

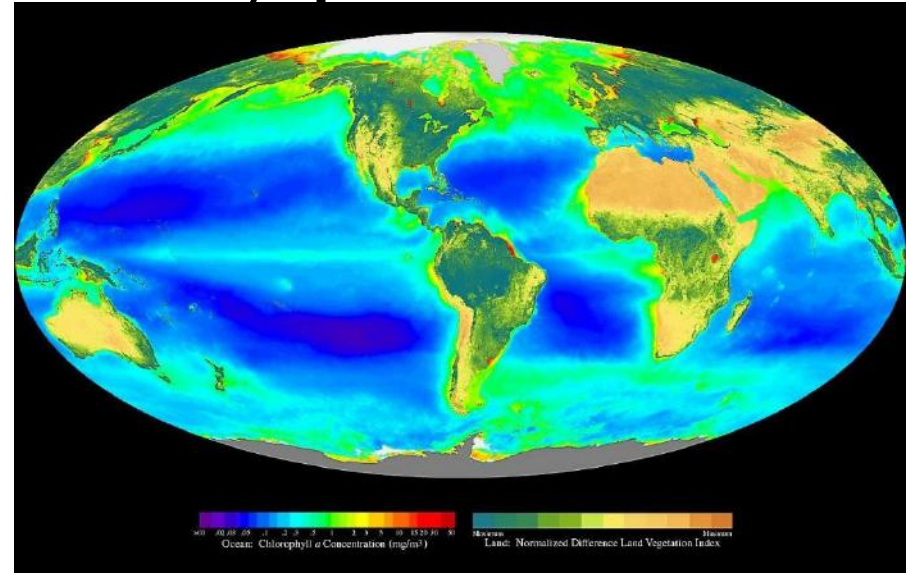
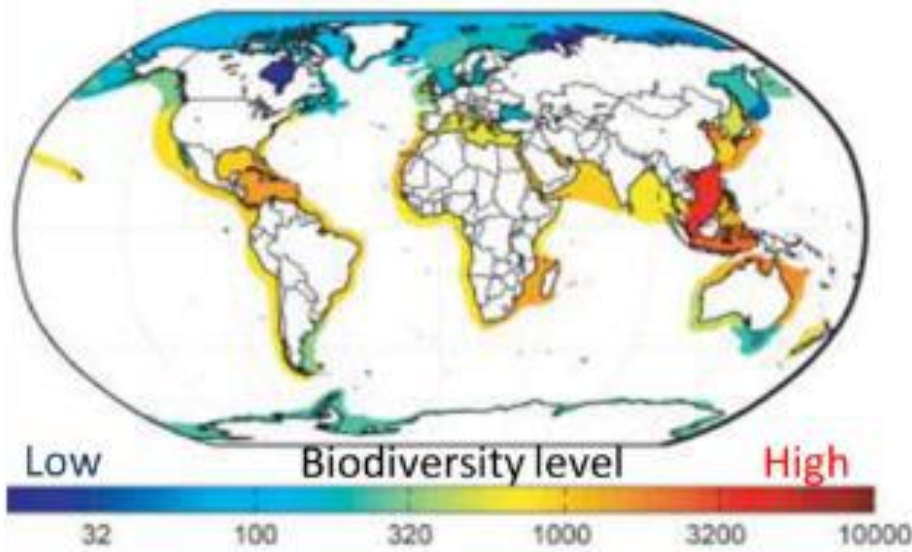
Rural Developments and Sustainable Monitoring of Ecosystems in Coastal zones

-Introduction of Area-capability approach-

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Tropical Coastal zone holds Rich Biodiversity and high productivity, But, People in there are usually poor!!



Rich Biodiversity and poverty make data collection and monitoring difficult.

