hours	Percentage
Prevention of Epizootic in Fish	2.0	10	18.2
Immunology of Fish & Crustaceans	2.0	10	18.2
Fish Handling after Harvest	1.0	5	9.1
Fish Freshness	1.0	5	9.1
Pathogenic Bacteria Isolated from Fish	2.0	10	18.2
Possible Chemical Hazards at the Consumption of Fish	1.0	5	9.1
Fish Cooking	0.5	3	5.5
Presentation and Seminar	2.0	7	12.7
Total	11.5	55	100

Japanese Language Course

An intensive Japanese language course of 25 hours will be conducted prior to technical training.

The Tentative Training Schedule for 2006 is shown in Annex II.

. REQUIREMENT FOR APPLICATION

Applicants should:

- (1) be nominated by their governments in accordance with the procedures mentioned in IV-1 below,
- (2) be presently engaged in **administrative work who are in charge of promoting aquaculture, fish processing and distribution**,
- (3) have more than 3 years of occupational experience in the field,
- (4) be university graduates,
- (5) be younger than 45 years old,
- (6) have sufficient command of spoken and written English since the **training will be conducted in English** – for example, a TOEFL (Test of English as a Foreign Language) score 500 or above or the Cambridge First Certificate is considered sufficient level (copy of the score sheet is preferable),
- (7) be in good health, both physically and mentally, to undergo the training (Since the training includes a lot of field work (trips) that may be hazardous to a pregnant mother, pregnancy is regarded as a disqualifying condition for participation in this training course), and
- (8) not be serving in any form of military service.

ATTENTION

Participants are required:

- (1) to not change course subjects or extend the course period,
- (2) to not bring any members of their family,
- (3) to return to their home countries at the end of their course according to the international travel schedule designated by JICA,
- (4) to refrain from engaging in political activities or any form of employment for profit or personal

gain, and

- (5) to observe the rules and regulations of their place of accommodation and to not change accommodations designated by JICA.

ATTENTION

Participants are required:

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- (4) to refrain from engaging in political activities or any form of employment for profit or personal gain, and
- (5) to observe the rules and regulations of their place of accommodation and to not change accommodations designated by JICA.

IV. PROCEDURES FOR APPLICATION

1. A government desiring to nominate applicants for the course should fill in and forward one (1) original and three (3) copies of the Nomination Form (Form A2A3) for each applicant, to the JICA office (or the Embassy of Japan) **by March 30, 2006.**
2. The JICA office (or the Embassy of Japan) will inform the applying government whether or not the nominee's application has been accepted **no later than April 28, 2006.**
3. **Country Report**
Applicants are required to submit a Country Report with the Nomination Form. The contents should include the items mentioned in the ANNEX 1. The report will serve the basic agenda for discussion of common and particular problems among participants, and each participant is required to present his/her Country Report at an early stage of the training.
The reports should be typewritten in English, within 10 pages (12-point font, double spaced, A4 size paper). **Applications without Country Reports will not be accepted.**

V. OTHER MATTERS

1. Pre-departure Information
Pre-departure orientation is held at JICA overseas offices (or the Embassy of Japan) to provide the selected candidates with details on travel to Japan, conditions of training, and other matters. Participants will see a video, "TRAINING IN JAPAN", and will receive a textbook and cassette tape, "SIMPLE CONVERSATION IN JAPANESE". A brochure, "GUIDE TO TRAINING IN JAPAN" will be handed to each selected candidate before (or at the time of) the orientation.
2. Reports and Presentation
 - (1) Country Report

As written on the previous page, each applicant is required to write and submit a Country Report following the instructions on page 7. The content of the Country Report will be under consideration during the selection process. Also, participants will give a presentation of their Country Report in 15 minutes at an earlier stage of the training in order to share knowledge and background with other participants as well as professors. Visual materials such as PowerPoint and pictures may be helpful for your presentation if you bring them with you.

