

AIM

“ To promote spatial development and climate resilient strategies to plan for blue-green network in koramangalla- challaghatta valley of Bengaluru city”

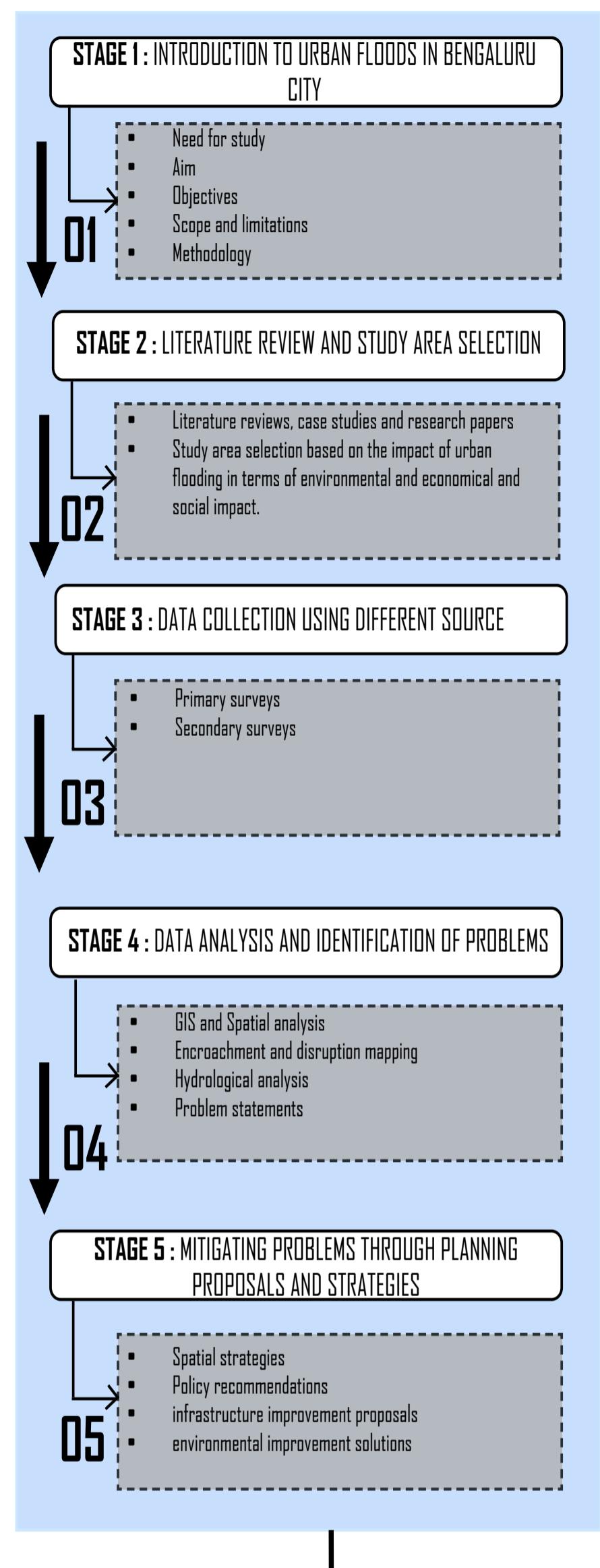
OBJECTIVES

- i. To study the urban growth, spatial dynamics for urban floods in the K-C valley of Bengaluru city.
- ii. To assess the driving factors of urban flooding in K-C valley in Bengaluru.
- iii. To analyse various urban flooding issues on disruptions to natural drainage and it's connectivity
- iv. To propose planning strategies and recommendations for mitigating urban floods through Blue – Green network planning approach.

