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## Climate Change Effects on Fish and Fisheries:

Forecasting Impacts, Assessing Ecosystem Responses, and Evaluating Management Strategies

# Household fishermen empowerment based on local community wisdom as a problem solver on fisheries poverty: Case study in Madura Strait and Prigi Bay, Indonesia



Sahri Muhammad, Aida Sartimbul, and Puji Purwanti

Faculty of Fisheries and Marine Sciences, University of Brawijaya

# Background

- ❑ Poverty is the main problem in Indonesia, mainly for fishermen
- ❑ Government has giving grant through the various programs to solve the fishermen poverty problem
- ❑ However, the programs have no effect to the fishermen ,
- ❑ they are remain poor,
- ❑ the programs have not achieved the goal
- ❑ Why.....?

# Small Scale Fishermen at Madura Strait and Prigi Bay

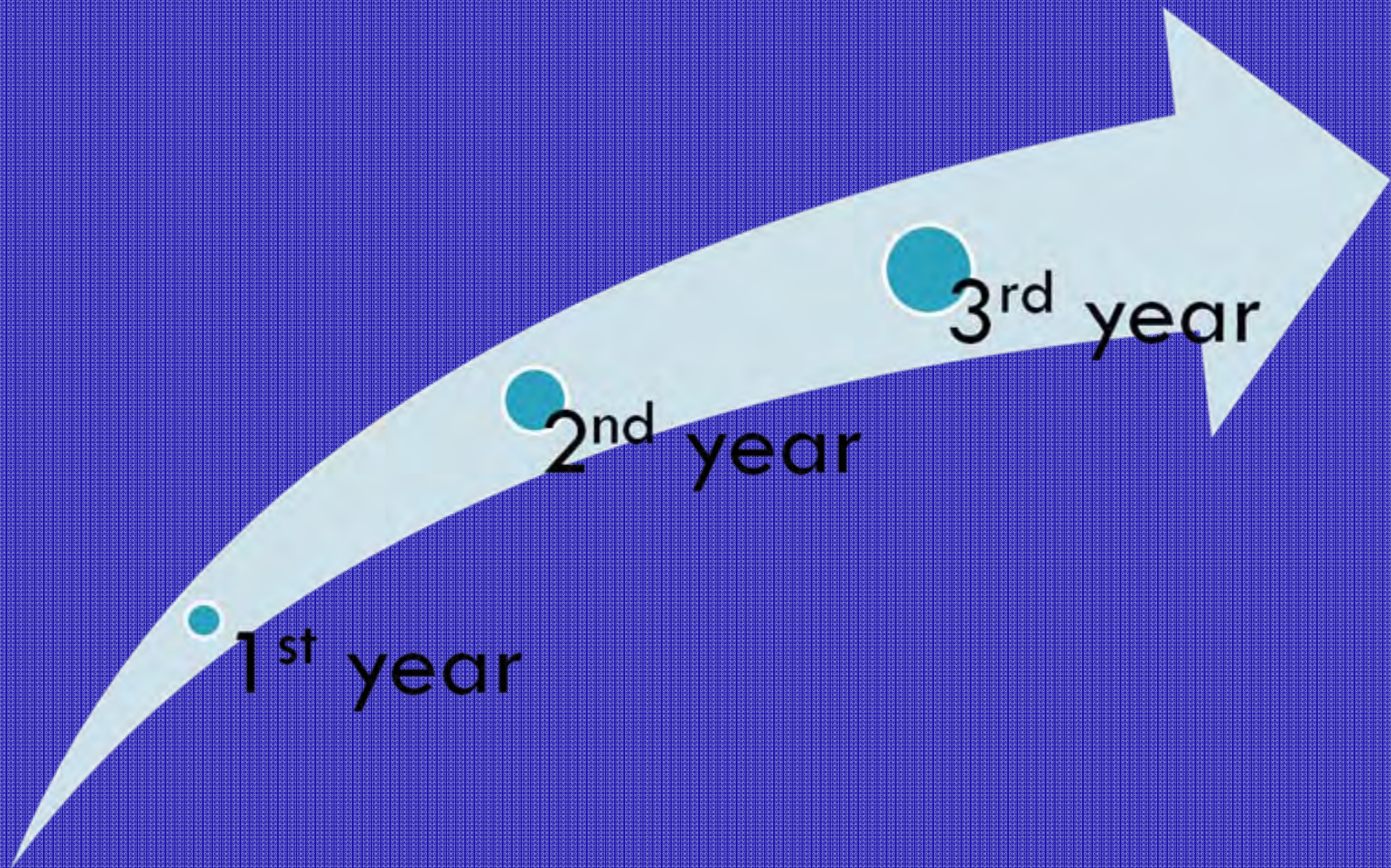




# Objectives:

- ❑ To identify and evaluate the fishermen assets and access
- ❑ **To identify and evaluate the implementation of government programs in fishermen empowerment**
- ❑ To create a model of empowerment based on fishermen's needs and expectation

# Research Period Plan



# Material and Methods

## **MATERIAL:**

- ❑ 7 Years (1999-2006) data of Coastal Fisheries in Prigi Bay
- ❑ 7 Years (1999-2006) data of Coastal Fisheries in Madura Strait

## **METHODS:**

- ❑ Survey and Action Research Method
- ❑ Sustainability Livelihood Approach (SLA)
- ❑ Pentagon Assets and Heptagon Access Score

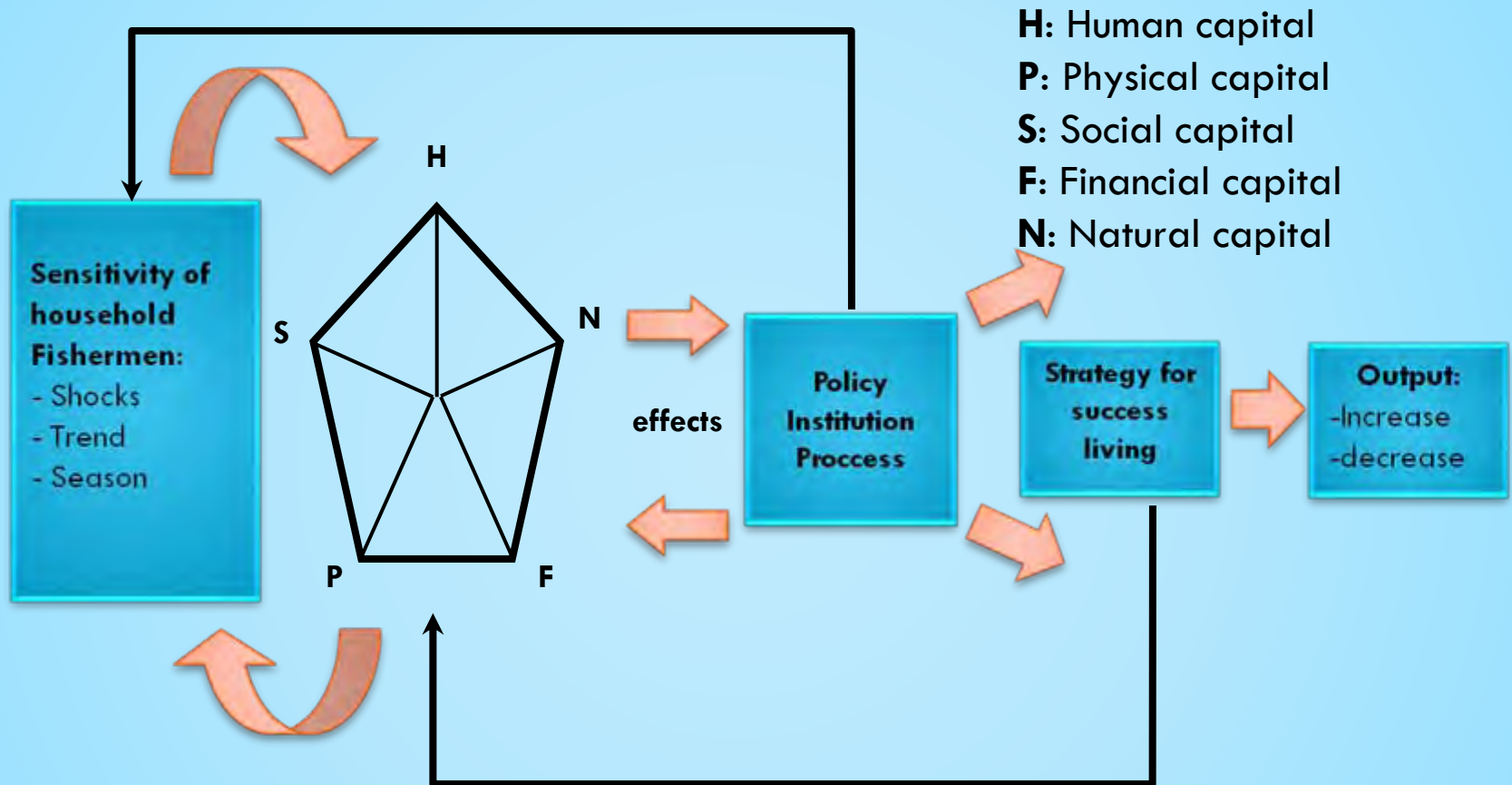
# Research sites:

a. Prigi Bay; b. Madura Strait (Lekok)



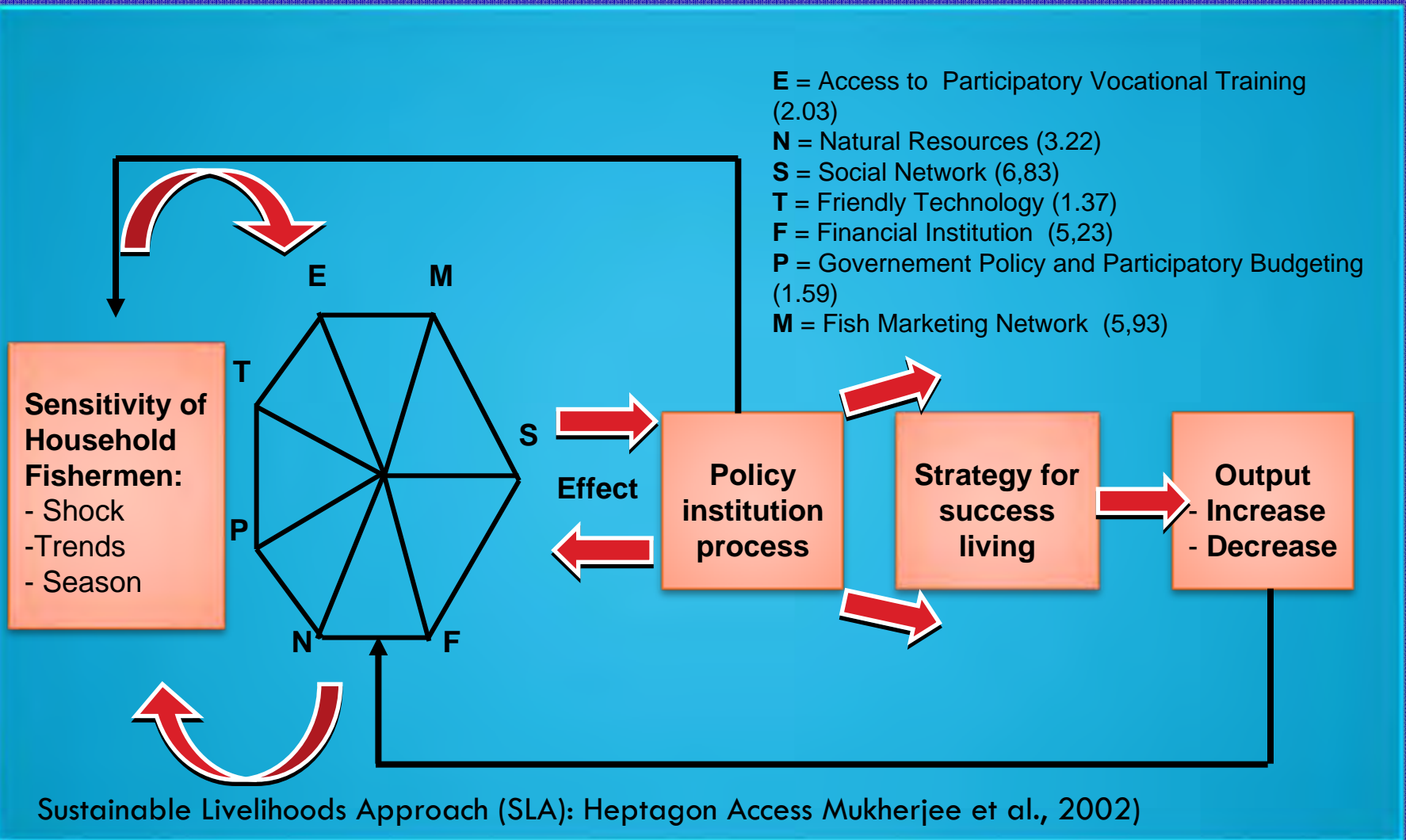


# PENTAGON ASSETS AND SMALL SCALE FISHERMEN HOUSEHOLD EMPOWERMENT POLICY APPROACH



Sustainable Livelihoods Approach (SLA): Pentagon Assets,  
(Mukherjee et al., 2002)

# HEPTAGON ACCESS AND SMALL SCALE FISHERMEN HOUSEHOLD EMPOWERMENT POLICY APPROACH



# RESULTS & DISCUSSION:

## 1. PENTAGON ASSET

### ASSET SCORE FOR PRIGI BAY:

- ❑ 1. HUMAN ASSETS (H): 4.87
- ❑ 2. PHYSICAL ASSETS (P) : 1.8
- ❑ 3. FINANCIAL ASSETS, (F) : 2.6
- ❑ 4. SOCIAL ASSETS (S) : 5.45
- ❑ 5. NATURAL ASSETS (N) : 3.50

### ASSET SCORE FOR MADURA STRAIT:

- ❑ 1. HUMAN ASSETS (H) : 4.72
- ❑ 2. PHYSICAL ASSETS (P) : 2,69
- ❑ 3. FINANCIAL ASSETS (F) : 2, 68
- ❑ 4. SOCIAL ASSETS (S) : 5,15
- ❑ 5. NATURAL ASSETS (N) : 3.74

# 2. HEPTAGON ACCESS

## ACCESS SCORE FOR PRIGI BAY:

- 1. Vocational Training, E : 1.16
- 2. Friendly Technology, T : **4.67**
- 3. Financial Institution, F : **3.03**
- 4. Social Network, S : **5.95**
- 5. Natural Utilization, N : 4.40:
- 6. Marketing Network, M : 3.50
- 7. Government Policy and Budgeting, P : 1.5

## ACCESS SCORE FOR MADURA STRAIT:

- 1. Vocational Training, E : 1.78
- 2. Friendly Technology, T : **7.50**
- 3. Financial Institution, F : **5.20**
- 4. Social Network, S : **8.00**
- 5. Natural Utilization, N : 4.18
- 6. Marketing Network, M : 3.75
- 7. Government Policy and Budgeting, P : 2.49

# FISHERMEN EMPOWERMENT IMPLEMENTED BY GOVERNMENT

- Empowerment programs were implemented in 1999 to 2006 are:
  1. Community Based on Fisheries Resources Management (CBRM), e.g. Natural Conservation Empowerment that applied in Prigi Bay)
  2. Economic Empowerment on Coastal Society (EECS), e.g. Financial Empowerment that applied in Madura Strait society

At beginning, this program was social capital approach, but at the end of this program it does not run well. Then power approach (consultative co-management) is applied

