



RETHINKING SUSTAINABLE TOURISM DEVELOPMENT IN SURAKARTA CITY, INDONESIA

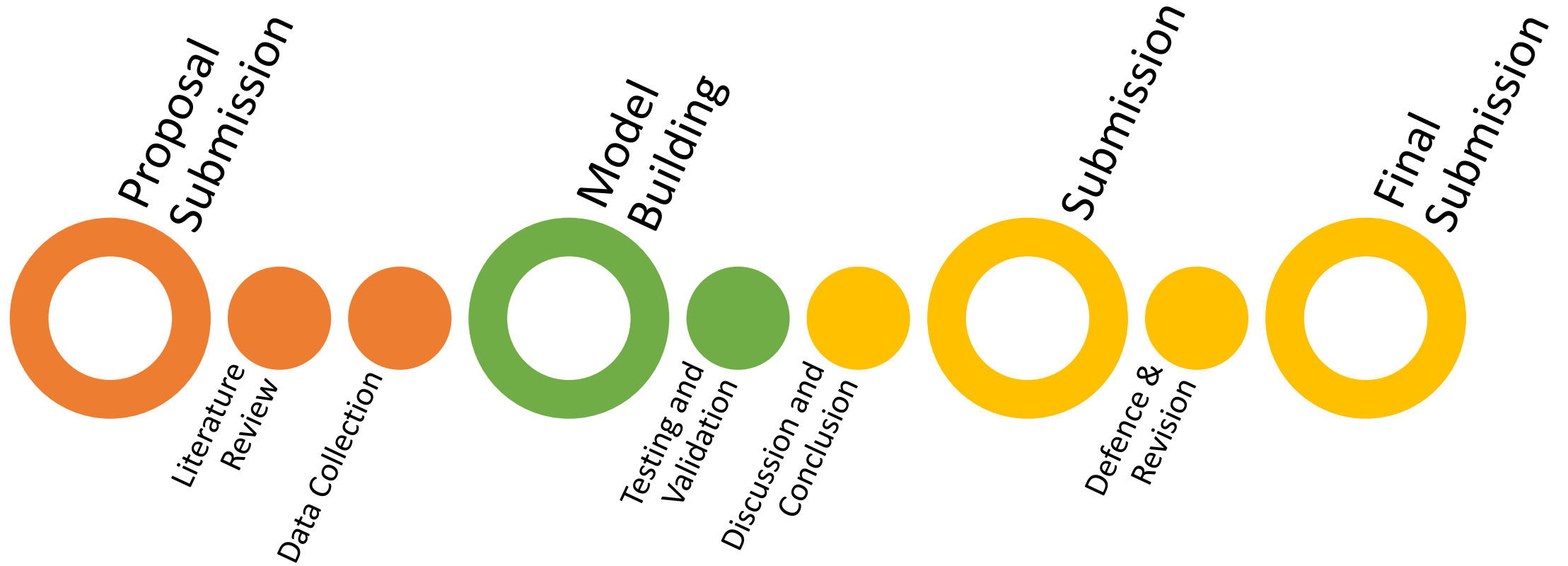
Presentation of Thesis Progress

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Research Progress



Research Timeline

Tasks	2017							2018					
	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Research Plan	Done												
Proposal Submission	Done												
Data Collection		Done	Done	Done									
Data Analysis					In Progress	In Progress	In Progress	In Progress	In Progress	In Progress			
Progress Presentation										In Progress			
Thesis Writing									In Progress	In Progress	In Progress		
Proofreading											Next Tasks		
Thesis Submission												Next Tasks	
Defence												Next Tasks	
Revision, Binding and Final Submission													Next Tasks

 Done

 In Progress

 Next Tasks

Outline

- Current Status of Thesis Work
- Introduction
- Objectives
- Literature Review
- Methodology
- Preliminary Finding and Analysis



Introduction

Introduction

- Sustainable tourism is part of sustainable development which *deals with **environmental protection, economic viability and social equity***.
- Sustainable tourism is defined as tourism that takes full account of its current and future economics, social and environmental impacts, addressing the need of visitors, the industry, the environment and host communities (UNWTO, 2015).
- The purposes of sustainable tourism are to make optimal use of environmental resources, respect the socio-cultural authenticity, ensure long-term economic operations and providing socio-economic benefits to all stakeholders.
- Sustainable tourism has been examined from different perspectives: **economic, cultural, social and spatial**.
- Sustainable tourism has received scant attention.
- This research attempts to rethink the sustainable tourism by modelling environmental, economic and transportation indicators in the City of Surakarta.