Commercial fishery



Single-Species, Selective Fishery



Professional Fishery
& Large landing sites

Coastal small-scale Fishery

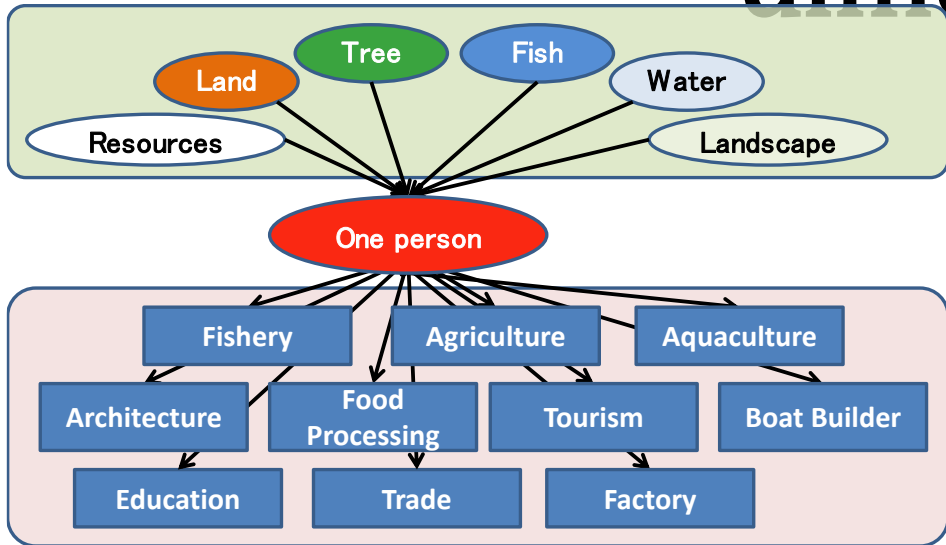


Multi-Species, Multi-Fishery, Mixed Catch



Many Fishery and Stakeholders
& many landing sites

Multi-resources, Multi-utilization Stakeholder identification is also difficult



- They are not professional fishermen.
- They use a lot of local resources for various purposes.
- They are living in poverty.
- They do not have time for monitoring of the nature.

Scientific activity is not attractive them.

Scientific outcomes are not beneficial for them.

However,,

They use and know a lot of natural resources in daily activity

Collaboration with local people is a key for sustainable monitoring of nature in coastal zone.

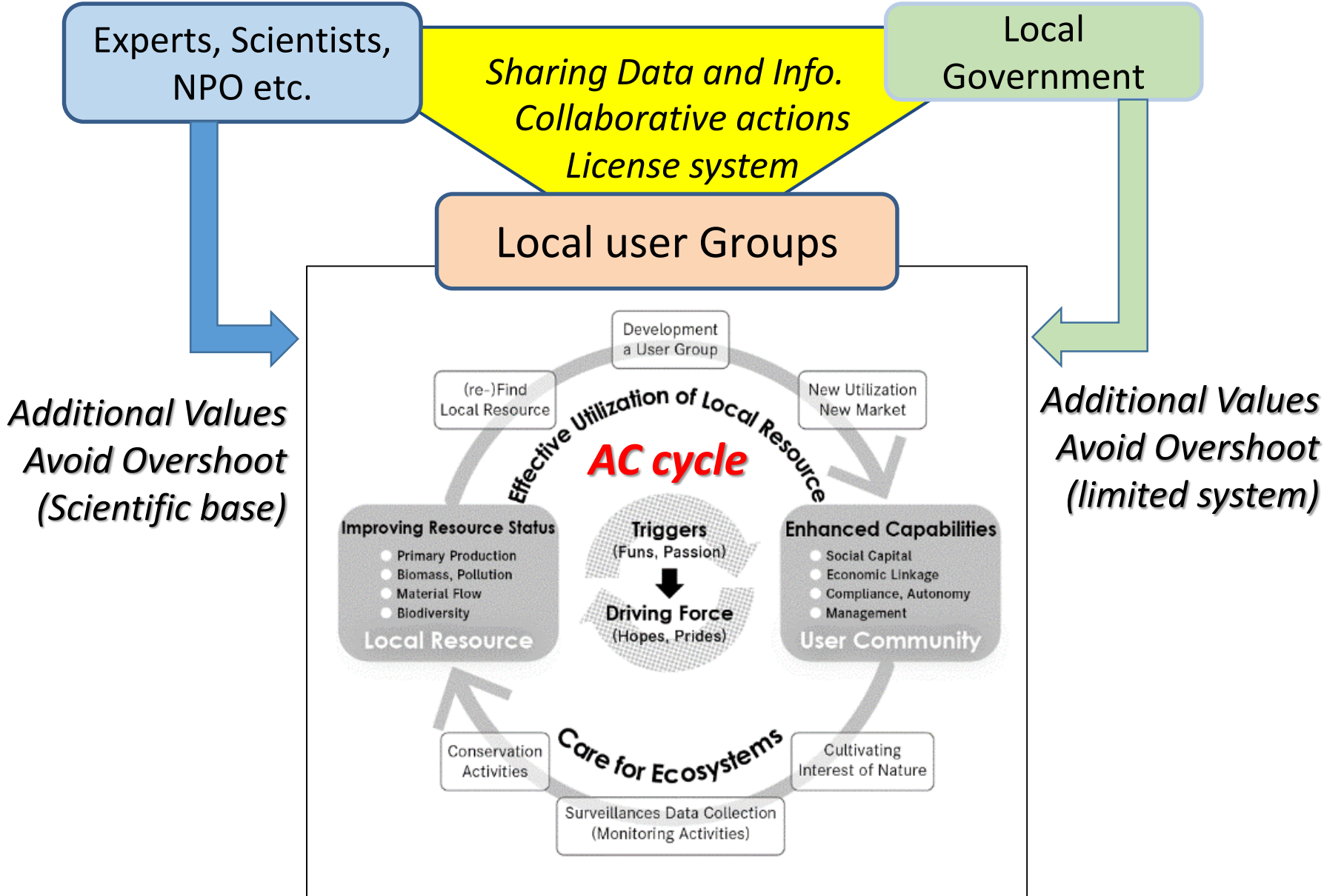
- How can we collaborate with them?
- How to ensure the data quality and quantity?

