



MAINSTREAMING CLIMATE RESILIENCE IN LOCAL LAND USE PLANNING: CASE STUDY IN MALAYSIA CITIES

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My Research Journey Towards Climate Resilient Cities

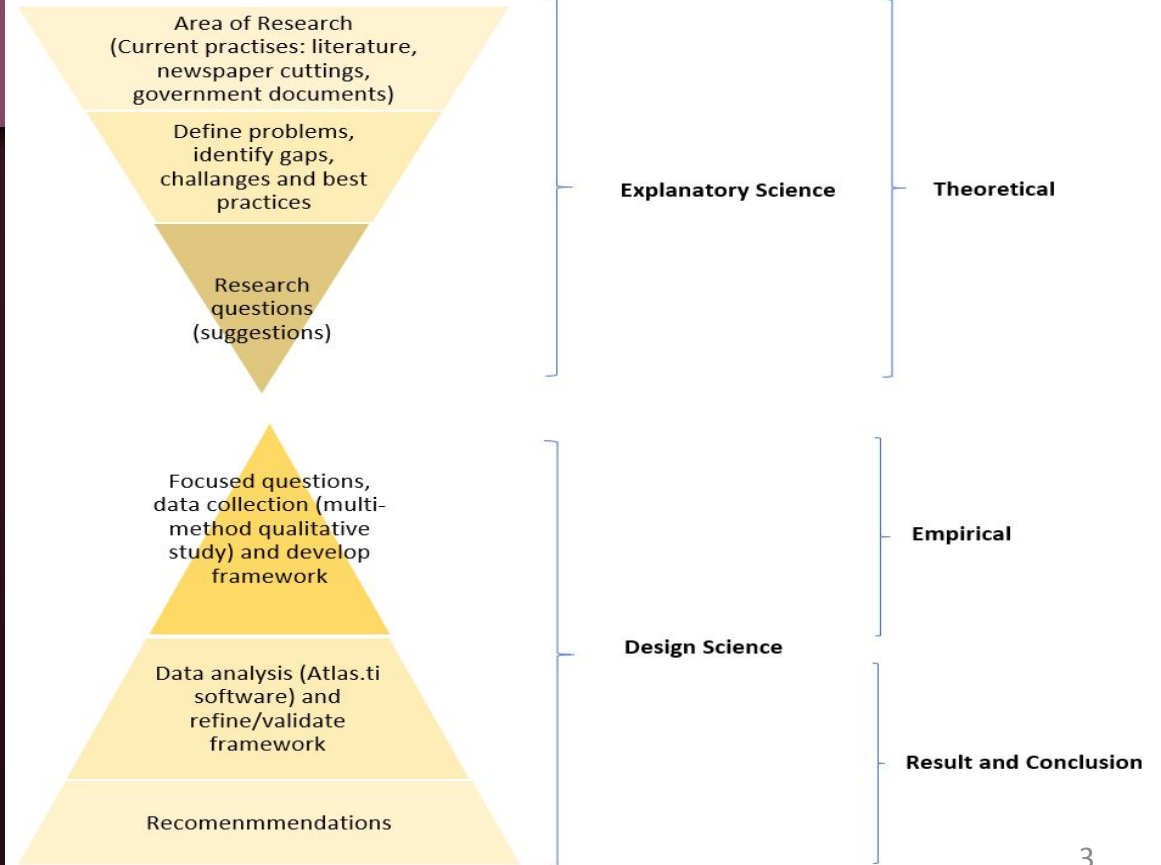
S1	Stage 1 – Research Identification	My Motivation & The Development Process of the Research Aims, Questions and Objectives
S2	Stage 2 – Research Development	Conceptual Framework, Research Mode & Techniques
S3	Stage 3 – Research Refinement	The Findings
S4	Stage 4 – Research Significance	Significance of Climate Resilience in Malaysian City Land Use Planning

Research Overview

Research Question: How Can Malaysian Cities Main Stream Climate Resilience in Land Use Planning?

Qualitative Research:
Inductive, Case Study

Research Outline:
Cross Sectional Study



Why Was I Interested?

