



Freshwater Fisheries Research Center of Chinese Academy of Fishery Sciences

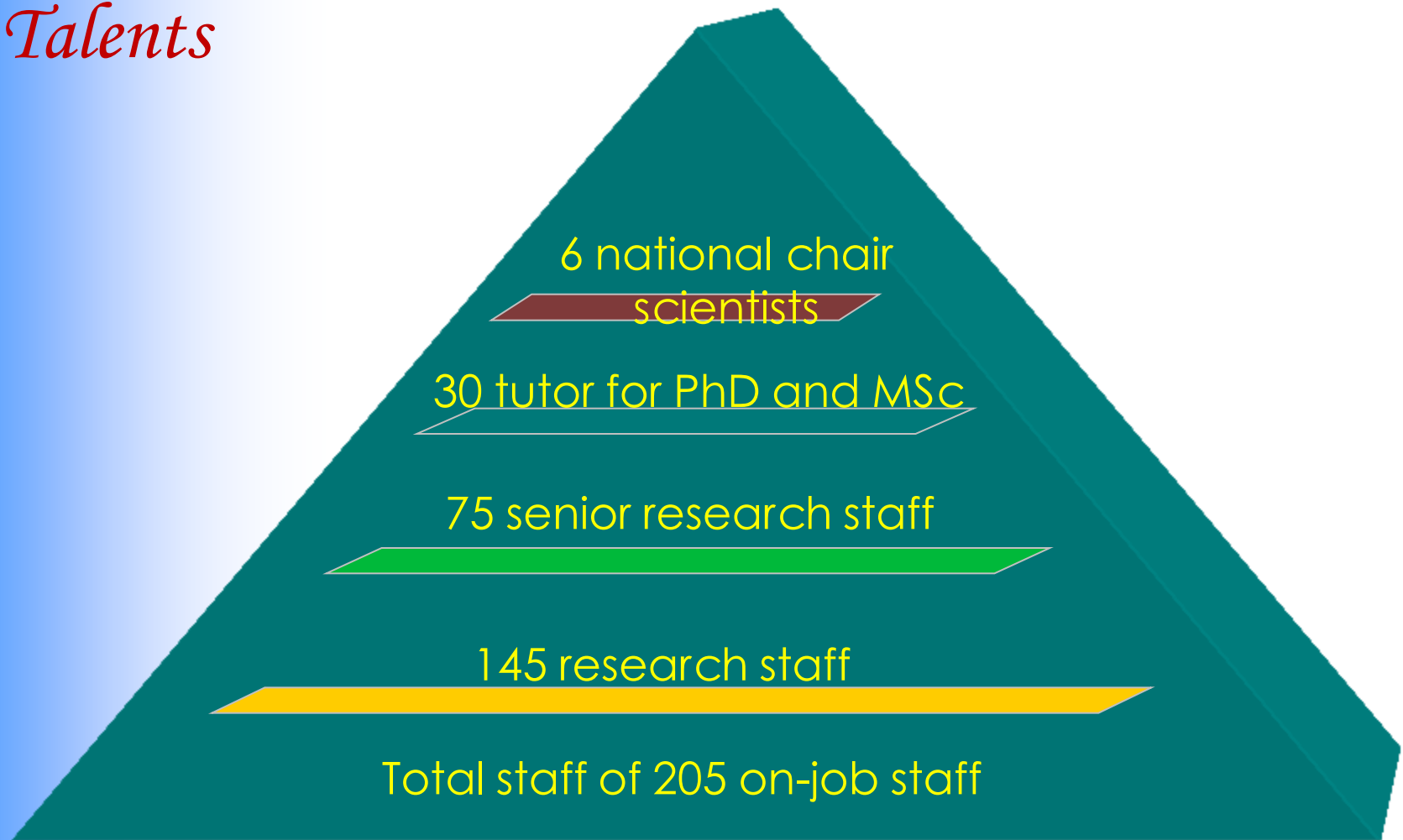


About FFRC

- **FFRC was established in 1978, a non-profit organization of Chinese academy of fishery sciences, Ministry of Agriculture, located in Wuxi, China**
 - Asia-Pacific regional research and training center for integrated fish farming
 - Wuxi Fisheries college of Nanjing Agricultural University
 - FAO reference center for aquaculture and inland fishery research and training
- **Regional lead center of NACA (1981)**
- **FAO reference center (2014)**