Scientists should think about these question very seriously as our duty.

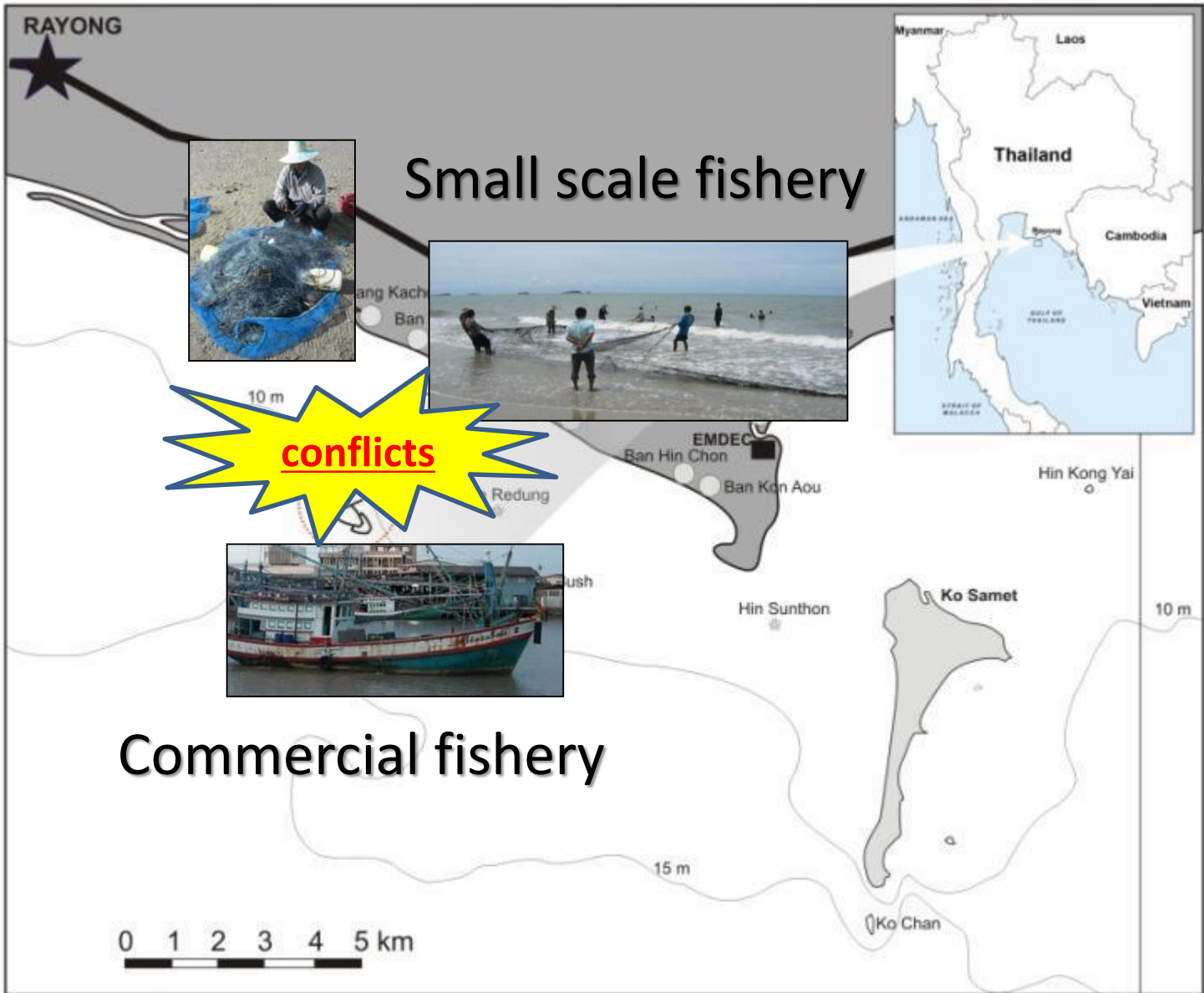
I would like to propose
“Area-capability Approach”!

