INTEGRATING CLIMATE VULNERABILITY & RISK ASSESSMENT INTO URBAN SPATIAL PLANNING PROCESS

(CASE STUDY: BLITAR CITY, EAST JAVA, INDONESIA)

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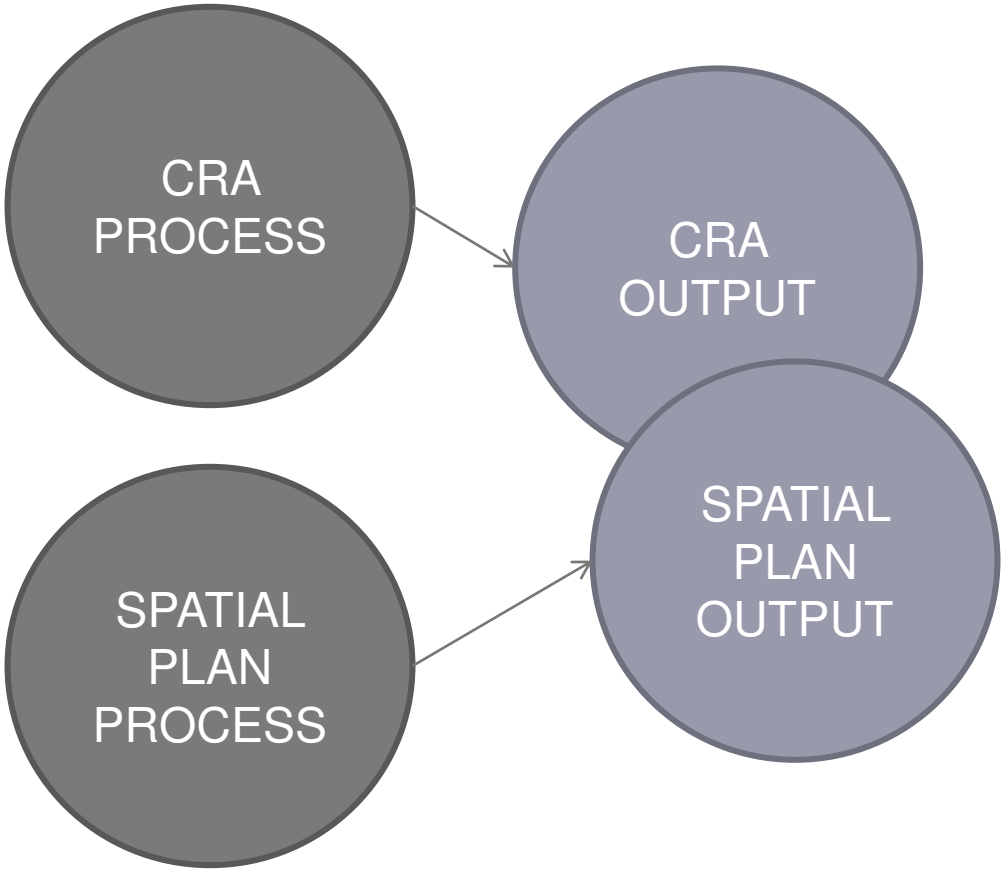
INTRODUCTION

- Climate risk assessment (CRA) as a major input for climate change adaptation planning process can address climate change challenge.
- Cities can maintain its environment quality, livelihood, and sustainability.
- Many methods of CRA already developed by research organization and its result is used by city government to be integrated into urban spatial plan.
- The current methodology is less workable for governments official's with limited resources and capacity
- Integrated into spatial plan product, not the process, so there is no chance to improve urban spatial plan.