Talents



FFRC

Board of Committee

Public service

Field observation station for fishery eco-environment in the lower of Yangtze river, MOA

Field observation station for fishery resource in the lower of Yangtze River, MOA

Clinic test center for fishery drugs, MOA

State breeding center for carps

State breeding center for Tilapia

International Center for Genetic Improvement

R & D

Key Lab of Genetic Breeding and aquaculture biology of FW Fishes, MOA

Key Lab of Eco-environment and Resource of inland open water, CAFS

Dept. of Bio-technology

Dept. of Genetics and breeding

Dept. of Fishery environment

Dept. of Aquaculture

Dept of Vet and nutrition

Dept. of economics and information

Dept. of inland resource assessment and stock enhancement

Support

Asian-Pacific Regional Research and Training Center for Integrated Fish Farming

Wuxi Fisheries College of Nanjing Agricultural University

Editorial of Scientific Fish Farming

Qiting Expt. Station

Dapu Expt. Station

Nanquan Expt. Station

Dept. of Logistics



Key Laboratories

Ministry of Agriculture

- ☐ Comprehensive Labs on freshwater fisheries and utilization of Germplasm resources
- ☐ Key Laboratory of Genetic Breeding and Aquaculture Biology of Freshwater Fishes
- ☐ Key field monitoring station for fishery resource & environment in the lower reaches of Yangtze river

Chinese Academy of Fishery Sciences

- ☐ Key Laboratory of Ecological Environment and Resources of Inland Fisheries,



7 Research departments

- ☐ Bio-technology,
- ☐ inland open water stock enhancement,
- ☐ fishery environment protection,
- ☐ genetics and breeding,
- ☐ aquaculture,
- ☐ health management and aqua-feed,
- ☐ economics and information technology



Key research fields

- ☐ Germ-plasm conservation and genetic improvement
- ☐ Biology and technology for aquaculture
- ☐ Inland fishery resource conservation
- ☐ Monitoring and assessment of fishery eco-environment
- ☐ Alert and control of fishery epidemics
- ☐ Capacity study and health aquaculture
- ☐ Nutrition and feed for aquatic animals
- ☐ Fishery economics and info-tech

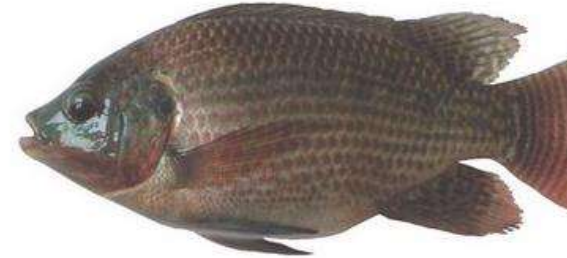
New aquaculture breeds in FFRC



Jian Carp



Au-Ni Tilapia



Zhongwei No. 1
Tilapia



Taihu No. 1



Xia'ao No. 1



Furui carp



<http://www.ffrc.cn>

National awards and prizes



AuNi all-male Tilapia is the most popular bred cultured in China, has greatly improved the industrialization of Tilapia aquaculture in China



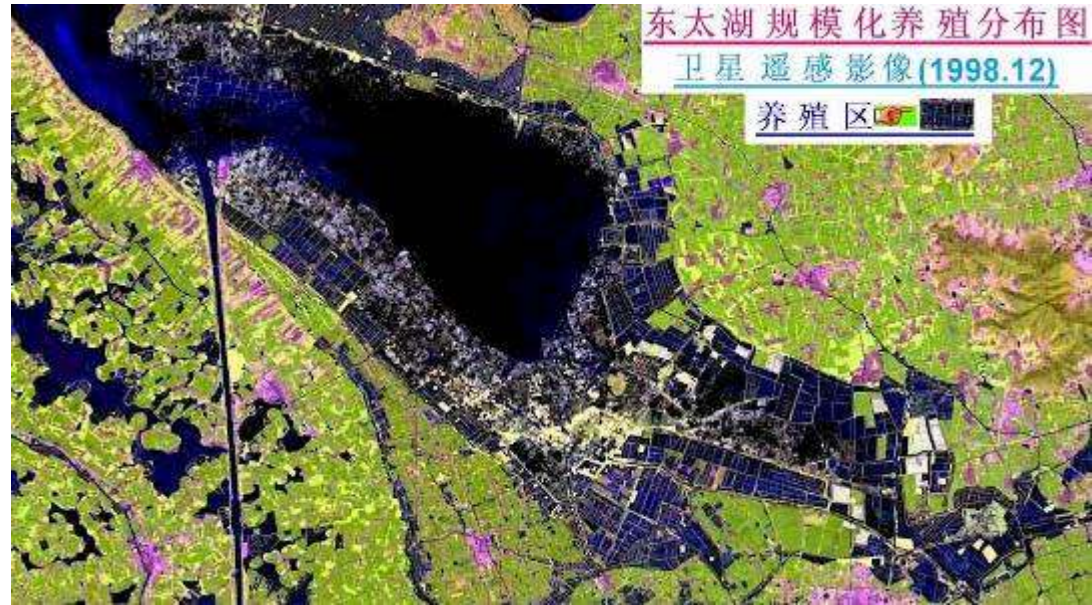
Breakthrough in breeding and feeding of endangered species
in Yangtze river (*Coilia ectenes* and *Alosa sp.*)



