

Cultural Heritage Management

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Outline

1. On the Meaning of Environmental Impact Assessment
2. Types of EIA Impacts
3. Environmental Impact Assessment Process
4. Heritage Impact Assessment
5. Types of EIA Impacts



1- On the Meaning of Environmental Impact Assessment

What is Impact Assessment?

- Impact assessment is the “process of identifying future consequences of a current or proposed action”.
- Applicable to all impact assessment tools (including heritage impact assessment).

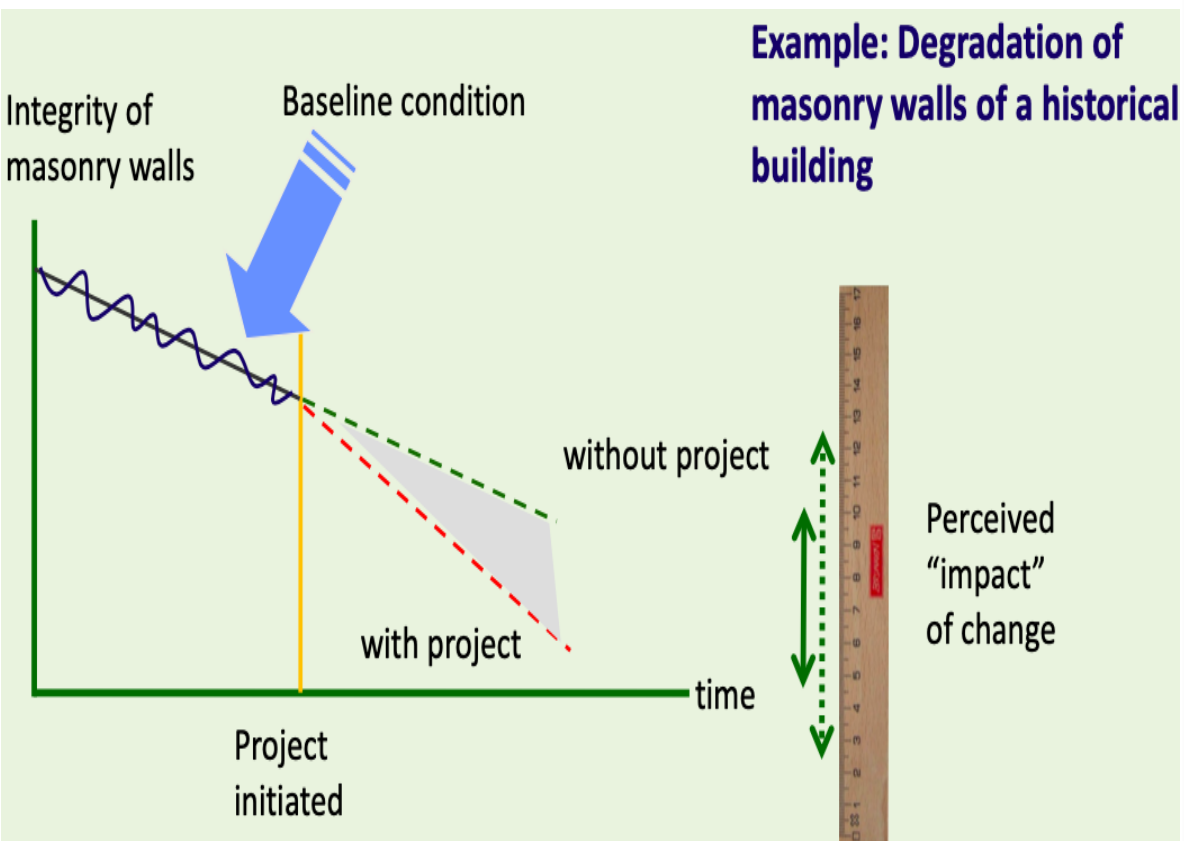
In heritage management:

- Identifies future consequences of actions affecting heritage properties
- Focus on the effects on heritage attributes and values
- Aims to protect of heritage significance / Outstanding Universal Value (OUV)



1- On the Meaning of Environmental Impact Assessment

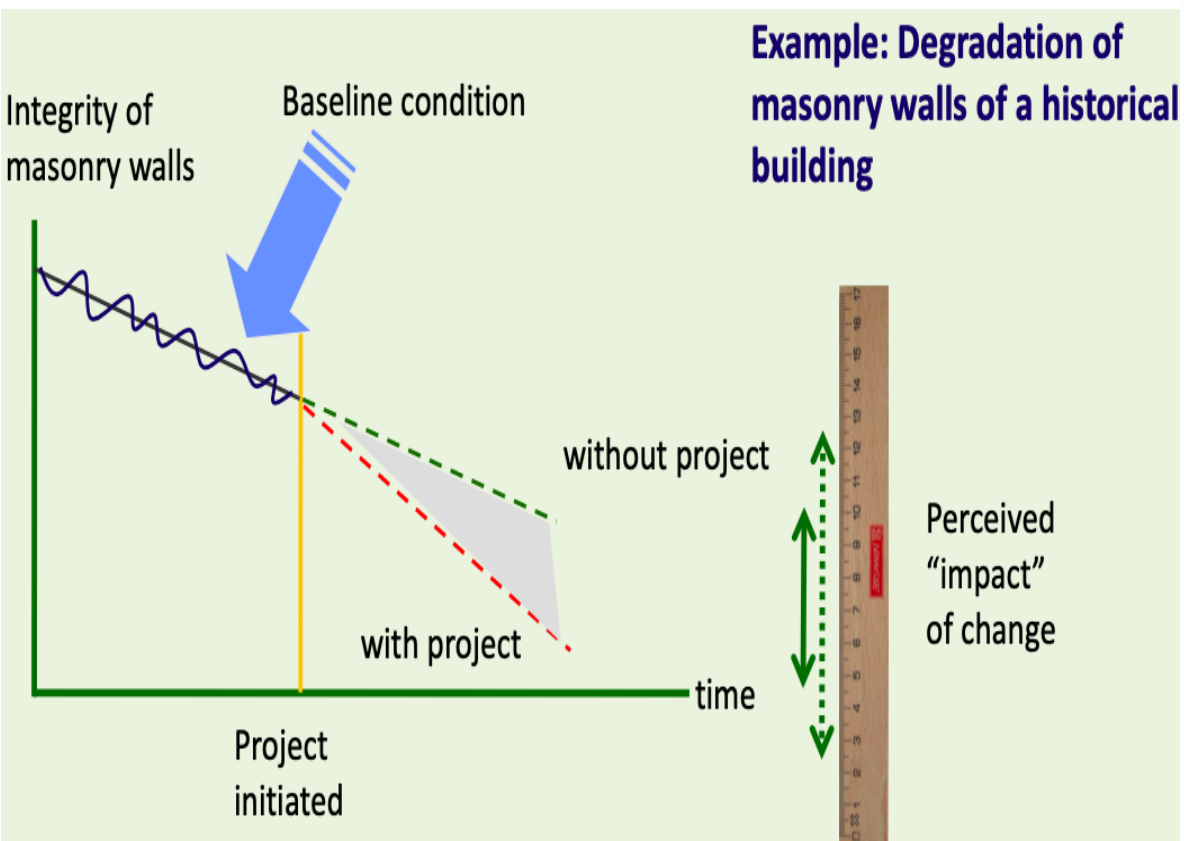
What is Impact Assessment?



