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ACCCRN Indonesia : Managing Risk through Sustainable Livelihood in Semarang City

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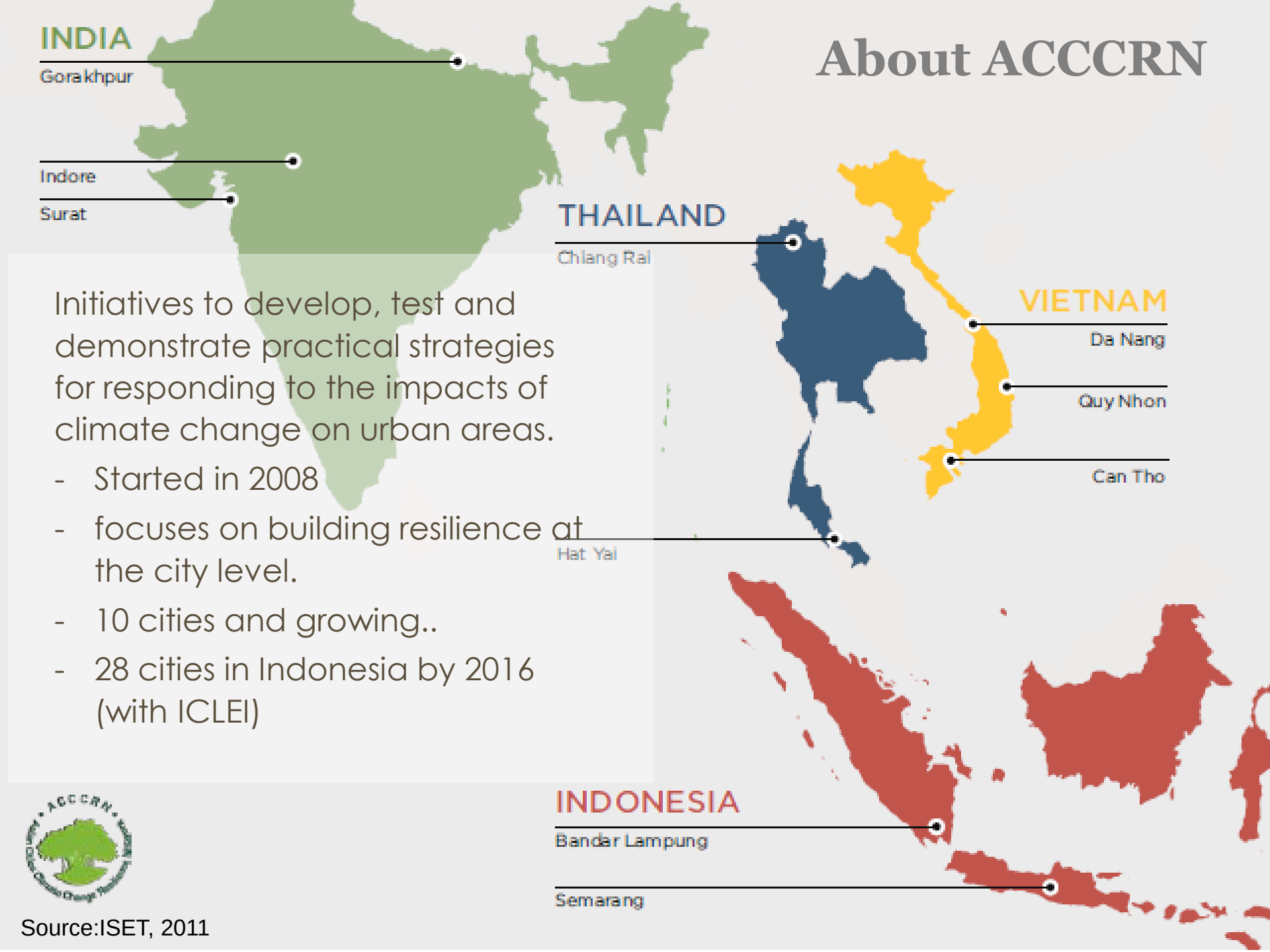
About ACCCRN



Initiatives to develop, test and demonstrate practical strategies for responding to the impacts of climate change on urban areas.