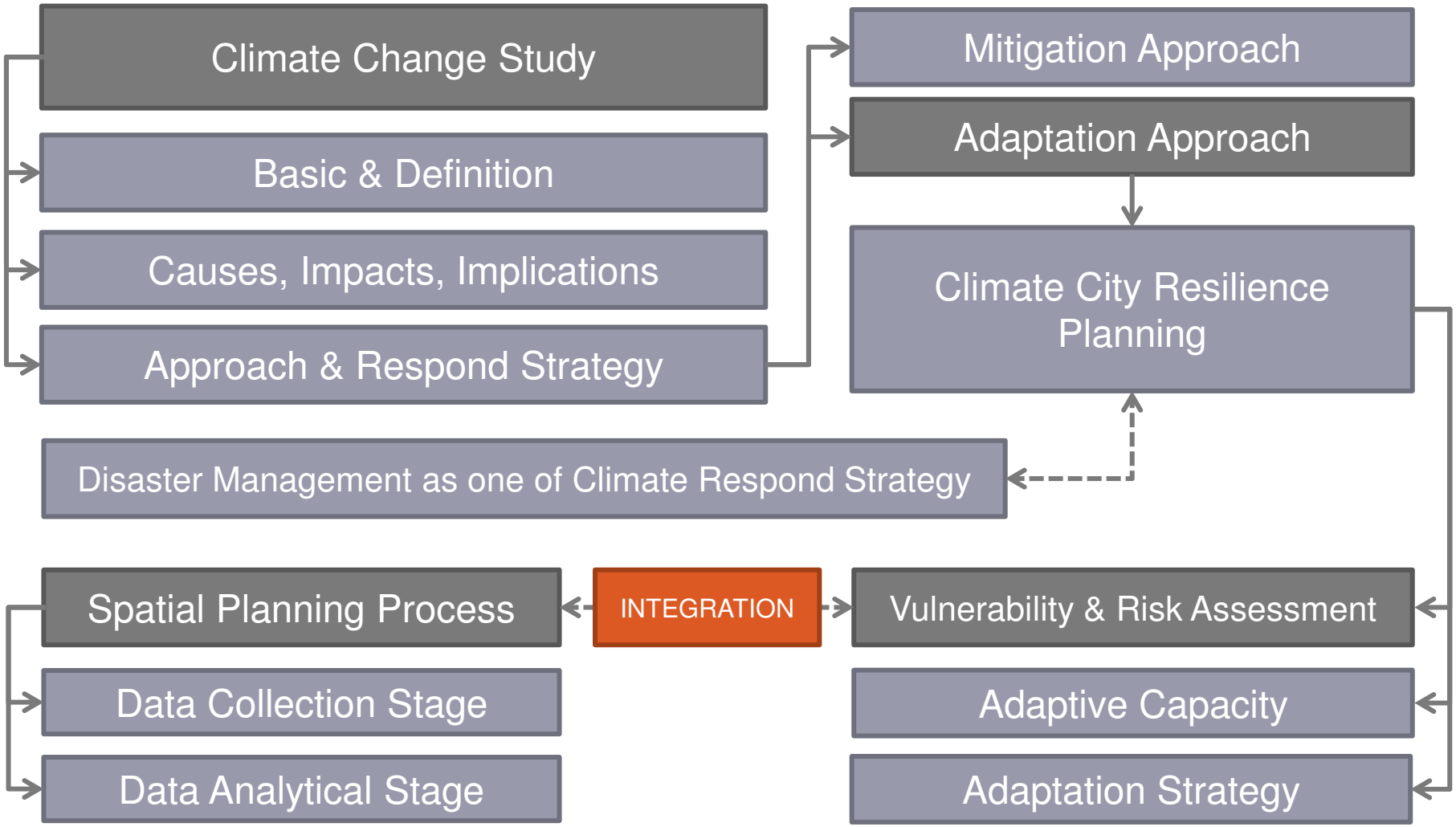
"This research aims to analyze a potential integration between spatial planning and climate risk assessment in order to develop a better planning process that considering climate change measures and its impact."

