

Pacific Islands Environmental Conference  
Saipan, CNMI

# **Shared Environmental Challenges of Island Communities**

Mayor Jeremy Harris  
City & County of Honolulu  
June 23, 2004

# Island Communities share similar challenges



It's just a matter  
of size and degree



# Characteristics of Island Communities

- Remoteness and insularity
- Fragile ecosystems
- Lack of natural resources
- Dependency on imports
- Small physical and economic size



## Challenge

# Economic Development



Waikiki as it was

Develop economic base that doesn't destroy the fragile environment or diminish the native culture

## Solution

# Economic Development



- Develop industries that don't damage the environment

## Solution

# Economic Development



- Size industries to meet the needs of the local population without importing immigrant labor

## Solution

# Economic Development



Sustainable Tourism – enhances local culture and history and respects the natural environment

## Solution

# Sustainable Economic Development



- Good environmental policy is good economic policy
- Diversify economy and encourage growth in ways that local residents will support



## Challenge

# Land Use

Strip malls in coastal communities



Poor or inadequate land-use controls result in inappropriate development in inappropriate places with inappropriate design

## Solution

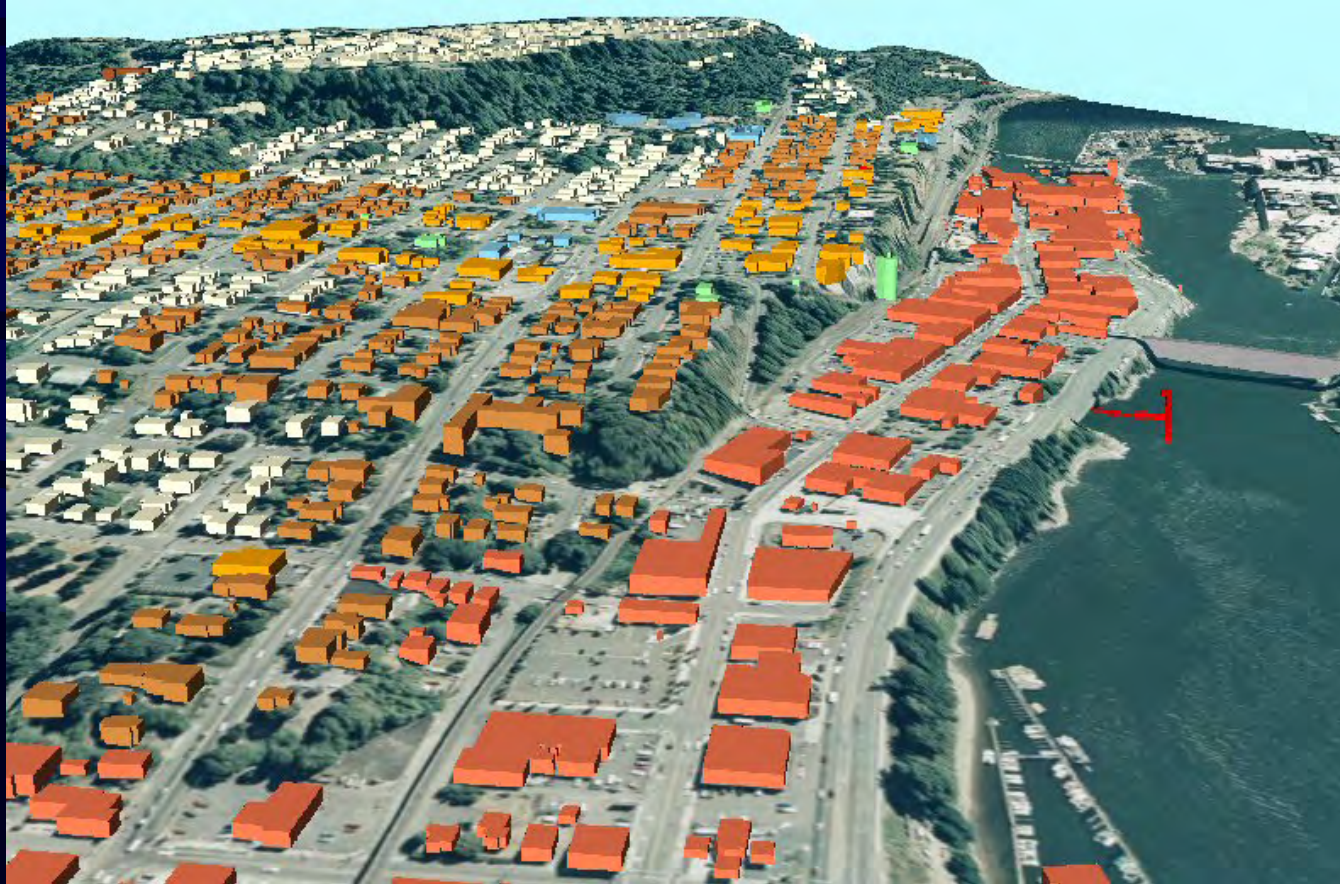
# Land Use



- Strict land-use controls
- Open space and agricultural land preservation plans

## Solution

# Land Use



- Zoning regulations

## Solution

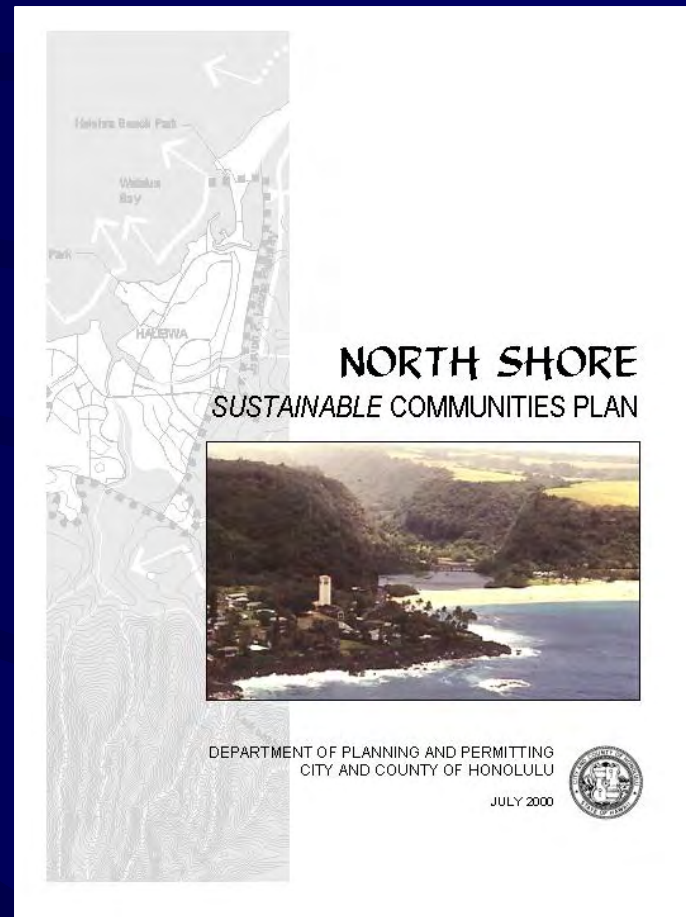
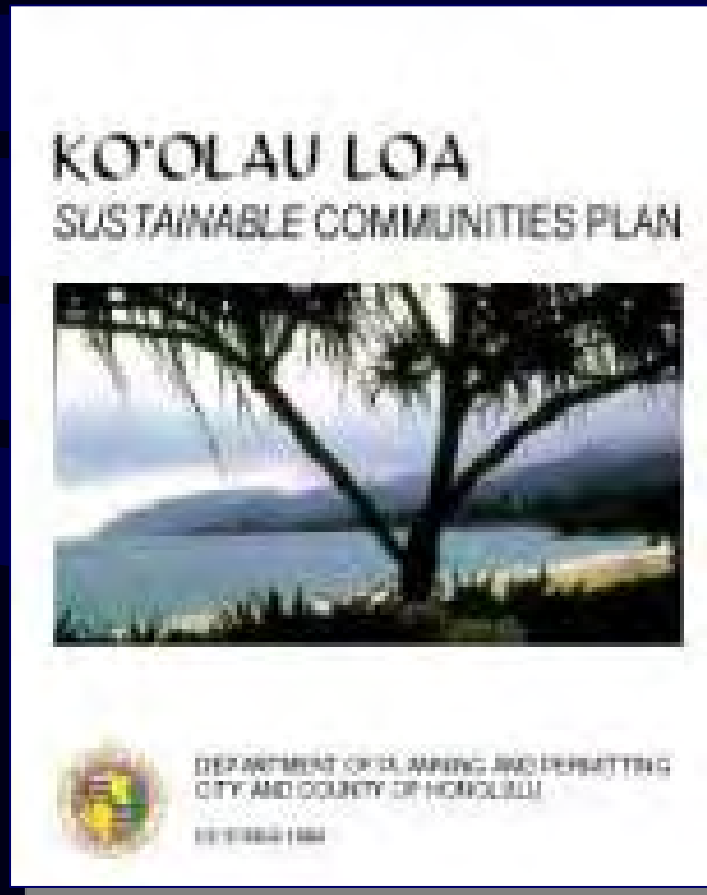
# Land Use