Integrated fish farming



Lake fisheries



Stock enhancement

Pen culture



Crab farming



Environment rehabilitation



Sampling



Fingerling releasing



Fry releasing



Mussel releasing





中国水产科学研究院
Chinese Academy of Fishery Sciences



淡水渔业研究中心
Freshwater Fisheries Research Center

Technical extension and demonstration



Governance of training program in FFRC

- **Board of committee**
 - Identify the training demand
 - Approval of curriculum
 - Evaluation
- **Training and education department**
 - Implement of training program
 - Curriculum development
 - Training facilities maintenance
 - Communication and follow-up with participants



Member of international organization



MOU signed FIRA/FAO-FFRC

Regional leading center of NACA



Facilities for Training and Education

- **Teaching facilities**

- Teaching building (2, 10000m²)
- Multi-media-aid teaching rooms, Bio-Labs, Computer labs, Library, etc.

- **Logistics**

- Apartments for students (3, 250 rooms)
- Guesthouse (2, 100 rooms)



Computer Lab



Library



Teaching building



Conference hall

Language Lab

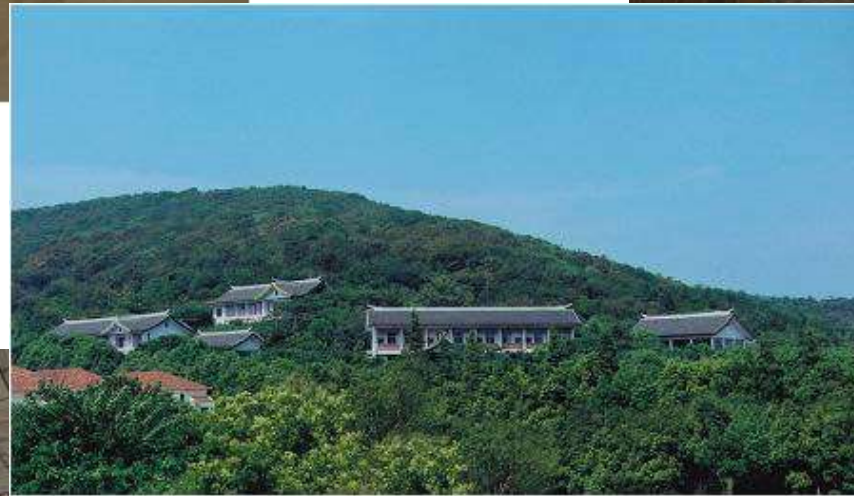




Table tennis



bedroom



Guest house



Dining hall

Gym room



Int'l training programs

- **IDRC, UNDP-TCDC, NACA program**
 - Integrated fish farming
 - Induced breeding and fish seed production
 - Hatchery management
 - Teaching methodology in fishery training
 - Training of trainers

Int'l training programs

- **Chinese government supported programs**
 - **Seminar for senior officials**
 - **Ministerial Seminar on aquaculture development**
 - **Seminar on fishery development and management**
 - **Seminar on fishery extension and management**
 - **Technical training programs**
 - **Integrated Fish Farming**
 - **Aquaculture**
 - **Inland open water fishery management**
 - **Aquaculture health management**
 - **Business management for aquaculture**
 - **Climate change and aquaculture**
 - **Fish seed and feed development**