(2) Seminar

Participants are required to write a report on the seminar, scheduled in the last quarter of the training course. A theme for the research that is relevant to the curriculum of the course can be decided through discussion between trainees and trainers.

3. Certification

Participants who have successfully completed the course will be awarded a certificate by JICA and National Fisheries University.

4. International Exchange Programme with Local Communities

JICA encourages international exchange between JICA participants and local communities. Participants will have a chance to visit elementary schools or junior high schools. Therefore, participants are recommended to bring their national costumes or crafts and materials such as cassette tapes and photographs that will make the exchange programme more fruitful.

5. Materials we can accept are as follows: projector for PowerPoint, scanner, 3.5 inch disk / CD-ROM / overhead transparency / video tape (NTSC)/ DVD / photo slide / photograph / printed material

Materials we cannot accept are as follows:

VCD / video tape (PAL)/ ZIP / MO

**PREVENTION OF CULTURED FISH DISEASE
AND FISH-BORNE DISEASE
(JFY 2006)**

Country Report

Name:

Country:

Organisation and present post:

E-mail:

FAX:

Remarks 1: The Report should be typewritten in English (12-point font, A4 size paper), and be no fewer than 5 pages. (Please include the organisation chart.)

Remarks 2: Each participant is required to give a 15-minute presentation based on this Country Report at an early stage of the training for the purpose of making the training more effective and fruitful by allowing participants to comprehend each others' situations and problems.

Remarks 3: Participants are invited to give presentations in a small scientific symposium that the graduate students of National Fisheries University join.

Remarks 4: Please itemise your answers and make them specific.

1. General conditions of aquaculture in your country
2. Existing problems that you are facing in enhancing the consumption of aquacultured fishes.
3. Fish processing industries in your country
4. Domestic fish consumption; cooking methods and consumption per capita for each fish species
5. Exportation of fisheries products



**JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
CHUGOKU INTERNATIONAL CENTRE (JICA CHUGOKU)**

3-3-1 Kagamiyama, Higashihiroshima - shi, Hiroshima 739-0046 Japan

Tel.: 81*-824**-21-5800 Fax.: 81*-824**-20-8082

(*: country code for Japan **: area code for Higashihiroshima)