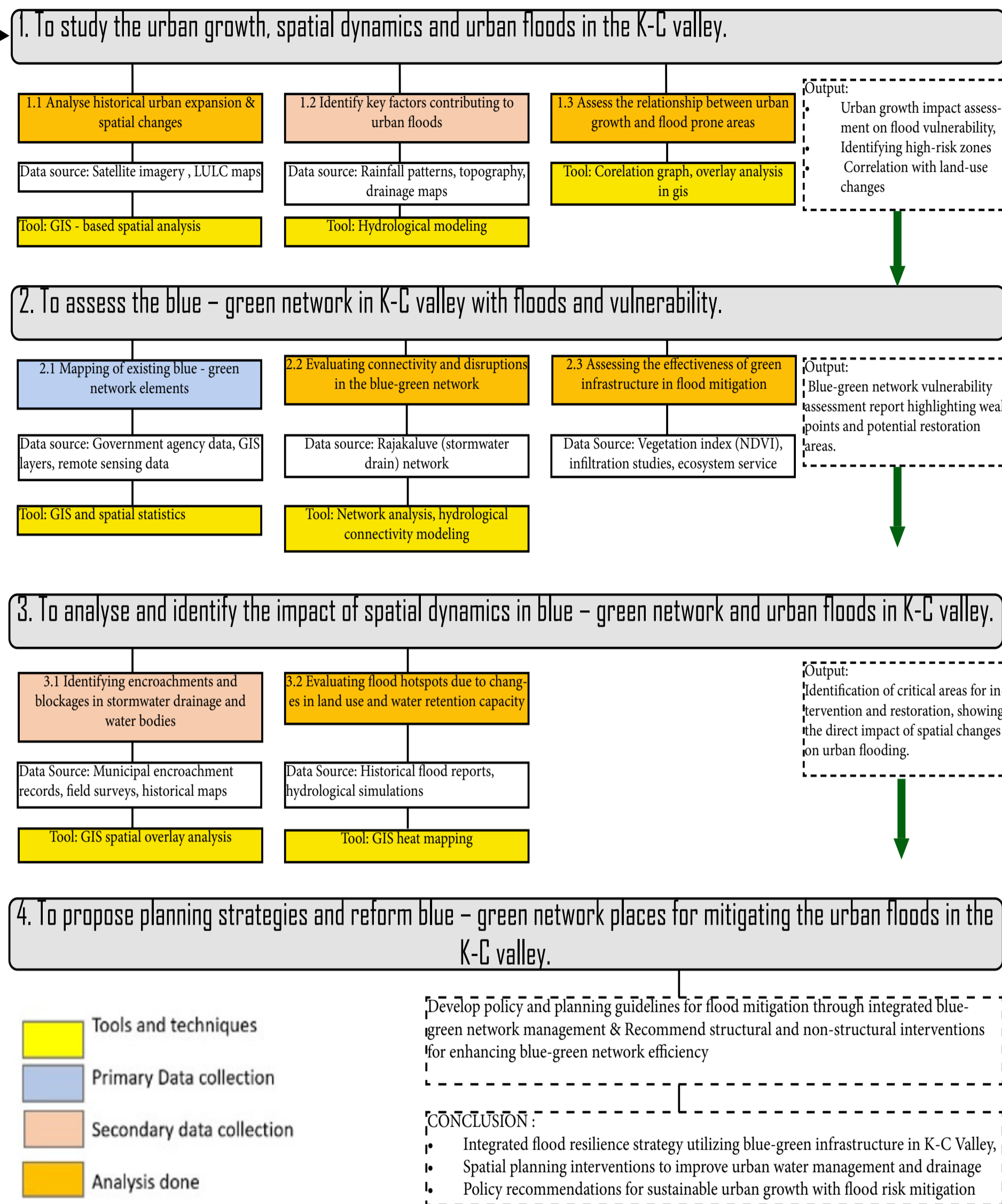
TERMINOLOGIES

- 1. Urban Floods**
According to United Nations Office for Disaster Risk Reduction (UNDRR): Urban flooding refers to the inundation of land or property in built-up areas caused by heavy rainfall, inadequate drainage, or overflowing water bodies due to urbanization.
- 2. Mitigating**
According to United Nations Office for Disaster Risk Reduction (UNDRR): Mitigation involves measures taken to reduce the loss of life and property by lessening the impact of disasters, such as urban floods, through sustainable planning and infrastructure improvements.
- 3. Stormwater Management**
According to U.S. Environmental Protection Agency (EPA): Stormwater management involves controlling runoff through natural and engineered systems, such as wetlands, retention ponds, and drainage channels.
- 4. Rajakaluves**
According to Bangalore Development Authority (BDA): In Bengaluru, rajakaluves are primary stormwater drains that historically served as natural drainage corridors but have been encroached upon, exacerbating urban floods.
- 5. Blue - Green network**
According to European Environment Agency (EEA): A blue-green network combines water management and green infrastructure to reduce flood risks, enhance biodiversity, and improve urban sustainability.
- 6. Catchment area**
According to United Nations Environment Programme (UNEP): A watershed or catchment area includes both surface water (lakes, rivers) and groundwater systems that contribute to the water flow of a particular drainage system.
- 7. Encroachment**
According to United Nations Human Settlements Programme (UN-Habitat): Informal or unregulated development on natural landscapes, wetlands, or floodplains causes significant environmental degradation and urban flooding.
- 8. Lake connectivity**
According to Central Water Commission (CWC), India: Lake connectivity is a key aspect of watershed management, ensuring that water bodies are linked through natural or artificial channels to maintain hydrological balance.

METHODOLOGY



OBJECTIVES



WORKPLAN

WORKPLAN	MONTH	MARCH			APRIL			MAY			JUNE		
		1-10th	10th-20th	20th-31st	1-10th	10th-20th	20th-30th	1-10th	10th-20th	20th-31st	1-10th	10th-20th	20th-30th
Setting up aim, objectives, methodology	DATE												
Selecting study area													
Review 1													
First field visit													
Data observation and analysis													
Review 2													
Second field visit													
Data assessment and problem identification													
Review 3													
Proposals and strategies													
Review 4													
Completion of thesis													

SCOPE

This study focuses on the Koramangala-Challaghatta (K-C) Valley in Bengaluru City, analyzing its urban growth, spatial dynamics, and urban flood vulnerabilities. It examines the impacts of rapid urbanization, land use changes, and encroachments on the blue-green network, particularly lakes, stormwater drains (rajakaluves), and green spaces. The study assesses the effectiveness of existing blue-green infrastructure in mitigating floods and evaluates flood-prone areas using GIS mapping and secondary data sources. Furthermore, the study identifies the relationship between disrupted water flow, spatial development, and flood risks. Based on the findings, planning strategies and policy reforms will be proposed to enhance climate resilience and integrate spatial development approaches.

LIMITATIONS

- Availability of hydrological, GIS, and cadastral data may be restricted, affecting the accuracy and comprehensiveness of the analysis.
- Conducting extensive field surveys across all flood-prone zones is challenging due to time and resource limitations.
- Existing hydrological models may not fully capture micro-level factors influencing runoff and urban flooding.
- The study is restricted to specific zones within Koramangala-Challaghatta Valley and does not comprehensively address city-wide flooding in Bengaluru.

SCHOOL OF PLANNING AND ARCHITECTURE

NAME: P.A.CHARAN

REV / EXAM NO: U01ZZ21S0029

CLASS: 8 th SEMESTER, B.PLANNING

DRAWING NO:02

MITIGATING URBAN FLOODS : A PLANNING STUDY ON CONNECTING BLUE-GREEN NETWORK IN KORAMANGALLA - CHALLAGHATTA VALLEY IN BENGALURU CITY