- Impact is a change in baseline condition
- Baseline is the reference condition of heritage attributes
- Impact is the difference between:
 - Without a project scenario
 - With the project scenario
- **Example: Heritage Building**
 - Case: Historical building (masonry walls)
 - Walls deteriorate over time due to:
 - Climate change
 - Weather
 - Human activity

1- On the Meaning of Environmental Impact Assessment

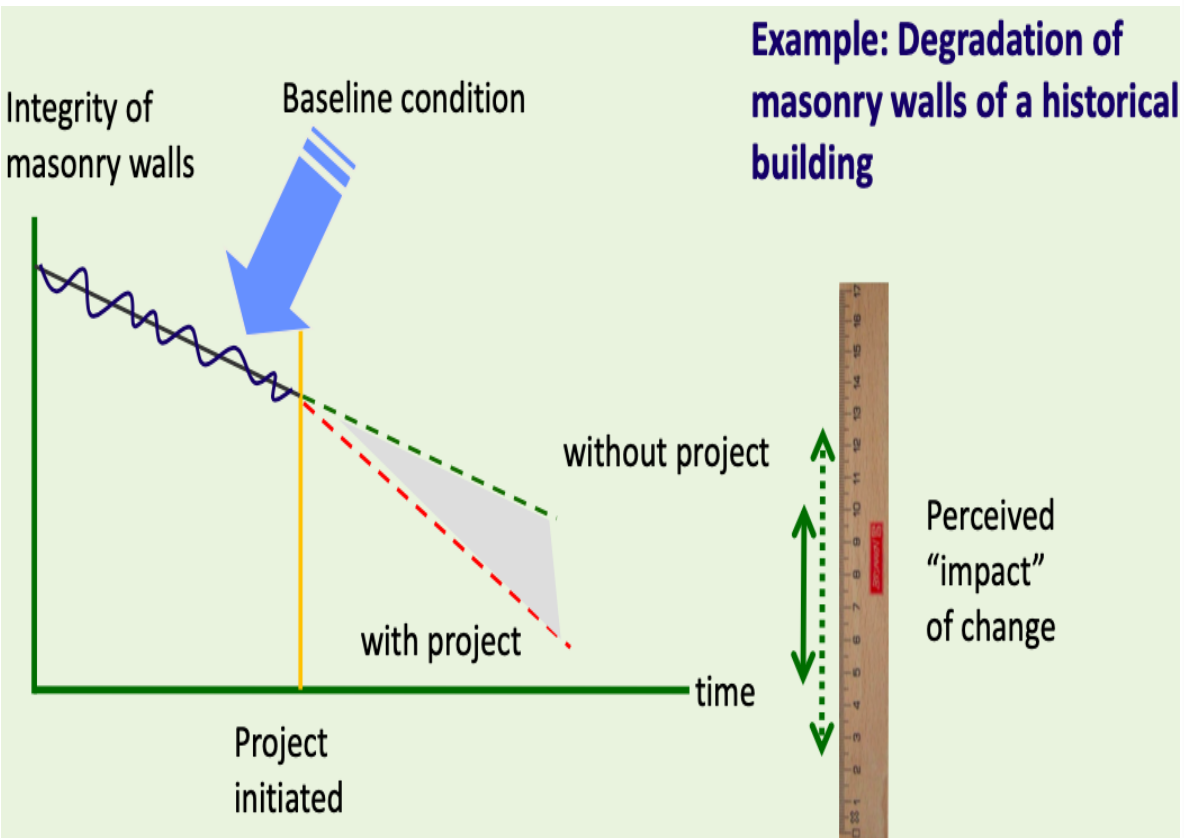
What is Impact Assessment?



- Baseline vs Project Scenario
- Without a project → natural degradation continues
- With a project (road construction):
- Noise + vibration increases deterioration
- **Result:**
 - Faster disintegration of the structure
 - Impact = difference between the two scenarios

1- On the Meaning of Environmental Impact Assessment

What is Impact Assessment?

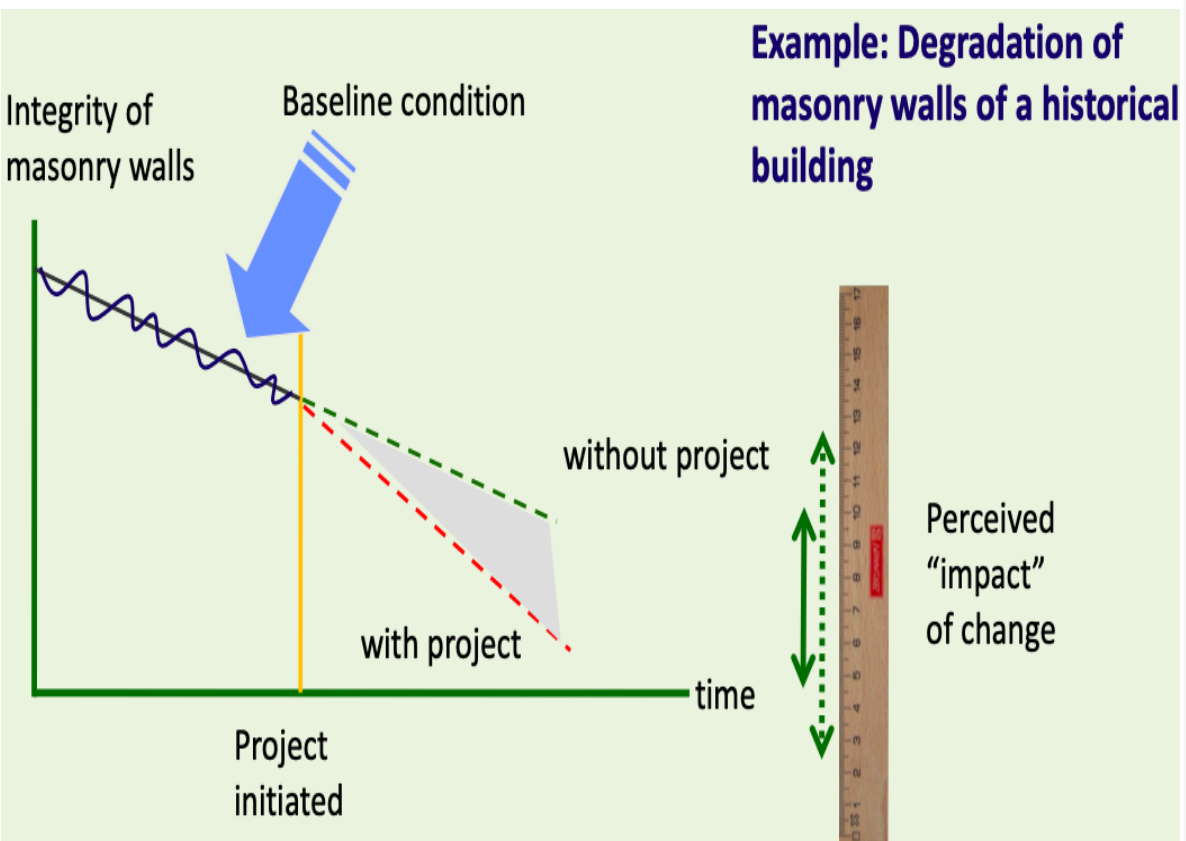


Visual Interpretation of Impact

- Time (x-axis)
- Condition of heritage attribute (y-axis)
- Green line → without project (baseline trend)
- Dotted line → with project
- Gap between lines = impact

1- On the Meaning of Environmental Impact Assessment

What is Impact Assessment?



