

Aquatic Marine Environmental Education for Watershed and Coastal Community Development

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Contents

- I. What is Aquatic Marine Environmental Education (AMEE)?
- II. What is the role of AMEE Lab ?
- III. What is Evolution Process of Community?
- IV. Challenges for the future

Dual Roles of “Community-based Programs”

Process Oriented

(capacity building)

- Issue “Identifier”
- Catalyst
- Partner
- Facilitator

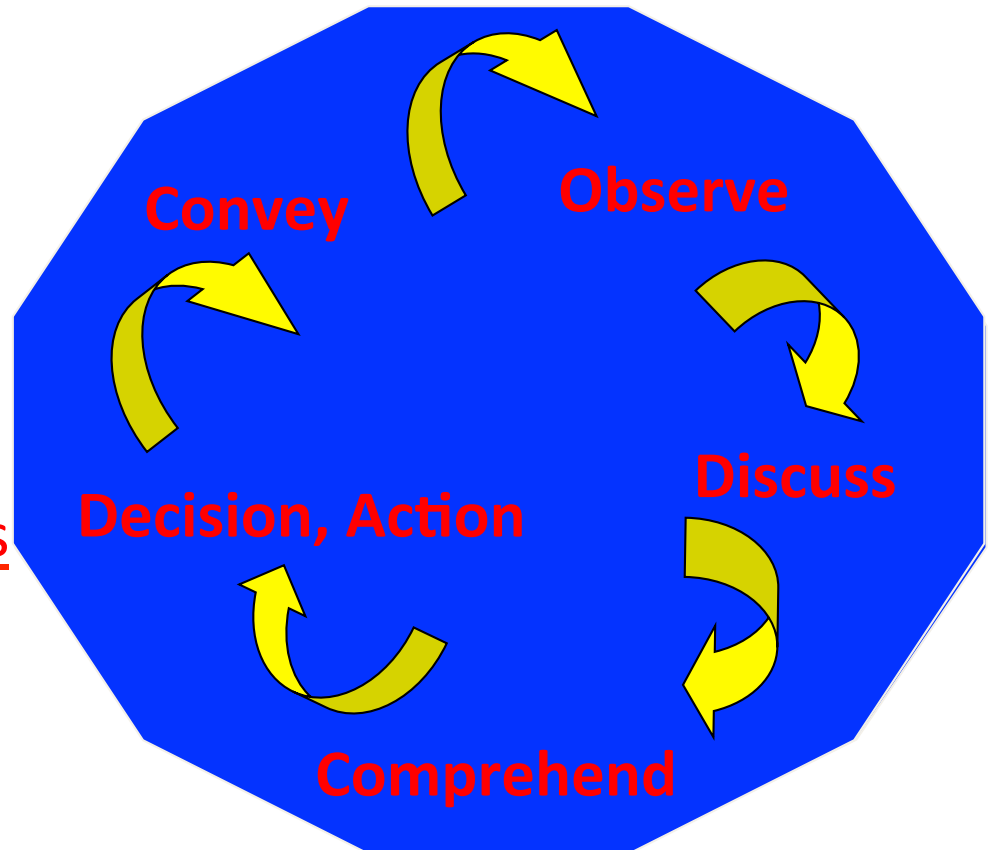
Product Oriented

(training)

- Technical Assistance
- Technology Transfer
- Education
- Information Delivery

I What is Aquatic Marine Environmental Education(AMEE) ?

- People who can
 - [I] Observe familiar aquatic marine environments scientifically
 - [E] Discuss various problems cooperatively
 - [C] Comprehend aquatic marine environment literacy.
 - [A] Make responsible decisions and take actions, and
 - [R] Convey them to others
- We call "Aquatic marine environmental literate" person.