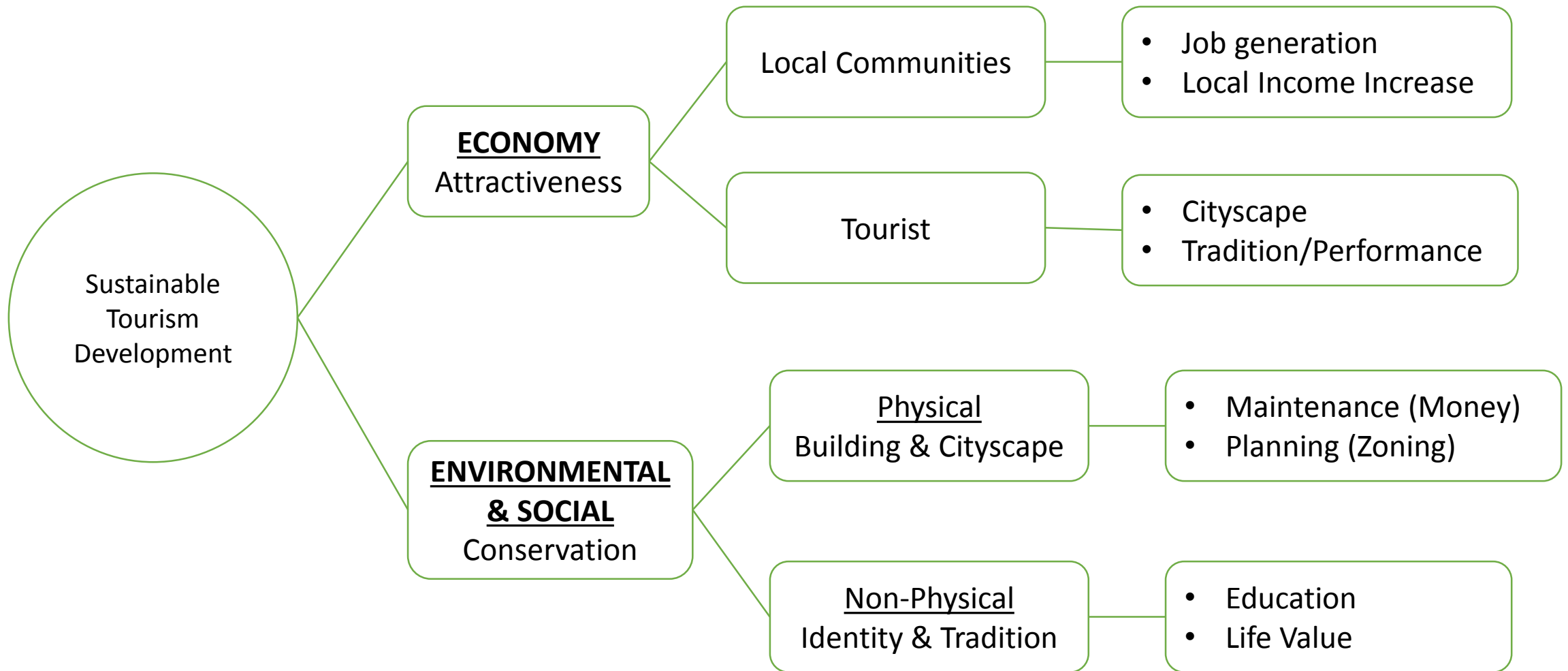
Introduction

- Tourism sector has contributed **27% of total GDP of Surakarta** City in 2013. By the same token, the level of *hotel occupancy* was 47% and *of length of stay rate of local tourist* was 1.42 local tourist and *foreign tourist* was 2.2 days in 2016.
- Surakarta's development policies deal with *heritage, economic development, ecology, infrastructure development, community's involvement and public private partnership*.
- In Surakarta, there are 3 main destinations for tourism which are called the "*Golden Triangle*" *are located within walkable distance but developed without integration*.
- In building a sustainable tourism model and due to the dearth of published quantifiable data on economy, environment, transportation, energy on Surakarta, this research employs national averages of Indonesia for the above criteria. **None quantifiable data has been excluded** in the model namely, *heritage, community's involvement and public private partnership*.

The importance of sustainable tourism

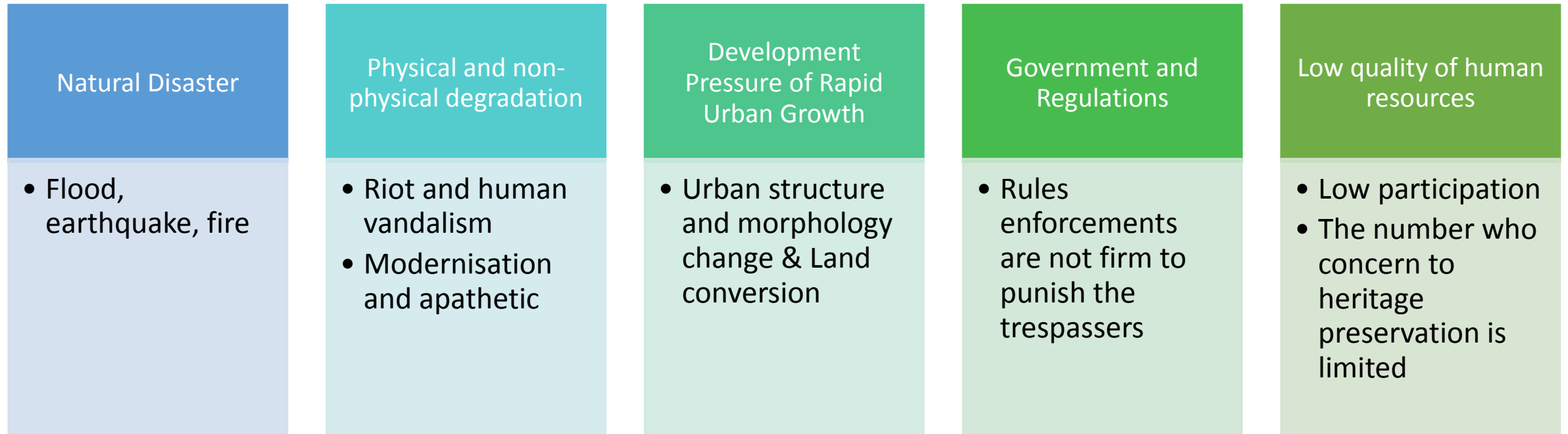
- Tourism ***encourages the general welfare for local people*** because the income is distributed directly to local people.
- In economic sector, the positive impact of tourism will create jobs for local people and increase local tax.
- In environmental sector, sustainable tourism concept will preserve the natural resources, maintain conducive nature, and tackle any pollution and environmental degradation
- Surakarta's rapid growth of tourism, albeit necessary for hotels, restaurants and retails, etc. warrant careful consideration of natural resources to avoid negative impacts on host communities and the environment.

What Makes Tourism Sustainable?



Why do we need to Rethink Sustainable Tourism in Surakarta?

The concerns for Surakarta's Tourism have been spilled out in the city's action plan of 2015.





Literature Review

Literature Review

- The review of literatures has covered sustainable tourism, modelling, multi-criteria evaluation, measurement and data normalization.
- Sustainable tourism quantitative indicators consists of *economic (38 indicators)*, **social (28 indicators)** and **environmental (24 indicators)** dimensions, was addressed by United Nations World Tourism Organization (UNWTO) in 2005.
- Blancas, F. J. *et al.* (2011) suggested a method for obtaining sustainability indexes by aggregation that reduces the subjectivity associated with the **composite indicator**.
- Lozano-oyola, M. *et al.* (2012) presented an **indicator system to evaluate sustainable tourism at cultural destinations** and suggested a method based on goal programming to construct composite indicators.
- Torres-Delgado, A. and Palomeque, F. L. (2014) employed those indicators and synthesized them into 26 indicators of social, economic and environment using **Delphi Method (scientific consensus)** then calculated for 20 cities in Spain.

