

1999 年海外學員水產養殖技術訓練

第二班紀要

盧民益・許慧文・劉文御

水產養殖系

一、前言

財團法人國際合作發展基金會(以下簡稱國合會)為加強協助東南亞國家發展水產養殖,改善人民生活,本年度繼續委託本所辦理水產養殖技術訓練班兩個梯次,第一梯次已於3月30日結訓。第二梯次於4月19日假本所7樓國際會議廳舉行開訓典禮,由廖所長主持,在場觀禮者有國合會李助理秘書長柏淳、房煥靖先生和本所各系室一級主管及擔任講師之研究人員等。

參與第二梯次訓練之學員計有12名,分別來自菲律賓、印尼、越南及泰國等4個國家。

本梯次訓練課程有栽培漁業對振興沿岸漁

業扮演之角色、池塘管理、甲殼類生理及其應用介紹、飼料營養、水產飼料製造、餌料生物培養與應用、飼料配方設計、水產生物技術介紹、循環水系統介紹、海水蝦繁養殖介紹、魚蝦病害防治、淡水蝦繁養殖、海水魚繁殖、蝦病檢驗實習、吳郭魚育種及繁養殖介紹及貝類繁養殖等。

訓練班於5月4日上午10時假本所7樓國際會議廳舉行結訓典禮,由廖所長主持,國合會教育訓練處林副處長秀國、房煥靖先生和本所各系室一級主管及擔任講師之研究人員參加。

二、訓練期間

88年4月19日至5月4日,共計22天。



廖所長與訓練班學員及講師、工作人員在結訓典禮後合影留念

三、受訓人員名單

Nationality	Name	Present Occupation	Address
Philippines 菲律賓	Mr. Santiago Ajero Noblefranca	Agricultural Center Chief II Department of Agriculture Region No. 5	Cararayan, Naga City Camarines Sur Philippines Bfar No.5 Pili, Cam. Sur Philippines Tel: 054-4773741 、 4777365 Fax: 054-3611264
Philippines 菲律賓	Ms. Zenaida Tamban Fontanilla	Sr. Agriculturist, Department of Agriculture Regional Office No. 4 Nia Compound, Diliman Quezon city, Philippines	10901 Mayondon Los Baños, Laguna Philippines 4030 Tel: 0918-8376898 、 9261901
Philippines 菲律賓	Ms. Rosario Segundina Paa Gaerlan	Senior Aquaculturist, Department of Agriculture Regional Field Office I- Bureau of Fisheries And Aquatic Resources-Ro I San Fernando City, La Union	Pob. Weste, Sta, Cruz, Ilocos Sur 2713 Philippines Res: 077-7426734 、 0917-9065628 Tel: (O): 072-2421559
Thailand 泰國	Mr. Sakon Sangpradub	Senior Fisheries Biologist, Prachuap Khiri Khan Coastal Aquaculture Development Center.	Prachuap Khiri Khan Coastal Aquaculture Development, Center, Klong Wan, Muang, Prachuap Khiri Khan, Thailand. Tel: 032-661133 Fax: 032-661398
Indonesia 印尼	Ms. Ninik Setyorini	Chief, Pusat Pembenihan Udang (Shrimp Hatchery Center) Fishery Department of East Java	Jl. Anggrek No.4 Probolinggo East Java Indonesia. Tel: (O): 62-335421991 (H): 62-335421640
Indonesia 印尼	Mr. Hery Muljono	Head of Department, Fishery Department of Probolinggo Regency Jl. Dr. Saleh No. 61, Probolinggo, East Java, Indonesia	Jl. Yos Sudarso 34 Probolinggo East Java Indonesia. Tel:(O): 62-335421544 (H): 62-335423043