- Positive vs Negative Impacts

- Negative impact:

- Deterioration of heritage condition

- Positive impact:

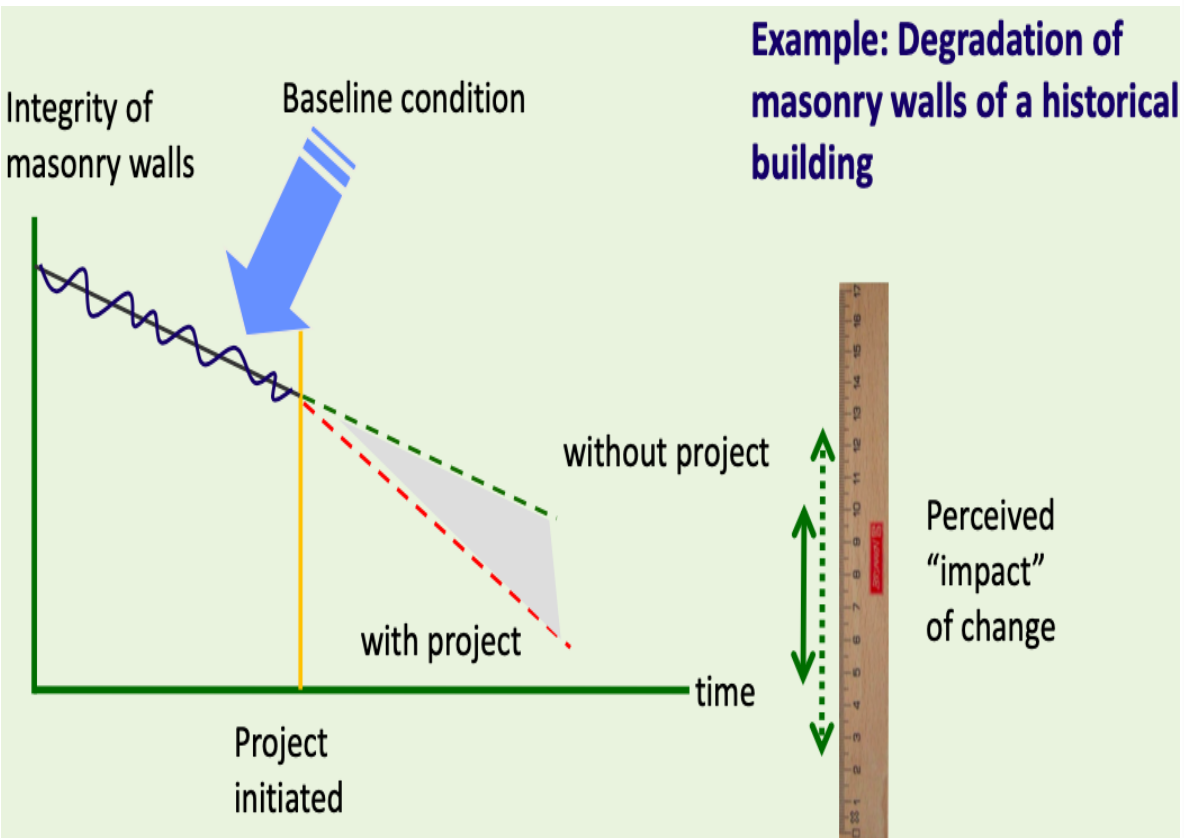
- Conservation or improvement of condition

- Example:

- Restoration project slows or reverses decay

1- On the Meaning of Environmental Impact Assessment

What is Impact Assessment?