Tentative Course Schedule in 2006

Date	Day	Subject (AM)	Subject (PM)	Place
30-May	Tue	Arrival in Japan		
31-May	Wed	Briefing	Orientation	JICA Chugoku
1-Jun	Thu	Orientation	Orientation	JICA Chugoku
2-Jun	Fri	Orientation	Orientation	JICA Chugoku
3-Jun	Sat	Holiday		JICA Chugoku
4-Jun	Sun	Holiday		JICA Chugoku
5-Jun	Mon	Intensive Japanese Lesson	Intensive Japanese Lesson	JICA Chugoku
6-Jun	Tue	Intensive Japanese Lesson	Intensive Japanese Lesson	JICA Chugoku
7-Jun	Wed	Intensive Japanese Lesson	Intensive Japanese Lesson	JICA Chugoku
8-Jun	Thu	Intensive Japanese Lesson	Intensive Japanese Lesson	JICA Chugoku
9-Jun	Fri	Intensive Japanese Lesson	Intensive Japanese Lesson	JICA Chugoku
10-Jun	Sat	Holiday		JICA Chugoku
11-Jun	Sun	Holiday		JICA Kyushu
12-Jun	Mon	Program Orientation	Opening Ceremony	NFU
13-Jun	Tue	Presentation of Country Report		NFU
14-Jun	Wed	Aquaculture Activity in the World	Japanese Law on Aquaculture	NFU
15-Jun	Thu	Prevention of Epizootic in Fishes (Lecture)		NFU
16-Jun	Fri	Prevention of Epizootic in Fishes (Lecture)		NFU
17-Jun	Sat	Holiday		JICA Kyushu
18-Jun	Sun	Holiday		JICA Kyushu
19-Jun	Mon	Prevention of Epizootic in Fishes (Lecture)		NFU
20-Jun	Tue	Prevention of Epizootic in Fishes (Experiment)		NFU
21-Jun	Wed	Prevention of Epizootic in Fishes (Experiment)		NFU
22-Jun	Thu	Immunology of Fish & Crustacean (Lecture)		NFU
23-Jun	Fri	Immunology of Fish & Crustacean (Lecture)		NFU
24-Jun	Sat	Holiday		JICA Kyushu
25-Jun	Sun	Holiday		JICA Kyushu
26-Jun	Mon	Immunology of Fish & Crustacean (Lecture)		NFU
27-Jun	Tue	Immunology of Fish & Crustacean (Experiment)		NFU
28-Jun	Wed	Immunology of Fish & Crustacean (Experiment)		NFU
29-Jun	Thu	Fish Handling after Harvest (Lecture)		NFU
30-Jun	Fri	Fish Freshness (Lecture)		NFU
1-Jul	Sat	Holiday		JICA Kyushu
2-Jul	Sun	Holiday		JICA Kyushu
3-Jul	Mon	Visit a Fish Market in Tokyo	Visit Fisheries Agency	NFU
4-Jul	Tue	Stay at Kyoto	Stay at Kyoto	NFU
5-Jul	Wed	Visit a Fish Farm		NFU
6-Jul	Thu	Fish Freshness (Lecture)	Fish Borne Disease (Lecture)	NFU
7-Jul	Fri	Fish Borne Disease (Lecture)	Fish Borne Disease (Lecture)	NFU
8-Jul	Sat	Holiday		JICA Kyushu
9-Jul	Sun	Holiday		JICA Kyushu
10-Jul	Mon	Fish Handling after Harvest (Practice)		NFU
11-Jul	Tue	Fish Freshness (Experiment)		NFU
12-Jul	Wed	Japanese Law Relevant to Fisheries (Lecture)		NFU
13-Jul	Thu	Japanese Law Relevant to Fisheries (Lecture)		NFU
14-Jul	Fri	Pathogenic Bacteria Isolated from Fishes (Experiment)		NFU
15-Jul	Sat	Holiday		JICA Kyushu
16-Jul	Sun	Holiday		JICA Kyushu
17-Jul	Mon	Holiday		JICA Kyushu
18-Jul	Tue	Pathogenic Bacteria Isolated from Fishes (Experiment)		NFU
19-Jul	Wed	Possible Chemical Hazards at the Consumption of Fishes (Lecture)		NFU
20-Jul	Thu	Possible Chemical Hazards at the Consumption of Fishes (Lecture)		NFU
21-Jul	Fri	Possible Chemical Hazards at the Consumption of Fishes (Demonstration)		NFU
22-Jul	Sat	Holiday		JICA Kyushu
23-Jul	Sun	Holiday		JICA Kyushu
24-Jul	Mon	Visit a Fish Processing Factory on Coastal Side		
25-Jul	Tue	Visit a Fish Processing Factory on Coastal Side		
26-Jul	Wed	Fish Cooking in Japan (Lecture and Demonstration)		NFU
27-Jul	Thu	Fish processing in Japan (Lecture)		NFU
28-Jul	Fri	HACCP (Lecture)	HACCP (Lecture)	NFU
29-Jul	Sat	Holiday		JICA Kyushu
30-Jul	Sun	Holiday		JICA Kyushu
31-Jul	Mon	Visit two Fish Factories		NFU
1-Aug	Tue	Designing of Food Processing System (Exercise)		NFU
2-Aug	Wed	Designing of Food Processing System (Exercise)		NFU
3-Aug	Thu	Presentation of Food Processing Plan		NFU
4-Aug	Fri	Course Evaluation Meeting	Closing Ceremony	
5-Aug	Sat	Leaving Japan		NFU

* This is the tentative course schedule and some will be changed.