INTRODUCTION



POTENTIAL TO BE INTEGRATED

THEORETICAL FRAMEWORK

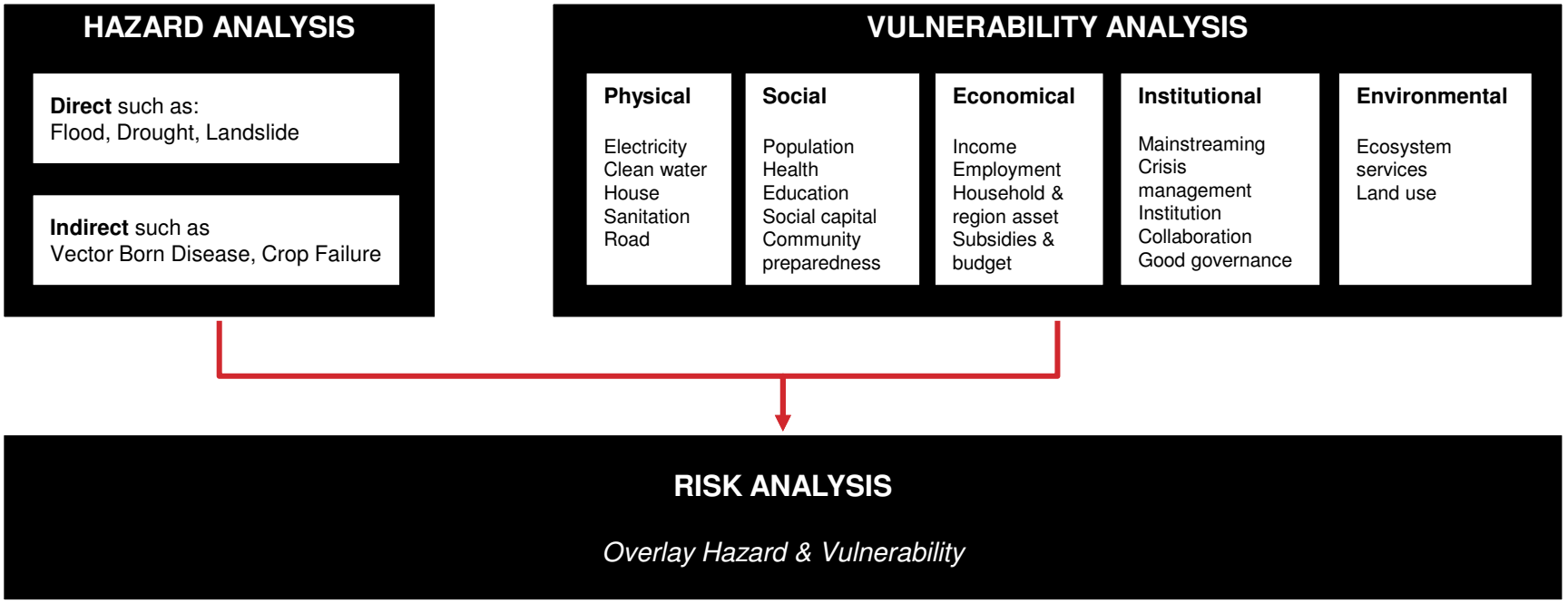


APPROACH & CASE STUDY

APPROACH & CASE STUDY

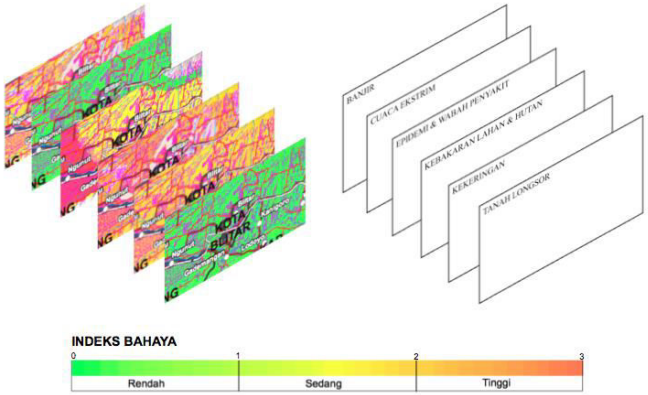
Methods used in this research are content analysis which is used in generating method framework of integration; and spatial multi criteria assessment to calculate risk level in Blitar City.

CLIMATE RISK ASSESSMENT METHODS



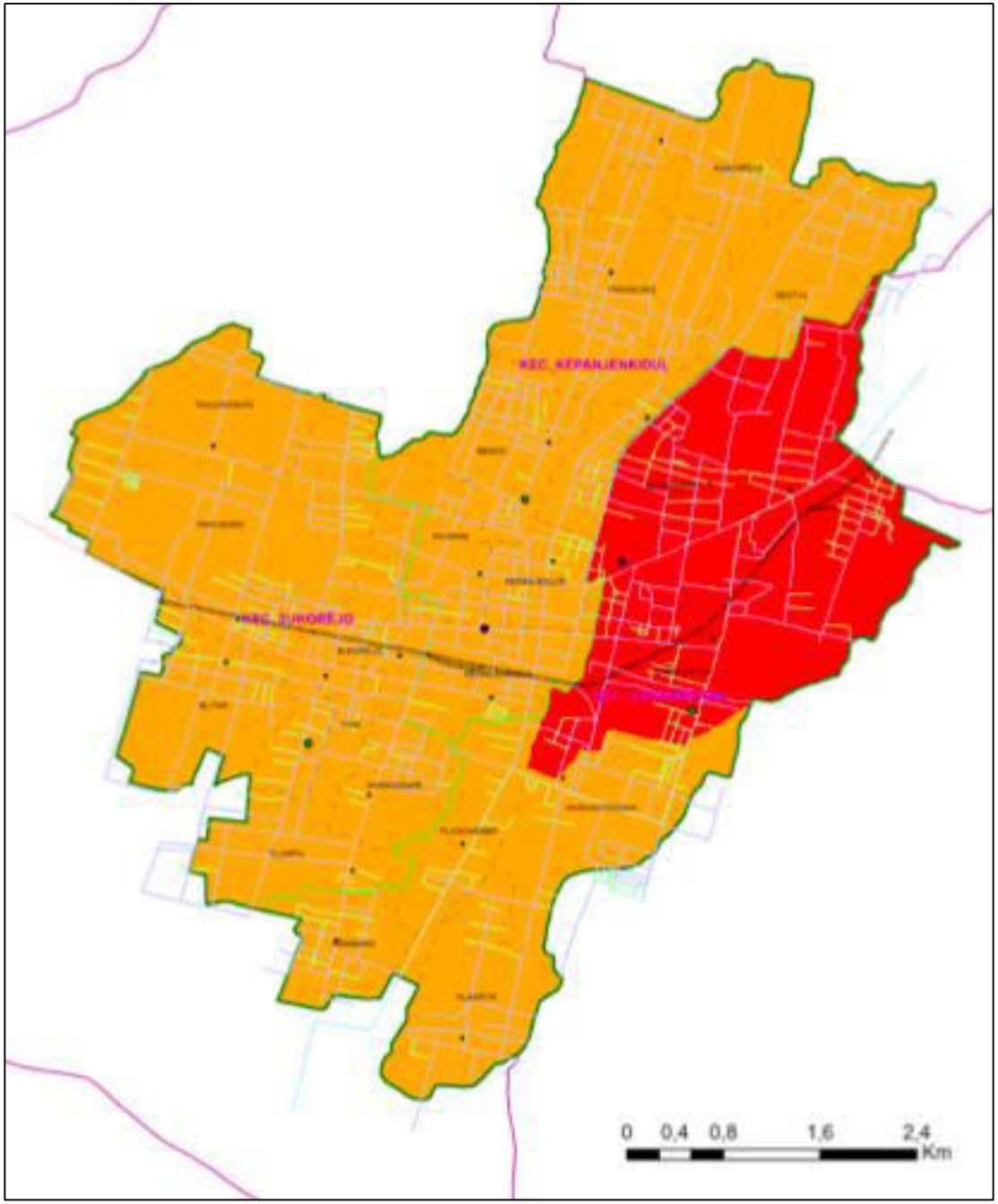
Methods:
Spatial multi criteria assessment

HAZARD IN BLITAR



Blow up and overlay disaster maps:

- Flood
- Extreme Weather
- Epidemic & Vector Born Disease
- Drought
- Landslide

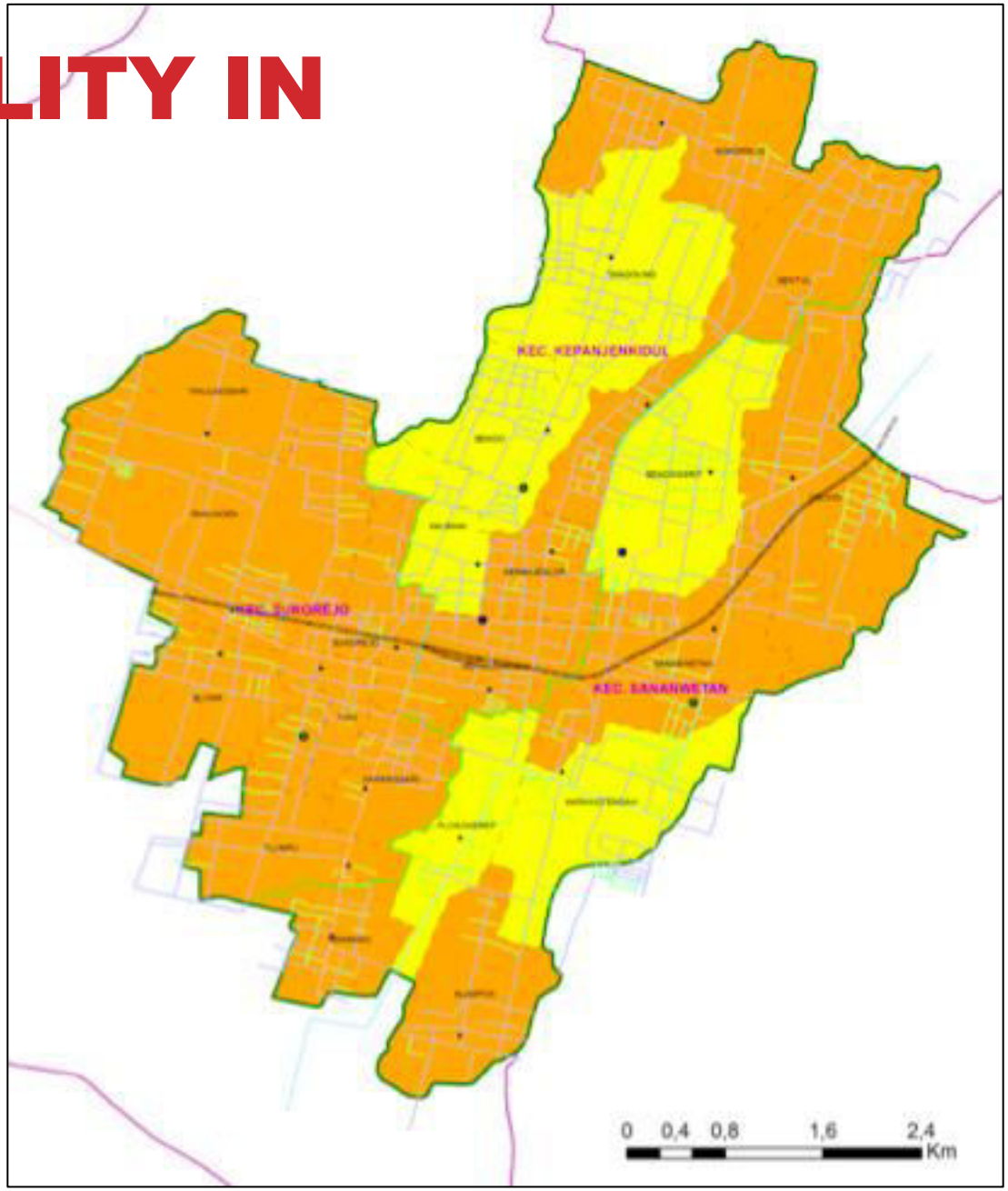


Source: Disaster Management Plan East Java Province, 2012; Analysis Result, 2013

VULNERABILITY IN BLITAR

Used indicators:

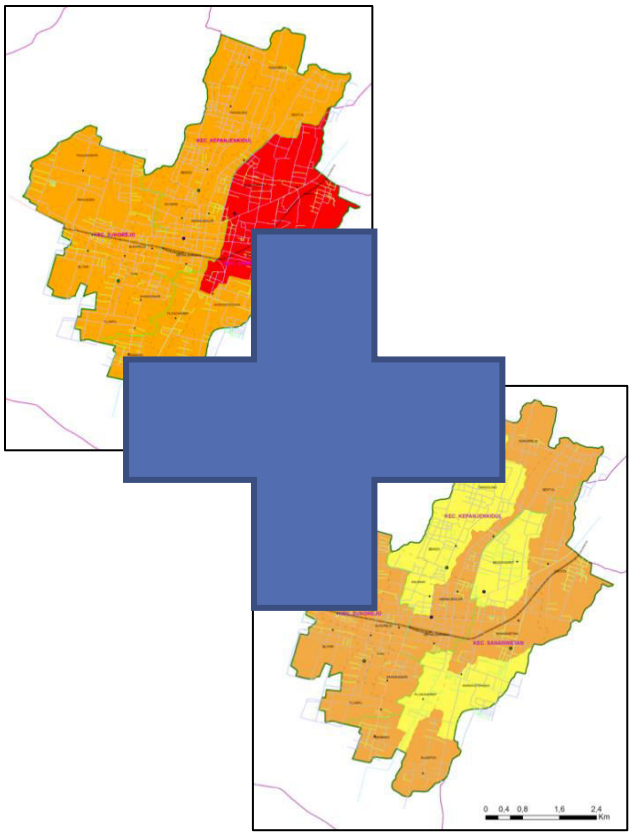
- Physical
  Electricity, telephone, clean water access, water scarcity water quality, sanitation, drainage, waste collection and management
- Economical
  Income, employment, household and region asset
- Social
  Population, health, education
- Environmental
  Land use