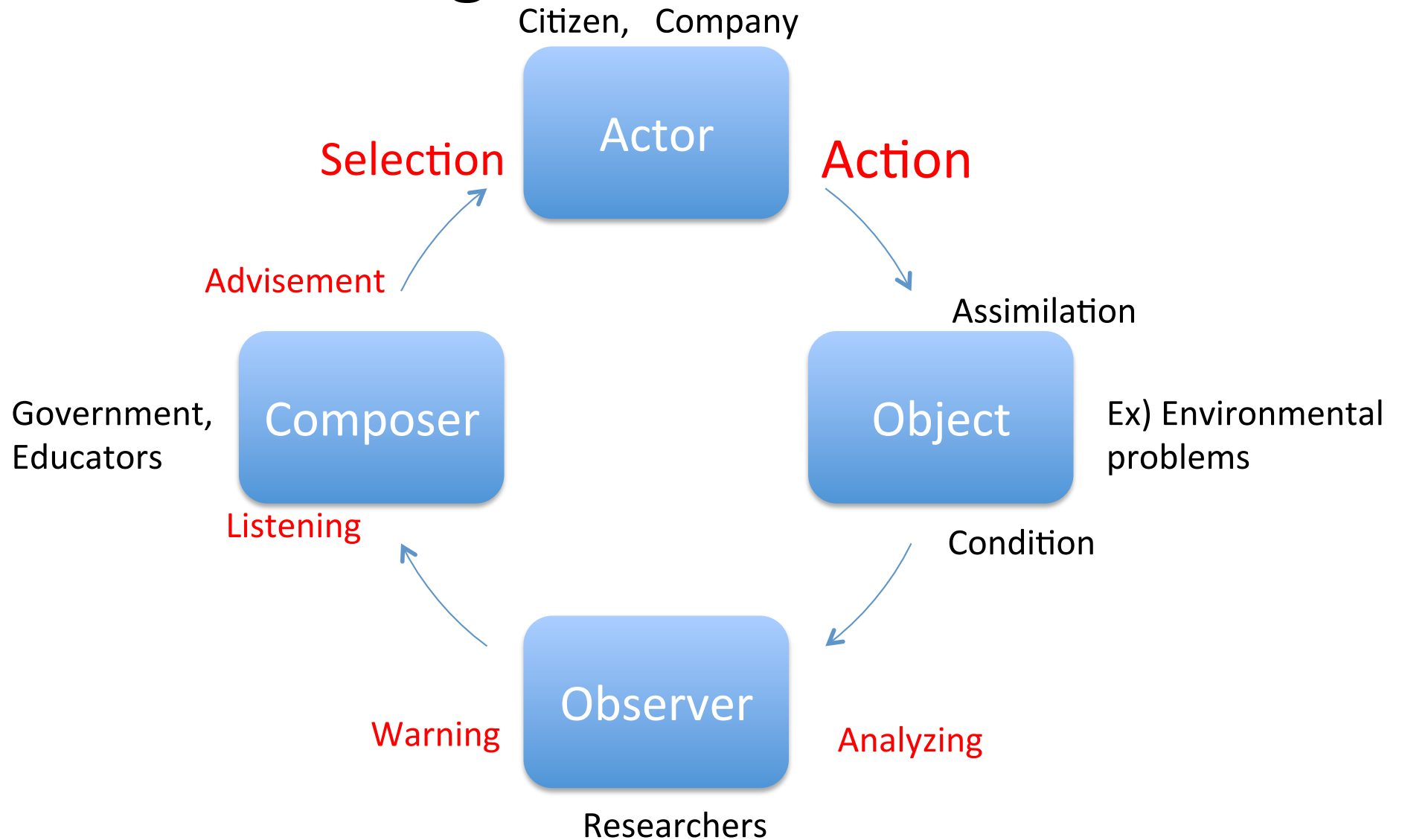
Theory of Aquatic Marine Environmental Education (Sasaki 2011)

Promoting participants autonomously engagement to solve the problems.