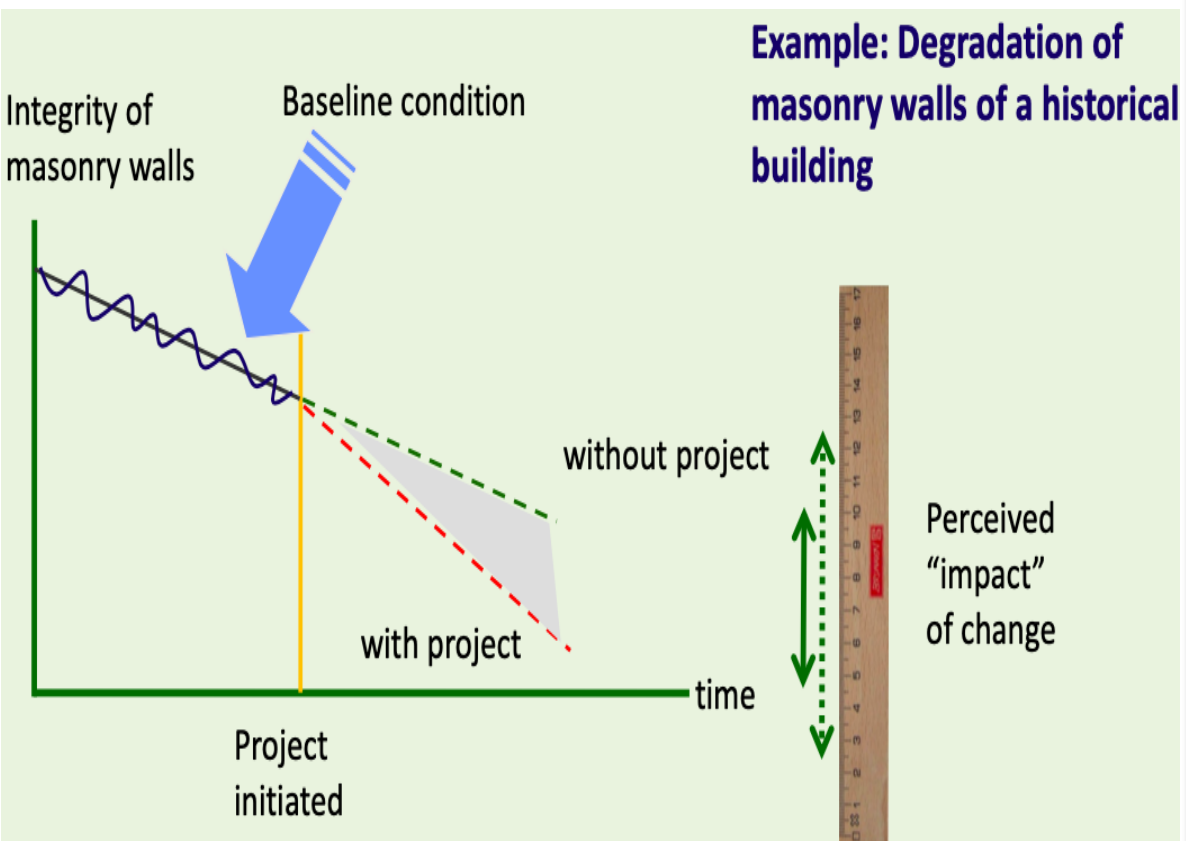


- Why Baseline is Essential

- Baseline is the foundation of impact assessment
- Without baseline → no comparison possible.
- Baseline describes both the present and likely future state of the environmental components/attributes of a heritage property without the proposed project or activity.

1- On the Meaning of Environmental Impact Assessment

What is Impact Assessment?

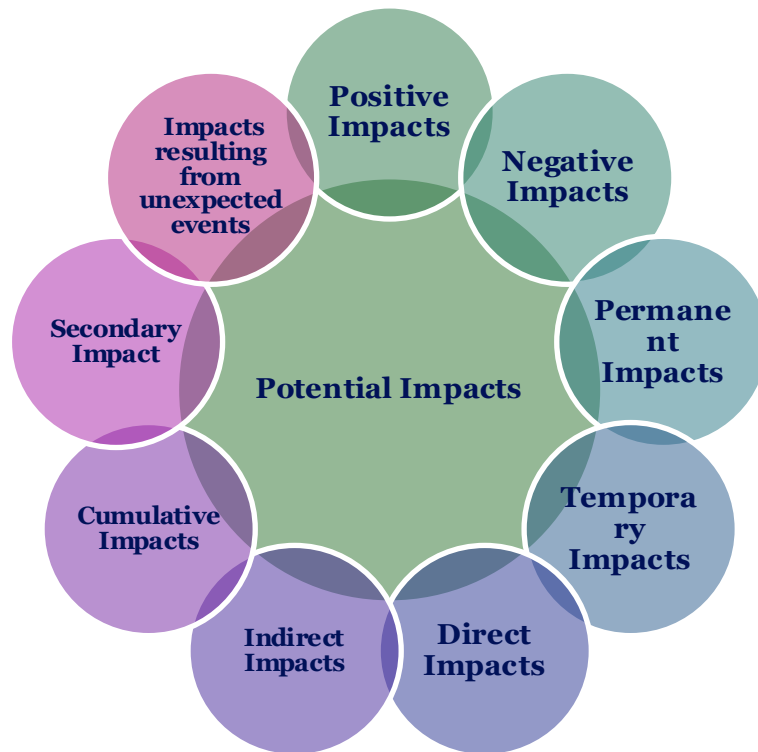


- Key Baseline Questions:

- What are the important heritage attributes?
- What influences these attributes now?
- What will happen without the project?
- How much data is needed (time + scale)?

2- Types of EIA Impacts

Positive vs Negative Impacts



- Negative impact:

- Deterioration of heritage condition

- Positive impact:

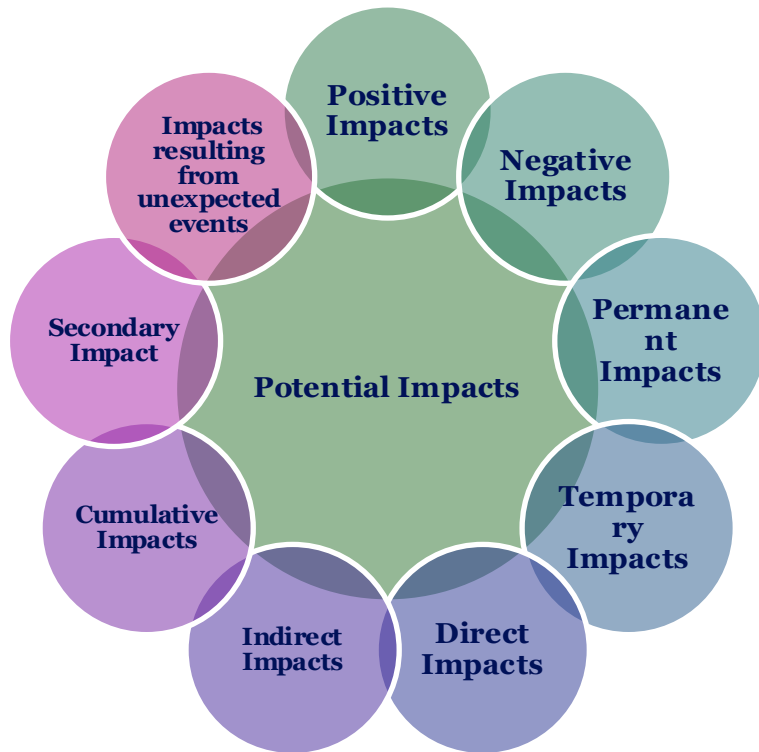
- Conservation or improvement of condition

- Example:

- Restoration project slows or reverses decay

2- Types of EIA Impacts

Temporary and Permanent Impacts:



- Temporary:

- Reversible (construction noise)

- Permanent:

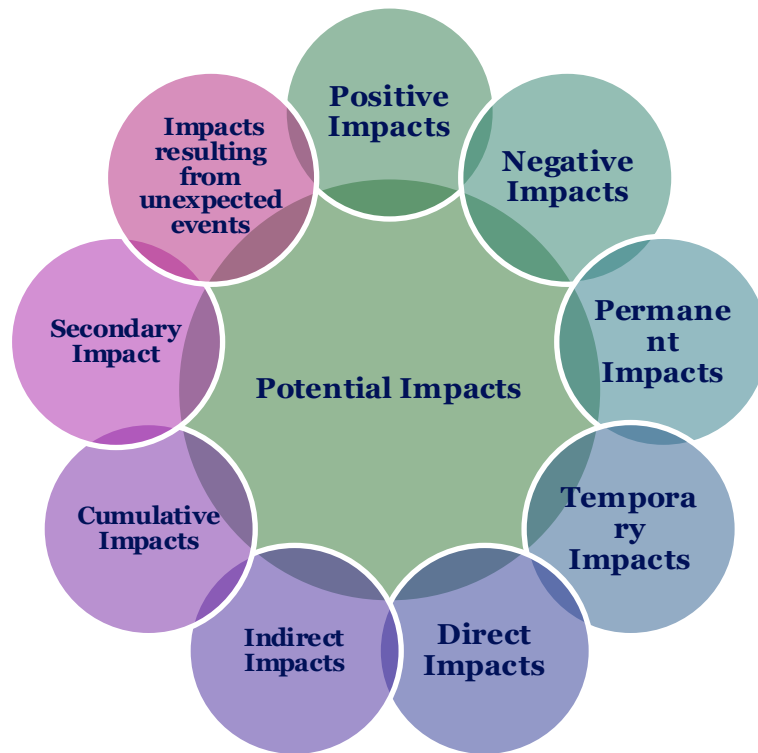
- Irreversible changes (demolition of structure)