State	Death		Missing person ^a		Affected person ^b	
	Number	Rate	Number	Rate	Number	Rate
Pulau Pinang	2015	-	-	-	548	32
	2016	-	-	-	1,520	88
	2017	18	1.0	4	12,631	724
Sabah	2015	18	0.5	-	6,918	186
	2016	-	-	-	617	16
	2017	-	-	-	6,884	258

Reported Flooding Incidents in Penang

YEAR	NUMBER
2013	19
2014	19
2015	20
2016	51
2017	41

Source: <https://juiceonline.com>

Source: National Disaster Management Agency, Malaysia

The Philosophy

OUR COMMON FUTURE

THE WORLD COMMISSION
ON ENVIRONMENT
AND DEVELOPMENT

“**Pembangunan mampan** adalah pembangunan yang memenuhi keperluan semasa tanpa menjejaskan kemampuan generasi akan datang untuk memenuhi keperluan mereka”.

The Brundtland Report, 1987

Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.



1992

The first global gathering on 'sustainability'



2000

UN Millennium Summit



2001

TOTAL PLANNING
DOCTRINE
(Malaysia)

a new approach to the planning and design which is **expected** to guide the physical planning system focusing on the concept of sustainable development



2015

UN Summit,
New York

17 goals

169 targets

241 (revised) indicators



2016

Habitat III,
Quito, Ecuador

5 thrusts

5 tools/ enablers

175 declarations

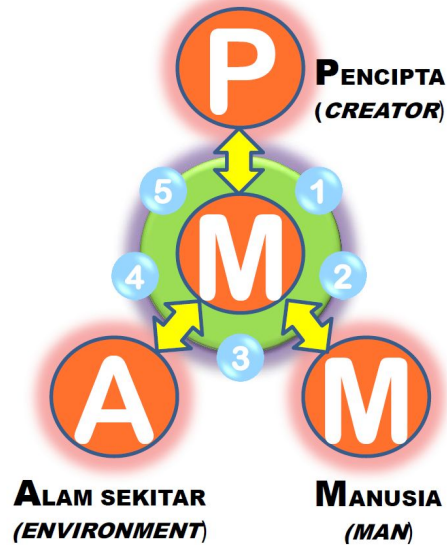
AKTA 172

Subseksyen 2A(2)

Fungsi MPFN –

“...menggalakkan di dalam negara...PBD sebagai alat yang berkesan & efisien...ke arah pencapaian suatu **PEMAJUAN YANG MAMPAN** di dalam negara.”

Total Planning & Development Philosophy



Hubungan manusia dengan penciptanya
Relationship between man and his Creator



Hubungan manusia dengan manusia
Relationship between man and man



Hubungan manusia dengan alam sekeliling
Relationship between man and his environment

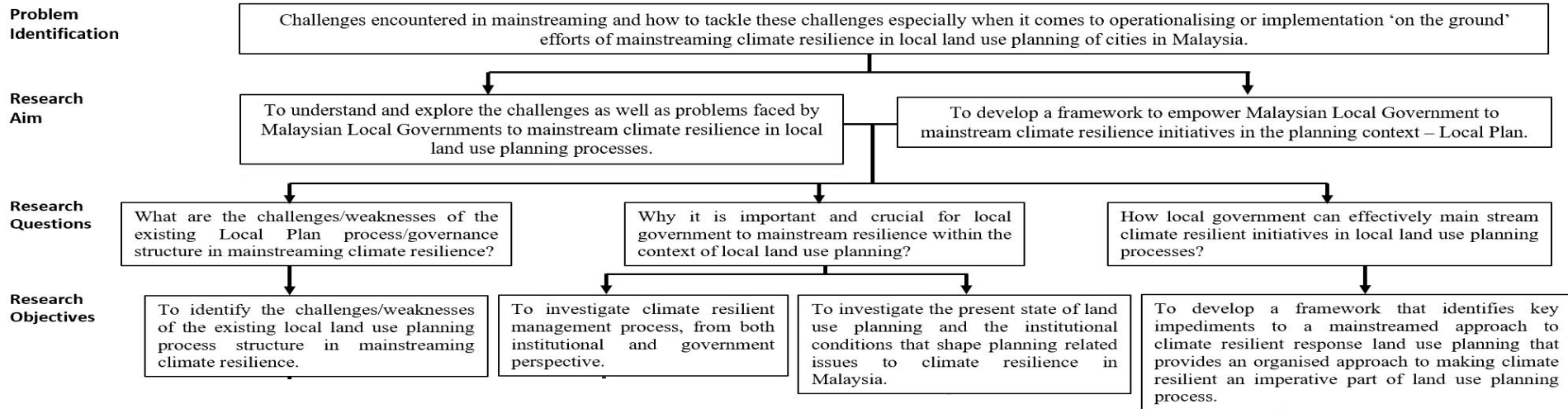
FALSAFAH PERANCANGAN DAN PEMBANGUNAN SEJAGAT