Literature Review

- Research about **indicator weighting** is an important issue in the measurement of tourism sustainability that has a significant effect on the rankings of analysed regions and subsequent policymaking (Mikulic, J., Kožic, I. and Krešić, D., 2015).
- Using GIS and **Exploratory Spatial Data Analysis (ESDA)**, Sarrión-gavilán, M. D., Benítez-márquez, M. D. and Mora-rangel, E. O. (2015) analyzed tourism flows and their impacts with specific reference to the provision of accommodation and size of local population.
- Oppio, A. *et al.* (2015) explored the use of **multicriteria-spatial decision support systems (MC-SDSS)** in order to define enhancement strategies for cultural built heritage. The integration among different *evaluation methodologies (SWOT analysis and analytic network process)* and tools with *spatial analysis* strengthens the explorative role of this kind of approaches.
- **Predictive toolkit** for urban heritage in relation to urban cultural endangerment was developed to analyse and **forecast urban growth** and provided seemly and timely information on the risk of overburdening the carrying capacity regarding the historic-cultural heritage at local and regional levels (Noronha, E. De *et al.*, 2012).

Conclusions of Theoretical and Methodological Framework

- There appears to be no study that has addressed **sustainable cultural tourism indicators in a generic quantitative evaluation model** which can be generally applied to every single city.
- Furthermore, a special study about **spatial evaluation of tourism** in Surakarta City is in planned but has not been scientifically conducted yet.

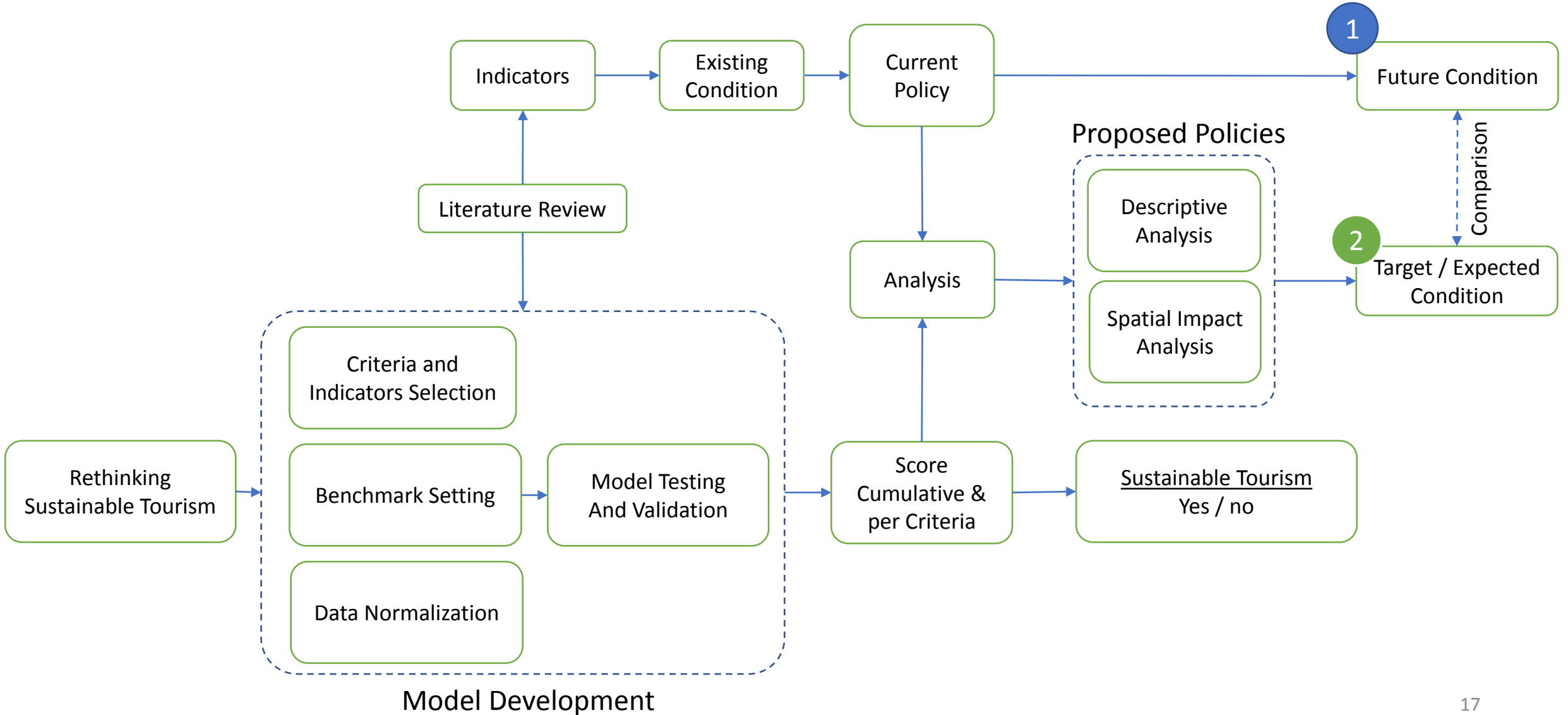
Research Question

- How to **measure** tourism sustainability performance in Surakarta City?

