



Coral reef restoration involving local communities in the Philippines

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How do we improve reef resilience?

- ◆ Reduce fishing effort
- ◆ Eliminate destructive fishing
- ◆ Reduce coastal pollution
- ◆ Establish marine protected areas (MPAs)
- ◆ **Initiate Restoration/Rehabilitation of reefs**



Restoration strategy used in Bolinao, Philippines



- ◆ used a well-studied and highly successful transplant species: *Porites cylindrica*
- ◆ targeted dead bommies of this species
- ◆ used sustainable transplant material
 - “corals of opportunity”
 - fragments from experimental transplants (research)
- ◆ involved the stakeholders (local community)
- ◆ used low-cost technology
- ◆ repeated incrementally as materials became available

Sources of sustainable transplant materials

◆ “Corals of opportunity”

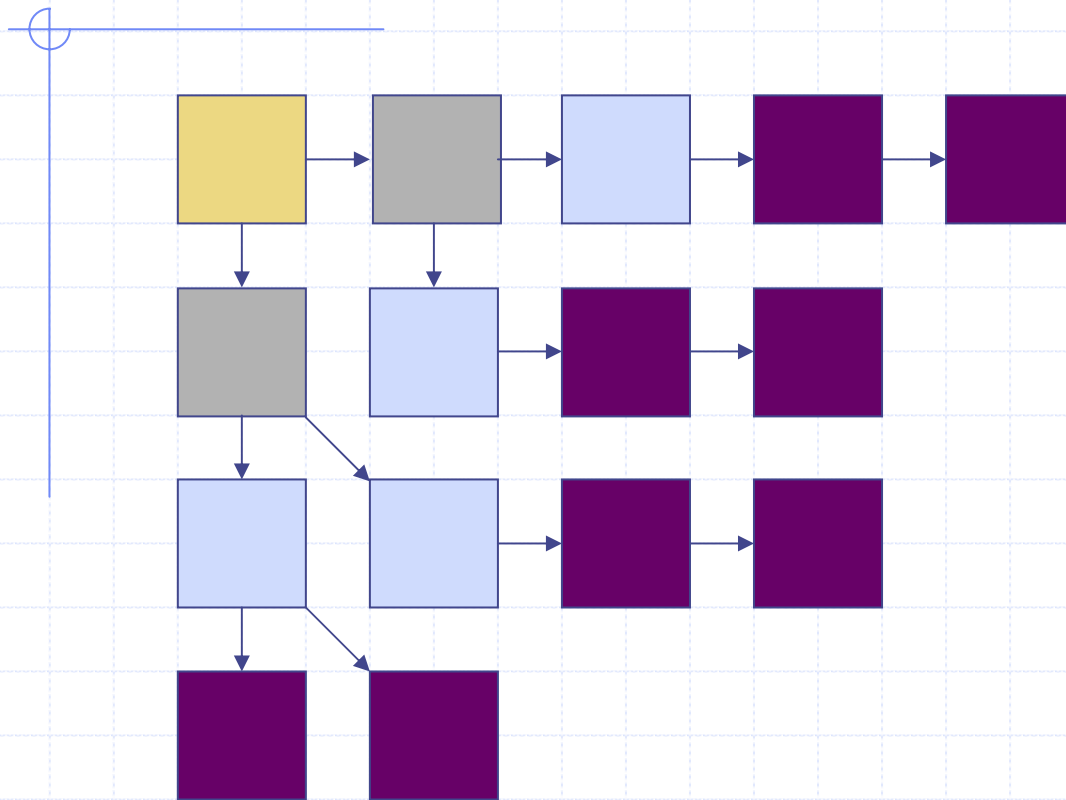
- coral fragments broken off intact colonies by natural events or accidents
- found loose on the reef and in danger of burial or abrasion or death

◆ Transplant material from previous experimental transplants used in research

- taken from 2.5-year old transplants from earlier experiments
- <50% of each colony (N.B. Not from natural population, where the best practice is to use <10% of each donor colony)

Restoration strategy

step-wise increments



Community-based restoration

- ◆ involve the local community
- ◆ give lectures on coral biology and ecology
- ◆ provide coral transplantation training
- ◆ conduct actual transplantation