# Natural Conservation Empowerment in Prigi Bay



Mangrove Plantation  
Program

Fish Sanctuary Program

Fish Market: Tourism

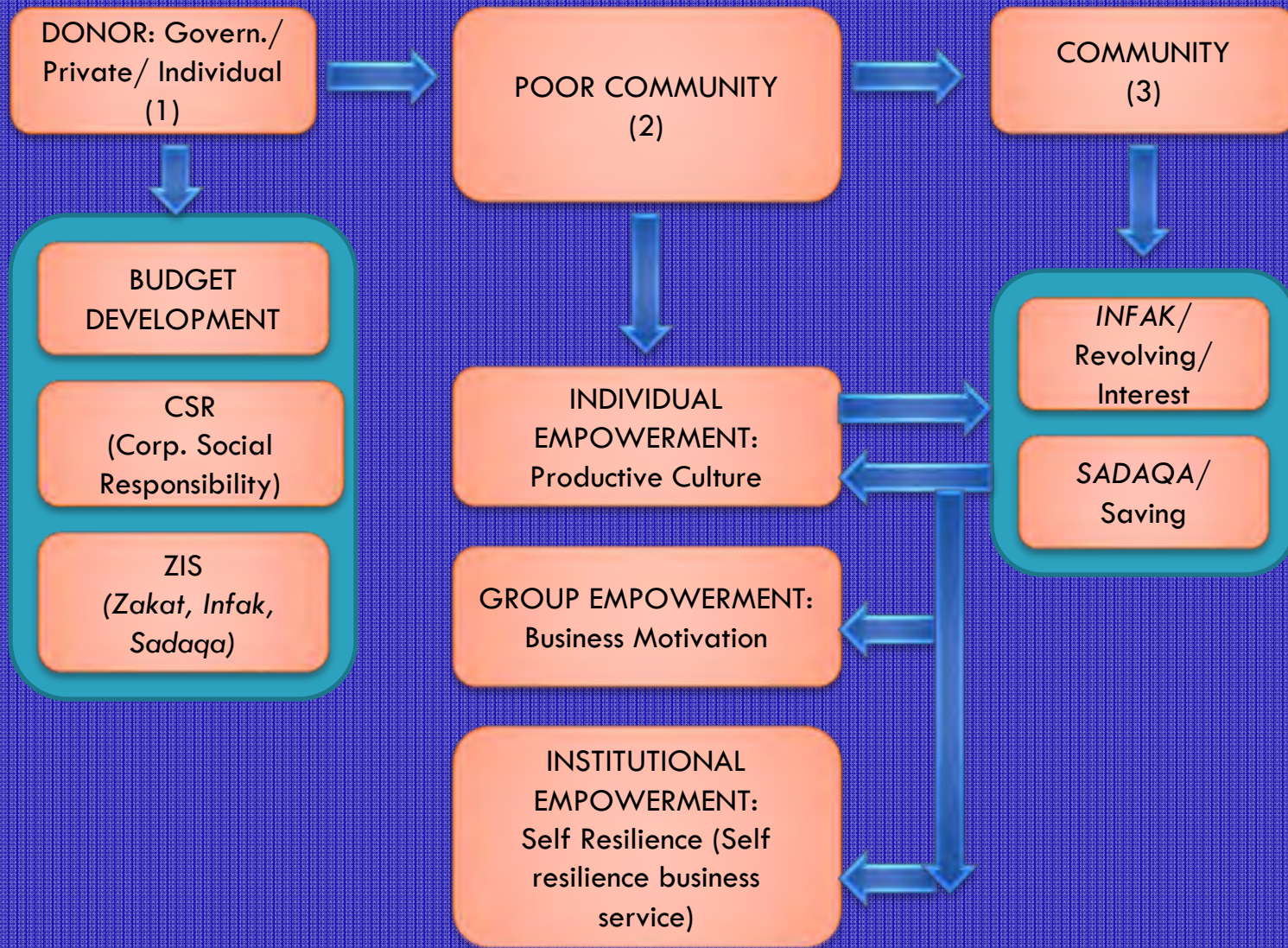
# Financial Empowerment in Madura Strait



Micro Financial Institution:  
*Badan Perkreditan Rakyat (BPR)*

Productive Business Improvement  
Program

# Social Partnership Model





# CONCLUSION

- ❑ Social assets and access is the most powerful capital to support sustainability of fishermen livelihood
- ❑ Government approach the consultative co-management as fishermen empowerment program; Community based on fisheries resources in Prigi Bay and Economic empowerment for coastal society in Madura Strait
- ❑ The beginning, social capital approach was done, but at the end of program the power approach is more effective
- ❑ The government program does not achieve the goal (fulfill the needs and expectation of fishermen)
- ❑ Three years are too short to obtain the goal
- ❑ Fishermen empowerment depend on the principles of social stratification, equal role, multi years, multi level, multi steps, sustainable assistance, local wisdom, and multi dimension (Social Partnership Model may suitable for the fishermen)

# Future Task:

- ❑ Indonesia has multi cultures, characters, and languages. Study on local community wisdom in each communities are important for fasten the government program in solving fishermen poverty problem.
- ❑ **To study the sustainable assistance from government or other groups on poverty problem is needed.**

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# Thank you