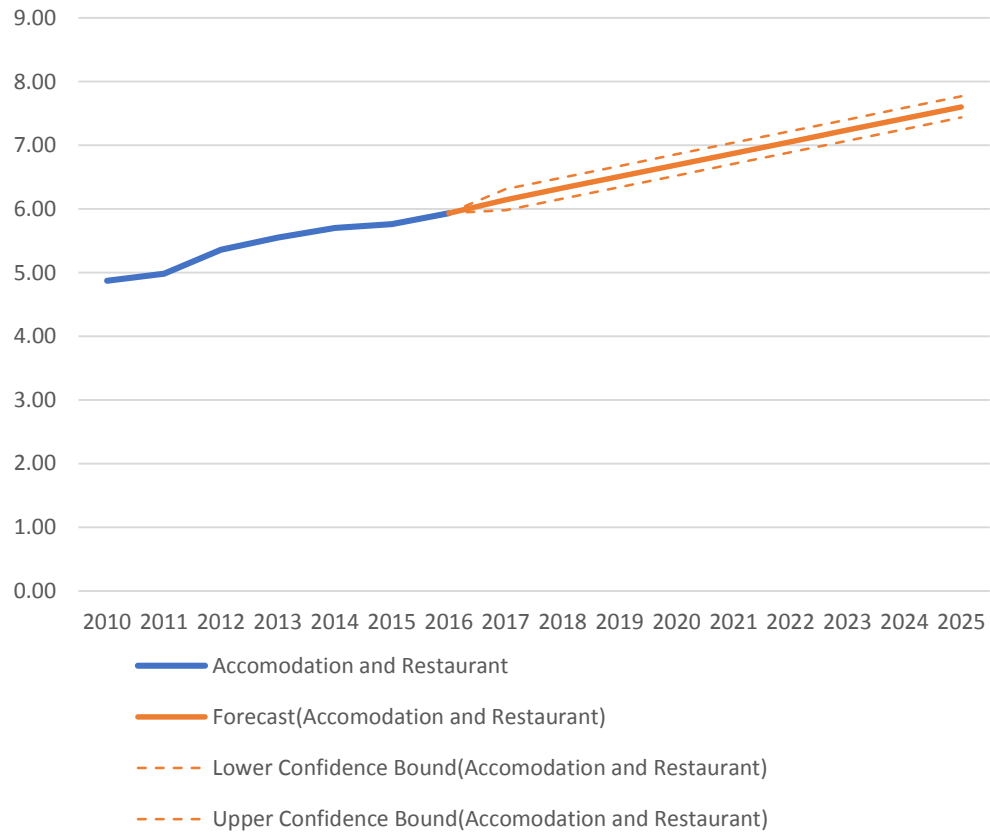
Objectives

- The primary objective of this research is to rethink the sustainable tourism development in Surakarta.
- The secondary objectives are:
 - To build a multi-criteria evaluation model for the measurement of sustainability indicators, namely: economic, environment, transportation and energy.
 - To set out benchmark for indicators from multiple sources.
 - To normalize data for modelling and calculation.
 - To test the proposed model on 10 pilot cities and validate it to Surakarta.
 - To review the relevant literature on sustainability, sustainable tourism, multi-criteria evaluation and modelling in order to establish theoretical and methodological frameworks for the evaluation of sustainable tourism.
 - To propose appropriate policies for future tourism in Surakarta.

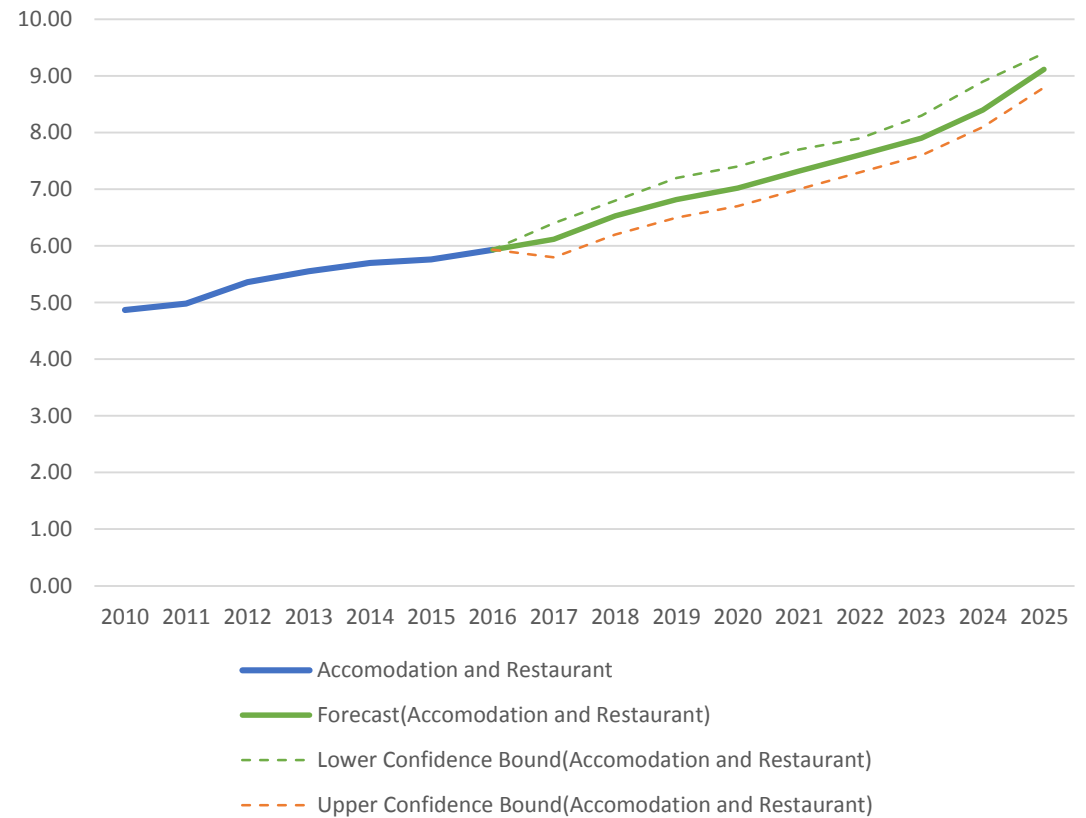
Research Framework



How does this research work?



Current Model (Past – Present – Future Tourism Trend)



Current Model (Past – Present – Future Tourism Trend)

