

SIDI
Sustainable Island Development
Initiative

Status
13 November 2013

What is SIDI?

- ❑ **Initiative & Project Framework to develop small Indonesian islands**

- ❑ **Joint R&D Germany – Indonesia:**
 - Hochschule Wismar & Industry Partners
 - ITS Surabaya & Industry Partners

- ❑ **Objectives:**
 - Develop tropical islands in a sustainable way = economic growth + social welfare + environmental protective
 - Prepare & implement prototype solutions – in cooperation with industry partners (Indonesia and Germany)

SIDI - Origins

- ❑ Small Islands Development Initiative of the Indonesian Ministry of Marine Affairs and Fisheries;
- ❑ ITS research & development activities on Poteran Island;
- ❑ Wismar University research & development activities in the areas:
 - Island development Poel / autonom energy supply
 - Value added processing of biomass
 - Electro-Mobility, a.o.
- ❑ Interest of local governments in Berau and Sumenep (Development Master Plan)
- ❑ Interests of Indonesian and German industry partners

Partner project: Sustainable Development of Island Poel, Germany

- The island Poel is located in the German Baltic Sea area, about 25 km away from the city of Wismar.
- The economy of the island is now dominated by agriculture, by sea fisheries, and by tourism.
- Poel Island is aiming to economically develop in a sustainable way. The local employment sector shall be extended by establishing new production capacities which are tailored to the specific local conditions the island, and which will not decrease the conditions for the existing economy.
- Moreover, Poel shall be developed to an “energy-autonom island”, based on available renewable energy resources.
- **Question: Synergies to the development of Indonesian Islands ?**



SIDI - Approach

- ❑ Sustainable = economic, socially prosperous & environmentally friendly development of island regions
- ❑ Needs value added production! Export of high-value products or services ensures economic base for self-driven island development
- ❑ Nothing works sustainably without incorporating the local people
- ❑ Modern technology applied & further developed for the conditions of tropical islands
- ❑ How can development effects can be amplified by scientific and economic cooperation

Cooperation Platform



MEMORANDUM OF AGREEMENT
between
INSTITUT TEKNOLOGI SEPULUH NOPEMBER
and
HOCHSCHULE WISMAR UNIVERSITY OF APPLIED SCIENCES
on
THE SUSTAINABLE ISLAND DEVELOPMENT INITIATIVES (SIDI)

Strengths of the SIDI Project Partners (Example Herbal Extraction)

- ❑ **Abundance of tropical plants with valuable substances**
 - Moringa, Jiaogulan, mushrooms, algae/seaweed,...

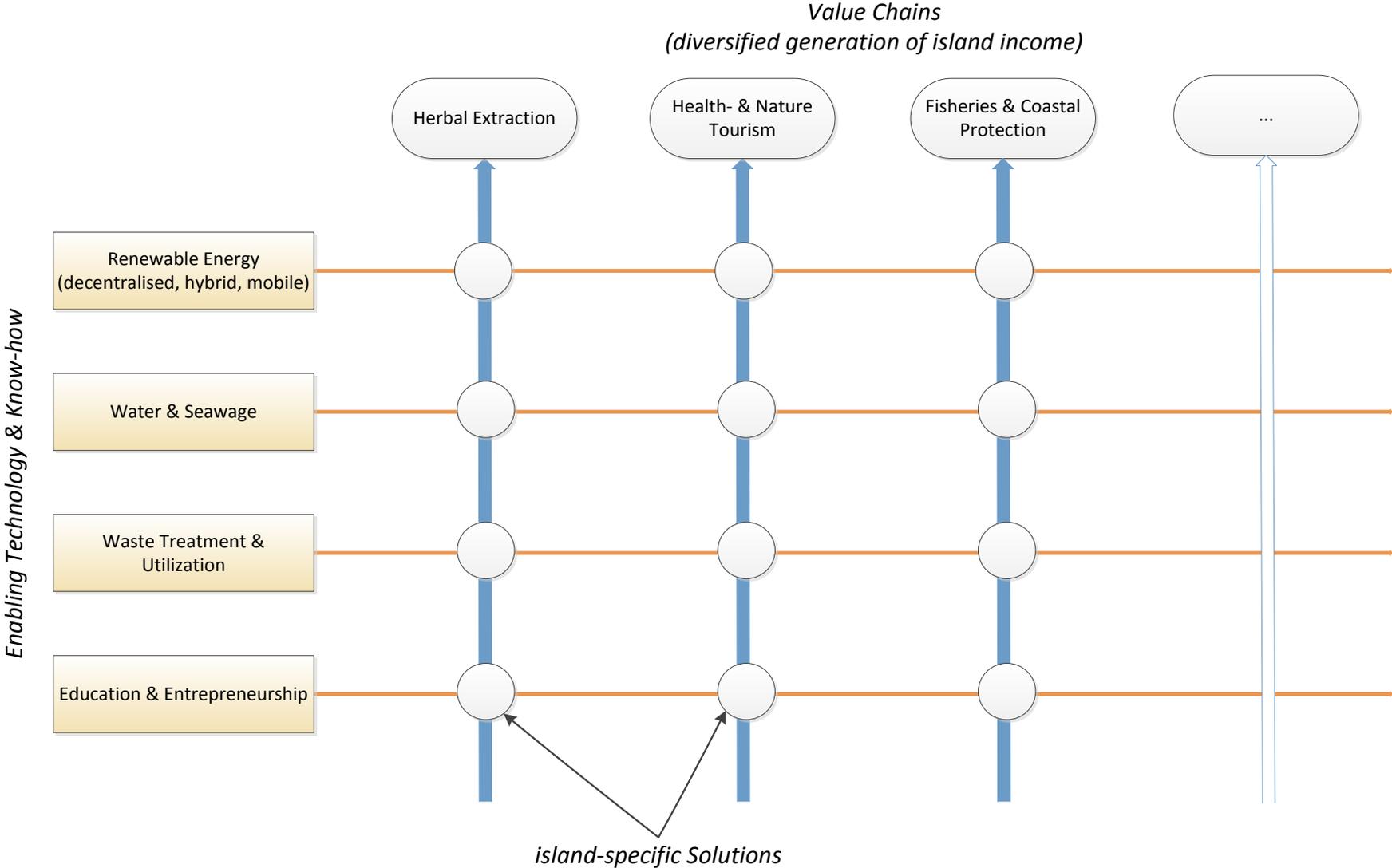
- ❑ **Technology & Know-how available**
 - Plant processing, extraction, refinement
 - Renewable energy & water supply
 - Sustainable economical & social development