- Started in 2008
- focuses on building resilience at the city level.
- 10 cities and growing..
- 28 cities in Indonesia by 2016 (with ICLEI)

Source:ISET, 2011

Exposure (E),

Is a form of human and infrastructure acceptance against disaster and attributed to the location and physical defense.

Exposure could also be defined as a type of valuable assets which in risky situation to be affected by climate changes impact. This assets will include social assets (human, health, education), economy assets (property, infrastructure, and income), and ecology assets (nature resource and ecosystem service).

For example, in Taboko (Solomon Islands), the most valuable assets that should be secured when flood occurred is drinking water.

Sensitivity (S),

Is a level where the system is affected with both negative and positive impact due to climate change stimuli. Sensitivity can also be defined as the level of loss of someone/group or infrastructure / environment strength towards disaster.

For example, there are 100 houses located in the area flood-prone area, but 60% of them was built using flood resistant material, thus it will not be affected by the flood.

Adaptive Capacity (AC),

Is the ability of a system to adapt with climate changes (including changing the strategy, option decision, and responsive to opportunity) to address both direct and indirect impact of the climate change, overcoming hazard to reduce possible damage/loss, benefiting from situation, or to overcome the consequences.

Adaptive capacity, referred to social capability to adjust in order to and comprehensive management towards climate change sensitivity. Numbers of factors that could reflect adaptive capacity in are: political leadership and will; resources availability (human, technology and financial); institution and government network and social capacity and equity; information technology system and and healthy environment.

After completion of the above four steps, we can startthe development of VA which consist of six steps.

To develop VA at least (a minimum) of three3 steps must be completed, which are: hazard analysis, vulnerability and risk.

For the other three steps, which are scientific base of climate change, community and policy analysis, are not obligatory, but recommended to be conducted if there is enough fund to create better results of VA.

Following is flow cart of the main process of developing VA. The results of the VA will later be used as an input in strategy planning/adaptation action for precise strategy results.

SCIENTIFIC BASE ON CLIMATE CHANGES

HAZARD ANALYSIS

VULNERABILITY ASSESMENT

CLIMATE CHANGES RISK ANALYSIS

ADAPTATION-COMMUNITY ANALYSIS

ADAPTATION-POLICY ANALYSIS

STEP BY STEP PROCEDURES ON VULNERABILITY ASSESSMENT

STEP 1: CITY CLIMATE ANALYSIS (OPTIONAL)

An analysis of current and future climate condition to generate issue statement, which was potential hazard of climate changes condition

STEP 2: HAZARD ANALYSIS (MUST)

In this steps, character, magnitude, rate and hazard will be analyzed based on output hazard on issue statement of Step 1 (if applied). If it is not applied, it refers to disaster history or based on primary survey with the local community

STEP 3: VULNERABILITY ASSESMENT (MUST)

In this step, factor, indicator and vulnerable component are analyzed.

STEP 4: RISK ANALYSIS (MUST)

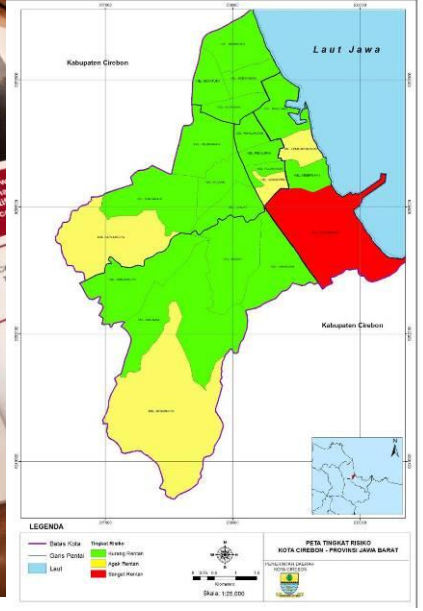
Risk is an overlay results between hazard and vulnerability (Alternative A & Thus an overlay of step 2 and step 3 are applied.