- Key idea:

- Reversibility determines impact type

2- Types of EIA Impacts

Direct and Indirect Impacts:



- Direct impacts:

- Immediate result of the project action
- Example: noise from road construction

- Indirect impacts:

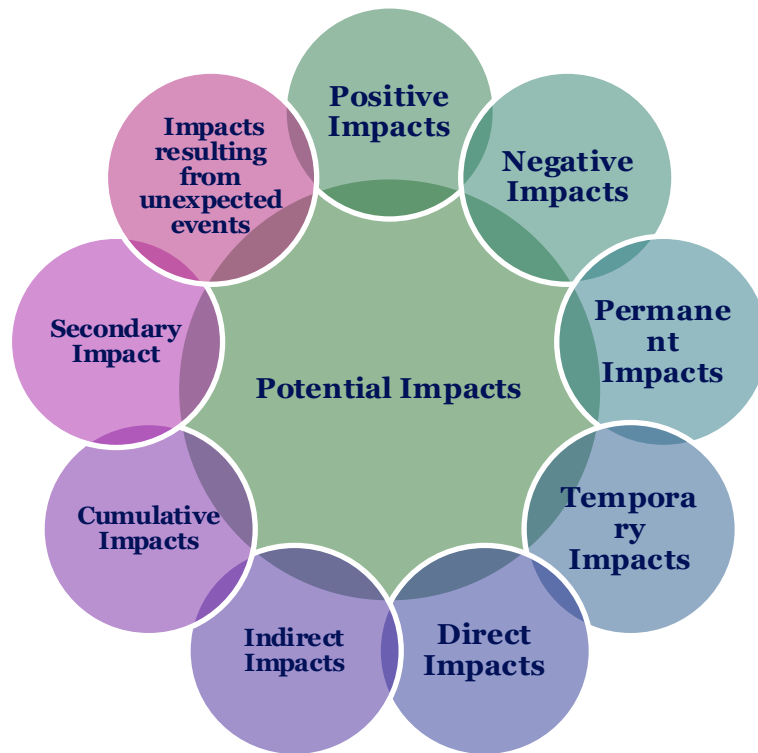
- Secondary consequences

- Example:

- Noise → fewer visitors → reduced income → economic decline

2- Types of EIA Impacts

Cumulative Impacts:



- Many small impacts combine into a larger one

- Examples:

- Traffic emissions from many vehicles
- Waste from thousands of visitors
- Industrial pollution from multiple sources
- “Sum of small impacts = major impact”

3- EIA Impact Assessment Process

A- Screening



- First stage of the EIA process
- Determines whether a full assessment is needed or not
- Follows legal procedures to ensure consistency across projects

Key Contributions of Screening:

- Enables informed decision-making through factual analysis
- Filters out unsound proposals early
- Helps refine projects or policies to reduce negative impacts

3- EIA Impact Assessment Process

B- Scoping



- Identifies key issues to focus on
- Eliminates less relevant concerns
- Sets the boundaries and framework for the EIA process

- Purpose of Scoping:

- Define what to analyze and how
- Reduce risk of overlooking or overloading issues
- Ensure a focused, efficient assessment

3- EIA Impact Assessment Process

C- Impact Assessment



- Evaluates the environmental and social impacts.
- Uses qualitative and quantitative data
- Supports informed decision-making and alternative selection

Mitigation Measures

- Actions to prevent, reduce, or compensate for identified impacts:
 - Prevention: Avoiding impacts completely
 - Reduction: Minimizing severity or duration of impacts
 - Compensation: Offsetting unavoidable impacts

3- EIA Impact Assessment Process

D- Impact Management



- Involves planning, managing, and monitoring mitigation actions throughout the project lifecycle

- Aims to address ongoing risks, such as:

- Technology failures

- Natural disasters

Environmental Management Plan (EMP)

- A mandatory component of most EIA reports:

- Specific mitigation measures

- Monitoring protocols

- Roles and responsibilities for implementation

- Emergency response strategies

3- EIA Impact Assessment Process

E- The EIA Report



- A comprehensive document that compiles all findings from the EIA process, including:

- Project description
- Environmental and social impact assessment
- Mitigation measures
- Management and monitoring plans

3- EIA Impact Assessment Process

F- Review and Licensing



- Final Step of the EIA Process

- To evaluate the quality of the EIA report and decide whether the project can be approved.

- In the Review stage:

- Authorities assess the data, methods, and conclusions in the EIA report.
- Determine whether the project adequately addresses environmental and social risks.

3- EIA Impact Assessment Process

F- Review and Licensing



- Can result in:

- Project approval (license granted)
- Request for changes or more data
- Rejection of the project

3- EIA Impact Assessment Process

G. Monitoring



- To track environmental and social impacts throughout the entire project lifecycle.

- Ensures that:

- Mitigation measures are implemented effectively
- The Environmental Management Plan (EMP) is followed
- Contingency plans are ready for unexpected issues

3- Impact Assessment Process

		IMPACT				
VULNERABILITY		Very Low	Low	Moderate	High	Very High
	Very Low	VL	VL	L	L	M
	Low	VL	L	L	M	H
	Moderate	L	L	M	H	H
	High	L	M	H	H	VH
	Very High	M	H	H	VH	VH

- Initial consideration of whether potential impacts are significant,

in relation to:

- The scale or magnitude of the project (and by implication, the impacts)
- The importance or sensitivity of the resources or receptors impacted upon

3- Impact Assessment Process

		IMPACT				
VULNERABILITY		Very Low	Low	Moderate	High	Very High
	Very Low	VL	VL	L	L	M
	Low	VL	L	L	M	H
	Moderate	L	L	M	H	H
	High	L	M	H	H	VH
	Very High	M	H	H	VH	VH

- Project Phases & Impacts

- Construction phase → noise, vibration
- Operational phase → visual impact, tourism pressure
- Decommissioning phase → long-term environmental effects

- Mitigation & Residual Impacts

- Mitigation = reduce/avoid/compensate impacts
- Residual impact = impact after mitigation

- Key question:

- Is the residual impact acceptable?