Total Planning and Development Philosophy

- 1 SIFAT MENYELURUH
Holistic approach
- 2 MANUSIA SEBAGAI FOKUS PEMBANGUNAN
Man as the focus of development
- 3 AKTIVITI BANYAK DIMENSI
Multi-dimensional activities
- 4 PERUBAHAN KUANTITATIF DAN KUALITATIF
Qualitative and quantitative changes
- 5 PENGGUNAAN DAN PENGAGIHAN SUMBER DENGAN SAKSAMA
Equity in the use and distribution of resources

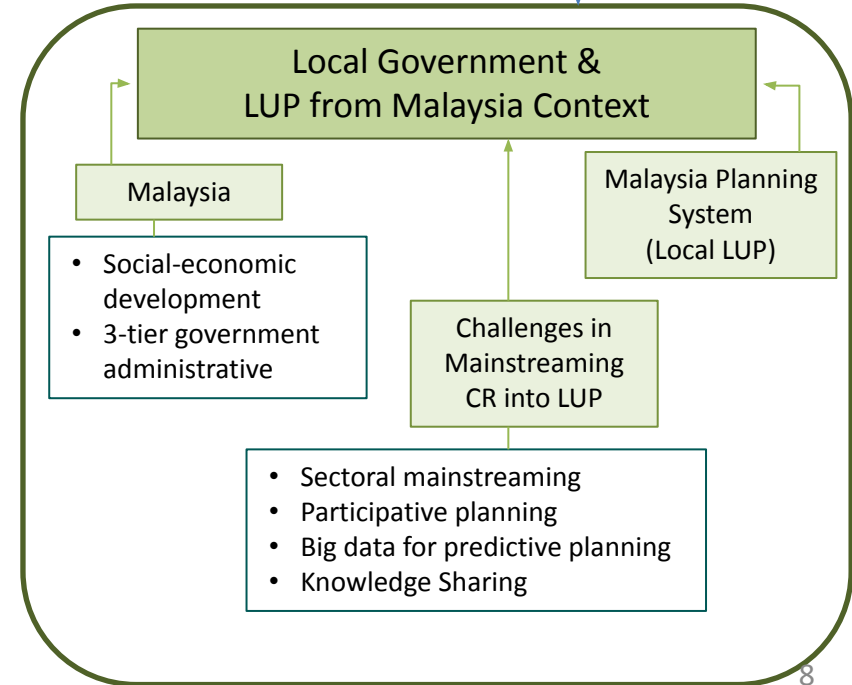
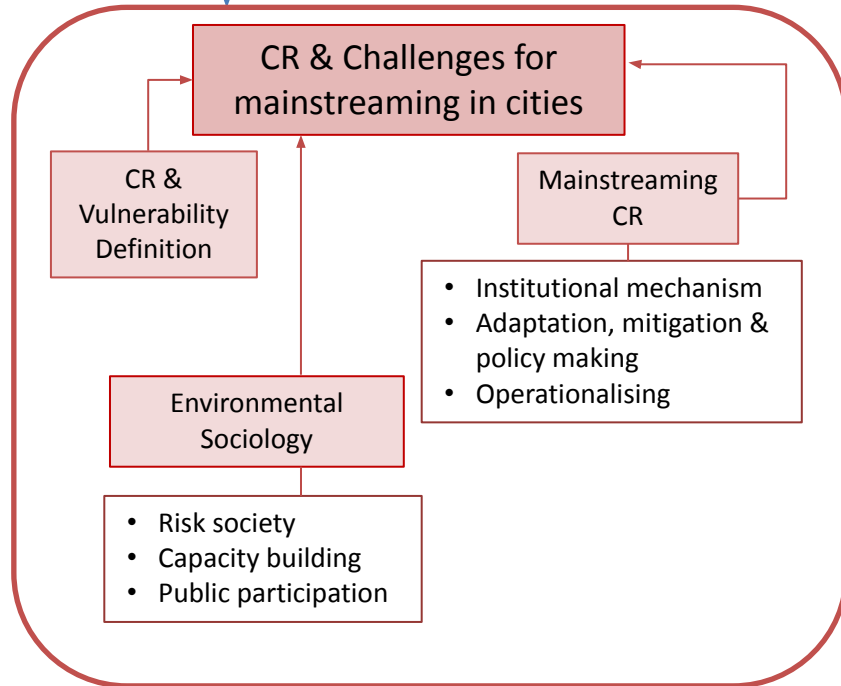