STEP 5: COMMUNITY'S ADAPTATION AND ACTION ANALYSIS (OPTIONAL)

This part will explain the adaptive capacity of community using qualitative meth

STEP 6: ADAPTATION-POLICY ANALYSIS (OPTIONAL)

This part will explain the adaptive capacity of the government using qualitative



BUILDING UCCR IN CITY

Climate Change Working Group

Accessing Funding Opportunity

Vulnerability/ Climate Risk Assessment

City Resilience Strategy

Implementation of City Resilience Strategy

Monitoring and Evaluation, Dissemination, Public Consultation

Capacity Building

Pairing Risk Reduction and Income Generating Activities in Semarang City Coastal Areas

Semarang City

Identified Climate Change Impacts:

Storm, coastal erosion, flood (tidal and flash flood), drought, potable water scarcity, vector-borne diseases exacerbated by other typical urban problems (including land subsidence)

Population 1,57 million in 2013 (BPS)

36.63 km of coastline length

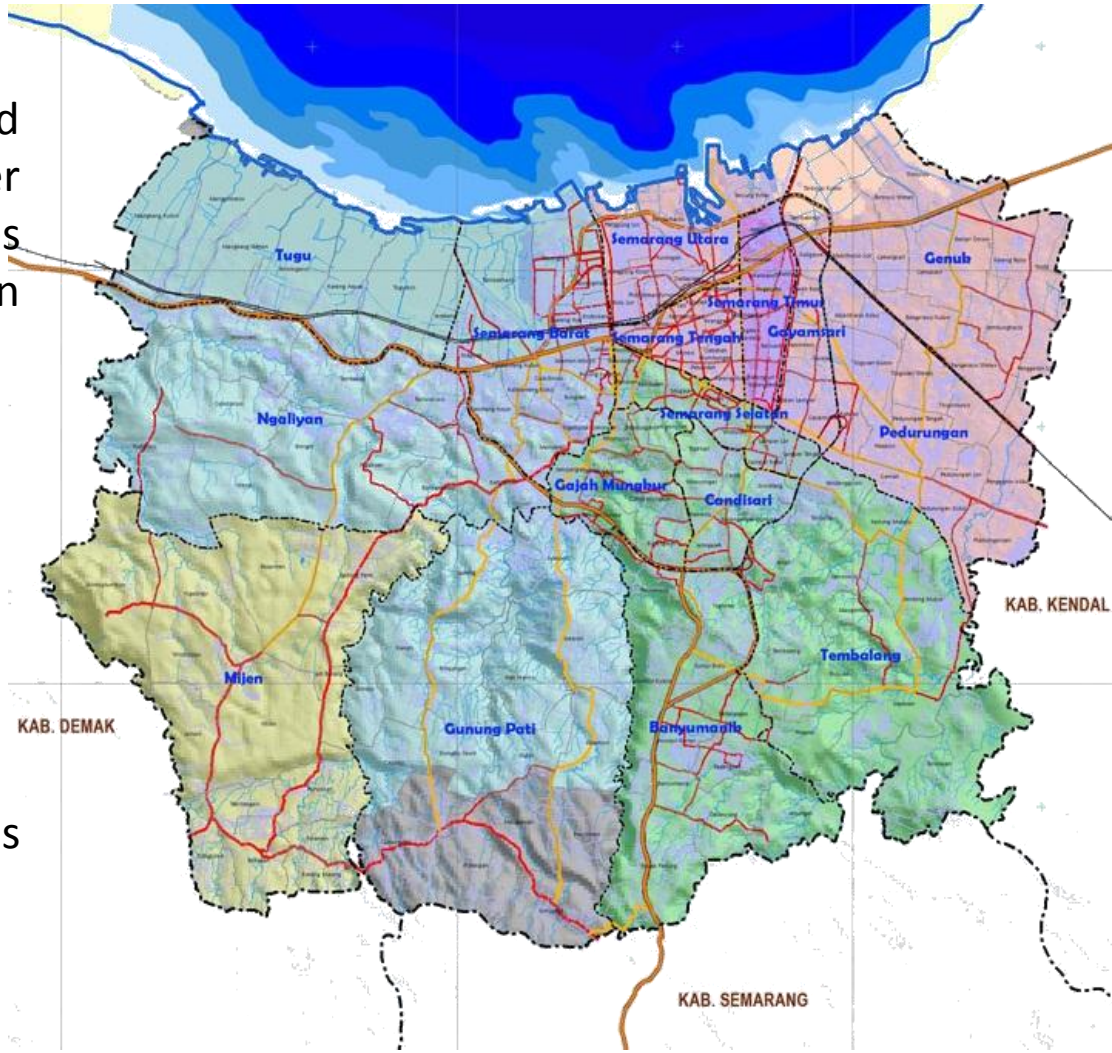
1,570 hectares of fishpond areas

56.3 hectares of freshwater fish farms

1,317 fishermen and 1,447 fisheries dependent community

70,19 hectares of mangrove vegetation

(City MAF, 2013)