Illustration with dummy data

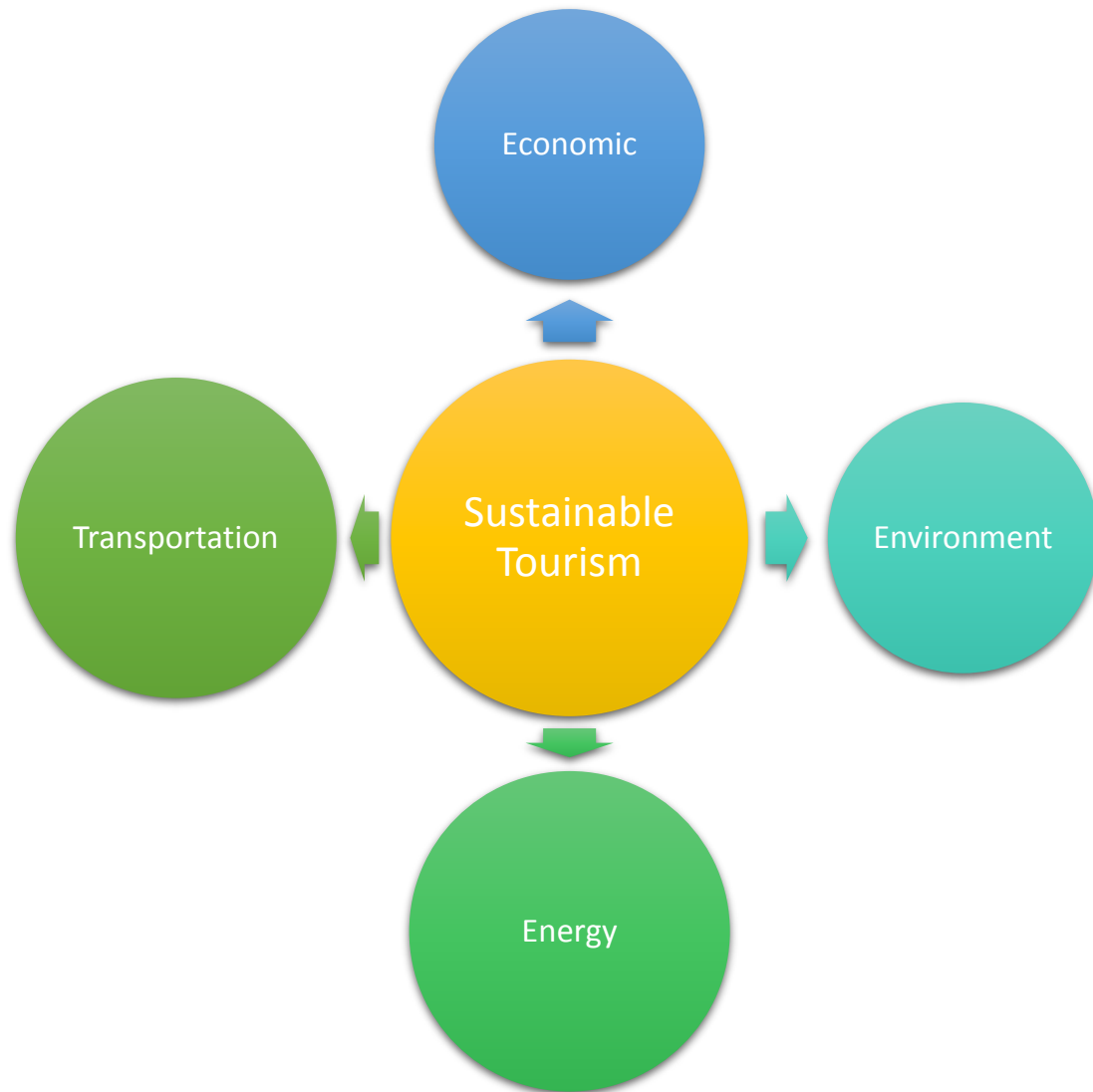


Methodology

Proposed Multi-Criteria Evaluation Model for Sustainable Tourism

- Criteria and Indicator Selection
- Data Normalization
- Benchmark Setting
- Model Testing: 10 pilot cities
- Model Validation: Surakarta City

Selected criteria and Indicators



- The criteria and indicators are adapted from multiple sources, including:
 - UNWTO, 2005
 - World Bank, 2015
 - Lozano-Oyola, M. *et al.* (2012)
 - Sala, S., Ciuffo, B. and Nijkamp, P. (2015)
 - Blancas, F. J., Lozano-Oyola, M. and González, M. (2015)
 - Njoroge, J. M. (2014)
 - Swarbrooke, J. (1999)

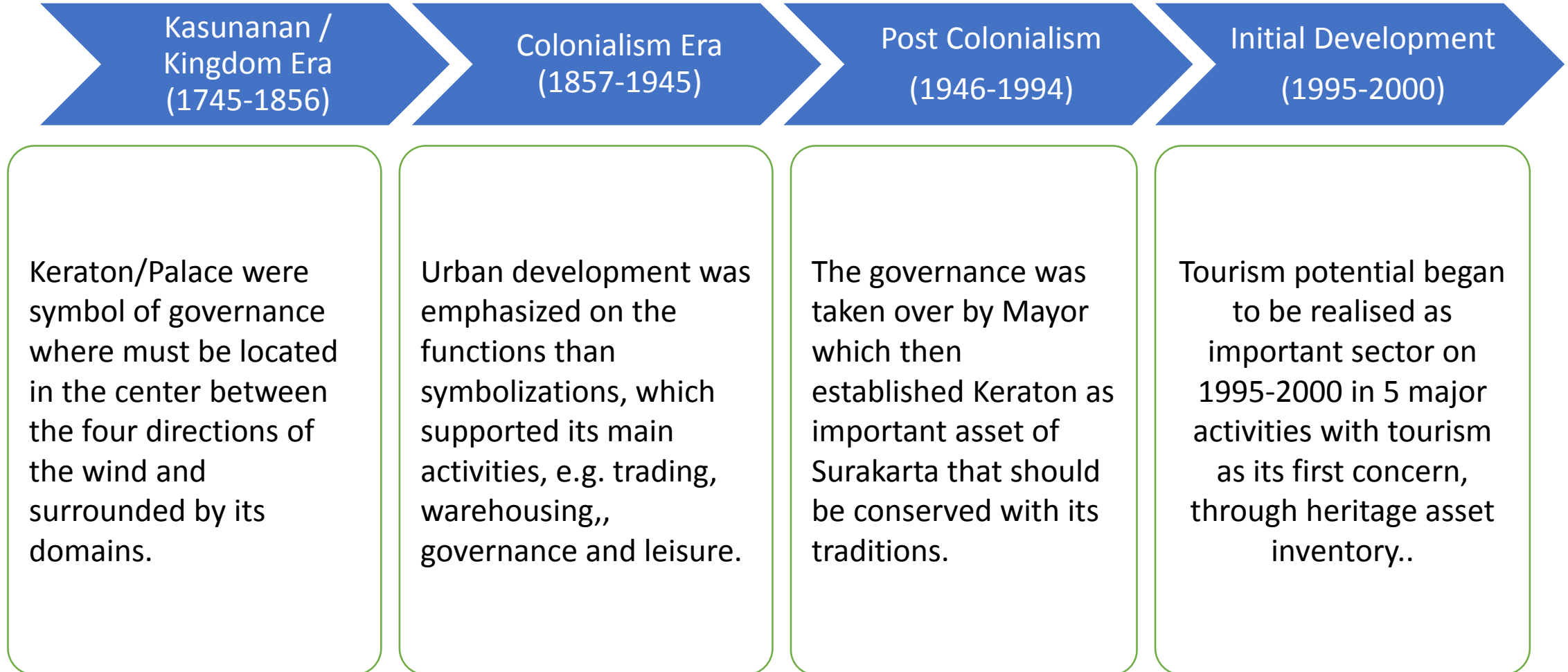
Key Performance Indicators of Sustainable Tourism