3- Impact Assessment Process

	IMPACT					
VULNERABILITY		Very Low	Low	Moderate	High	Very High
	Very Low	VL	VL	L	L	M
	Low	VL	L	L	M	H
	Moderate	L	L	M	H	H
	High	L	M	H	H	VH
	Very High	M	H	H	VH	VH

Impact Significance:

- Significance depends on:

- Magnitude of change
- Value of affected attribute

- High significance = large change + high-value heritage attribute

3- Impact Assessment Process

		IMPACT				
VULNERABILITY		Very Low	Low	Moderate	High	Very High
	Very Low	VL	VL	L	L	M
	Low	VL	L	L	M	H
	Moderate	L	L	M	H	H
	High	L	M	H	H	VH
	Very High	M	H	H	VH	VH

- Example of Significance

- Venice tourism example:

- Rising prices (direct impact)
- Population displacement (indirect impact)

- High significance due to:

- Strong social + heritage value effects

4- Heritage Impact Assessment



- Developed by UNESCO & ICOMOS
- Focus:
 - World Heritage OUV
 - Often integrated into the EIA process
- Applies to:
 - Development projects
 - Tourism pressures
 - Climate change impacts
 - Policies (in extended approaches)

4- Heritage Impact Assessment



- Limitations of EIA for Heritage

- In Practice:

- Focus mainly on the natural environment
- Heritage is often weakly addressed
- Intangible heritage neglected
- Visual impacts overemphasized

4- Heritage Impact Assessment

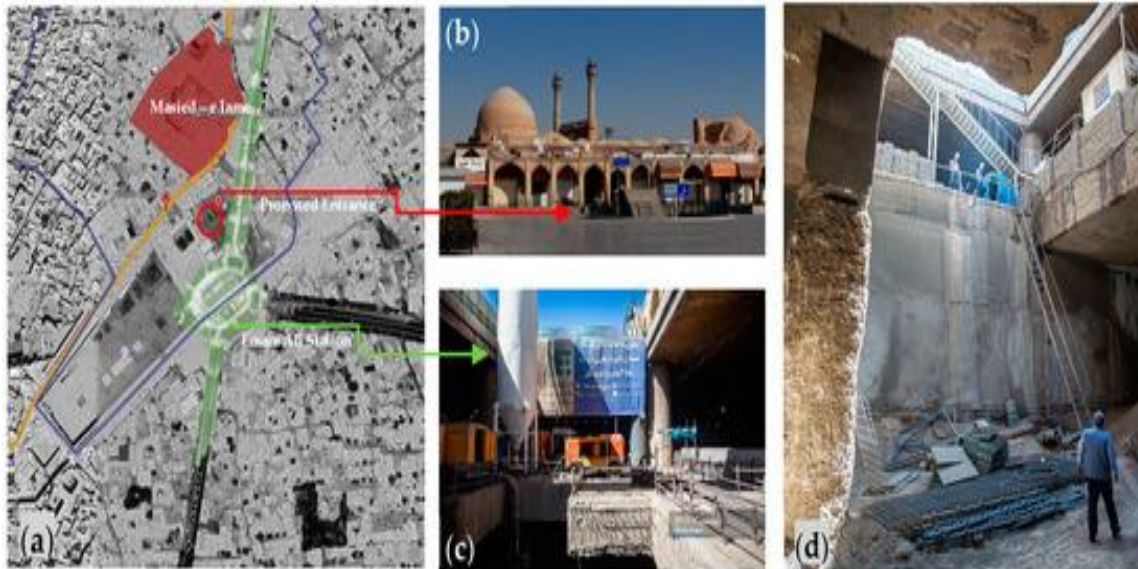
- Why HIA Emerged

- Main Problems in EIA:

- Lack of heritage experts
- Insufficient heritage analysis
- Weak focus on OUV
- Limited consideration of cultural values

- Result:

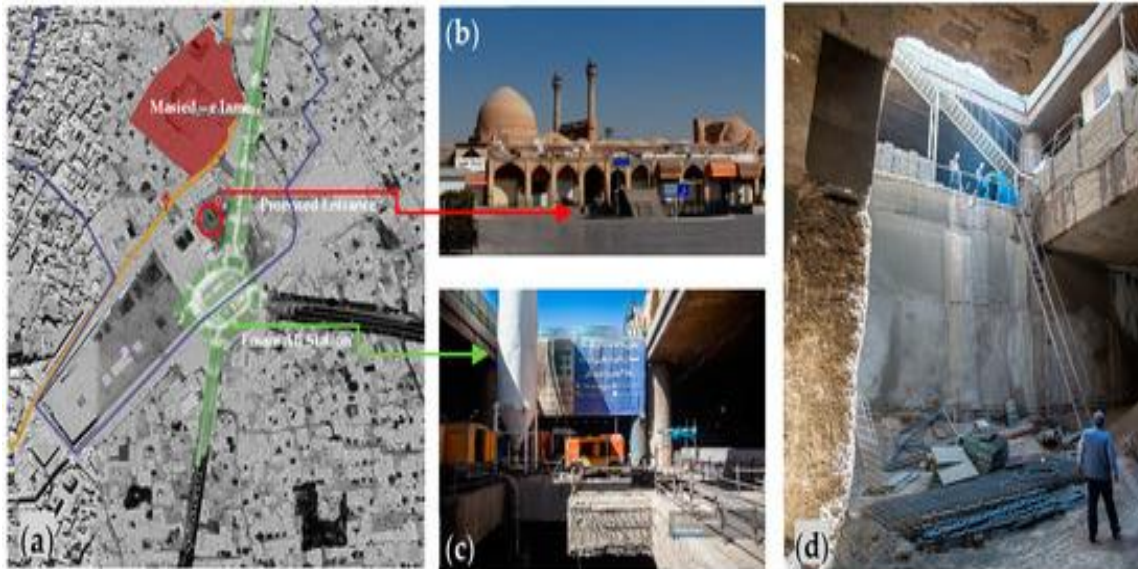
- UNESCO & ICOMOS promoted Heritage Impact Assessment



4- Heritage Impact Assessment

“A process of identifying, predicting, evaluating and communicating the probable effects of a current or proposed development policy or action on the cultural life, institutions and resources of communities” (Sagnia, 2004).

“HIA has to evaluate impact of potential development projects on the Outstanding Universal Value (OUV) of World Heritage properties”(ICOMOS, 2011)



4- Heritage Impact Assessment



- Tourism is Not One Single Project
- Tourism may involve:
 - Hotels
 - Roads
 - Visitor centers
 - Restaurants
 - Transport systems
- Therefore:
 - HIA may assess cumulative tourism pressures
 - Not only one individual development project

4- Heritage Impact Assessment



- Key Characteristics:

- Bring change
- Create new infrastructure
- Generate economic development
- Produce measurable outcomes
- Create risks and uncertainties

4- Heritage Impact Assessment



- Projects may:

- Change heritage attributes
- Affect the surrounding environment
- Produce positive and negative impacts
- Create long-term consequences

- Therefore:

- Assessment is required before implementation

4- Heritage Impact Assessment



- Common Heritage-Related Project Risks

- Road construction
- High-rise buildings

- Possible Impacts:

- Visual intrusion
- Noise and vibration
- Skyline alteration
- Traffic pressure
- Loss of historic character

4- Heritage Impact Assessment

- Climate Change Impacts on Heritage

- Possible effects:

- Sea level rise
- Weathering
- Flooding
- Temperature changes
- Structural deterioration

Science

One of the oldest cities in the world is being eroded by the sea.