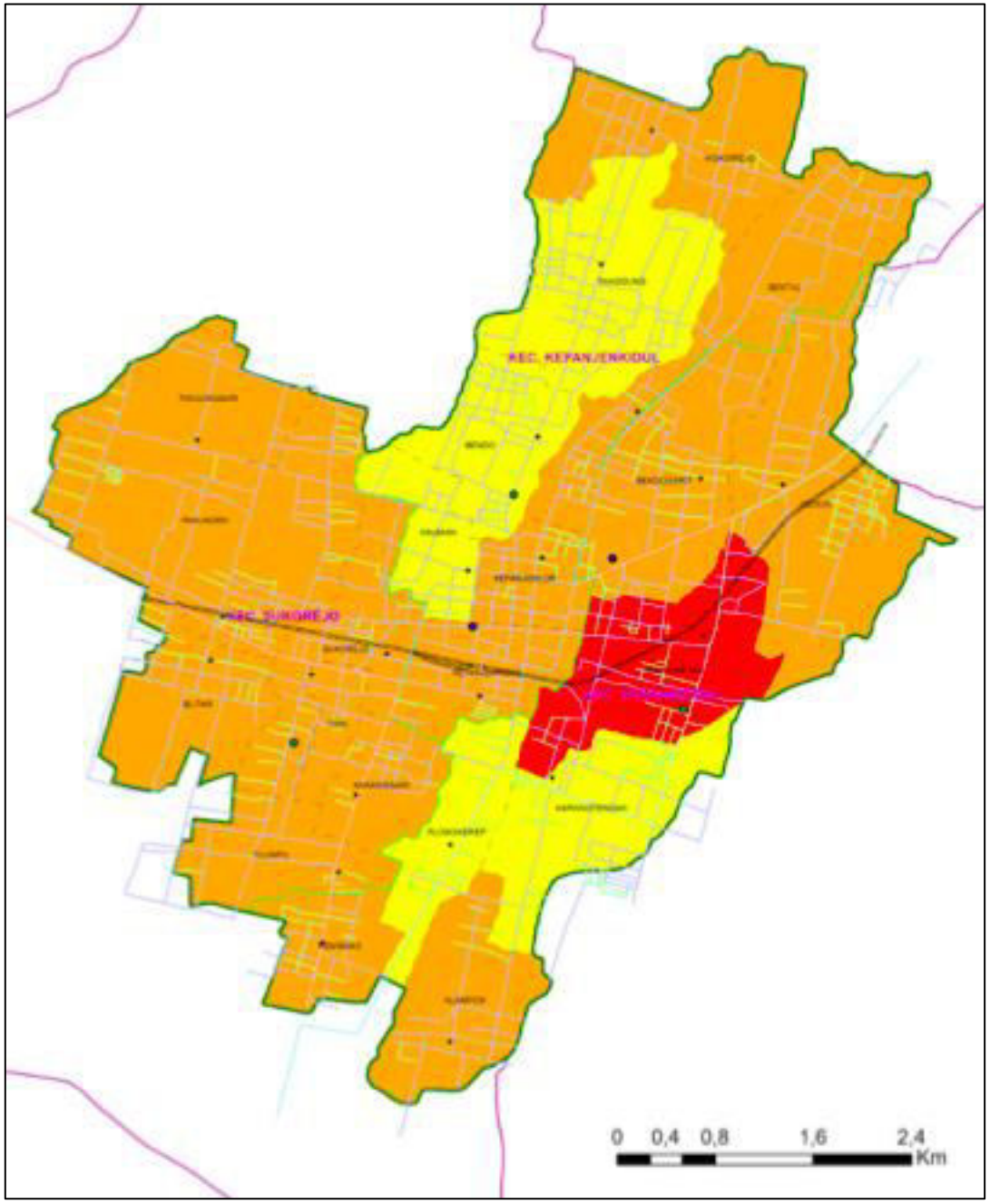


Source: Analysis Result, 2013

RISK IN BLITAR

H \ V	R	S	T
R	R	R	S
S	R	S	T
T	S	T	T

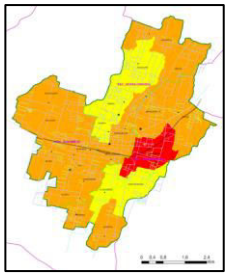




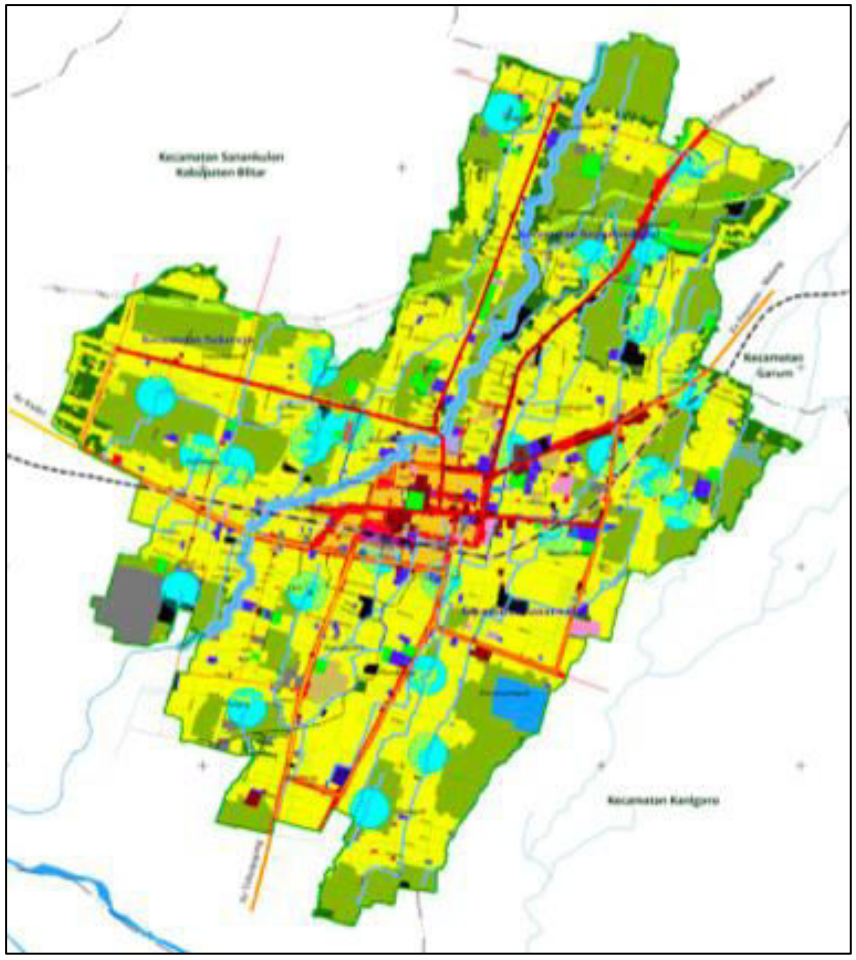
