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Paradise Lost? Tourism impact on environment in Cancún, Mexico



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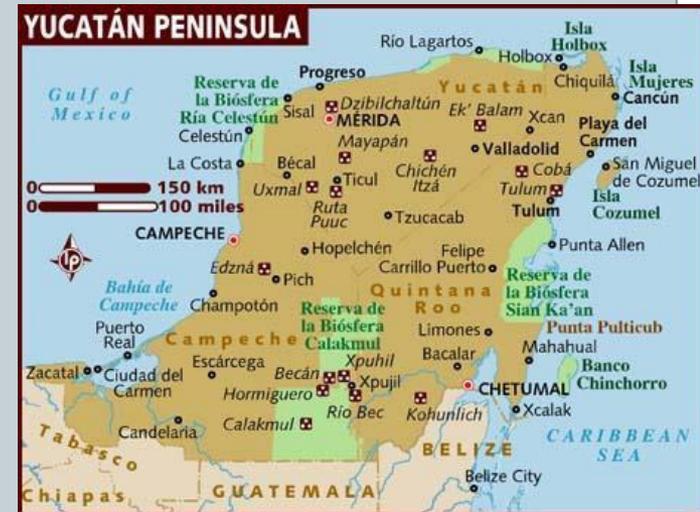
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Tourism



- World's largest industry and job creator
 - \$944 billion/year
- Mexico
 - One of the largest revenue and foreign investment
 - ✦ Riviera Maya tourism only source \$
 - ✦ 25% annual growth
 - ✦ 5 million visitors/year
- Great impact to fragile ecosystem
 - Unsustainable
 - Food, Energy, and Water (FEW) impact



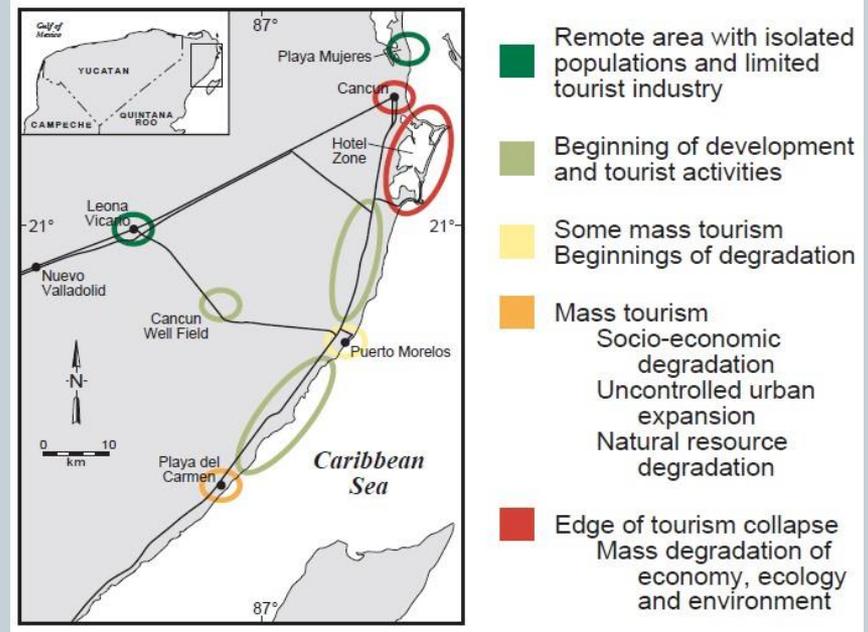
Self-destruct theory of tourism



- **Phase 1: Remote area escape for rich, isolated**
 - Mid-1970's, upscale resorts “a Miami with a Mexican flavor”
- **Phase 2: Middle income tourists arrive**
 - 1988 Hurricane Gilbert
 - Reborn with massive hotels
 - Exceeds natural carrying capacity
- **Phase 3: Mass tourism and socio-economical degradation**
 - At end of this phase (next slides)
- **Phase 4: Collapse**
 - Takes economy, ecology and environment

Why the Riviera Maya?