Area-capability approach

Area-Capability Cycle (AC cycle) as a model of collaborative action



Community based Set-net Fishery in Rayong

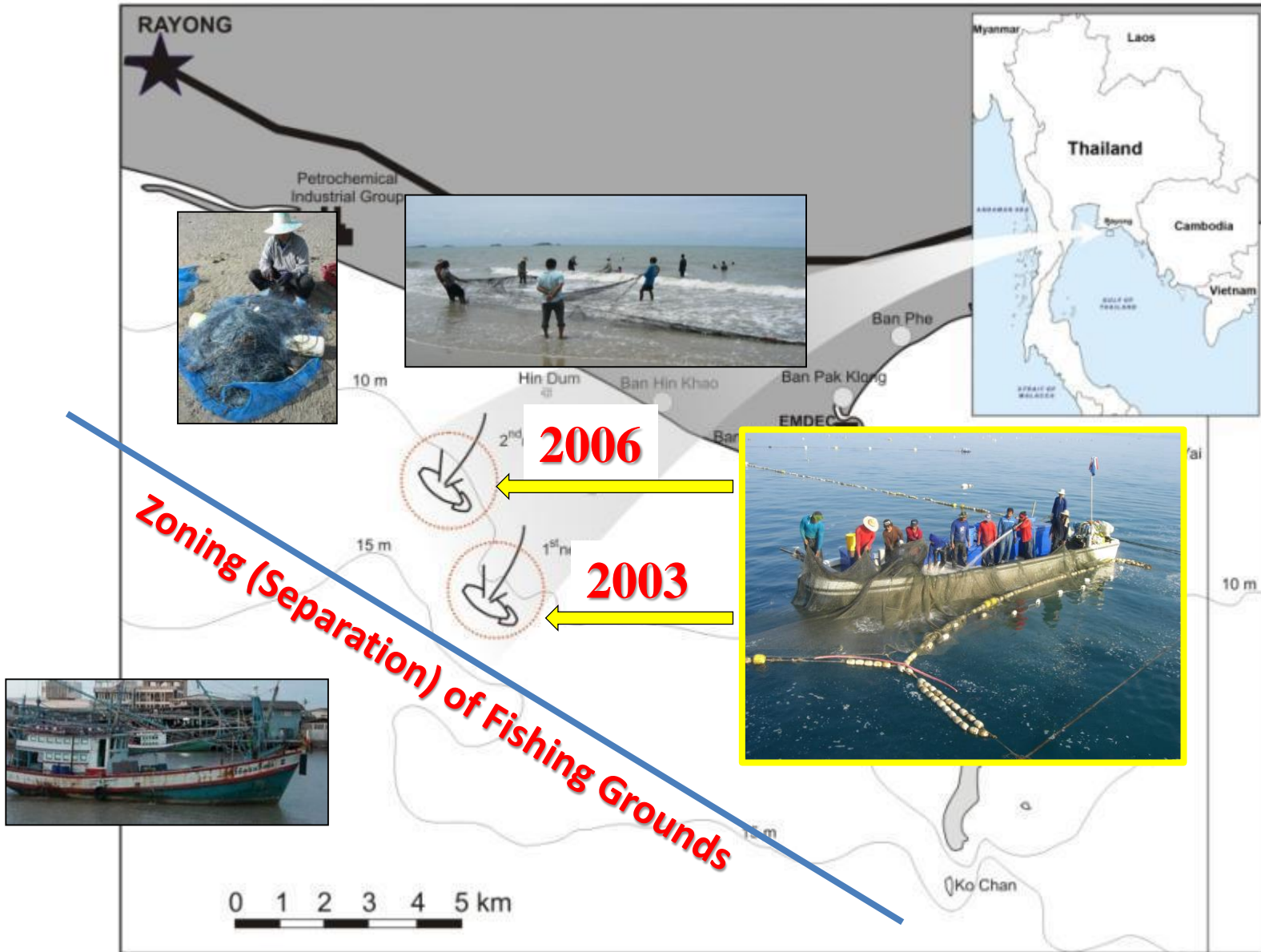


Small scale fishery

Commercial fishery

conflicts

Community based Set-net Fishery in Rayong