Source: Analysis Result, 2013

SPATIAL PLAN IN BLITAR

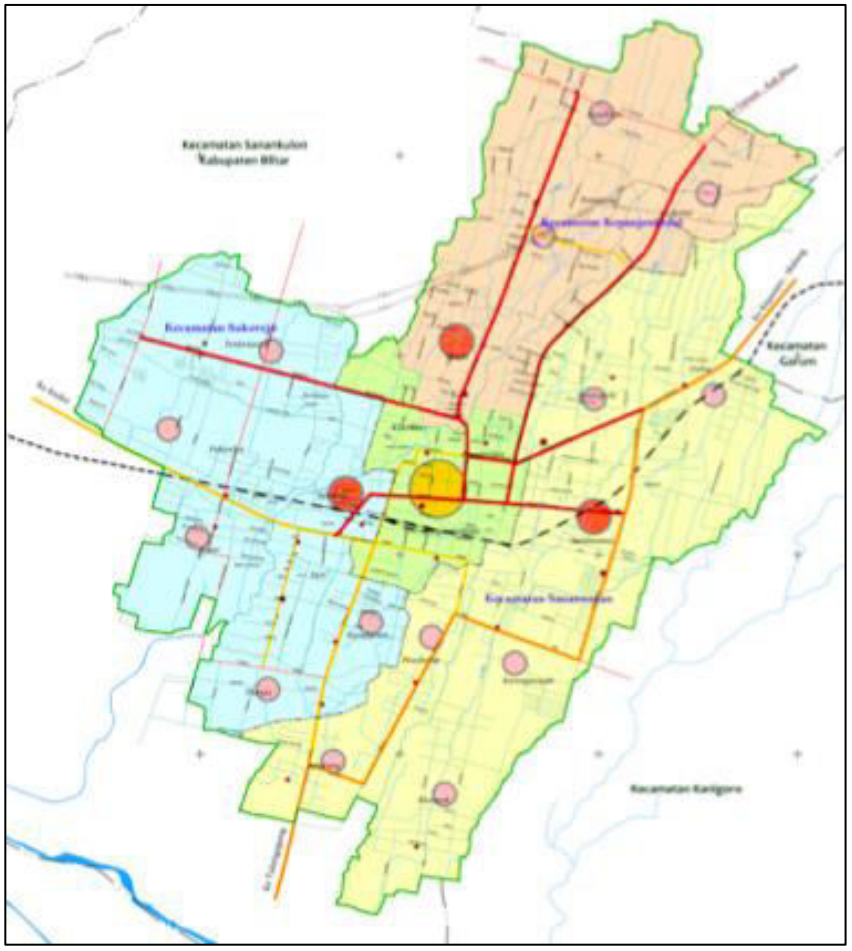
Source: Blitar Spatial Plan, 2011-2030



Spatial Planning Pattern



City Service Center Planning