Nationality	Name	Present Occupation	Address
Indonesia 印尼	Mr. Ketut Utama	Researcher and Member of the Working Group of Indonesia Agribusiness Foundation (IAF), Ministry of Agriculture.	Jl. Pinus U-10, Perumahan Budiagung, Bogor 16002, West Java, Indonesia Tel: (O): 62-217810955 、 251240752 (H): 62-251317059 Fax: 62-217810955 、 251240754
Indonesia 印尼	Mr. Tahir Pasaribu	Member of the working Group of Indonesia Agribusiness Foundation (IAF), Ministry of Agriculture	Jl. Harsono Rm No.3 Ragunan, Pasar Minggu, Jakarta, Indonesia Tel: (O): 62-217810194 (H): 62-217803915 Fax: 62-217810955
Vietnam 越南	Mr. Thanh Vu	Aquaculture Engineer, Research Institute for Aquaculture No. 2	Vung Tau Shrimp Research Centre 2A Thuy Van St -Vung Tau city Vietnam Tel: (H): 84-64807051 (O): 84-64581894 、 64851894 Fax: 84-64811817 E-mail: htttomvt@vol.vnn.vn
Vietnam 越南	Mr. Van Chi Le	Aquaculture Engineer, Research Institute for Aquaculture No. 3	33 Dang Tat St Nha Trang Khanh Hoa Vietnam. Tel: 84 058 831136 E-mail: ttncts3@dng.vnn.vn
Vietnam 越南	Mr. Van Tran Tran	Researcher	Research Institute of Marine Products, 170-Le Lai Street, Haiphong City, Vietnam Tel: 84-31827124
Vietnam 越南	Ms. My Hanh Ho	Aquaculture Engineer, Shrimp-farming Training Center of Mekong Delta in Can Tho City	Center of Training and Transferring Technology of Aquaculture for Mekong Delta 90 Phan Dinh Phung-Street Cantho City Vietnam Tel: (O): 84-71820596 (H): 84-71832429

四、訓練課程

1. 栽培漁業對振興沿岸漁業扮演之角色
How can stock enhancement and sea ranching help sustain and increase coastal fisheries
2. 池塘管理
Pond management
3. 甲殼類生理及應用介紹
Physiology of decapods
4. 飼料營養
Feed nutrition
5. 水產飼料製造
Feed processing
6. 餌料生物培養與應用
Production and utilization of live feeds in aquaculture
7. 飼料配方設計
Feed formulation and calculation of feed composition
8. 水產生物技術介紹
Biotechnology in aquaculture in Taiwan
9. 循環水系統介紹
Management of recirculating systems
10. 海水蝦繁養殖介紹
Introduction to marine prawn propagation and cultivation
11. 魚蝦病害防治
Fish and shrimp diseases and their control
12. 淡水蝦繁養殖
The culture of giant freshwater prawn, *Macrobrachium rosenbergii* in Taiwan
13. 海水魚繁殖
Fry production of marine fishes in Taiwan
14. 蝦病檢驗實習
Practical training for shrimp disease
15. 吳郭魚育種及繁養殖介紹
Breeding and grow-out culture of Tilapia
16. 貝類繁養殖
Shellfish culture

五、觀摩、實習

1. 虹鱒養殖場觀摩實習
Visit private farm of rainbow trout
2. 參觀國立故宮博物院
Visit national palace museum
3. 海水魚苗繁殖場觀摩實習
Visit private farm of marine fish hatchery
4. 吳郭魚養殖場
Visit private farm of Tilapia culture
5. 三粹鰻魚養殖場觀摩實習
Visit eel farm of Scientrade Enterprise Co., Ltd.
6. 參觀墾丁國家公園
Visit Kenting national park
7. 福壽飼料廠觀摩實習
Visit Fwu Sow aquatic feeds manufactory

六、學員結訓致詞 (四位學員代表四個國家)

Dr. Liao, Mr. Lin, Staff of TFRRI and Co-participants,
Good Morning,

The participants/trainees from the Philippines are very grateful for the opportunity to attend this training. It is our first time to go out of our country to attend an international training and for this we extend our sincerest thanks to the government of Taiwan particularly the ICDF and the Taiwan Fisheries Research Institute.