- Main factor- TOURISM
- Stable electricity
- Water pumped to homes
- Food
 - Readily available
 - 30% higher cost than other parts of country
 - Food waste from hotels
 - All-inclusives





- New hotels and new developments
- Each room requires a number of personal (8 people)
- Family migrates ($8 \times 4 = 32$)

Autoridades municipales de Solidaridad estiman que al menos 10 mil albañiles llegados de todo el país, principalmente de los estados del sureste, trabajan en la construcción de alrededor de 4 mil cuartos de hotel en este destino, la Riviera Maya, que se convertirá a fin de año en el centro turístico más grande de Latinoamérica y el Caribe, (La Jornada Junio 6,2006).

Authorities from Solidarity County estimated 10 thousand construction workers arriving from other southeast states, work in the construction of 4 thousand hotel rooms at the Riviera Maya, which is becoming in the biggest touristic place in Latino America at the Caribe at the end of the year

Mientras reportes de prensa aseguran que el proyecto Puerto Cancún se encuentra semiparalizado, los desarrolladores en su página de internet presentaron fotografías correspondientes a marzo donde muestran avances del proyecto.

Hydrogeology of Karst



- **Cenote**
 - Connected
 - Used for drinking water
- **Easily contaminated**



The ocean is not a dump!
Let's not treat it as one.