2006

2003

Zoning (Separation) of Fishing Grounds

The Catch

New resources utilization
cultivated new community
and increased incomes

Variety of
catch

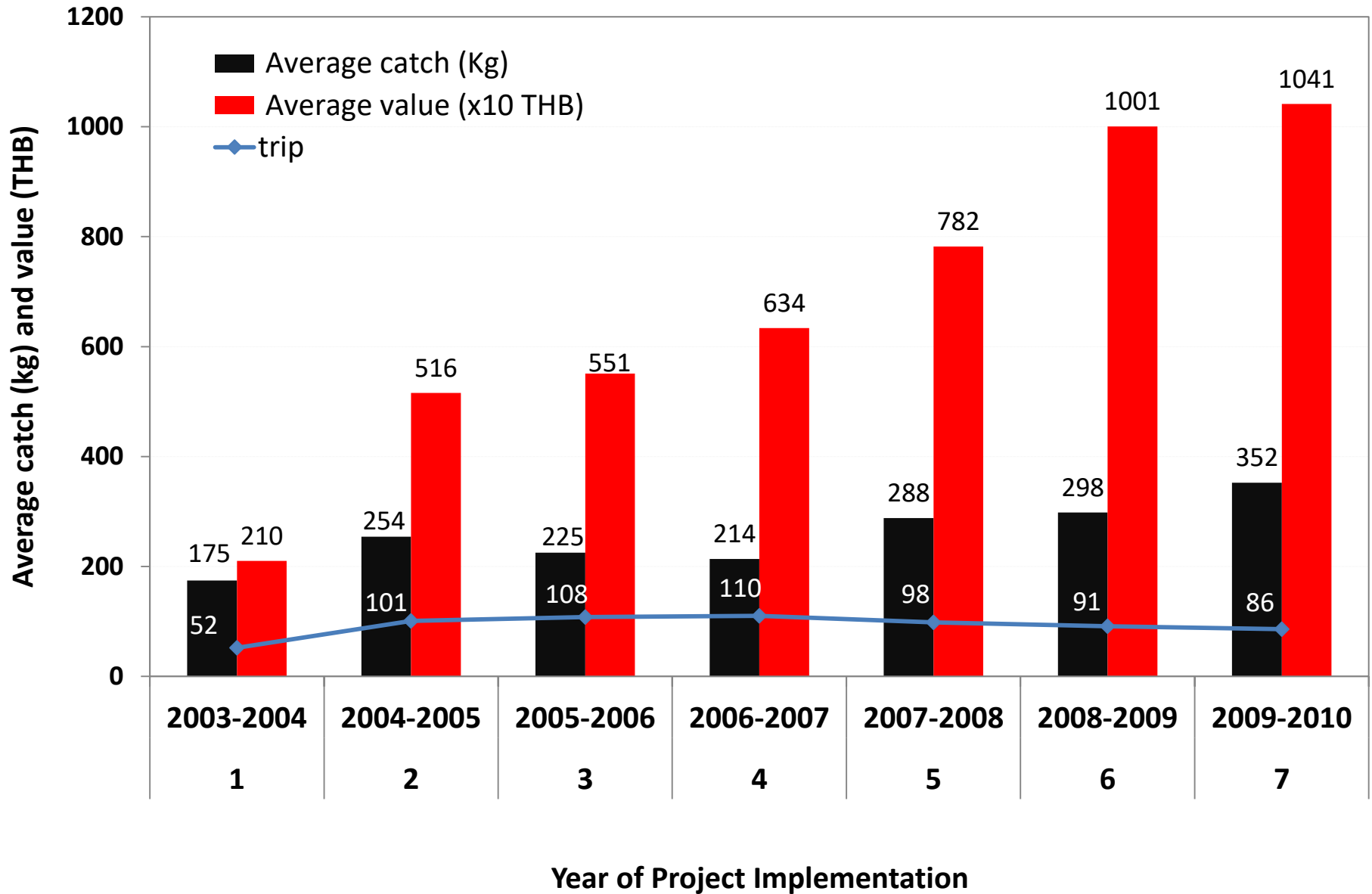
They caught different species by set-net from that they collected by small gears.