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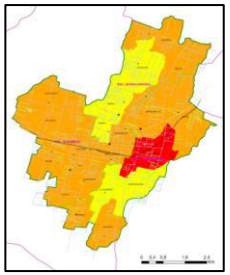
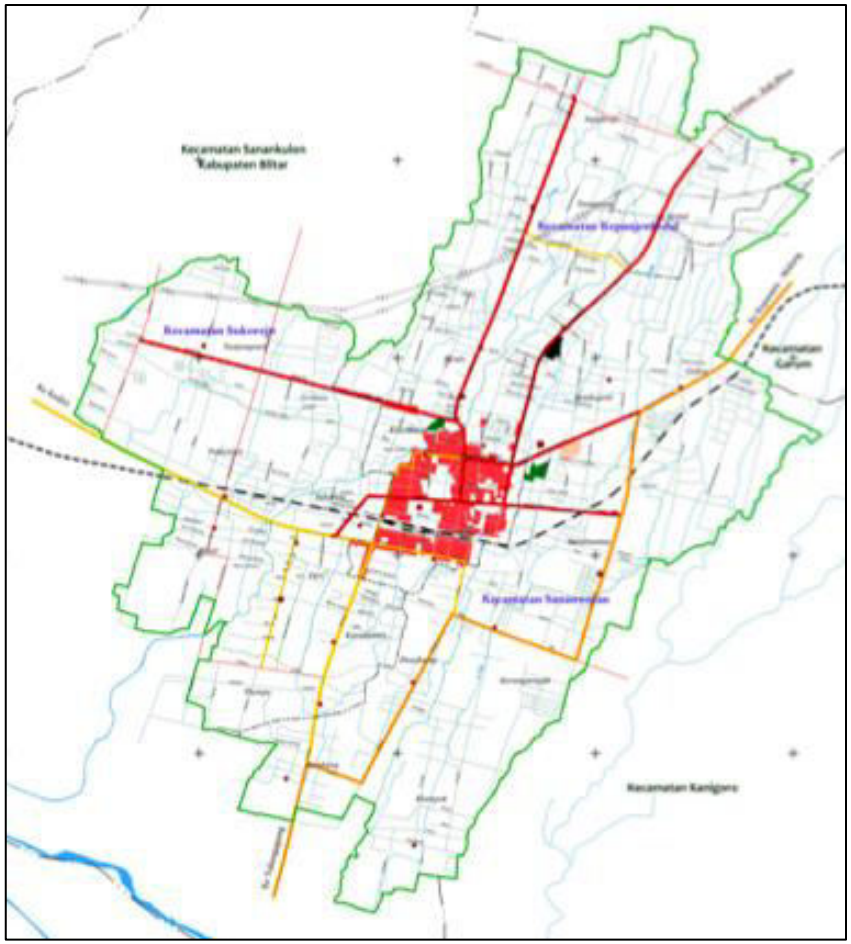
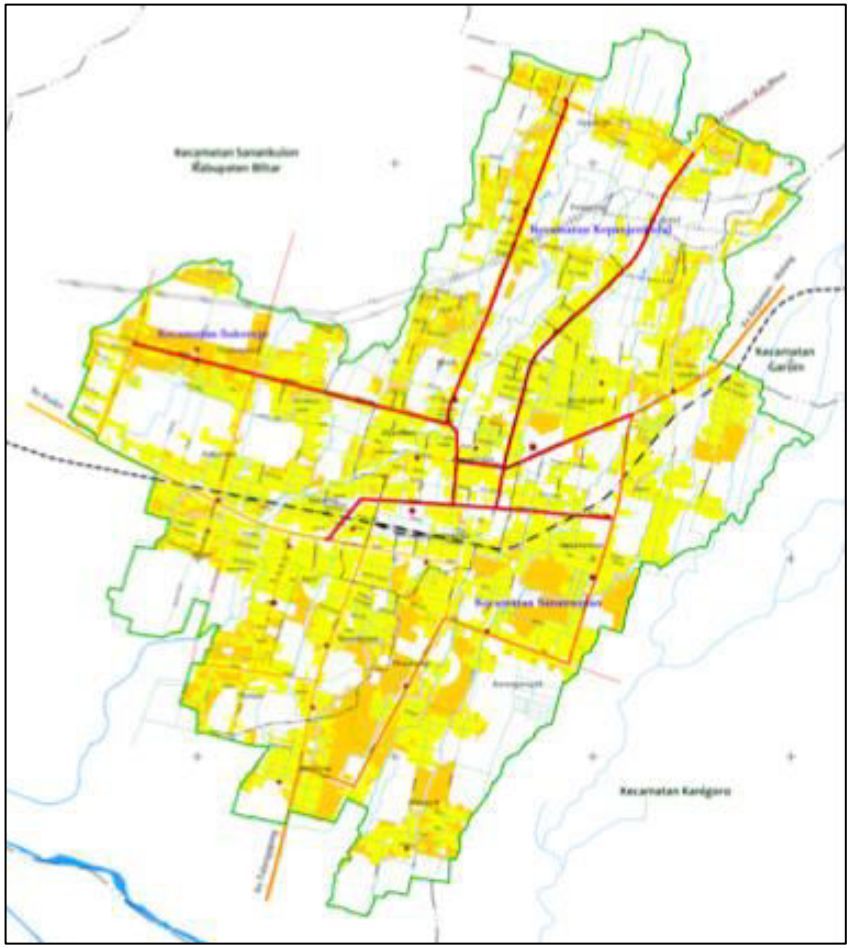
Source: Blitar Spatial Plan, 2011-2030



