

Ecosystem services of Pattani Bay; a multi-dimensional value to local people

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Outline

- Ecosystem services and bio-economy
- Area based biodiversity-economy development in Pattani bay
- Key messages; Changes the use of bio-resources to multiple directions at local level

Ecosystem services?

A wide range of conditions and processes through which natural ecosystems, and the species that are part of them, help sustain and fulfil human life
(Daily et al., 1997)

Pattani Bay



Supporting

habitat, nutrient cycling, primary production

Provisioning

food, wood, water

Regulating

climate regulation,
coastal protection

Cultural

tourism, recreation, cultural
identity, education



Pattani Bay

Unrest situation
in the deep south

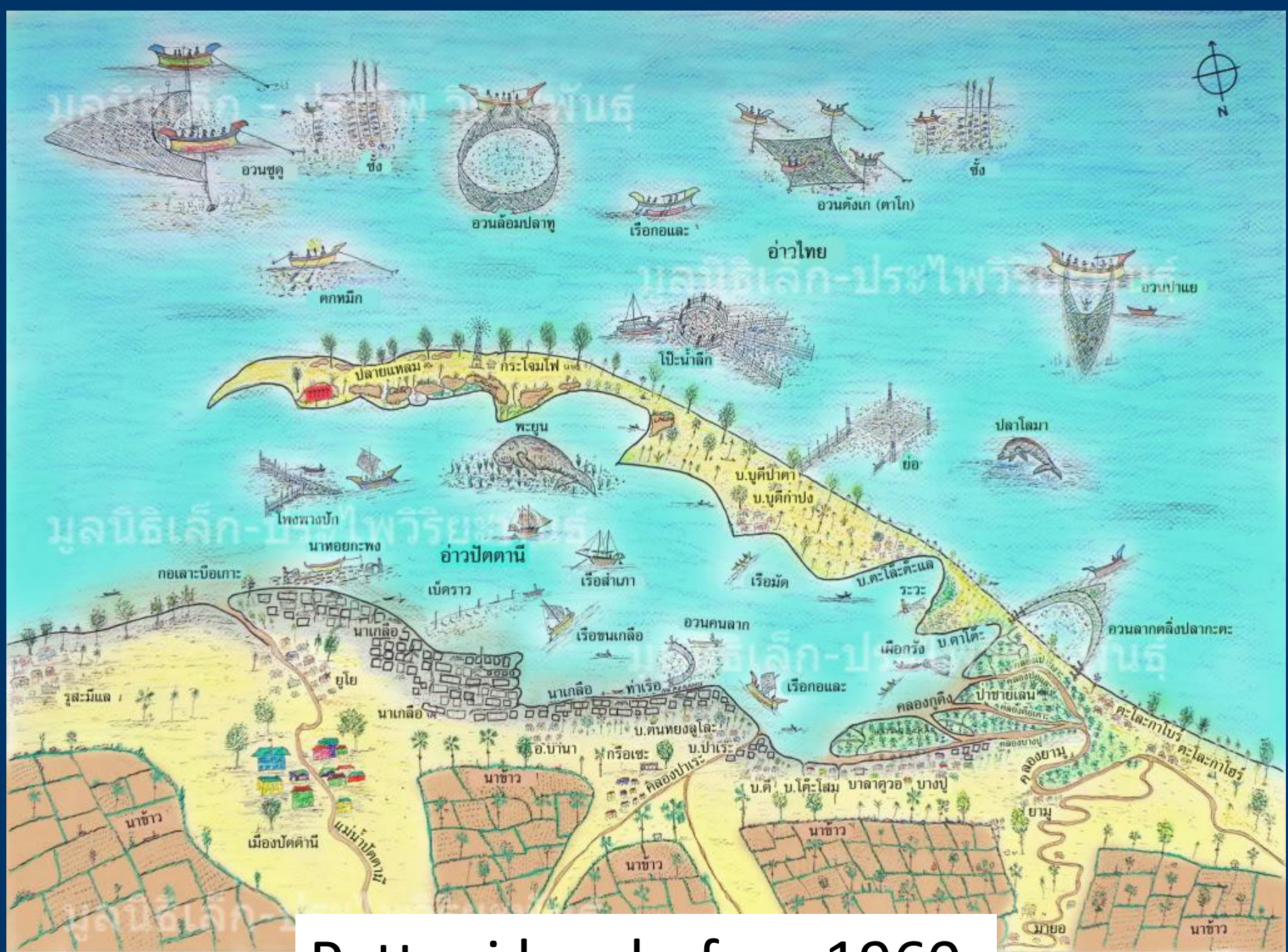
The bay



Historic day of Pattani Bay (>300 yrs)