Criteria	Indicators	Parameter
Economic	Contribution of tourism to GDP	Percentage of GDP attributable to the activities of Hotels and Restaurants
	Contribution of tourism employment to total employment in the city	Percentage of employee in the tourism sector with respect to the total volume of employment
Environment	The land-use planning, including for tourism	Percentage of soil surface intended for services and residential uses
	Intensity of tourist use	Total tourists per unit area
Transportation	Access to the destination	Proportion of roads and railway that can be accessed by private and public transportation to the tourism site
	Public Transportation	Proportion of tourists using public transportation to the site
Energy	Energy Consumption	Total energy consumption in tourism sector
	Renewable Energy	Percentage of energy renewable consumption from renewable sources



Tourism in Surakarta City

History of the City of Surakarta

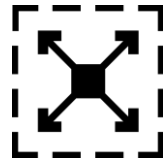


Surakarta at Present

- Surakarta is planning to be listed in World Heritage Cities through the Rencana Aksi Kota Pusaka (action plan of Surakarta heritage city) 2015-2035.



Population
514,171 people



Area
4600 ha

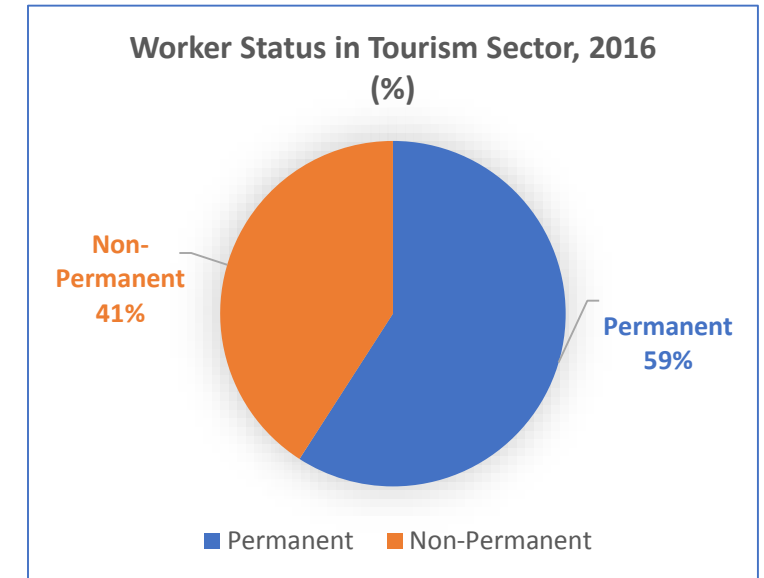
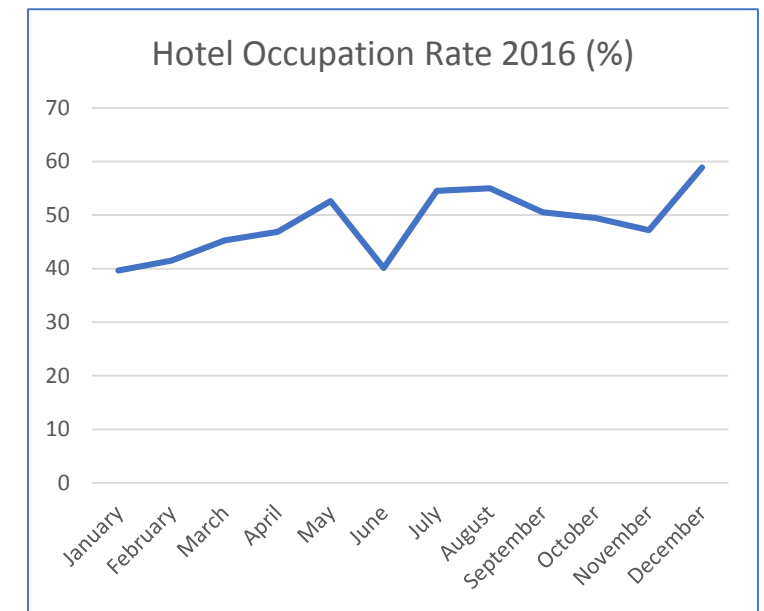
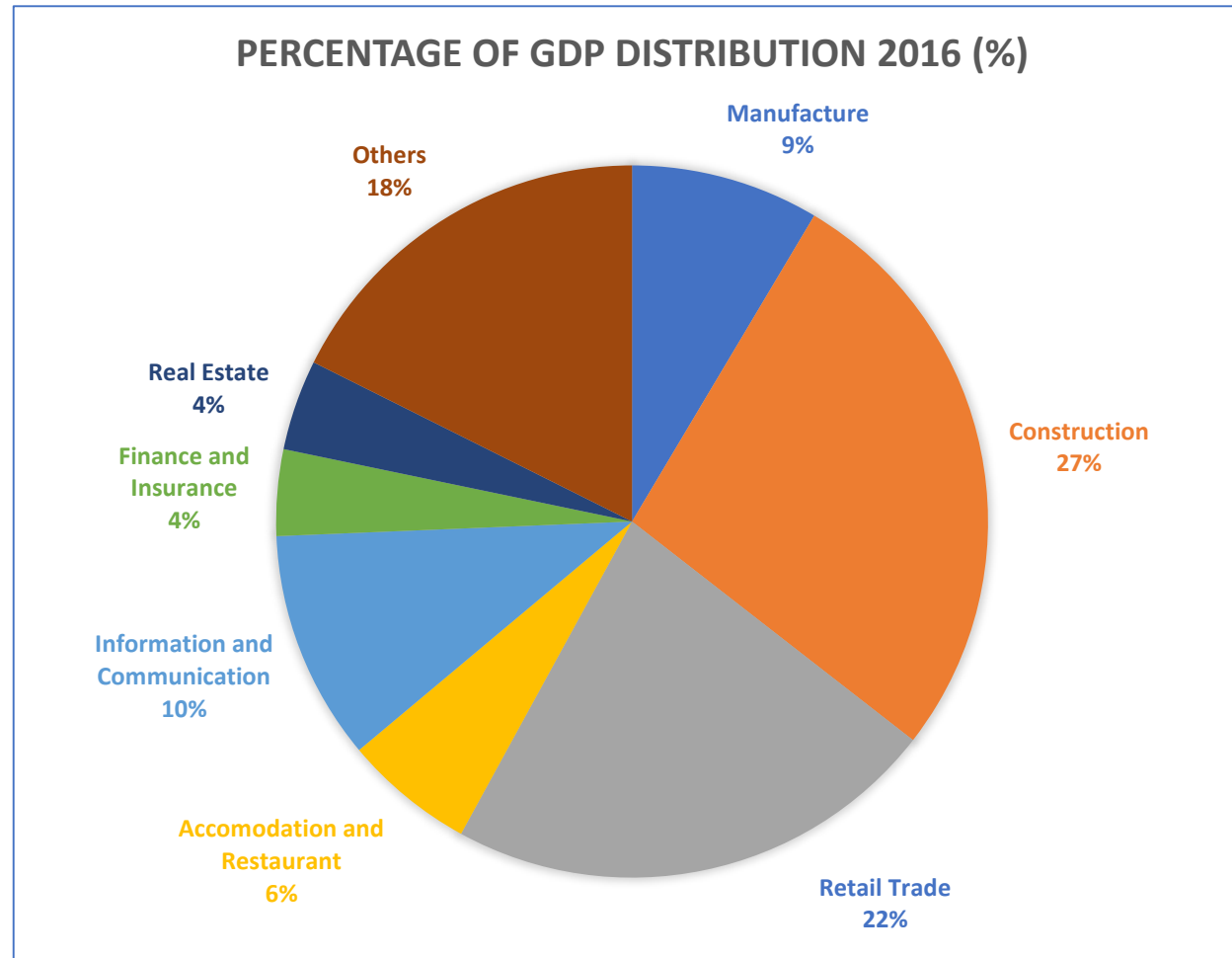