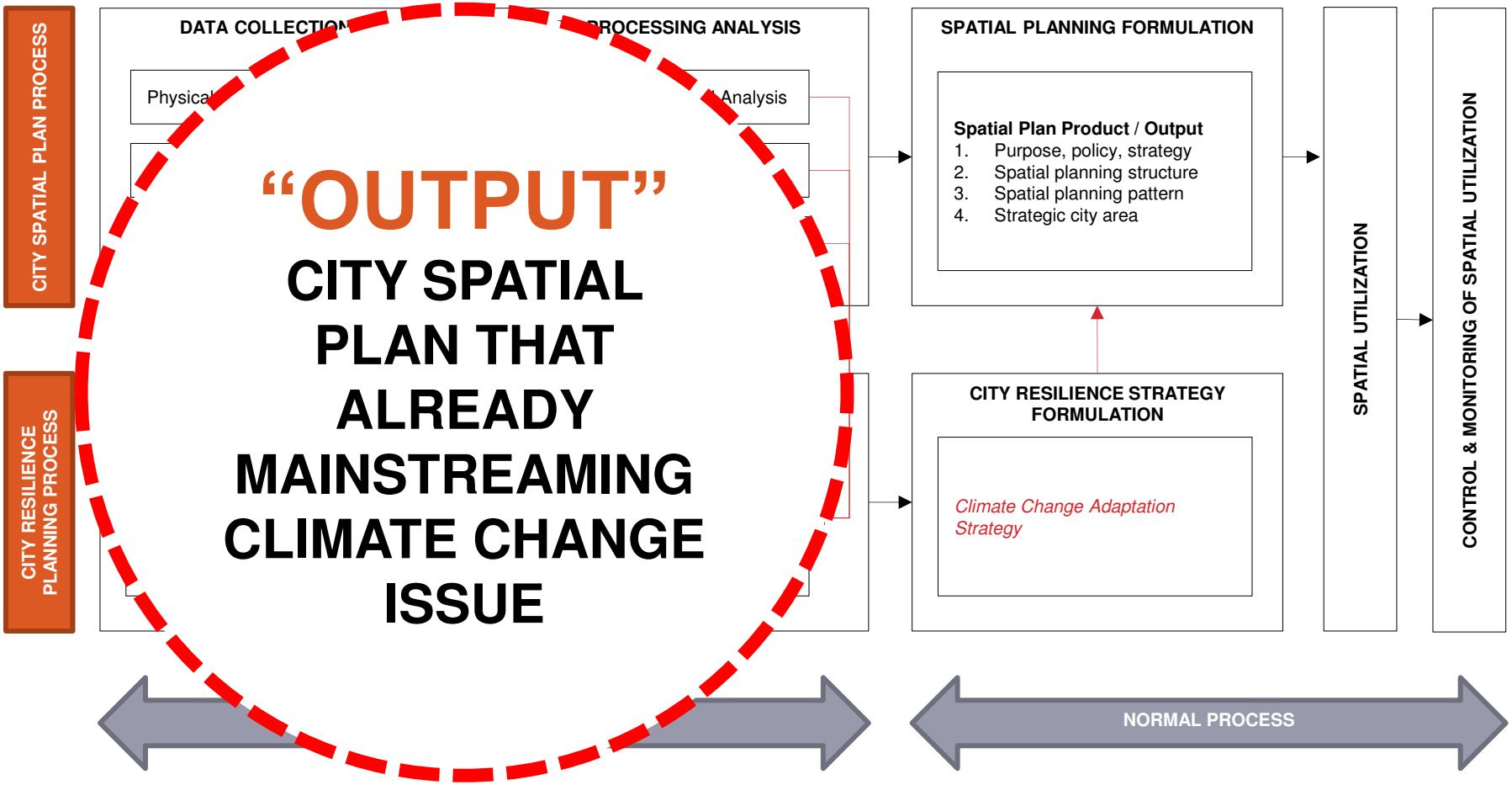
Strategic City Area Planning



Housing Planning



RESULT


CITY SPATIAL PLAN PROCESS
CITY RESILIENCE PLANNING PROCESS
DATA COLLECTION
PROCESSING ANALYSIS
Physical
Analysis
SPATIAL PLANNING FORMULATION
Spatial Plan Product / Output
1. Purpose, policy, strategy
2. Spatial planning structure
3. Spatial planning pattern
4. Strategic city area
CITY RESILIENCE STRATEGY FORMULATION
Climate Change Adaptation Strategy
SPATIAL UTILIZATION
CONTROL & MONITORING OF SPATIAL UTILIZATION
"OUTPUT"
CITY SPATIAL PLAN THAT ALREADY MAINSTREAMING CLIMATE CHANGE ISSUE
NORMAL PROCESS

CONCLUSION

The result of shows that Climate Risk Assessment can be integrated into three stages of urban spatial planning process, these are:

(1) Data collection;

(2) Data processing analysis; and

(3) Planning formulation.

Based on pilot result in Blitar, Climate Risk Assessment has been proven to improve urban spatial planning product in four contents, which are:

(1) Purpose, policy, and strategy of spatial planning;

(2) (2) Spatial planning structure;

(3) (3) Spatial planning pattern; and

(4) (4) Strategic city area.

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