- Urban design guidelines

# Solution

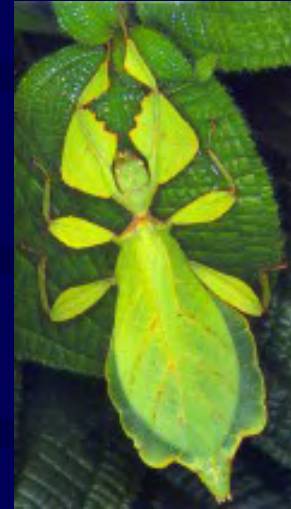
# Land Use



- Community sustainability plans

## Challenge

# Habitat Destruction

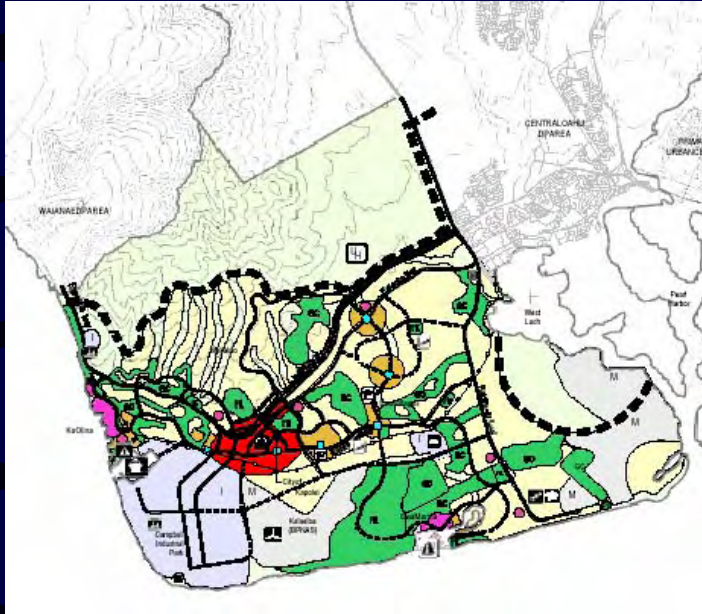


- Loss of mangroves
- Loss of estuaries
- Invasive species
- Coastal zone destruction



## Solution

# Habitat Destruction



- Zoning laws that protect critical habitat
- EIS disclosure requirements
- Strict regulation on importation of exotic species
- Strict inspection and enforcement

**Solution**

# Protecting Wildlife Habitats



Waimea Valley – Partnership with Audubon Society



## Challenge

# Transportation



- Many island communities are modeling their transportation systems after mainland models
- Most are developing their communities around the automobile and imported fossil fuels

## Solution

# Transportation



Island communities, more than any other, have the ability to break the automobile mold and plan their communities around alternative transportation

## Solution

# Transportation



- Hybrid electric buses
- Fuel cell vehicles
- Small passenger vehicles

## Solution

# Transportation



- Bicycles and smart growth planning that co-locates residents, jobs, shops and schools so no car is needed

## Challenge

# Energy



Most island communities are modeling their primary energy generation—electricity—after mainland models fueled by imported fossil fuels

## Solution

# Energy

Islands should become independent of imported energy by developing renewable sources:

- Wind
- Solar
- Biomass
- Wave
- Current
- District cooling



## Solution

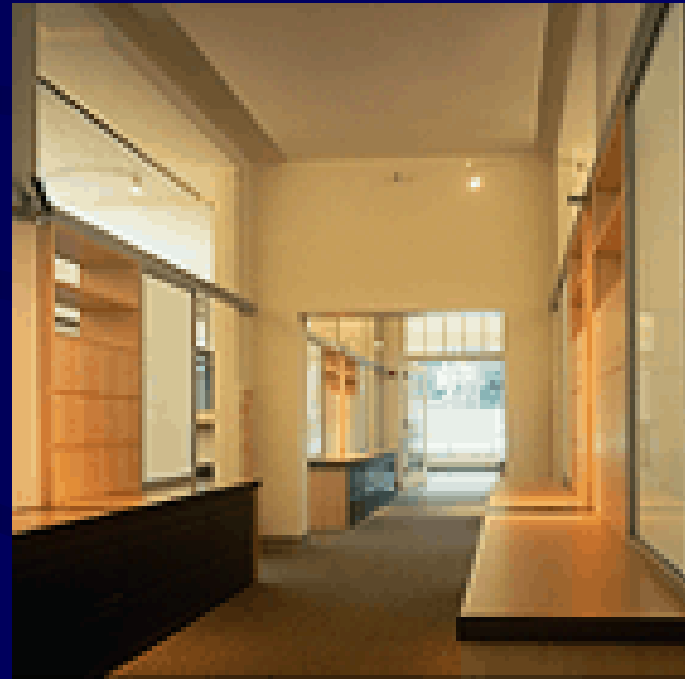
# Energy



Develop co-generation facilities so buildings supply their own power

## Solution

# Energy



Energy Efficiency – Building codes that provide natural lighting and cooling



## Challenge

# Solid Waste



Poor solid waste handling resulting in polluted waterways, litter, landfills, leachate polluting groundwater

## Solution

# Solid Waste



- Waste reduction: outlawing plastic bags
- Waste recycling: green waste, bottles, aluminum cans

## Challenge

# Wastewater



- Inadequate wastewater treatment
- Sewage spills from old transmission systems
- Inflow and Infiltration

## Challenge

# Wastewater



- Polluted streams and beaches
- Public health problems
- Polluted ground water

## Solution

# Wastewater



- Improved sewage treatment facilities
- Wastewater reuse: Membrane technology

## Solution

# Wastewater



- Low-tech treatment processes:
  - Waterless and no-flush urinals
  - Wetland habitat treatment

## Challenge

# Water



Many island nations have inadequate potable water to meet growing urban demands and demands of agriculture

