OUTLINE

- What is GIS?
- Background
- Case studies
- GIS applications to cultural heritage at the Bank
- Discussion
- Logistics
GIS: brief tutorial

- What is Geographic Information System GIS?
  - A GIS integrates hardware, software, and data for capturing, managing, analyzing, and displaying all forms of geographically referenced information.

What does a GIS look like?

- Maps
- Database
- Models & Tools
BACKGROUND: GIS Applications

- Cultural heritage GIS applications  Box (1999)
  - Surveying and inventory  (e.g. Capra et al., 2002)
  - Assessing and evaluating  (e.g. Boehler et al.)
  - Analysing and investigating
  - Developing strategies  (e.g. Callegari 2003)
  - Implementing, monitoring, and reviewing
  - Hazard prevention  (erosion / flood in e.g. Comer, 2004; Lanza, 2003)

BACKGROUND: Tourism

- Contributions of geography to Tourism  (Hall et al., 2009)
  - Tourism Area Life Cycle model  (Butler, 1980)
  - Tourism-related patterns and flows
  - Tourism and development
  - Climate vulnerability and tourism

- GIS in Tourism  (Hall et al., 2009)
  - Major opportunity area  (Hall 2009: p.10)
  - Space and tourist activity with finite resource base
  - Current: micro-level impacts at sites
**Cultural Heritage at the Bank**

- 68 projects approved and implemented, which include cultural components or are specifically designed for cultural heritage conservation, management and economic use.
- From 1996-2007, > US$782 million in investment
- Highly visible and growing part of the Bank’s technical assistance and lending programs.
- CH projects in a number of partnerships (e.g. UNESCO)

**GIS & cultural heritage at the Bank**

- Image Bank search by sub-topic “Cultural heritage and preservation” and keyword “GIS”: 6 results:
  - Karst Ecosystem Conservation Project (Croatia, 2008)
  - Swaziland - Biodiversity Conservation and Participatory Development Project (2003) - building GIS capacity
  - Pacific Islands stakeholder participation in development: Solomon Islands (1998)
  - Working papers: Cultural property in SSA (1993)
- Other examples:
DISCUSSION

GIS applications to current Cultural Heritage portfolio
- Safeguards
- Tourism
- Urban renewal
- Research

Bank - Safeguards

- Safeguards
  - Participation of stakeholders in project design
  - Building ownership among local populations

- Cultural Heritage and Safeguards
  - Exposure area of natural disasters
  - Identify cultural heritage regions of interest within development area
  - Viewshed analysis
  - Inventory – aid preservation
Bank - Urban renewal

- Zone classification of buildings (urban planning)
- Spatial distribution of survey data
- Aerial photography to visualize the site in the past
- Topography and distance

Bank - Tourism

- GIS derived management zones
- Connectivity of cultural heritage sites and visitors (e.g. travel time)
- Density and distribution of sites
- Documentation of illicit activity (e.g. looting and graffiti) to determine spatial distribution
- Tour routes and interpretative sites
Bank - Research

Policy Questions:
- To what extent are cultural heritage sites in poor areas?
- To what extent are different cultural heritage sites currently exposed to natural hazards?
- To what extent are tourist numbers optimal with regards to site and environmental conditions?

GIS Costs and benefits

Costs:
- Hardware, software licenses ISG and DECRG
- Analysis
- Data upkeep

Benefits:
- Common database – same platform for solution
- Historical record
- Scenario or modeling building

GIS at the Bank: http://gis
Questions?

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