- Port city
- International trade
- Fishermen
- Salt farm
- etc





Pattani bay before 1960

Bio-Resources



Bio-Resources



Canon EOS 400D DIGITAL
shutter 1/320s, f/8.0, lens 17 mm
ISO100

taKLONG.com



Bio-Resources



Bio-Resources



Seaweeds

18

Echinoderms

11

Hourseshoe crab

1

Mollusk

67

Crab

58

Birds

70

Amphibions

23

The past (2007)

Supporting

habitat, nutrient cycling, aquaculture (15,000 rai shrimp farm)

Provisioning

5,000 tons of fish

9.0 mil USD

2,400 boats



Regulating

climate regulation, coastal protection



Cultural

tourism, recreation, cultural identity, education

Several threats in the past



Shrimps and mangrove



Sedimentation and shallow waters



In 2007

- 5,000 tons fish caught
- 9.0 mil USD
- 2,400 boat
- 15,000 Rai Shrimp farm

In 2020

- 2,600 tons
- 5.5 mil USD
- 1,900 boat
- 1,500 rai shrimp farm



Sea bass farms, Green mussel farms, Cockle farm

The wealthy catch era is
over?



Struggle to survive, value different directions and measures

- Regulate illegal fishing
- Develop value added products
- Reuse abandoned shrimp ponds
- Rehabilitate resources
- Eco-tourism



Regulate fishing activity



Condominium trap

Small trawlers



Mud crab culture in mangrove habitat

Convert
abandoned
shrimp farm to
mud crab culture
& others



นักวิชาการ มอ. ปัตตานี วิจัยและพัฒนานวัตกรรม
การเลี้ยงปูทะเลให้เป็นสัตว์เศรษฐกิจใหม่ของประเทศสู่

