



Climate Change Adaptation, Indonesia Technology Needs And Implementation Plan

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Indonesia Archipelagic State: Vulnerable Area



- Tropical region
- Location between:
 - Pacific Ocean and Indian Ocean
 - Asia and Australia.
- Consist of 17,504 islands, about 6,000 are inhabited.
- The sea area is four times greater than its land area.

- Characterized by strong seasonal variations in the upper oceanic circulation influenced by monsoonal winds.
- Forest land coverage about 120.3 million hectares.

Source : Indonesia TNA, 2008

Climate Change Impact to Indonesia



- Sea level Rise: 115 islands will disappear in 2100
- Change of Ecosystem: loss biodiversity
- Appearance New Diseases
- Extreme Climate
- Change water Rainfall pattern
 - Shorter rainfall days, high intensity in wet season caused flood, water run-off, landslide
 - Longer dry season caused draught,



Priority of Climate Change Adaptation Technologies

Area and Sectors:

- Food Security
- Ocean and Coastal Vulnerability
- Water Resources



Technology Needs for Food Security

- Crops (Rice) Varieties tolerance to Drought and flood
- Cropping Calendar & Pattern
- Climate Prediction and Modeling
- Cattle Meat Technology
- Technology for marine Culture
- Intermittent Irrigation for Rice Field
- Technology of production, storage and distribution of seeds and seedlings
- Field Climate School for training the farmer
- Development of decision support system for dissemination of appropriate technologies
- Technology of conservation and optimization



Technology Needs for Ocean and Coastal

- Ocean Observing System & Modeling (Sea Level Rise Modeling)
- Seawall and revetment technology
- Beach reclamation technology
- Groyne technology
- Coastal restoration
- Coral Reef Rehabilitation
- Floodwalls system technology
- Marine Fisheries: pattern change



Technology Needs for Water Resources

- Modeling for water resources
- Rain water harvesting
- Water recycle technology
- Polder and pumping technology
- Monitoring and early warning system
- Artificial wetland
- Eco-hydrology for river
- Ground water injection technology



Technology Action Plan

Project ideas



Project I: Dissemination of drought and flood tolerance rice varieties

Project description

- Dissemination of the varieties of rice tolerance to drought and flood to the farmers throughout Indonesia.
- These varieties has been developed by Agriculture Technology Development Center
- Implemented according to the cropping calendar



Project I: Dissemination of drought and flood tolerance rice varieties

- Step of Activities:
- Year I: Training of trainer (ToT) to the Local/provincial of Agriculture Center on:
 - Development the Cropping Calendar
 - Production of the rice seed that tolerance to drought and flood
 - Pilot project in the area of 200 ha
- Year II: Implementation
 - Implementation in 6,000 ha
 - Assist by the Trainers
- Year III:
 - Implementation by the farmers
 - Technical assistance by the trainer



Project I: Dissemination of drought and flood tolerance rice varieties

Project Cost:

- Year I: US\$ 200,000
 - US\$ 100,000 for ToT to 200 trainers
 - US\$ 100,000 for seed production and pilot project
 - US\$ 50,000 for technical assistance to the farmers
- Year II: US\$ 2.9 M
 - US\$ 2.4 M for Implementation in 6,000 ha
 - US\$ 500,000 for technical assistance to the farmers by the Trainers
- Year III: US\$ 900,000
 - US\$ 400,000 for socialization to the farmers throughout Indonesia
 - US\$ 500,000 for technical assistance
- **TOTAL PROJECT COST FOR 3 YEARS: US\$ 4.0 M**