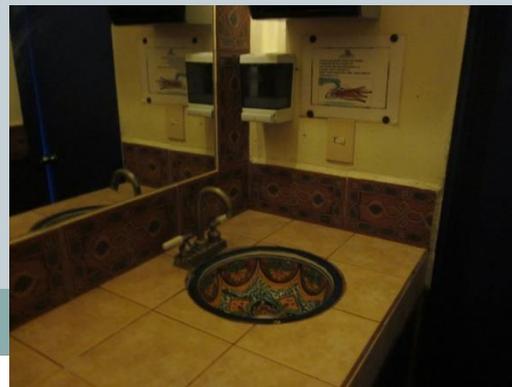
Say No to an Ocean Outfall



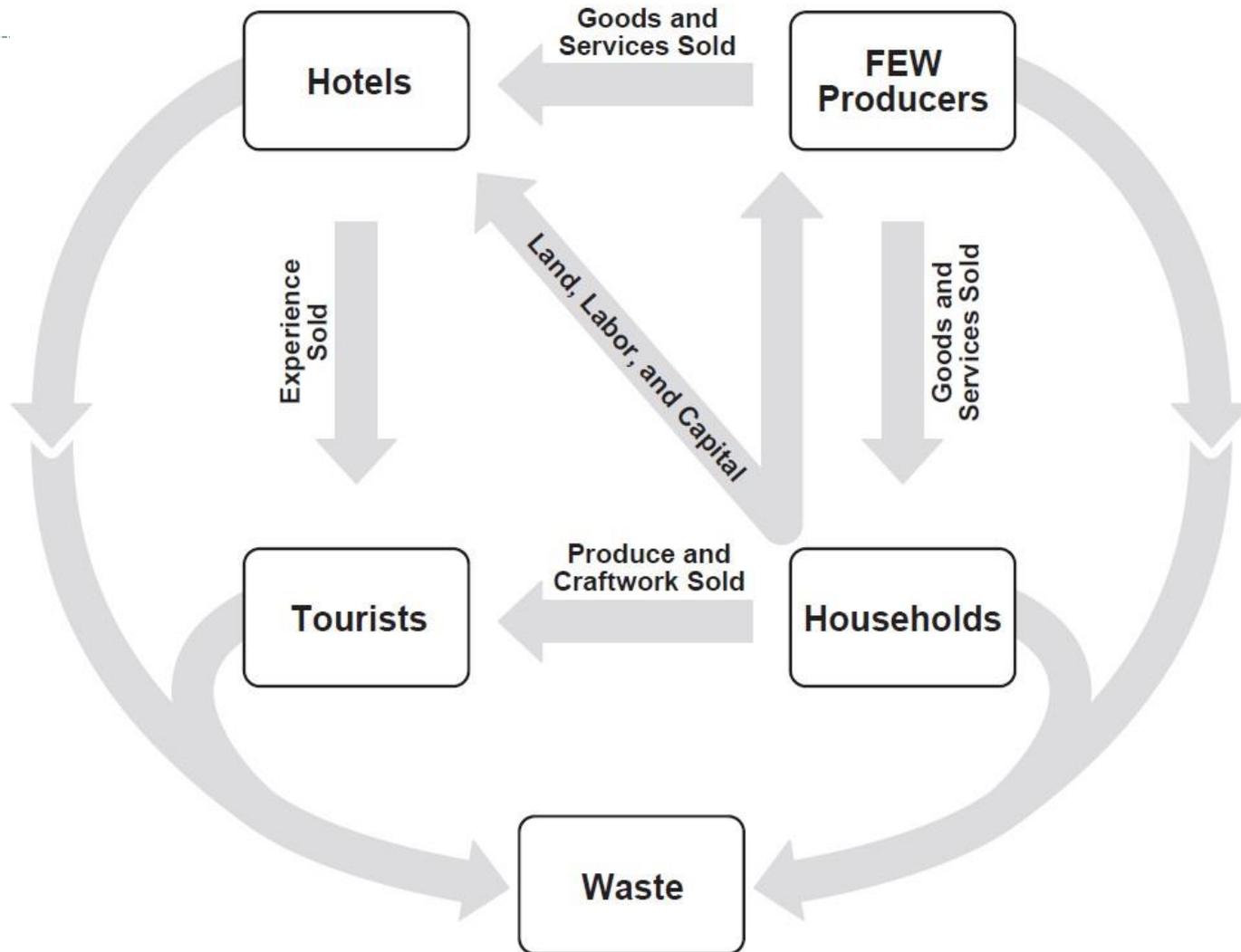
Health Impacts on American Tourists



- Drinking water quality in Cancun hotel zone was relatively safe level (e.g. 88% of samples were below 1 MPN/100mL for total coliform and *E. coli*)
- Tap water in a popular restaurant in Cancun was found to be heavily contaminated
 - Restaurants located in the hotel zone cook and clean with local water also increasing tourist exposure
 - Hand washing may also increase risk of foodborne illness