High
quality

Management Skill of them was improved through selling and pooling system

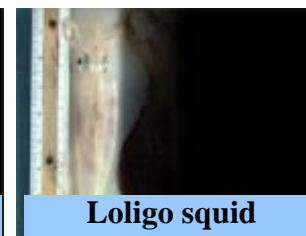
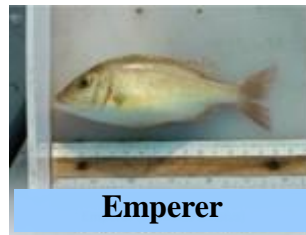


Daily average catch and value

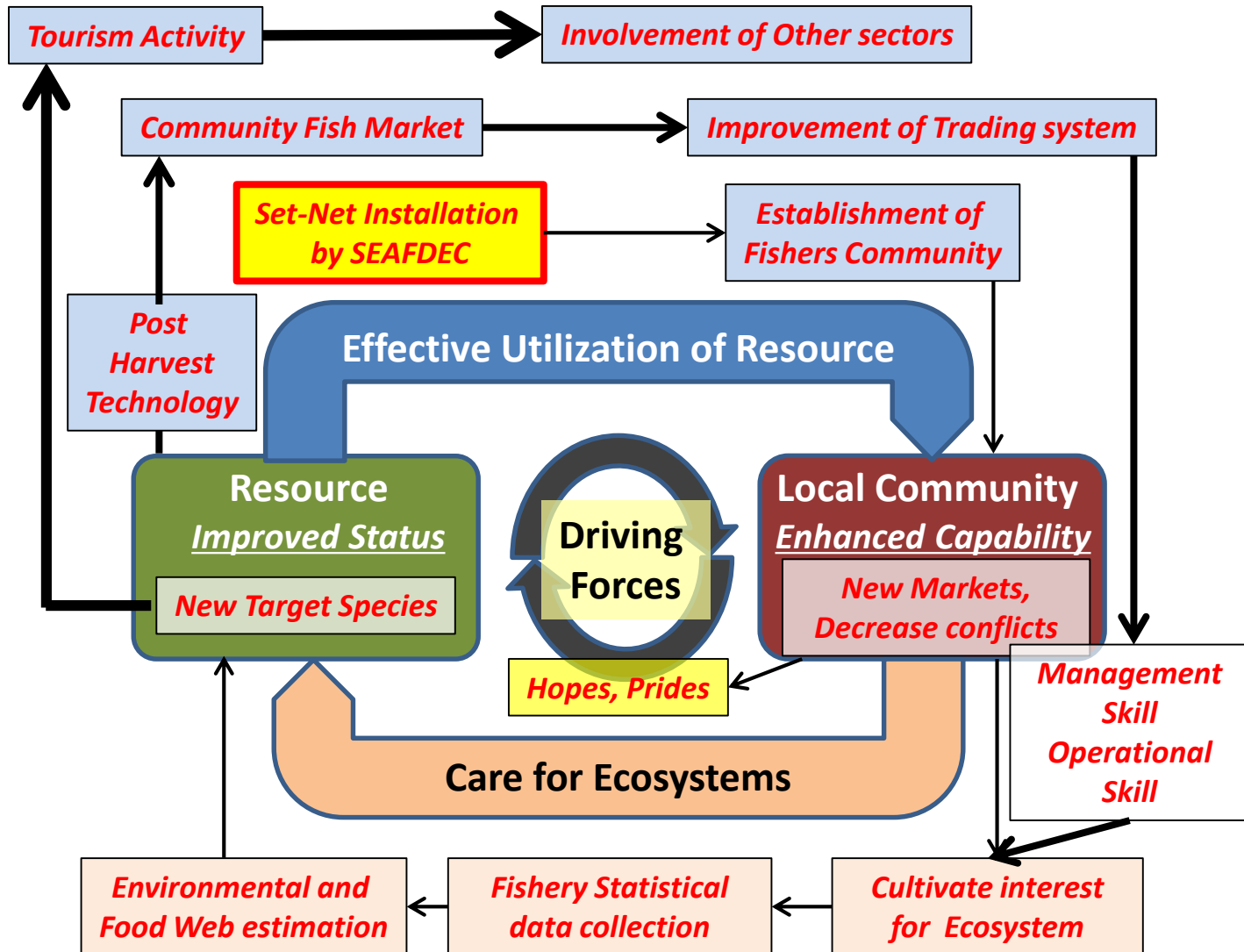


Major Species

Biological Data are also collected



AC-Cycle of the Community-based set-net fishery in Rayong, Thailand.