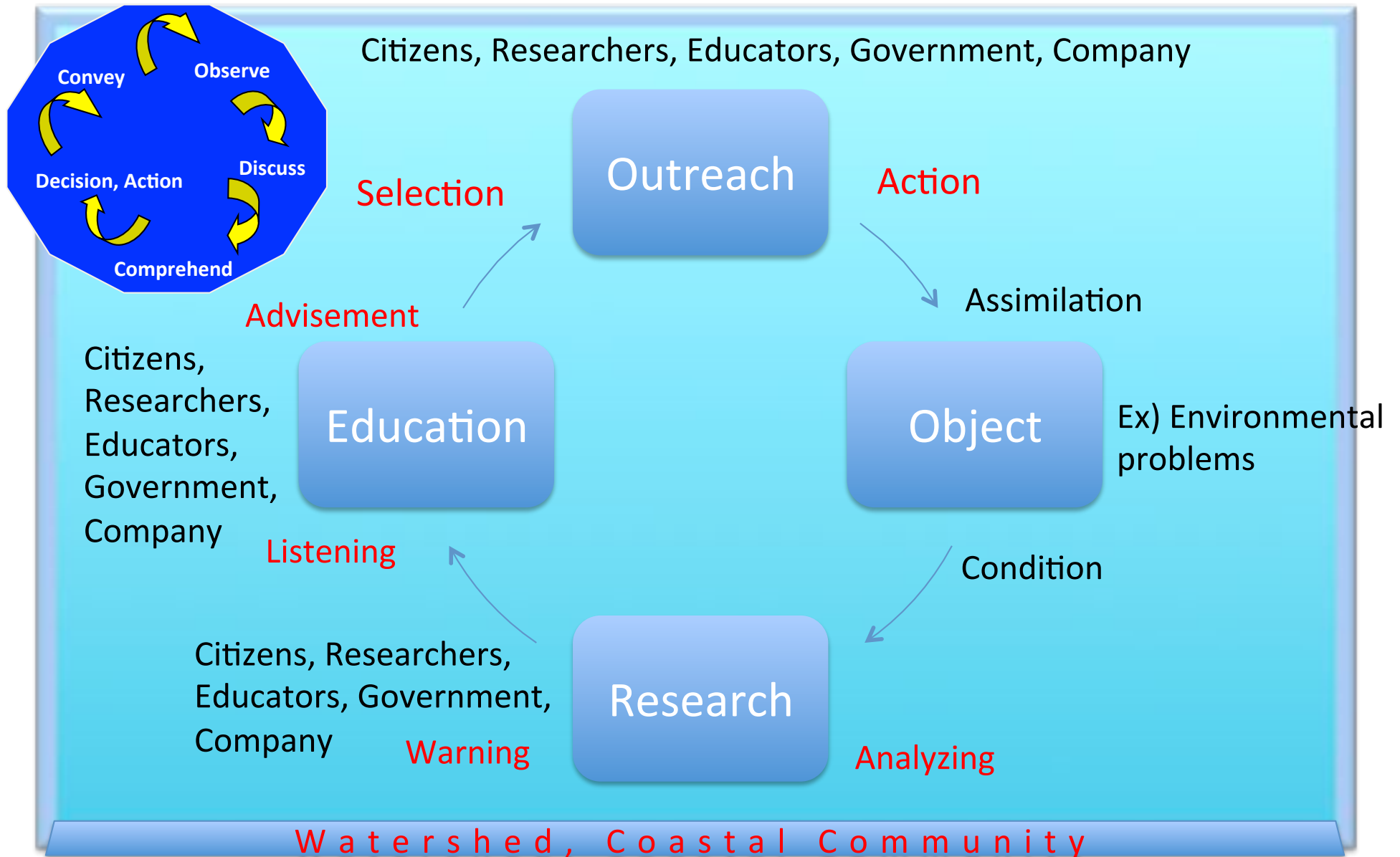
II What is the role of AMEE Lab?

- Promote **Aquatic Marine Environmental Literacy (AME Literacy)** for general public, students based on AMEE theory.
- Conduct AMEE at Junior High School in Minato, Tokyo since 2010.
- **After 3.11 TSUNAMI, enhance watershed sustainable/resilient community since 2011.**

Evolution Process of Knowledge (Yoshikawa, 2011)