We have learned so many things, some of which may be old news to you but for us, most of them are still new, like the culture of abalone and other shellfishes, the cryopreservation of oyster embryos, disease diagnosis with the use of ELISA and PCR and computerized feed formulation. The video appreciation part was also very important as additional learning aside from the lectures. We did not only learn about aquaculture but we were also given the chance to appreciate the cultures of our Asian brothers and sisters as our co-trainees, coordinators and speakers. It has been a very good experience for

us, which we will never forget.

We hope that we can transfer the knowledge we have gained to our fishfarmers and our co-employees who work also in the fisheries sector.

The accommodation is very comfortable while the tour around Taiwan is very much appreciated and which opened our eyes to the beauty of Taiwan.

We hope that we may be able to come back and learn more through a specialization course where we can experience the actual breeding, hatchery, and grow-out of a particular species.

To Dr. Liao and the staff of TFRI, to Dr. Liu and the Department of Aquaculture particularly to Mr. Lu, Amanda and Judith, thank you very very much. Syesye.

Philippines
Rosario Segundina Gaerlan
Santiago Noblefranca
Zenaida Fontanilla

Ladies and Gentlemen,

We have got two weeks working hard together, both our teachers and us, the trainees, in this course. We are very excited as well as enthusiastic about the new information that we got from the lectures, which were very interesting. We also enjoyed the one week field trip. Indeed, we have enjoyed and had so much pleasure not only to learn good knowledge but also to gain friendship from Taiwan where there has been so much achievements in aquaculture.

First of all, we would like to thank the International Cooperation and Development Fund for giving us a good chance to exchange much more useful information from other countries. And, this is also an opportunity for us to develop new friends. This activity creates good condition to enlarge the cooperation among Asia countries.

Secondly, we greatly thank Dr. I Chiu Liao and the staff, the doctors, teachers, and

researchers of the Taiwan Fisheries Research Institute. They are very kind, friendly, providing more valuable knowledge and some new information to us, such as: How can stock enhancement and sea ranching help sustain and increase coastal fisheries resources, aquaculture biotechnology, prevention and cure of fish and shrimp diseases, feed processing as well as designing feed formulation, introduction of shellfish hatchery and culture - abalone. In addition, the teaching facilities, the actual laboratory work and documents used for instruction were more than sufficient and modern to help this course successful.

Moreover, people in TFRI are very kind, friendly, sociable, especially, Mr. Ming-Yih Lu, Ms. Amanda Hsu and Ms Chu-Yang Ling, they helped us to get familiar with the new conditions easily. This made us enjoy the training and had much pleasure during our stay in Taiwan.

We praise the high quality of this activity, especially the information and knowledge that your country has obtained and introduced to us. However, we have received new concepts in short time and there was little time for discussion and practice.

Thank you for attention.

Participants from Vietnam

Director General of TFRI and Secretary General of ICDEF

Researchers and Staff of TFRI

Fellow Participants

My Dear Friends,

Good Morning

First of all, in behalf of our country, we would like to express our great gratitude to the sponsoring agency, the International Cooperation and Development Fund (ICDF) for granting us the opportunity to attend this training course. Please be assured that this would contribute much

in attaining aquaculture production in our country. The Taiwan government, through ICDF, has made significant contribution to assist the developing countries such as Indonesia, Thailand, Vietnam and the Philippines to enhance their national development program particularly in aquaculture. We do hope this kind of cooperation can be maintained.

In this opportunity, we also would like to extend our heartfelt gratitude to all staff members of the Taiwan Fishery Research Institute (TFRI) for their warm welcome and hospitality during our stay here in Taiwan. We really enjoyed and had a great time in the pleasant atmosphere of the beautiful country of Taiwan.