24 February, 2025



A dramatic increase in **building collapses** in the ancient port city of **Alexandria**, Egypt, has been directly [linked to rising sea levels](#) and the intrusion of **saltwater**, according to a recent study.

Latest news



Science | 26 February, 2025

They determine that Bird Flu spreads through the air



Waste

Partnership between the municipality and the Civil Association of Chinese Citizens of Lanús to contribute to city cleanliness.

26 February, 2025

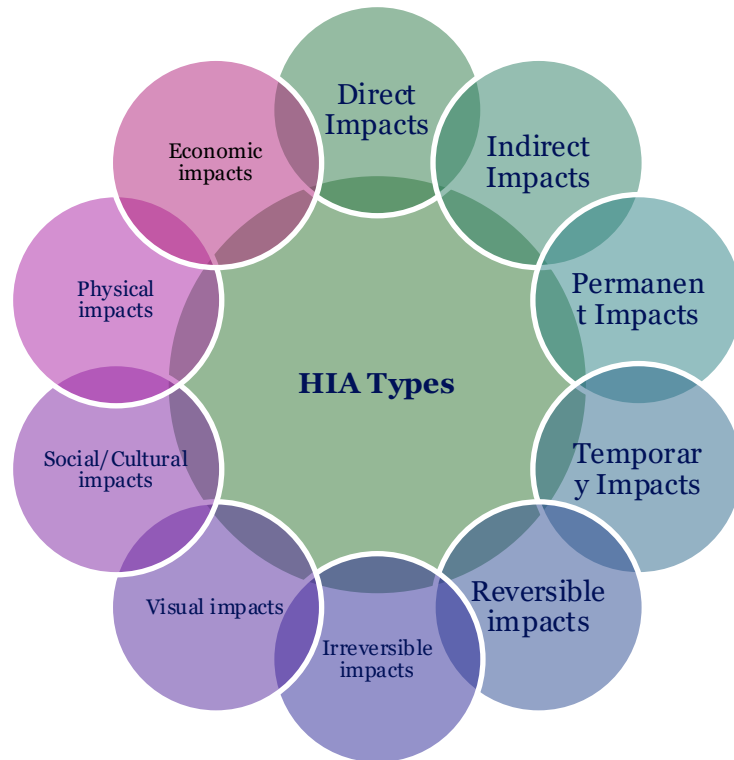


Environment

What are the threats

5- Types of ELA Impacts

A- Direct and Indirect Impacts



A- Indirect Impacts

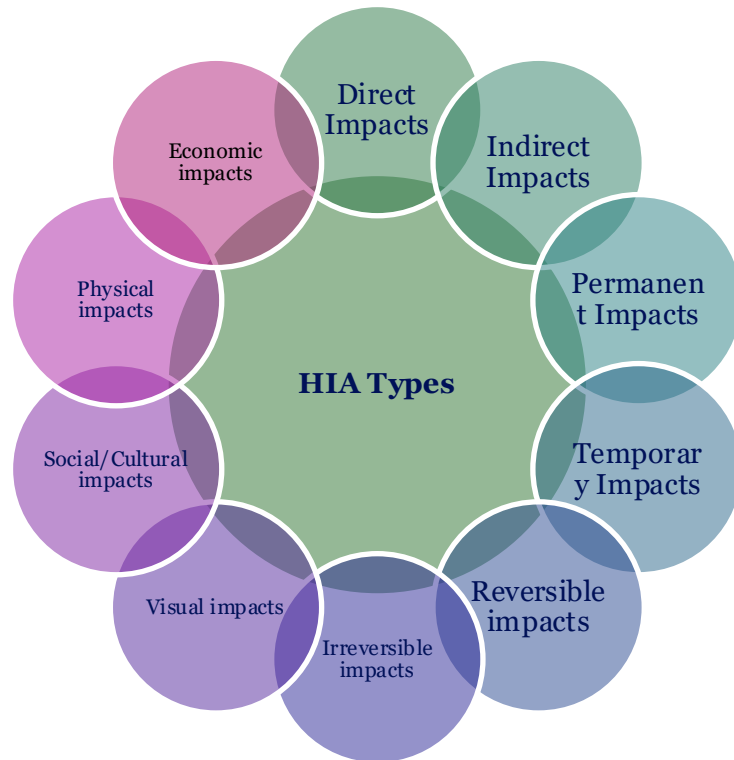
- Occur as a direct result of a project or action
- Affect heritage within the project footprint
- Usually immediate and visible
- Example: demolition of a historic building

B- Indirect Impacts

- Occur as a secondary consequence
- Affect areas outside the project site
- Often less obvious but significant
- Example: new road increasing development pressure near a heritage site

5- Types of ELA Impacts

Permanent and Temporary Impacts



C- Permanent Impacts

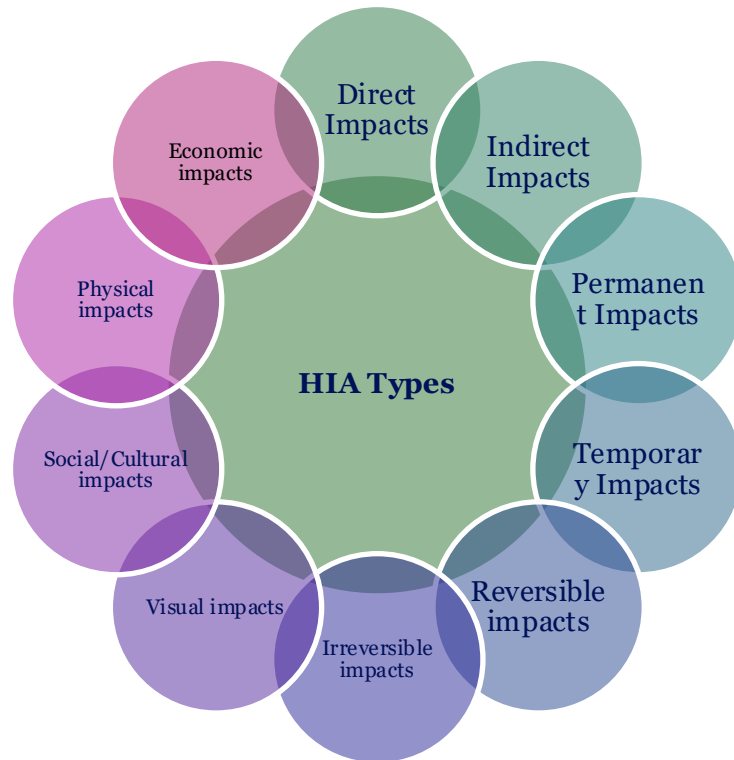
- Long-lasting or irreversible change
- Heritage value is permanently altered or lost
- Example: destruction of archaeological remains