- **Regional training program**
 - **Rice-fish farming for Cambodia\Laos\Myanmar**
 - **Sustainable fishery management for ASEAN**
 - **Training course on aquaculture for GMS**
 - **Training course on aquaculture for ASEAN+1**
 - **Technical training for local government**
 - **Training course on English for young scientists of CAFS**

Training approaches

- **Training courses**

- Classroom presentation
- Lab work
- Practical demonstration
- Study tour
- Group report and presentation

- **Abroad technical assistance**

- Consultancy (Myanmar, Laos, DPR Korea, Nepal, Sri Lanka, Viet Nam, Iran, Iraq, etc.)
- Technical assistance (India, South Africa, Malawi, Namibia, Mozambique, Egypt, Myanmar, Sri Lanka, etc.)

Resource persons

- **Officials**

- MOA/BOF,
- NFTEC,
- CAFS,
- provincial level administrative



- **Professors**

- Mainly from FFRC
- Shanghai Ocean University
- Nanjing Agricultural University
- Experts and professors of
- other University/institutes domestic/international

Lab work



Bio-anatomy



Bacteria testing



Feed making



In the lab

Practical demonstration



Study tour





Haikou, Hainan



Xiamen, Fujian



Liyang, Jiangsu



Sanya, Hainan

Group report and presentation



Social activities and cultural programs



Abroad technical assistance



Iran



Nepal



Bangladesh



Myanmar



South Africa



DPR Korea



Laos



Tajikistan

- Training material



Impact of training programs

- **Enhance the human resource development**
- **Promote aquaculture technology in developing countries**
- **Improve the fish production and rural development**
- **Strengthen international cooperation among participated country and China**

Feedback from Participants

- **Personnel promotion in fishery/aquaculture administration**

Mr. Kishore Upahyaya, 81-IFF
1st batch participants,
DG of fisheries, Nepal

Mr. Wilson Mwanja, 06-FDM,
DG of Fishery, Uganda

Mr. Anser Chatta, 07-Aqua
DDG, Federal government of Pakistan



Technical development



Bangladesh

Indonesia



India



Nepal



International cooperation

- **Cooperation and exchange program with**
 - IDRC-Canada: integrated fish farming
 - HAKI-Hungary: environment friendly aquaculture, immunology, herbs
 - SEAFDEC-AQD: aqua environment, fish health management, social economics
 - CLAR-Egypt: Tilapia breeding and aquaculture
 - UTC-Chile: integrated fish farming, immunology, herbs
 - Deakin University-Australia: shrimp culture, nutrition, reservoir fishery
 - WorldFish Center-CGIAR: carp, tilapia breeding, aquaculture in community
 - NACA: leading center in China, reservoir fishery, aquaculture
 - etc.

Bridge for International cooperation

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Cooperation with partner countries

- Fine breed of carps to Sri Lanka
- Training for Hong Kong delegation
- Program for India delegation
- Program for Thailand pearl culture
- China-NEPAD workshop



Delegates from participated countries



Korea



Hungary



Chile

Kenya



Namibia



Congo



Nigeria



Education programs

- **Programs**

- Post-Doc station on aquaculture
- Post-Graduates
 - Hydrobiology (PhD, MSc)
 - Aquaculture (PhD, MAg)
- Graduates
 - Aquaculture (BSc)
- Short term training and courses for professionals

- **Faculty**

- Tutors for PhD: 6
- Tutors for MSc: 30

Training and Education



- Total students:
 - BSc: 240
 - MSc: 150
 - PhD: 21
 - Oversea students: 30 (4 PhD, 26 MSc)
- Aquaculture science education was ranked No. 5 in China, 2012





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Questionnaire survey with fish farmers in Fujian Province



The 14th Jiangsu International Agriexpo (AGRIEXPO 2012) in Yangzhou



Training topics

- Pond fish culture technique
- Induced breeding and seed nursery
- Nutrition and feed
- Disease prevention and treatment
- Integrated fish farming
- Aquatic product processing
- Mariculture
- Climate change
- Inland fishery resource assessment and stock enhancement
- Aquaculture extension
- Fishery information technology
- Safety and quality control
- Fish farm management and economics
- Fishery project development and management

Bird view of new campus



Teaching building



Demonstration building



Research building



Guest house



Dormitory





<http://www.ffrc.cn>

Thank you!

谢谢!

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