- ❑ **Effective cooperation already established**
 - MoU Hochschule Wismar and ITS Surabaya, comprising cooperation in R&D

Integrated Approach Required

- ❑ Projects and Master Plan development must go hand-in-hand!
- ❑ Every intended local business development on the islands needs educated people and infrastructure: energy, water, disposal, mobility including island connectivity
- ❑ Island development concepts, to be sustainable, need to integrate business development with social improvement and environmental protection
- ❑ The potentials of the island and the limitations of the resources have to be exactly known
- ❑ Interdisciplinary Student Research and Development Teams are an excellent method to maintain the integrated approach.

Integrated Approach Required



Development Vision

Maratua Island:

Tourism-based development

“Development of the unique nature and environment of the Maratua Islands as sustainable region in terms of economy and ecology; based on an effective and autonomous energy and water supply of the islands, the touristic and economic development as well as the living and working conditions of the island inhabitants shall be continuously improved.”

Development Vision

Poteran Island:

Biomass-based development

“Utilizing the local capacities in agro-production and coastal fisheries for the development of new value added biomass products and production technologies, e.g. herbal extracts and biofuels; The quality of these products will ensure sales out of the region and higher income for the local people and companies.”

Btl = Biomass to Innovation

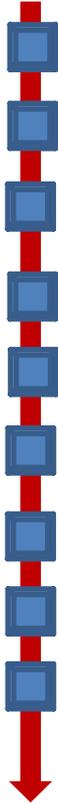
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Project “Herbal Extraction”

- ❑ Development of a value-chain for the production of valuable herbal extracts from tropical plants;
- ❑ Important: Establish a local **value-added production on the island** = to ensure intended development effects;
- ❑ Important: Local support for **capacity building**
- ❑ **Scientific task**: Defining a leading quality standard of such extracts; and developing the technology for ensuring this quality
- ❑ **Business task**: Marketing of these products in Indonesia / Asia as well as in Germany / Europe: Food, Cosmetics and Health industries

Project System for sustainable island development

For example Poteran Island:



- Mapping of local conditions
- Valuable herbal extracts from tropical plants
- Local bio-food products from Sumenep Region
- Biofuel for local fishery boats
- Island power supply from renewables
- Seafood refrigeration
- Mangrove revitalization
- Biomass Innovation & Education Center
- ...

- Master Plan for Island development
- Research & development strategy

SIDI – Projects by ITS

- ❑ **Mapping of the local conditions on Poteran Island**
- ❑ **Screening of the herbal extract potential of tropical plants**
- ❑ **Student working teams**
- ❑ **...**

SIDI – Projects by Wismar University

❑ Practice Partnerships - Student Research and Development Teams

Joint R&D program of Wismar University and ITS Surabaya, in cooperation with industry partners, financed by the German Ministry of Education & Research

❑ Cooperative Ph.D. Working Group „Herbal Extracts“

Joint R&D program of Wismar University and ITS Surabaya, financed by the German DAAD