



**CLIMATE CHANGE, COASTAL PROTECTION, TOURISM,
AND NATURE CONSERVATION IN KIEN GIANG**

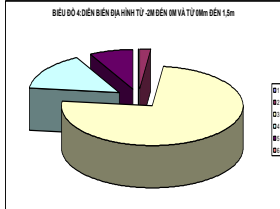


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Impact of climate change and sea level rise



Plain of the province:
570.393,9ha
Elevation 0m-1m: 7743.7 ha
Elevation 0m -0.5m : 311,373.9 ha
Elevation 0.5 m-1m: 63,426.5 ha
Elevation 1m-1.5m: 32.699,5ha
Elevation > 1.5 m: 4462.3 ha




Map of elevation

Kien Giang Province

- Land area of delta – 570.374 ha.
- 140 small islands
- 208 km coastline
- 15 districts – 4 coastal
- Population 1.7 million
- 2008 GDP 15.185,6 billion Increase 12,9%
- Income per capita- \$802US

Agriculture, Forestry & Fisheries



- Agriculture –forestry- fishery 3.387 million tons
- Aquatic 428.485 tons
- Project funded by AusAID - GTZ is supporting the management of natural resources



Trade, Tourism & Exports





Phu Quoc
U Minh Thuong National park

- Trade 20,295 billion - 11.20%
- Export 491 million USD- fishery 120 million USD
- In 2008 3,450,000 – 85,000 International tourists
- U Minh Thuong National Park 26,000 eco-tourist
- Tourism increasing 10% per year



Popular tourist sites

- Phu Quoc National Park
 - Beautiful beaches
 - Best Dipterocarp forests in Vietnam
 - Sea grass and coral reefs
- U Minh Thuong National Park
 - last remaining wetland in Vietnam
 - Important bird sanctuary
 - Eco-tourism – 26,000 visitors year
- Natural landscape area Ha Tien and Hon Chong
 - Sarus Crane (*Grus antigone sharpii*) - Quam blue-winged (*Pseudibis davisoni*)

18. Climate Change, Coastal Protection, Tourism, and Nature Conservation in Kien Giang

Biodiversity

Marine ecosystems: coral 700 ha, sea grass 12,000 ha

Sea grass carpet: 10 species (only 16 spp in Vietnam)

Coral reef: 87 species of coral

hard coral - 13 to 24% of area

Forest plant species: Phu Quoc 650sp, U Minh Thuong 250sp

Bird species: U Minh Thuong 189sp

Rare animals: Hawksbill sea turtle (*Eretmochelys imbricata*) IUCN Red list

Vich or green turtle (*Chenolia mydas*),

Rua quan Dong turtle (*Lepidochelys elivacca*)

Dugong

Ca Ong su (*Orcaella brevirostris*), Cá heo xam (*Tursiops aduncu*),

Ca lung gu (*Sousa chinensis*), Cá heo mom dai (*Stenella longirostris*)

Ca heo soc (*Stenella coeruleoalba*)

are at risk of extinction



Figure 9: Coastal Erosion

Coastal Erosion

- Significant increase since 1997 when canals built
- Mangroves destroyed
 - Mangrove forests are being lost and up to 25% are degraded
 - Agricultural land lost
 - Dykes destroyed

Climate change will effect

- Mekong river flow
- Sea level
- Temperature < maximum and minimum
- All main revenue sources
- Biodiversity



Intrusion of salt water

- Climate change will increase
- Intrusion in canals now to 60km (An Giang)
- Agricultural crop production decreased
- Fresh water fisheries affected



Figure 7. Effect to Agriculture

What will happen with 0.5m sea level rise?

- *A 0.5 meter rise is likely to flood 50% of Kien Giang*
- *Affecting nearly 300,000 people or 18.6% of the population*
- *Effect on biodiversity and income generation.*

Kien Giang Feasibility Study for a REDD Pilot Project

- Reduction of Emissions from Deforestation and forest Degradation
- Developed country payments for carbon stored through sustainable forest management
- Mangrove and melaleuca forest is being mapped and carbon measured
- Payment for Environmental Services will be a key to success

What will happen with 1m sea level rise?

- *A 1 meter rise is likely to flood 66% of Kien Giang*
- *Affecting nearly 900,000 people or 50% of the population*
- *Sea level rise will have a dramatic effect on biodiversity and income generation.*

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SOLUTIONS FOR CLIMATE CHANGE

- Invest in meteorological and hydrological stations in Rach Gia, Ha Tien, Phu Quoc for early warning
- Open new station the U Minh Thuong National Park
- Staff capacity building
- Strengthen, upgrade sea dyke system to 2 m asl compared with standard 1 m asl
- Build sluice gates for all the canals to prevent saltwater intrusion
- Increase mangrove belt so that it is from 20 to 500m wide
- Build model homes to cope with sea level rise

THANKS FOR ATTENTION



Sea level rise effect the living of people