Community Based Stock Enhancement, Panay Is. Philippines

Researchers community



BFAR

Seed Production Technology
Habitat improvement
Disease Inspection
Monitoring after seed release
Environmental Assessment
Stock Evaluation
Training of seed production

Mid-culture of seed
Seed Release
Local Regulation
Report of Catch

Fishermen Community



Community Based Mangrove Rehabilitation



Community Based Aquaculture

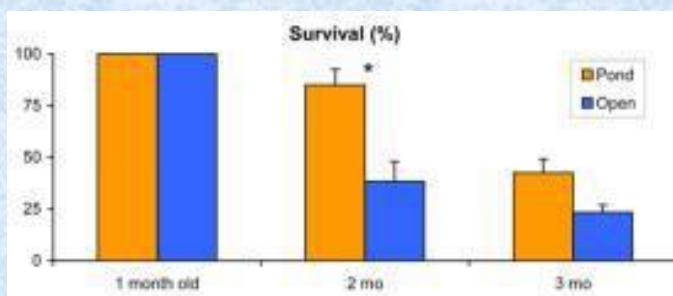
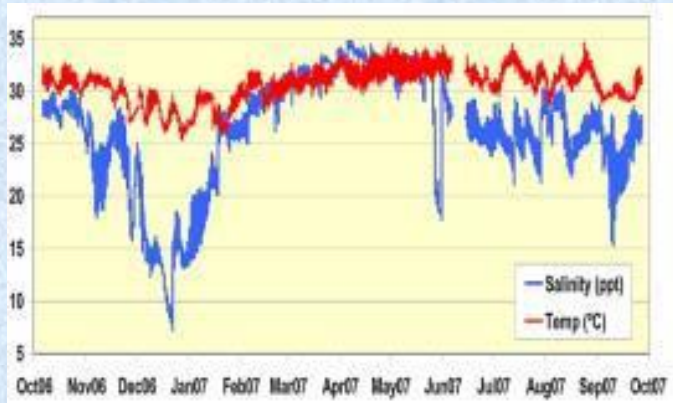
Symposium
Workshop