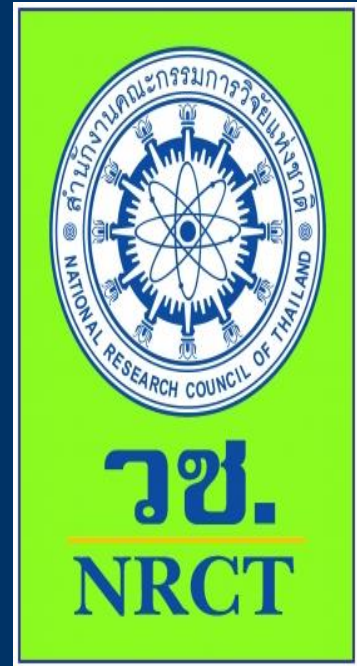
เมืองปูทะเลโลก



Seaweeds culture



Blue swimming crab bank program



Develop value added product

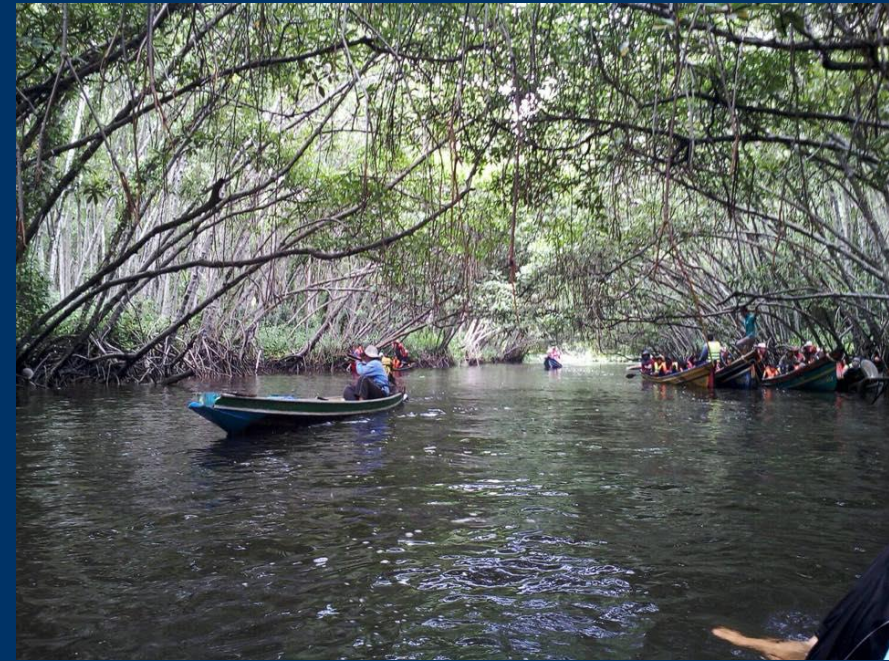


Promoting eco-tourism; a new direction

- fisherman & service
- spouse & tourism
- Changes in some villages



Effort of local community+++



New infrastructure, landmark and knowledge

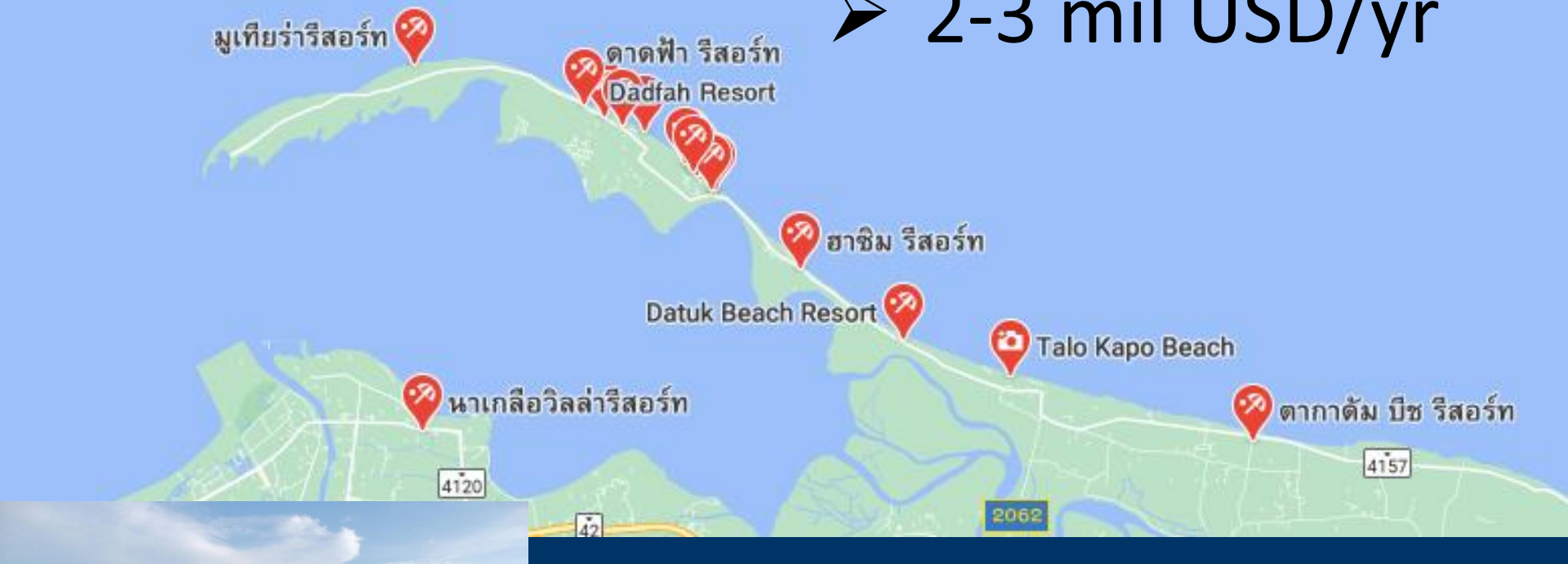
Birds



Birds in the bay



- 20 resorts
- 2-3 mil USD/yr



Green mussel reefs as a new ecosystem for multi-usage







Fishing

Mussel collection

It later becomes landmark of Pattani province
and create new income to local people