## Solution

# Water

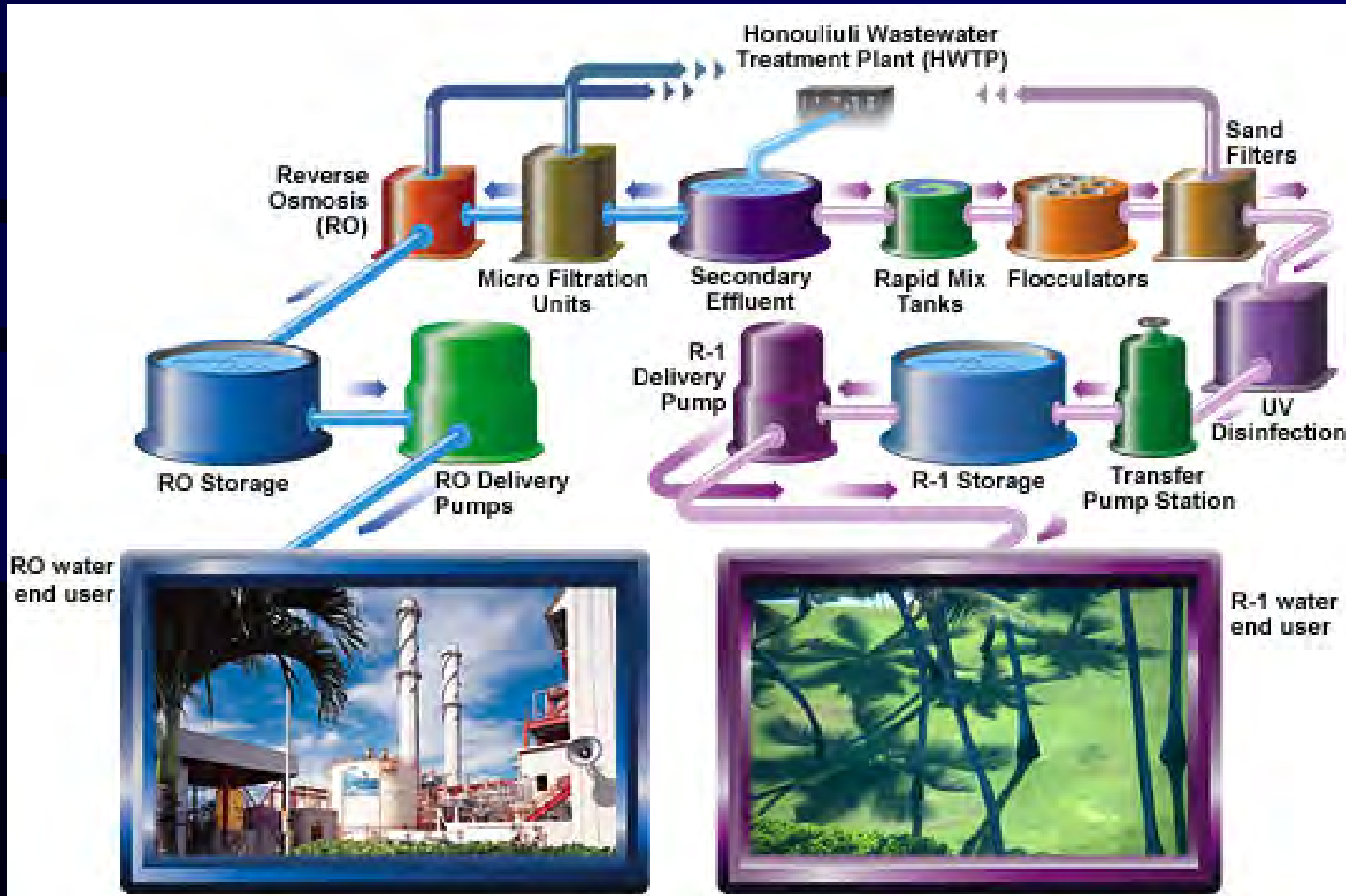


The Natural Energy Laboratory of Hawaii Authority taps the potential of deep ocean cold water for energy, water and agricultural applications