No. of Tourists
4,395,550



Employment
4.7 %

Development Sector of Surakarta City



Vision of Surakarta City Development

- Vision:

"The realization of Surakarta City as a Safe, Convenient, Productive, Communicative and Sustainable National Activity Centre based on Industrial Potential with emphasis on *Creative Industry, Tourism, Trade / Services, Education and Sports Industry*".

- Missions:

- Integration of governments, private sectors and local communities
- Local Economic Development
- Infrastructure Development
- Inventory, Analysis and heritage establishment
- Information, Education and promotion
- Mitigation of natural disaster risk

Economic Generation



Heritage Building



Culinary



Arts Performance



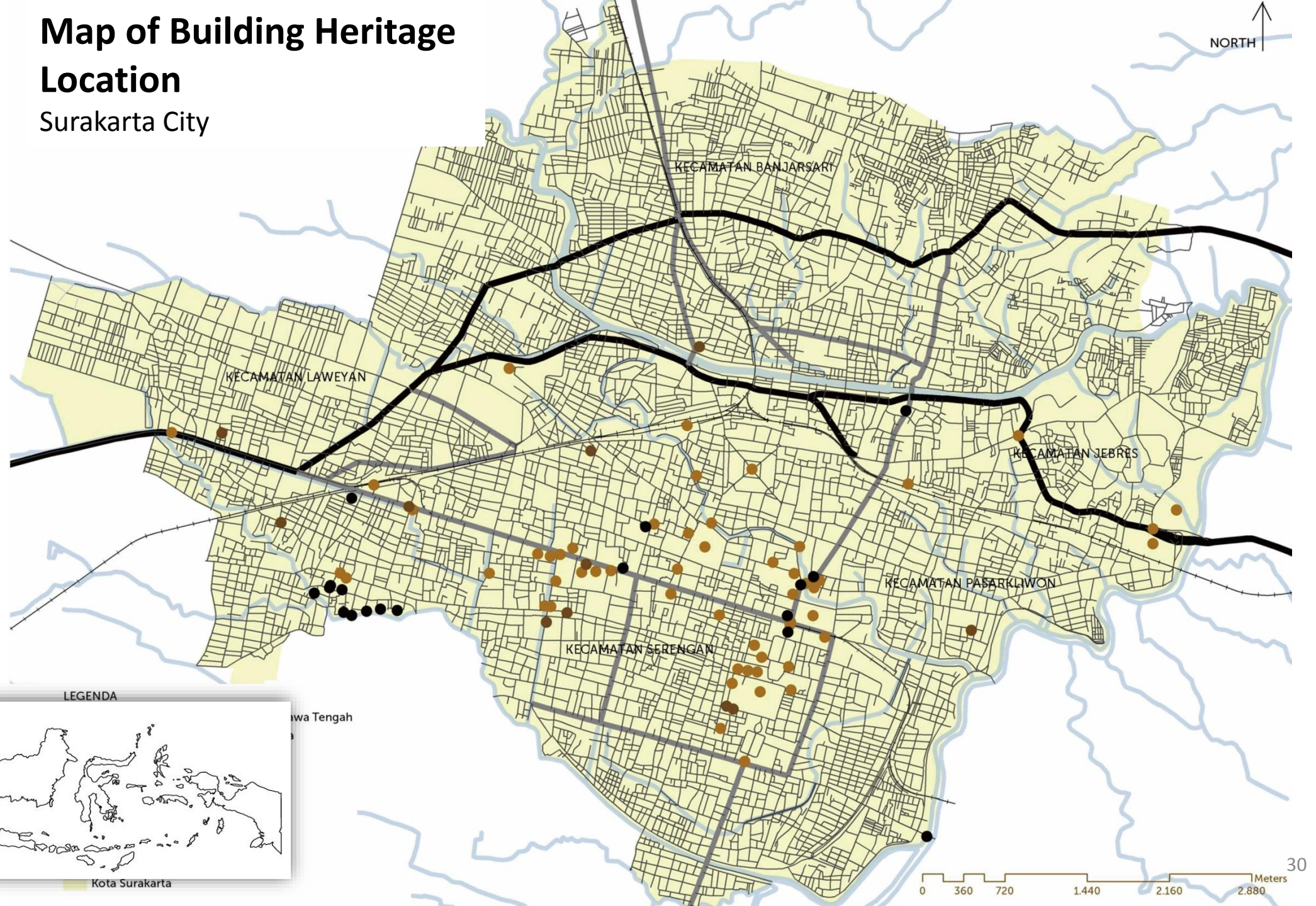
Crafts

Surakarta in the Future

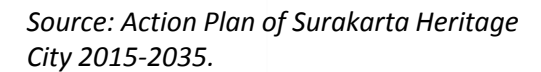
- Surakarta is prepared to be **World Heritage City** through the Action Plan of Surakarta Heritage City 2015-2035. The main focus of development are:
- Tourism Development Strategies
 - Stakeholders Involvement
 - Heritage asset inventory
 - Increasing the promotion intensity through digital media
 - Promoting Local Economic Development
 - Disaster Management
- The establishment of priority area
 - 5 priority area: zero point, Kasunanan palace, Sriwedari, Mangkunegaran, Laweyan)
- Spatial plan of the heritage area
 - Conservation, Development and Utilization
- In Surakarta, there are 3 main destinations for tourism which are called the *“Golden Triangle”* are located within walkable distance but developed without integration.