Local divers in action

1st transplantation (April 2008)



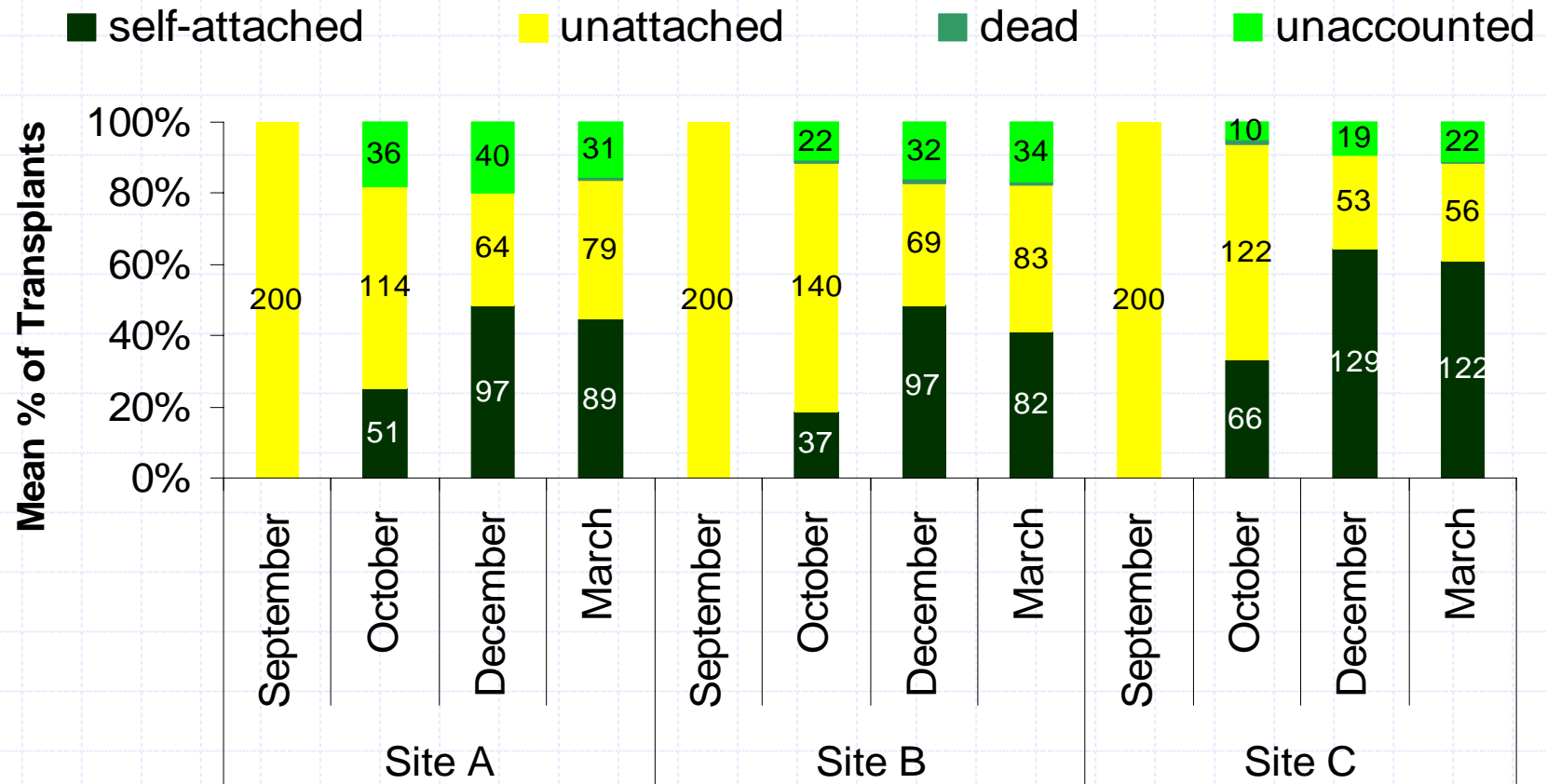
...one year later



2nd transplantation (September 2008)