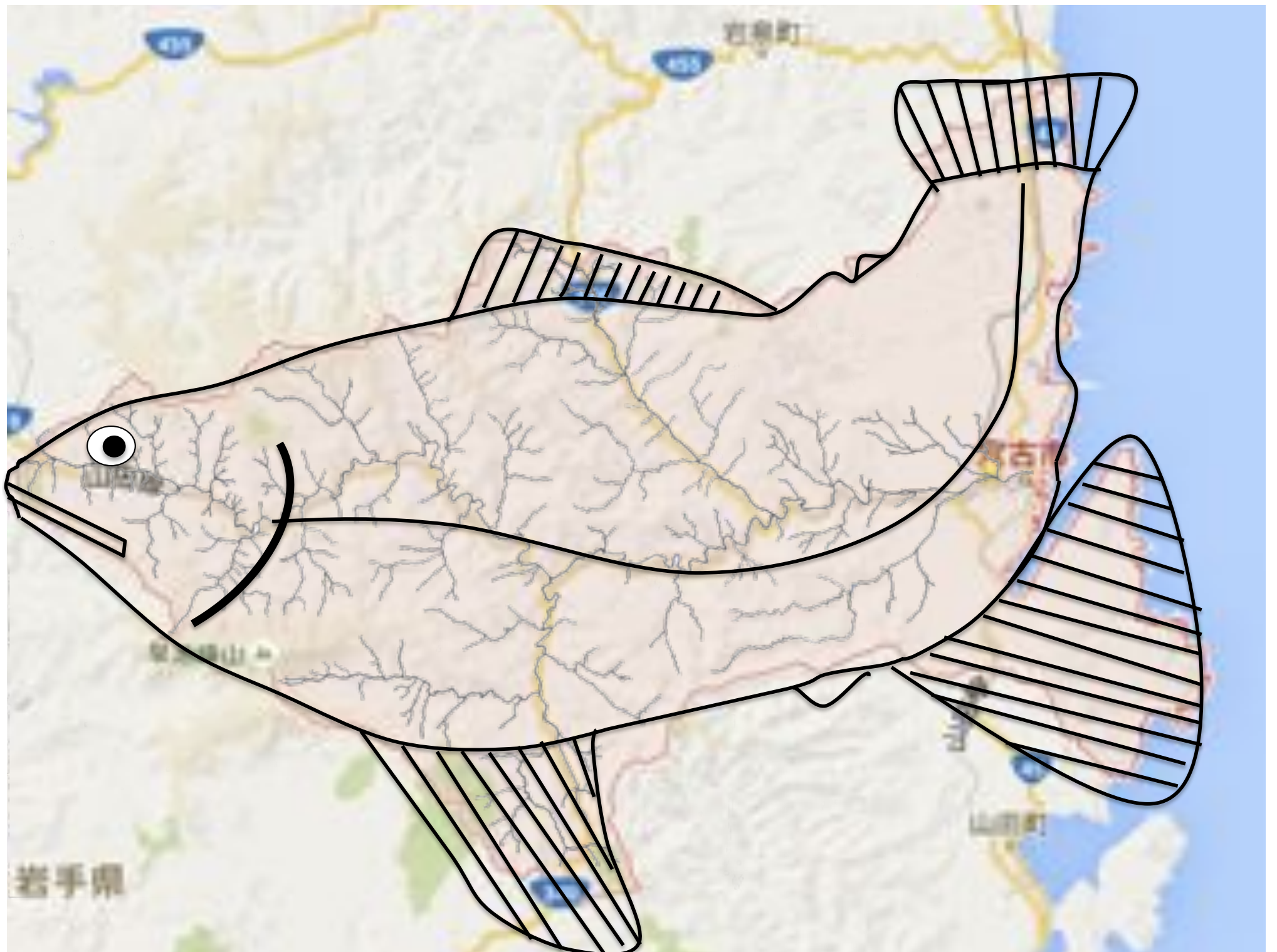


Evolution Process of Community



Map of Miyako city





Over view of Hei River (in Miyako city, Iwate pref.)



- Longest river (75.7km) which flows in same local government
- over 240 branch rivers
- Headstream : Mt. Kabuto Myoujin (1005m)
- Mt. Hayachine (1913m), god of the ocean
- amount of water go down to the ocean
- Healthy connection among mountain, river, ocean and human beings

馬淵川
85.2km



北上川
175.9km

Hei River
馬淵川
85.2km

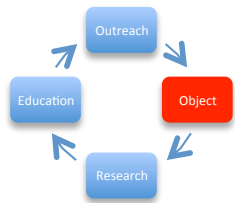
Over view of Hei River (in Miyako city, Iwate pref.)



- Spring: Oyster,
Mountain plant
- Summer: Cherry
Salmon
- Autumn: Mushroom,
- Winter: Chum
Salmon
- Old history, story
telling
- The Miyako city
declared “Salmon
Land”





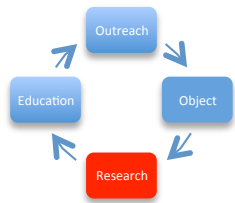


[OBJECT] Background of the problems

Fragmentation of social events (natural and human, producers and consumers, rural and urban, local and global, market and non-market, etc.) .