The training course on aquaculture which we have just finished was really useful for us. We learned a lot of new concepts and technology in aquaculture research and development particularly Stock Enhancement and Sea Farming and other related subject matters on fishpond management. A well organized trip to aquaculture farms, research stations and other interesting places enriched our knowledge about aquaculture in Taiwan which may be fit with our conditions in Indonesia after undergoing some adjustments or modifications. We do have a huge potential area, which can be developed for aquaculture farms, but it means nothing without an appropriate technology. Poor aquaculture management may result in a disaster for the environment. In this respect, an environmental friendly technology should be developed without disregarding the technical and economical aspects. Moreover, such technology must be acceptable to fish farmers.

Finally, we thank all our lecturers who shared their expertise and technical knowhow without any reservations. A special thank goes to Mr. Ming-Yih Lu, Ms. Amanda Hsu and Ms. Yudith for their assistance, untiring and utmost care during the entire training period.

The last but not least, for our friends from the Philippines, Thailand and Vietnam, please

keep close contact for an exchange of information and experiences particularly in the field of aquaculture.

Thank you very much.

Participants from Indonesia

Ketut Sutama

Hery Muljono

Ninie Setyorini

Tahir Pasaribu

Good Morning

Ladies and Gentlemen,

On behalf of my country, I would like to thank the International Cooperation and Development Fund (ICDF) for sponsoring this training course on aquaculture. I understand that this is the nineteenth undertaking of ICDF in the field of aquaculture and not the last as another one is coming next year. I congratulate ICDF for this, as aquaculture is an upcoming industry, which requires attention and focus. Moreover, it is also expected to feature prominently in the economy of food production sector. I would also like to thank Taiwan Fisheries Research Institute (TFRI) for your hospitality during my time in Taiwan.

Your organization and conduct of training course are commendable for the technical session are well supplemented by field tours which took me throughout the length of your country and enabled me to have better insight and understanding of the subject matter, as well as the opportunity to enjoy the beauty of your country and warmth of your people. Upon completion of my training, I will be able to contribute the knowledge and skills that I have acquired in Taiwan toward the research and development on aquaculture in my country.

My thanks also go to Mr. Ming-Yih Lu, Ms. Amanda Hsu and Ms. Yang-Ling Chu for looking after me and attending to my needs throughout

my training course which made my stay a pleasant and comfortable one.

Finally, I would like to thank my friends, the participants from the Philippines, Indonesia and Vietnam for your understanding during our stay here in Taiwan. I would also like to apologize for any mistakes which I have made and beg your forgiveness for it.

Thank you.

Sakon Sangpradub (Thailand)

七、檢討與建議

本年度之水產養殖訓練班之能順利的執行，要感謝廖所長的支持、徐秘書的指導，擔任講師同仁們的盡心盡力以及本所各單位人員之全力配合，特別是養殖系同仁不分彼此，互相支援，在連續兩梯次長時間訓練作業下，仍能圓滿達成任務，在此表達由衷感謝。

本梯次訓練過程中，除了專業知識的傳授外，亦教導學員唱幾首本地歌曲、學習一些中文，與學員打成一片，因此學員對本次訓練成效頗為滿意。



廖所長於開訓典禮上致詞



開訓典禮餐會中一同舉杯預祝成功



國合會林副處長秀國於結訓典禮上致詞



結訓典禮餐會中訓練班學員演唱歌曲同樂

廖所長頒發結訓證書予受訓學員們

Participants from Indonesia



Ms. Ninik Setyorini

Mr. Hery Muljono



Mr. Ketut Utama



Mr. Tahir Pasaribu



Participants from Philippines



Mr. Santiago Ajero
Noblefranca



Ms. Rosario Segundina
Paa Gaerlan



Ms. Zenaida Tamban
Fontanilla

Participants from Thailand



Mr. Sakon Sangpradub

Participants from Vietnam



Mr. Thanh Vu



Mr. Van Chi Le

Ms. My Hanh Ho



Mr. Van Tran Tran