Results of the 2nd transplantation (September 2008), as an example



Training for setting up nursery rescue stations for corals of opportunity for future use

- ◆ set up coral “rescue stations” inside MPAs
- ◆ use “corals of opportunity”
- ◆ use low-cost materials



Community-based coral transplantation

April 3, 2008

March 19, 2009

September 25, 2009

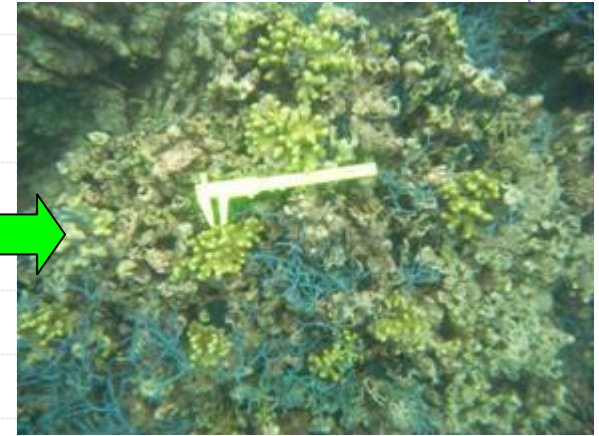
A



T=0

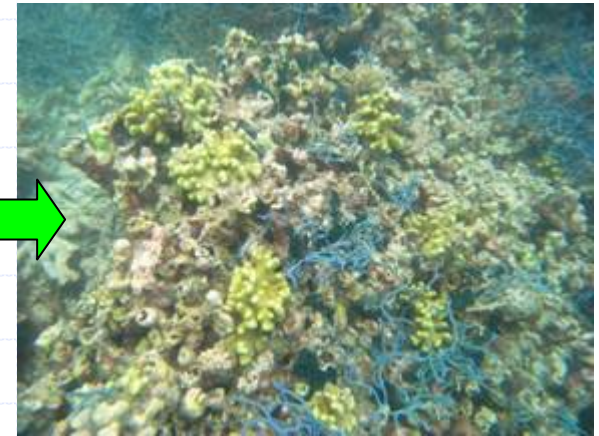


T=11 m



T=17 m

B



Species other than coral for restocking

- ◆ Purpose
- ◆ Priorities
- ◆ Costs
- ◆ Benefits
- ◆ Examples

Giant clam re-stocking

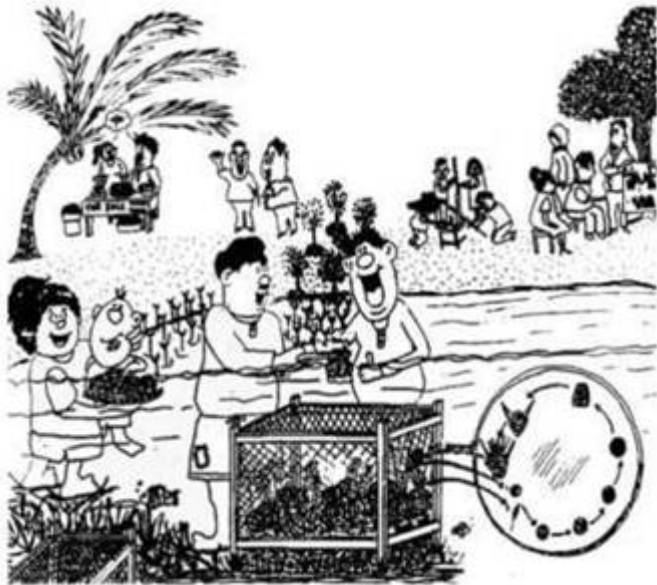


Collaborator deploying juveniles for grow out in Samal, Davao.

Source: UPMSI Giant Clam Laboratory

Community-based sea urchin grow-out culture

- S
liv
- H
m
- F
pa
-



Source: UPMSI Marine Invertebrates Laboratory



Terima kasih!



GEF-Restoration and
Remediation Working
Group



European Union, 6th
Framework Project
(Number 510657)



**REEFRES: Developing
ubiquitous practices for
restoration of Indo-Pacific
reefs**



Marine Environment and
Resources Foundation,
Inc., Philippines