Map of Building Heritage Location

Surakarta City



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Pura Mangkunegaran

A part of palace area where crown families lived and become main heritage asset for tourism today.



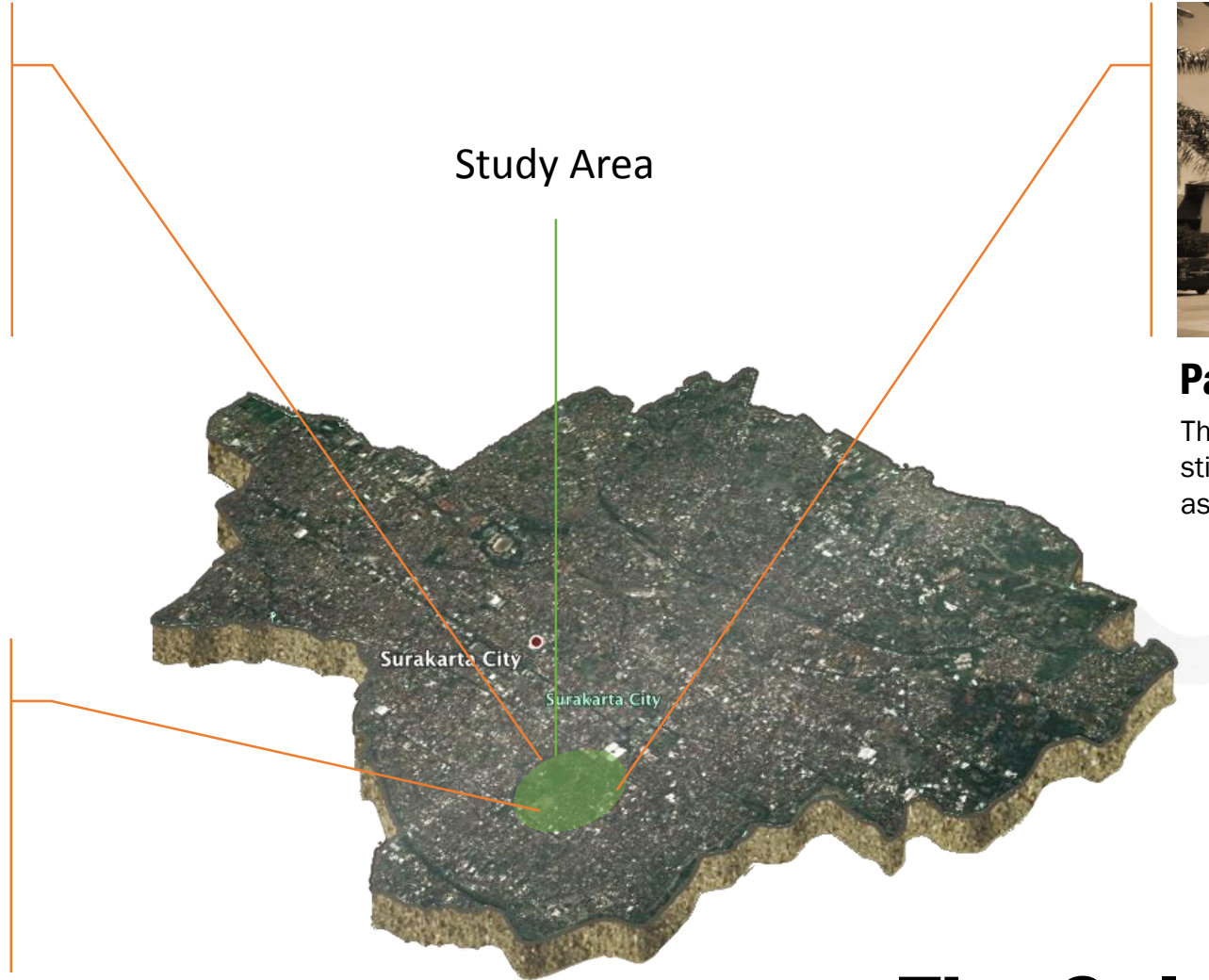
Keraton Surakarta

It was a center of government in the Kasunanan Era. Today, some crowns family and their servants still live there.



Pasar Gede

The main traditional market that still operated and also categorized as heritage building.



The Golden Triangle

Tourism Area

Source: Action Plan of Surakarta Heritage City³² 2015-2035.



Physical Urban Redevelopment Strategy

Batik Village



Physical Urban Redevelopment Strategy

Golden Triangle



Physical Urban Redevelopment Strategy

Public Transportation



Physical Urban Redevelopment Strategy

Cityscape

Preliminary Finding and Analysis

- Surakarta released the Action Plan to develop the tourism sector, yet it's only based on qualitative research without proper scientific approach and impact analysis in the future.
- Evaluation model is developed based on simple arithmetic approach.

1. The model starts with data normalization shown in Eq. 1 and 2.

$$\blacktriangleright y_i = \frac{x_i - x_b}{x_b} \quad (1)$$

$$\blacktriangleright y_i = \frac{x_b - x_i}{x_b} \quad (2)$$

- ▶ where y_i is normalized data of assessed object on i indicator, x_i is original value of the object on i^{th} indicator, x_b is benchmark value of i^{th} indicator. While Eq.1 is used for indicators with positive effects on carbon emissions level, Eq.2 is used for indicators with negative effects

2. The calculation is shown in Eq. 3

$$\blacktriangleright S_t = \sum_{c=1} (S_c \times w_c) \quad (3)$$

- ▶ where S_t is the total score of assessed city, w_c is the weight factor of c category, and S_c is total score of y_{ic} in c^{th} category.

Preliminary Constrains

- Limited sustainable tourism city preferences that have been established by international organization and researches.
- Difficulties on the benchmark setting which can represent and be used in every city.
- There is no quantitative target of Surakarta Development, instead, national target will be used as references.



Thank You

جزاكم الله خيرا كثيرا