D- Temporary Impacts

- Occur for a limited time period
- Heritage may recover after activity ends
- Example: construction noise near a heritage site

5- Types of ELA Impacts

Reversible and Irreversible Impacts



E- Reversible Impacts

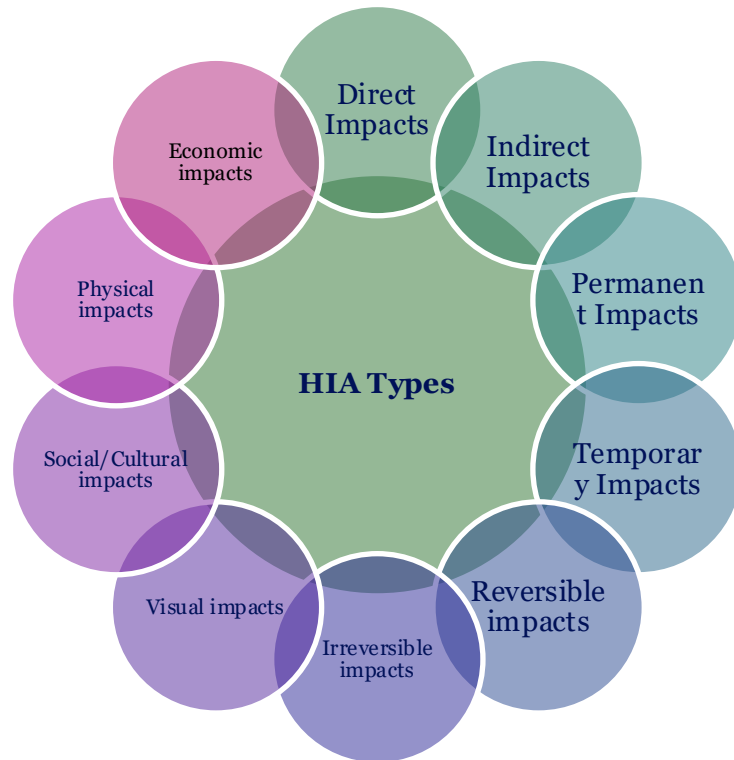
- Can be restored or undone
- Heritage condition can return to original state
- Example: temporary installation removed after an event

F- Irreversible Impacts

- Cannot be restored
- Permanent loss of heritage value or fabric
- Example: removal of original frescoes

5- Types of ELA Impacts

Social and Cultural Impacts



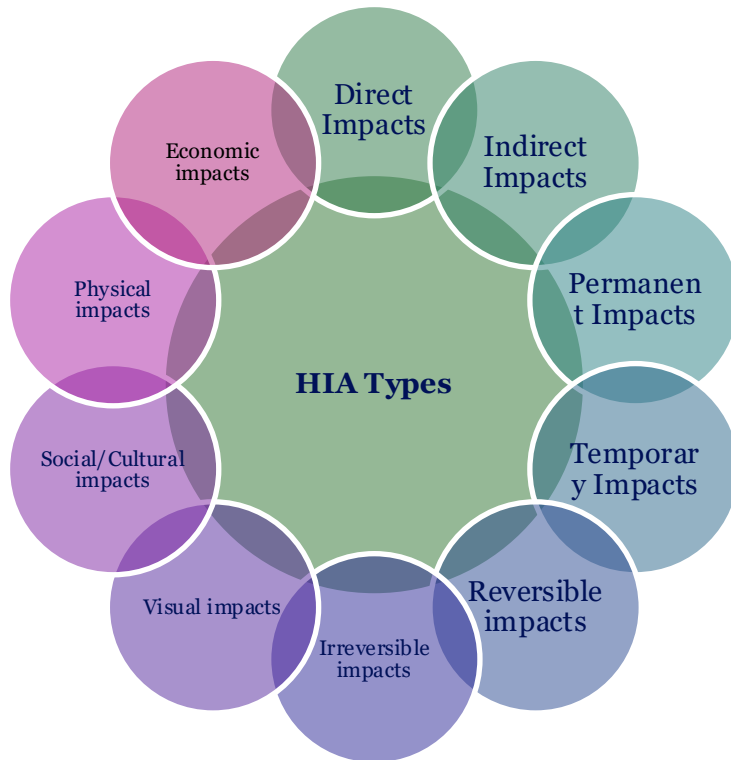
Social and Cultural Impacts

- Affect local communities and users
- Affect meanings, traditions, and identity
- Include displacement, access, or quality of life
- Includes loss or alteration of cultural practices

Example: disruption of traditional festivals at a sacred site and relocation of residents from historic district.

5- Types of ELA Impacts

Visual Impacts

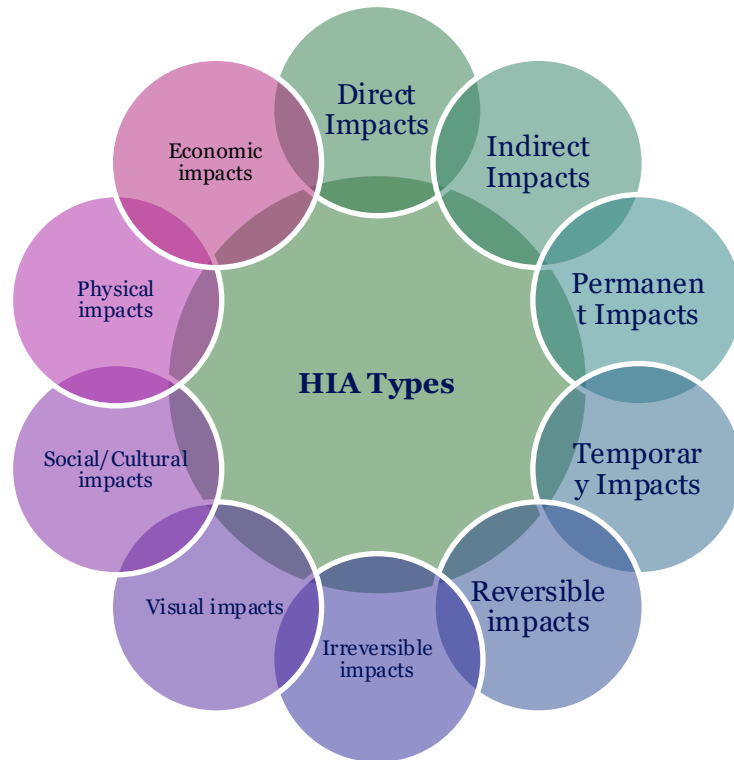


- Visual Impacts

- Changes to views, skyline, or landscape character
- Affects how heritage is experienced visually
- Example: high-rise building blocking historic skyline

5- Types of ELA Impacts

Physical Impacts



- **Physical Impacts**

- Direct effects on material heritage fabric
- Includes damage, vibration, or erosion
- Example: construction vibrations cracking old masonry

- **Economic Impacts**

- Affect financial value or tourism economy
- Can be positive or negative
- Example: increased tourism revenue vs. over-tourism damage

Thank you



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