Downturn of fisheries product consumption, reduction of fishermen, depopulation --- declining birthrate and aging population, the collapse of the local community, reduction of small-scale economic activity

- #1 Recognize relationship between forest river ocean and human beings
- #2 Establishment of “cooperative learning community”



[RESEARCH] Organize and build a “Food Intrinsic Value (FIV)”

- Best relationship between forest-river-ocean and human beings makes
 - physical (nutrition, mineral) cycle through water circulation
 - natural healthy food (nuts, mushroom, wild vegetable, oysters, cherry salmon)
 - healthy Environment and human body

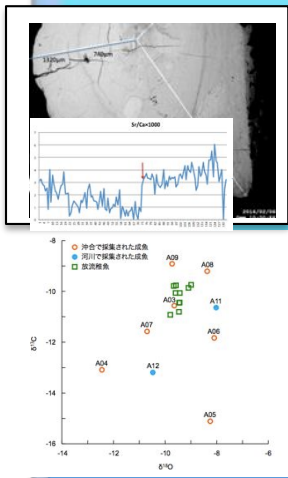


★ “Food Intrinsic Value (FIV)”

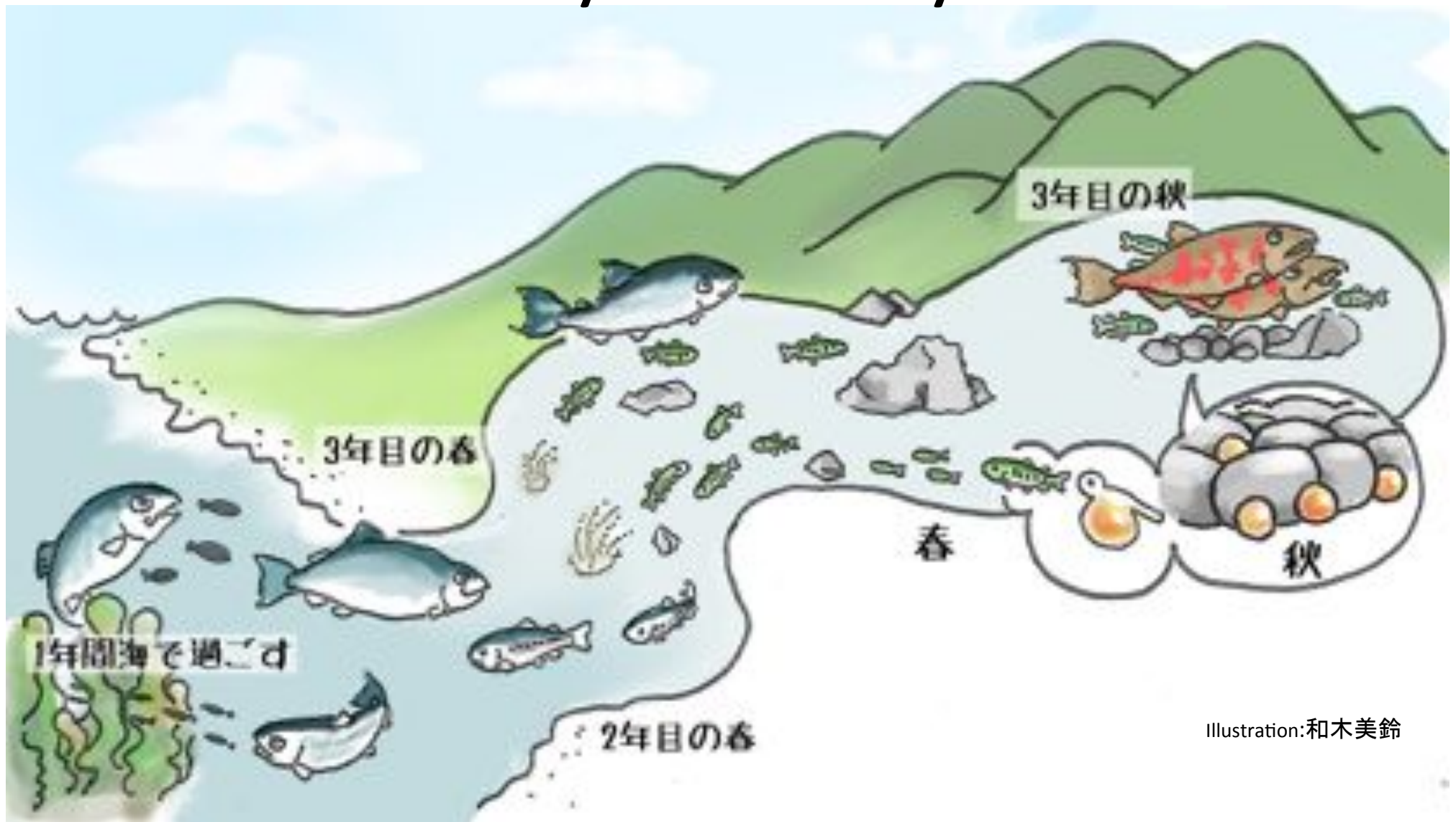
Definition building by

Scientific knowledge (scientific involvement etc.)
+Traditional knowledge (local knowledge, interview)

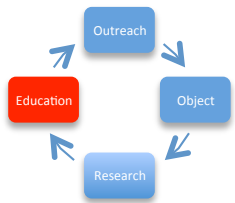
Fisheries products as a food culture that extends from the Jomon era (-6000 yrs) to the present day [time ties] + Fisheries products nurtured by the forest, river, ocean [space ties]



Life history of Cherry Salmon



We discussed and decided with local people to symbolize Cherry salmon to understand and promote “Food Intrinsic Value(FIV)” to realize relationship between forest-river-ocean and human beings.



[EDUCATION] Understanding and promotion of "Food Intrinsic Value (FIV)"

-- Program participants --
Miyako, Morioka, Yamada, Otsuchi, Shinagawa-ku, Ota, Minato-ku, of children and students, students, parents, consumers, and Watershed residents, etc.



April: Salmon released activities

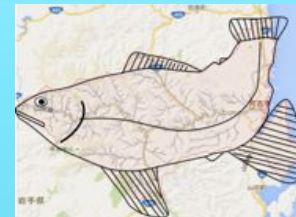


December: Salmon preparation labeling for release