Government, International Organizations, NGOs

Understanding and Supports

Through the community based Stock Enhancement

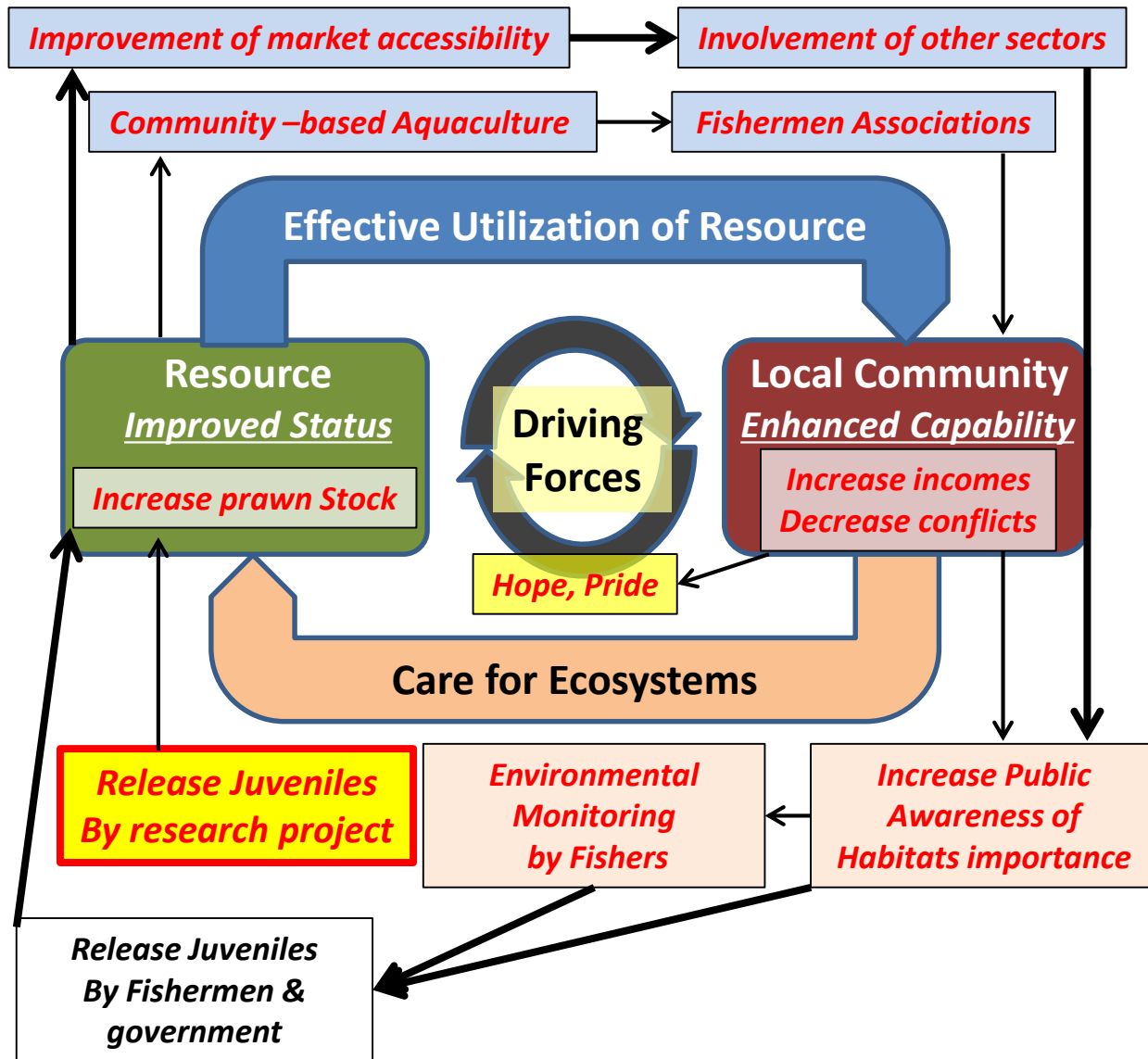
- Local Government participation
- Local Community Making
- Implementation Discussion
- Base Line Survey on Livelihoods
- Periodical Environment and Stock assessment
- Build Intermediate Aquaculture Ponds
- First Trial of Community-based Aquaculture



- **Community actions**
- **Increase Incomes**
- **Scientific Data collection**
- **Environmental Monitoring**

Hopes and Prides are cultivated

AC cycle of Community-based Stock Enhancement of Tiger prawn



Other AC cycles

- **Dolphin Watching** based on collaboration of Fishers, Tourism, Scientist and local governments in Kumamoto, JAPAN



Ecotourism by local enterprise collaborating local communities in THAILAND

Environmental Education Program based on local resources using latest technology in Okinawa, JAPAN



From cost-benefit To co-benefits

One by one One for all, all for one

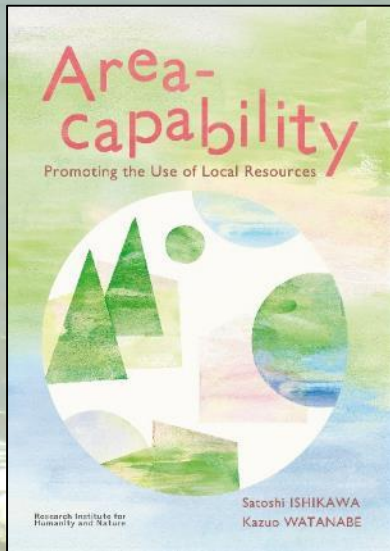


- Society based on particular resources (=Jobs) is very vulnerable under climate changes.
- Increasing local resources and users should be target for sustainable society.
- AC cycle is drawn based on the linkage between one resource and one user groups.

- ✓ *To create sustainable AC cycle, care of nature by users are necessary.*
- ✓ *One care is beneficial for others' resources in some cases*

Increasing cares (AC cycles) strengthen co-benefit situations based on Scientific evaluations.

Increasing AC cycle should be treated as the target of developments, For our future!!



Thank you for your attentions!

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