Economic Model

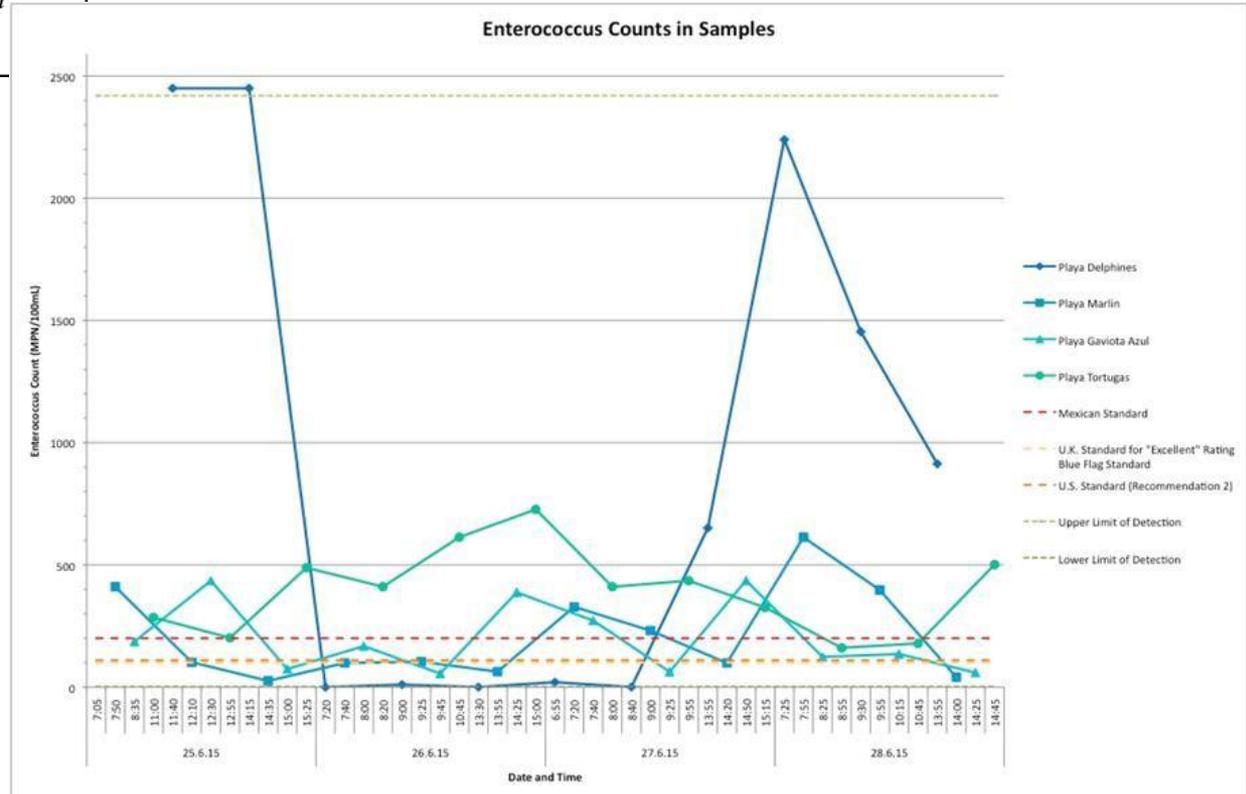
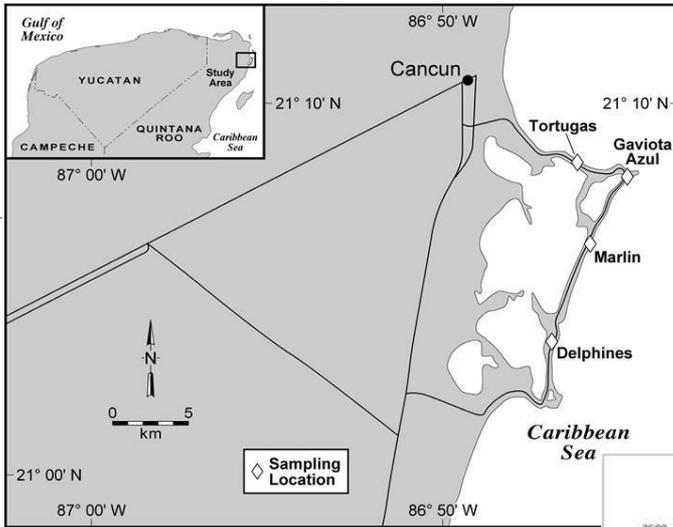


Eco-Justice Certification



Eco-certification program	Requirements
Green Globe	Hotels must comply with existing legal requirements for design and construction, environmental regulations, zoning laws regarding heritage sites, and health and safety.
GreenLeaders	Four levels of certification based on a self-reported survey of green practices. Verification provided by guest feedback on TripAdvisor.
Green Key	On-site inspection upon award of Green Key Rating. Annual audits of at least 20% of rated properties.
Blue Flag	Certifies beaches as sustainable based on criteria related to water quality and public displays of environmental education information.
Travel Life Gold	Survey of hotels to record current practices and 'efforts' towards sustainability. Few rigorous requirements.

