Aspirations for change
Legal obligations
Issues & factors driving the system
Challenges to overcome
Opportunities

Improving livelihood options (current and new)
Review & enhance governance
Improved resource management & planning
Scalable behaviour change

Greater employment
Greater food security
Healthier ecosystems
Social cohesion
ENGAGEMENT

PROBLEM DEFINITION

SOLUTIONS

OUTCOMES

Greater employment
Greater food security
Healthier ecosystems
Social cohesion

System Simulation Model

Eco-Biz Challenge
FishCollab

Eco-based Business Development
Rebuilding reef fisheries with core zones toolbox

Reef React
Coastal Protection
Policy brief for seagrass

My Future, My Oceans
## CCRES and the SDGs

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Problems and Challenges

• Analyse, model systems, pressures, resources
• Develop businesses that work in harmony with coastal ecosystems
• Encourage government and community collaboration to strengthen governance
• Plan for healthy reefs and sustainable fisheries through more effective MPAs
• Foster sustainable behaviours through promoting and reinforcing benefits, removing barriers
SYSTORY DEMONSTRATION
Experiment allows you to assess scenarios.
Socio-ecological systems app for mental model elicitation

Russell Richards
Carl Smith
Novie Setianto

More information

Version beta.1.1A
Solutions

Enhance & diversify livelihoods
EcoBiz Challenge - Local solutions for local problems
Some of the Eco-Biz Challenge Ideas

- Plate to garden to plate compost and fertiliser
- Coconut Eco-Charcoal to replace mangrove charcoal
- Native nursery to reduce take from forest
- Giant bamboo plantation to replace illegally logged timber
- Plastic recycling and upcycling women’s cooperative
- Sustainable handicrafts
- Eco-friendly diving tours
Global and national solutions for local problems – Indonesia

Global Case Study Repository

Identify those businesses most likely to adopt the opportunities

Develop and run the Ecosystem based Business Development workshop.

Capturing Coral Reef and Related Ecosystem Services Project

Business Development Indonesia (BDI)

DATA COLLECTION
Design Framework and Research Instrument

Selayar

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<tr>
<td>Associate Professor Damian Hine</td>
<td>Professor Agus Eko Nugroho</td>
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<td>Dr. Anya Phelan</td>
<td>Britang Dwiety Cahyono</td>
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Value added products

Responsible tourism

Purpose: Match national success cases with likely adopters of new opportunities and ecosystem solutions

August, 2016
Solutions

Review and enhance governance
Adaptive coastal (fisheries) governance and management perspective

Participatory Diagnosis Tool

- Participatory diagnosis: meetings, participant observation, activities
- Developing networks
- Identifying traditional knowledge and management practices
- Combining local knowledge and science
- Conflict analysis
- Identifying social influence: champions and their strategies
- Multi-level policy analysis
- Identifying related projects and their legacies
- Focus and initial partnering

Collaborative and adaptive management plan

FishCollab toolkit components
Solutions

Improved marine resource management & planning
Marine resource management

1. Rebuilding reef fisheries toolkit
2. Reef vulnerability and projections
3. Mapping coastal protection
4. Policy brief: importance of seagrass
How much area to protect?

Even 10% core zone helps rebuild fisheries (UN Aichi target)
Size of reserves to be effective?

Downloadable & customisable software tool
Where to protect?

Using dispersal data for MPA design

Retention: Larvae stay at home
Using dispersal data for MPA design

**Import:** Larvae arrive from other locations
Using dispersal data for MPA design

Export: Larvae leave to other locations
Best MPA network design for Sunda Banda
Reserve design tool to rebuild fisheries

- New algorithms to optimise reserve network design for fisheries, conservation or combination
- Extends capability of most popular reserve design tool, Marxan
- Software tool downloadable: "Dispersal matrix processor"
- Requires: GIS (free), Marxan (free), 3 days training or self-learn
- Utilised by WWF-Indonesia to plan reserve networks in 17 regions
  - COREMAP-CTI
- Trained 90+ users so far (another 90 to go)
Training software in reserve design

- Powerful software to simulate fisheries and reserve impacts
- Selection of fish species & specify their biology
- Visualisation of connectivity
- Select fisheries effort and design reserve configuration: how does it perform?
- Ask computer to design reserve networks for you
- Fully customisable (import your own maps and data)
- Software tool downloadable: "Spatial Fisheries Model"
- Beta testing in mid February 2018 before release
Mapping key protective reefs
Protection of coastal infrastructure

Tools to factor in the importance of reefs in protecting the shoreline especially under sea level rise
Solutions

Behaviour Change
My Future, My Ocean

Awareness
- Know the problem
- Who benefits from fixing the problem
- What’s the issue and how does it affect us?

Positive relationships
- Positive praise
- Active listening
- Showing affection
- Get support and solve problems together

Self-regulation
- Engaging in positive consumer behavior
- Using teachable moments
- Setting a golden example
- Starting a conversation

Solving problems
- Plan ahead to avoid problems
- Focus on own actions
- Be flexible and stay calm
- Review and improve your plan

Setting goals
- Come up with many solutions
- Track your goals
- Set positive and clear goals
- Set realistic goals

Self care
- Positive self-talk
- Do things you enjoy

My Future, My Oceans
A family friendly environmental guide
WHERE OUR TOOLS ARE BEING USED

- **MARINE PLANNING**
- **BUSINESS DEVELOPMENT** (Eco-Biz, EL80)
- **SYSTEMS ANALYSIS** (SESAMME, System Simulation Model, SYSTOR)
- **BEHAVIOUR CHANGE** (MFNO, MFNO-W2E)
- **COASTAL GOVERNANCE** (FatCollab)
Speed dating

**Group 1:** Marine planning

**Prof. Carlie Dario** and **Vera Horigue**, University of Philippines Marine Science Institute (UPMSI)

**Tools:** Marine reserve guidelines toolbox
Speed dating

**Group 2:** System Analysis
Benjamin Adriano, Jr., (PCSD), and Gianina Decano, Palawan State University (PSU)

**Tools:** SESAMME, SYSTORY
Speed dating

Group 3: Business Development
Damian Hine, UQ, and Eva Marie Ponce de Leon, PSU
Tools: Ecosystem-based Business Development (EbBD), Eco-Biz Challenge
Speed dating

**Group 4: Behaviour change**

**Dedi Adhuri**, Indonesian Institute of Sciences (LIPI)

**Erik Simmons**, The University of Queensland (UQ)

**Tools:** My Future, My Oceans. FishCollab
Integration
Parak village, Indonesia
• MPA toolbox
• FishCollab
• My Future, My Oceans
• EbBD-Waste2Enterprise