May: The World Masu Salmon Summit in IWATE

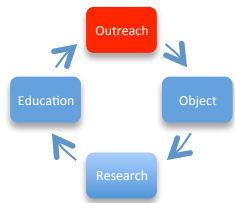
Cherry Salmon MANABI Project



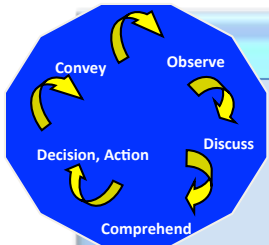
November: Fertilization Experiment of Trout and "Wonder of Cherry Salmon"



August: Miyako City, Shinagawa Ward Joint "Forest, River, and Ocean Experience Exchange Project"



[O U T R E A C H] Development of Resilience/ Sustainability by Improvement of “SYMPATHY”



Endogenous Development

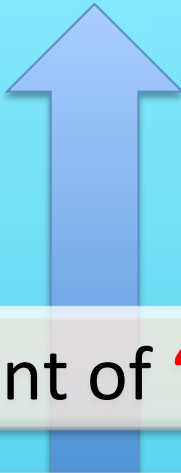
Lifestyle modification

Building a new relatedness

New initiatives

- Changes in the purchasing behavior
- Consideration of the material circulation -- “MOTTAINAI” MOVEMENT

New product development that takes advantage of local resources (Okiameat, Cherry salmon Heshiko)



Improvement of “SYMPATHY”

Understanding and promotion of “FIV”



Challenge for the future

- Since 3.11 Tsunami this engagement have been started.
- Evaluation of resilience and sustainability,
- and process oriented approach for watershed, coastal community development conducting by public sector such as university must be needed.
- I would like to share these information with other watershed and coastal area to establish sustainable and resilient society.

Thank you for your attention !



Welcome to Salmon Land ! !

Contents of AME Literacy

66 items in 8 categories

- #1 Introduction of this AMEL Studies**
- #2 Relationship between
Environment and Human Society**
- #3 Ocean as our Environment**
- #4 Ocean and Ecosystem**
- #5 Marine resources**
- #6 Traditional Seafood Culture and Fisheries**
- #7 Coastal Area and Our Human Life**
- #8 Environmental Education challenges for the future**

<http://jamee.info/file/AMELteracyinenglish.xls>