Blue Flag



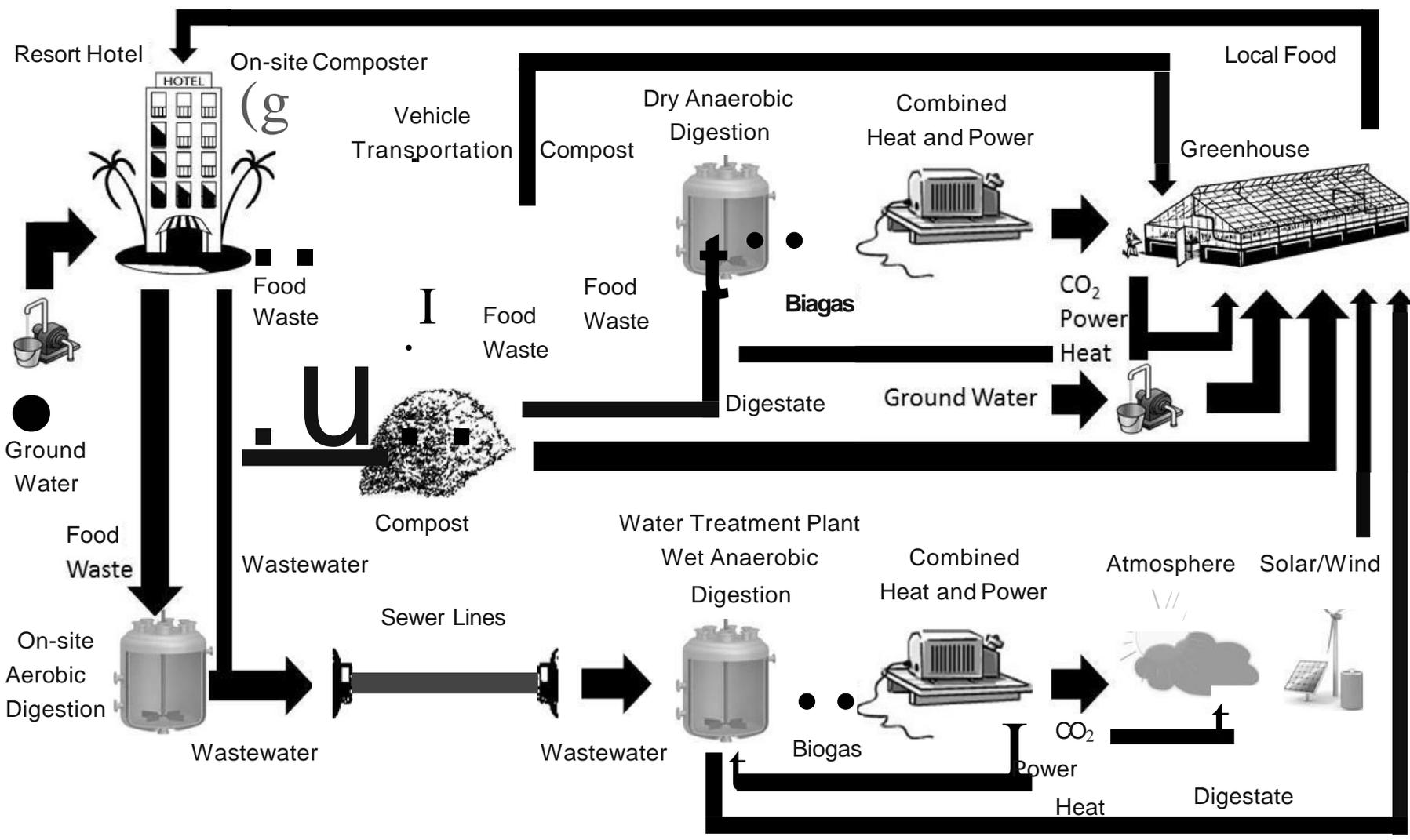
Improvements



1. Holistic improvements incorporating both ecological and social sustainability
 2. Wide group of stakeholders – hotels, locals, government, NGOs
- Not just reduce food waste but incorporate equitable access to FEW resources, widespread protection from pollution and fair labor practices
 - Use current elements- recycling, energy- and water-efficient technologies, decrease pollution, and serve local and/or organic foods
 - Integrate loop of FEW for hotels and locals

Food-to-Energy-and-Food (F2EF) Loop





“Tourists come here for the destination but
we have to live here”
- Gerardo Villanueva Nava, Local Resident

Questions?