# Solution

# Water



- Wastewater recycling for agriculture and industry 33

## Solution

# Water



- Water conservation: low-flush toilets, shower heads, leak prevention programs

## Challenge

# Coral Reef Destruction

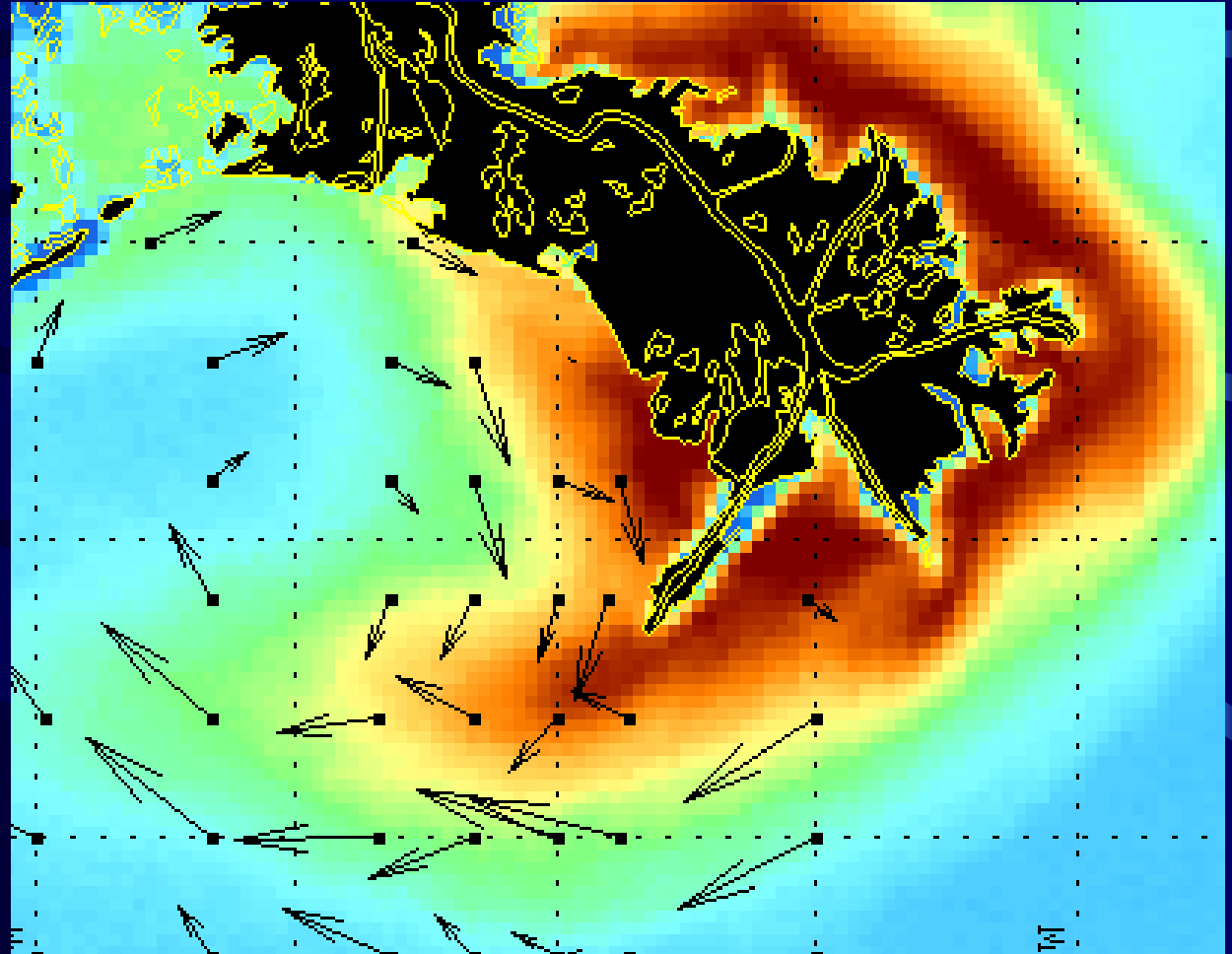


- Overfishing and illegal fishing techniques
- Runoff: Poor grading practices, sediment, ag chemicals
- Urban non-point source pollution
- Global warming – coral bleaching

## Challenge

# Coral Reef Destruction

Satellite imagery shows suspended sediments in the Gulf of Mexico



## Solution

# Coral Reef Destruction



- Scientifically based fish and game laws and enforcement
- Strict grading regulations
- Storm drain pollution control programs

## Challenge

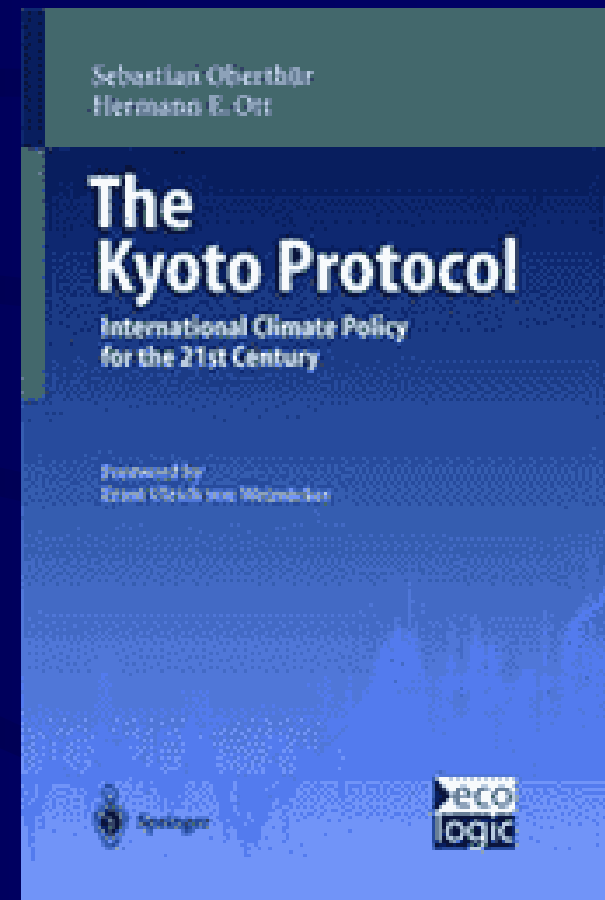
# Global Warming



- Disrupts weather patterns
- Impacts coastal inundation
- Spreads infectious disease
- Affects agricultural production

**Solution**

# Global Warming



International lobbying for reduction of greenhouse gas emission reductions





## Solution

# Financing



- Tourist taxes for environmental protection
- Impact fees paid by developers
- Environmental technology purchasing consortium

# Island Communities



- Shared problems
- Shared solutions
- Working together



*Mahalo*

