Strengthening networking to promote sustainable aquaculture in Asia-Pacific

Dr. Jie HUANG, Director General
Network of Aquaculture Centres in Asia-Pacific (NACA)
The Asia-Pacific

- The most
  - mixture of lands and waters
  - populations in the world
  - economic diversity
  - diversity of language & culture
  - aquacultural production

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We are the leading region for aquaculture in the world

- >90% global aquaculture production in Asia
- Asia-Pacific aquaculture provides 62% food fishes
- Aquaculture and relative chains provides more than 35 million jobs for the region
Features in Asia-Pacific aquaculture

- Diversity
  - Diversity of aquatic species
  - Differentiation of industries
  - Complementary capability & capacity
  - Complexity of knowledge & education
  
- Dependence
  - Labor intensive
  - Technology
  - Investment
  
- Risks
  - Biosecurity
  - Environment
  - Safety
  - Climate change
Network of Aquaculture Centres in Asia-Pacific

NACA is ONE

Ownership of Members
Network of Resources
Expertise of Aquaculture

to link the diversified regional aquaculture as ONE
About NACA

* Intergovernmental organization
  * 19 Members (governments)

* Promotes rural development through sustainable aquaculture
  * Technical exchange between developing countries

* NACA members produce more than 90% of world aquaculture production by volume
  * Australia, Bangladesh, Cambodia, China, Hong Kong SAR, India, Indonesia, IR Iran, DPR Korea, Lao PDR, Malaysia, Maldives, Myanmar, Nepal, Pakistan, Philippines, Sri Lanka, Thailand, and Vietnam
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19 NACA Current Members
- Australia
- Bangladesh
- Cambodia
- China
- Hong Kong SAR
- India
- Indonesia
- IR Iran
- Lao PDR
- DPR Korea
- Malaysia
- Maldives
- Nepal
- Pakistan
- Philippines
- Thailand
- Sri Lanka
- Vietnam
Former NACA Coordinators & Director Generals

**NACA as an FAO/UNDP Project 1976-1989**
- Ramu Pillay, INDIA
- Plodprasop Surawadi, THAILAND
- Chua Thia-Eng, MALAYSIA
- Pinij Kungvankij, THAILAND
- Chen Foo Yan, SINGAPORE

**NACA as an intergovernmental organization Since 1990**
- Banchong Tiensongtrumee, THAILAND
- Hassanai Kongkaew, THAILAND
- Pedro B. Bueno, PHILIPPINES
- Sena De Silva, SRI LANKA
- Ambekar Eknath, INDIA
- Cherdsak Virapat, THAILAND

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NACA Governing Council (2019) represents the Members and is the supreme body of NACA

The 30th NACA Governing Council Meeting
Guangzhou, China, March 26-27, 2019
Promote rural development through sustainable aquaculture and aquatic resource management.

Seek to improve the livelihoods of rural people, reduce poverty and increase food security.
NACA Centres

* Five Regional Lead Centres
  * Freshwater Fisheries Research Centre, China
  * Central Institute for Freshwater Aquaculture, India
  * Aquaculture Department, SEAFDEC, Philippines
  * Inland Fisheries Research & Development Bureau, Thailand
  * Coldwater Fisheries Research Center, Iran

* More than 30 participating centres throughout the region
  * Collaborating in research
  * Sharing information and resources
  * Training and exchanging expertise
Our Strengths

* The network of individuals, institutions and governments
* Access to vast resources in the network
* Network has extensive expertise in aquaculture
  * Governance & policy, management, production technology, rural development, certification, global and regional standards, and BMPs
* Good Track Record in promotion of International Codes of practice for responsible Fisheries and Aquaculture
Cooperation with organizations

- International organizations and regional organizations
  - FAO, OIE, UNEP, World Bank WWF

- AIT, APEC, ASEAN, INFOFISH, SEAFDEC, WorldFish
## Top 10 Achievements of NACA

<table>
<thead>
<tr>
<th>Achievement</th>
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<tbody>
<tr>
<td>Regional human resource development</td>
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<td>Better aquaculture management practices</td>
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<td>Global aquaculture development policy</td>
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<td>Regional aquatic animal health network</td>
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<td>Margarita Lizárraga Medal</td>
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<td>Post-tsunami rehabilitation</td>
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<td>Development of grouper hatchery technology</td>
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<td>International principles for sustainable shrimp aquaculture</td>
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<td>Technical Guidelines on the Responsible Movement of Live Aquatic Animals</td>
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<td>Capacity building in broodstock management</td>
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Longitude of aquaculture cooperation (Thematic programs to be extended)

