

# **Progress and Plans**

### Kazuo Nadaoka (Prof. at Tokyo Tech) Chief Technical Adviser of the Project

## **Multiple Environmental stresses**



## **CECAM Project:**

— Coastal Ecosystem Conservation and Adaptive Management under Local and Global Environmental Impacts in the Philippines

### **Duration: 5 years from March 1 2010**

### **Funding**:

"Science and Technology Research Partnership for Sustainable Development (SATREPS)" Scheme Jointly established by JST (Japan Science and Technology Agency) and JICA (Japan International Cooperation Agency) in 2008

## Budget Size: Ca. 560M JPY (≒7M USD) (JICA: 350M JPY + JST: 210M JPY)

## Aims:

To investigate the mechanism of maintaining biodiversity of the coastal ecosystems, perform comprehensive assessment of the environmental stresses on them, and analyze their response and recovery processes under multiple environmental stresses and the socioeconomic structure of the local communities causing and affected by the stresses. With these, to develop a new conservation scheme to maintain their high biodiversity and to realize sustainable development of local communities.



# 1. Scientific & socio-economic knowledge basis development

## 2. Implementation & dissemination

**3. Capacity development** 

## Scientific & socio-economic knowledge basis development

- Assess sources and propagation processes of environment impacts and carrying capacity of coastal ecosystem as a basis of for mitigating environmental stresses
- Propose an effective scheme for improving Marine Protected Area (MPA) networks by identifying core habitats in local/regional reef connectivity systems
- Develop database on various environment factors and biodiversity in coastal ecosystem
- Develop damage potential map based on multiple environment stress assessment and prediction

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- Assess socio-economic status concerning coastal ecosystem management
- Develop <u>Continuous and Comprehensive Monitoring System</u> (CCMS) on multiple environmental stresses and coastal ecosystem responses
- Develop <u>Integrated Decision Support System</u> (IDSS)

## **Basic Components for Scientific Subjects**

### Geo-chemical Processes

Terrestrial loading Material cycle Ecosystem stresses CO<sub>2</sub> source/sink

#### Ecological Processes

Biodiversity/connectivity Ecosystem response to stresses Episodic event impacts Dispersal & recruitment

### Modeling & RS/GIS

Coupled A-L-C-O modeling Environmental stresses modeling Ecosystem response modeling Connectivity modeling (+Socio-economic Processes)