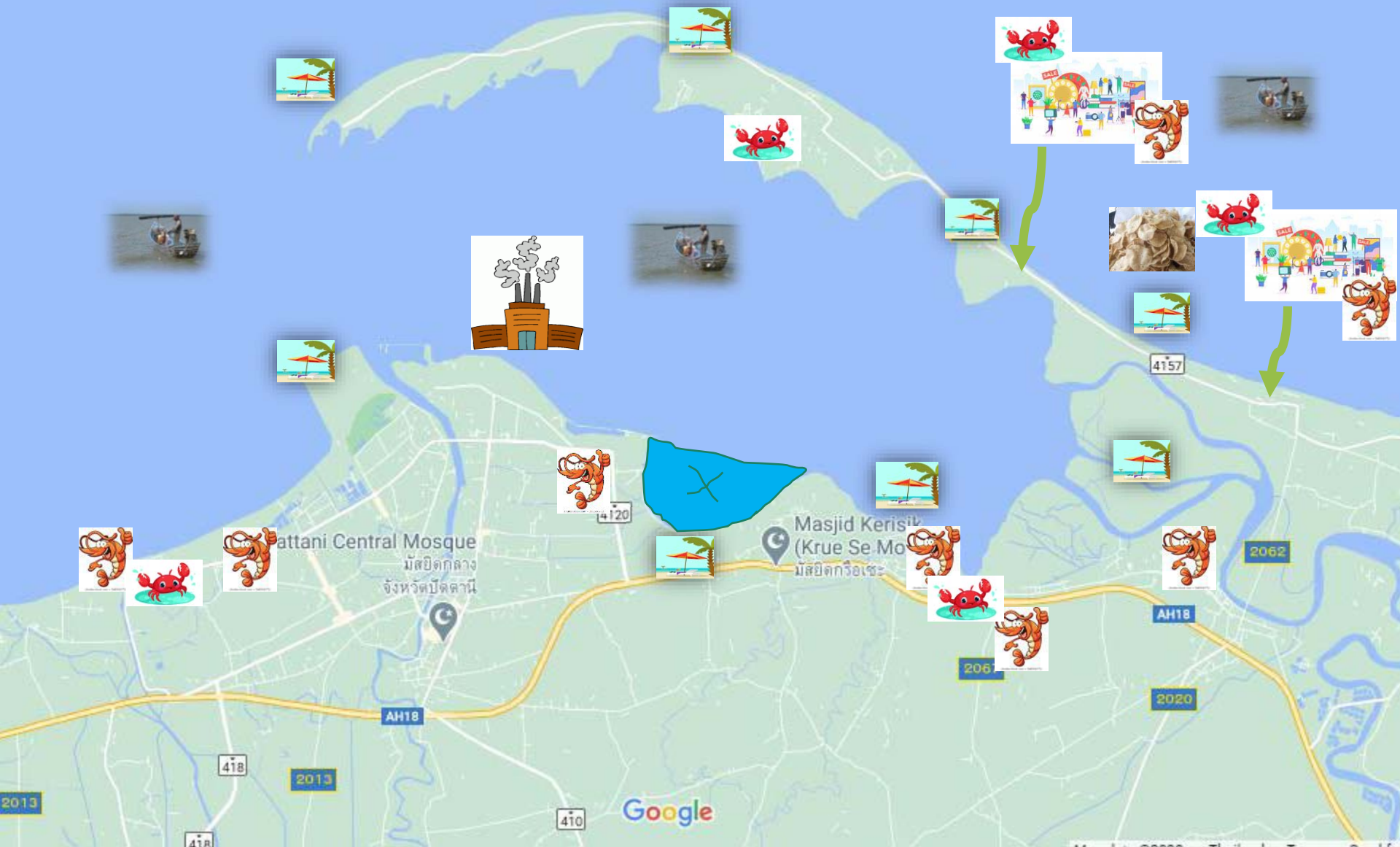


สะพานไม้บานา

แหล่งท่องเที่ยวเชิงนิเวศ จ.ปัตตานี



Current use



The present



Supporting

habitat, nutrient cycling, aquaculture



Provisioning

Fishes and others



Regulating

climate regulation, coastal
protection



Cultural

tourism, recreation,
cultural identity,
education

Key messages

- Multiple dimensional uses of bio-resources for future dependence
- Law and regulation amendment
 - Healthy together; mangrove forest & aquaculture
 - Maintenance of channel within mangrove habitat
 - Increase fish stocks
- Infrastructure support for eco-tourism
 - road, landmark and etc.
- Education
 - importance of biodiversity
 - Wise use

Conclusion



Past

- Use mainly for provision, support and regulation



Now

- Cultural service has become more important
- Multiple directions



Recommendation

- Changes of policy
- Appropriate development
- Educate people

Thank you



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