Mangrove Ecosystem Services and Sustainable Livelihoods

Status : Ongoing (Jan 2013 – Dec 2016)

Aims to enhance coastal community resilience in Semarang City by strengthening mangrove ecosystem services and increase their adaptive capacity in facing climate change impacts.

Project Component:

a. Coastal protection through mangrove forestation and locally-made break water construction.

b. Development of potential sustainable livelihood such as ecotourism, resilient aquaculture, and fish-processed food.

Bakau Tapak Ecotourism

Provide interactive & affordable eco-tourism experience in Semarang City where people can adventure, learn, conserve, and give back to Tapak village all in one place.

Visitor Experience

- Conservation activities (planting mangroves, research and learning, etc.)
- Adventure activities (spear fishing, zip line, boating, etc.)
- Cultural activities (eco-market, traditional food tasting, etc.)

Potential market of 2,8 million tourists in 2013

Managing Risk through Economic Development (MRED)

Status : Ongoing (Nov 2014 to Oct 2015)

M-RED supported implementation of a market assessment to identify the most sustainable market-based livelihood options that promote protection of the mangroves for DRR/CCA.

Cost Benefit Analysis & Rapid Market Assessment resulted in Fish Crackers business development to be piloted in 4 sub-district

Next Steps:

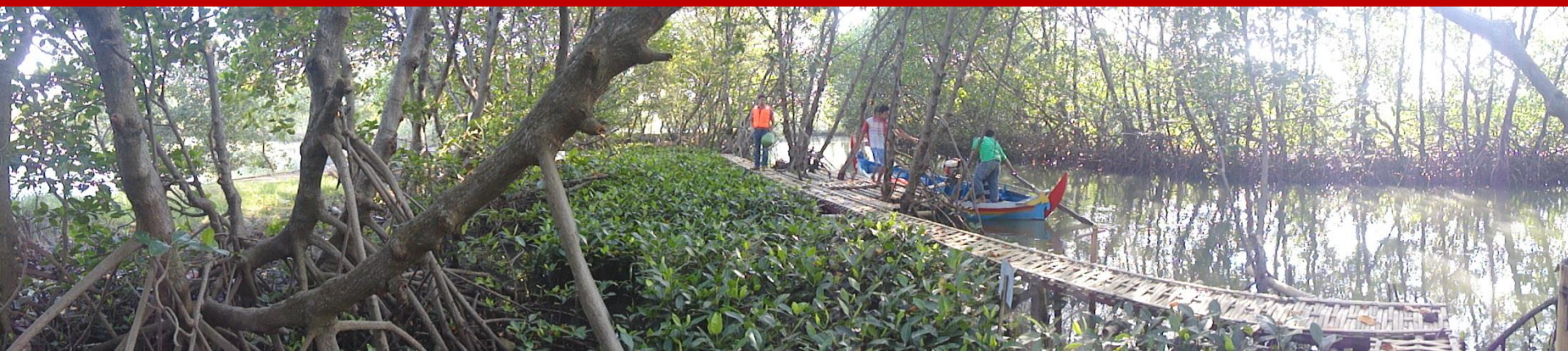
- Detailed Business Plan (Chain Value, Competitor, Market)
- Training of Entrepreneurship, Product Development, Finance, Marketing.
- Product Development, Tasting, and Adjustment.
- Marketing and facilitate private sector partnership to market products.

Some findings from on going work:

Political interests : Investment VS Ecosystem Services.

Decisions making : Economically viable business VS business as usual.

Ownership : Support from local government VS sustainability of products



Some burning questions:

On Mangrove Reforestation : aquaculture vs ecosystem

Sustainable Aquaculture and Mechanism for Protection of fishing communities

Bridging Science to Coastal Communities

Framing economic development for people at risk as good business

Enhance collaboration : private sector and politicians

Thank You

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