* Biodiversity and genetic resource
* Sustainable aquaculture technology
* Aquaculture health and biosecurity
* Climate change and environment
* Nutrition, feed, and intermediate inputs
* Aquatic product safety and processing
* Aquaculture economics and marketing
* Information technology for aquaculture
Latitude of aquaculture cooperation
(Cross-cutting programs to be covered)

- Strategy and policy
- Science and technology innovation
- College and postgraduate education
- Training and demonstration
- Standardization and certification
- Quarantine of aquatic products
- Investment and industry development
- Trade and exhibition
- Equality and social inclusion

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## Thematic priorities in the region

<table>
<thead>
<tr>
<th></th>
<th>Genetic resource</th>
<th>Biosecurity and health</th>
<th>Farming technology</th>
<th>Climate and environment</th>
<th>Nutrition and feed</th>
<th>Safety products</th>
<th>Economics / IT tech</th>
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<td>Governance</td>
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Designation of more NACA regional centres for aquaculture cooperation

- Regional strategy cooperation centres
- Regional innovation cooperation centres
- Regional education cooperation centres
- Regional training cooperation centres
- Regional quarantine cooperation centres
- Regional product cooperation centres
- Regional demonstration cooperation centres
- Regional commercial cooperation centres
Initiate cooperation of aquaculture education

- Network of education cooperation centres
- Integration of fisheries education in Asia
- Exchange students
- Short-term training
- Summer camp
- Teacher collaboration and training
- Online distance education for aquaculture
- Cooperation in aquaculture research
- Graduate student forums

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Promote cooperation on aquaculture innovation

- Initiate strategical plan on innovation cooperation
- Discussion of consensus on specific subject
- Propose of cooperative projects
- Promote innovation-technicalization-industrialization approaches
- Discussion intellectual property sharing issues on specific innovation
- Organization of workshop
- Exchange of knowledge and technology
- Exchange of research materials
- Visiting scholarship of scientist
- …
Promote cooperation on aquaculture industry and trade

- Initiating the consensus of cultural concepts among enterprises
- Promoting the communication of aquaculture related enterprises
- Technological training and extension for industries
- Exhibition for aquatic products and aquaculture technology
- Technological advisory expert group for enterprises
- Regional study tour for aquaculture investment and marketing
- Standards and assessment for aquaculture products
- Regional aquaculture network between research-education-industries
- Establishment of information interactive network for aquaculture
<table>
<thead>
<tr>
<th>Sub-networks for species</th>
<th>Sub-networks for subjects</th>
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<tbody>
<tr>
<td>* sNACA for species of finfish</td>
<td>* sNACA for aquatic genetic breeding</td>
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<tr>
<td>* sNACA for ornamental fish</td>
<td>* sNACA for rice-fish system</td>
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<tr>
<td>* sNACA for species of crustaceans</td>
<td>* sNACA for aquaculture biosecurity</td>
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<tr>
<td>* sNACA for <em>Penaeus monodon</em></td>
<td>* sNACA for shrimp diseases</td>
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<tr>
<td>* sNACA for species of mollusk</td>
<td>* sNACA for aquatic alien species</td>
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<tr>
<td>* sNACA for amphibians</td>
<td>* sNACA for aquariums</td>
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<tr>
<td>* sNACA for macroalga</td>
<td>* ......</td>
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Sub-NACA operation

- Strategy to establish sNACA
  - The Secretariat will release sNACA strategy and relevant regulations upon NACA GC’s acknowledgement
  - A competent institution can apply for a NACA Lead Centre with nomination or approval of the Secretariat
  - The NACA Lead Centre is responsible to organize the sNACA in name of NACA

- Identification and designation of sNACA centres
  - The NACA Lead Centre can find existing NACA centres to be involved in sNACA
  - The NACA Lead Centre can recommend institutions for the specific subject
  - The recommended institution applies as a new NACA centre to join sNACA with approval of the Secretariat

- Planning and organization of activities
  - The NACA Lead Centre takes charge of planning and organization of annual activities of sNACA
  - The secretariat shall be notified for the activities in name of NACA
  - The secretariat reserves the power to propose or veto activities in name of NACA

- Rights and responsibilities
  - Participation of NACA activities and meetings
  - Organizing sNACA activities in name of NACA
  - Participation of international meetings informed by NACA Secretariat and as representative of NACA

- Communication and annual reports
  - All NACA centres shall submit annual report to NACA for their activities on specific subject in aquaculture
  - The NACA Lead Centre for the specific subject shall submit annual report for the sNACA
  - All annual reports will be published on NACA website

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Thanks for supporting and cooperation

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  * Email: info@enaca.org; dg@enaca.org
* Or visit:
  * www.enaca.org