Research Aims, Questions & Objectives

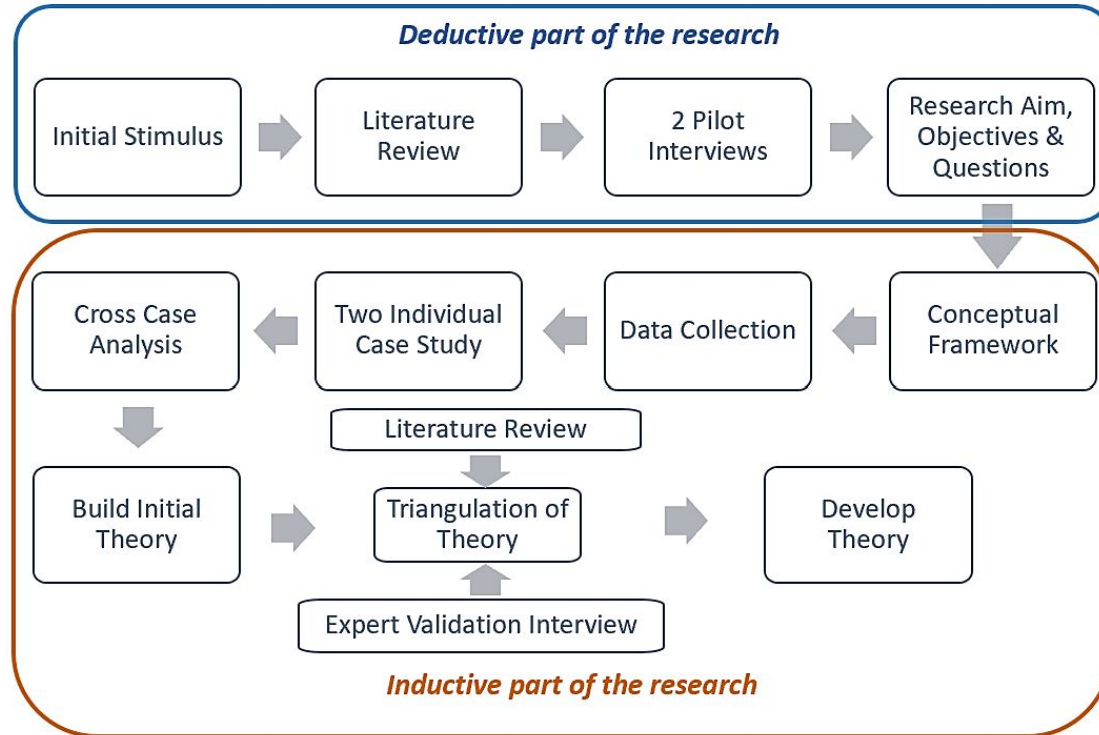


Conceptual Framework

Mainstreaming Climate Resilience (CR) & Local Land Use Planning (LUP)

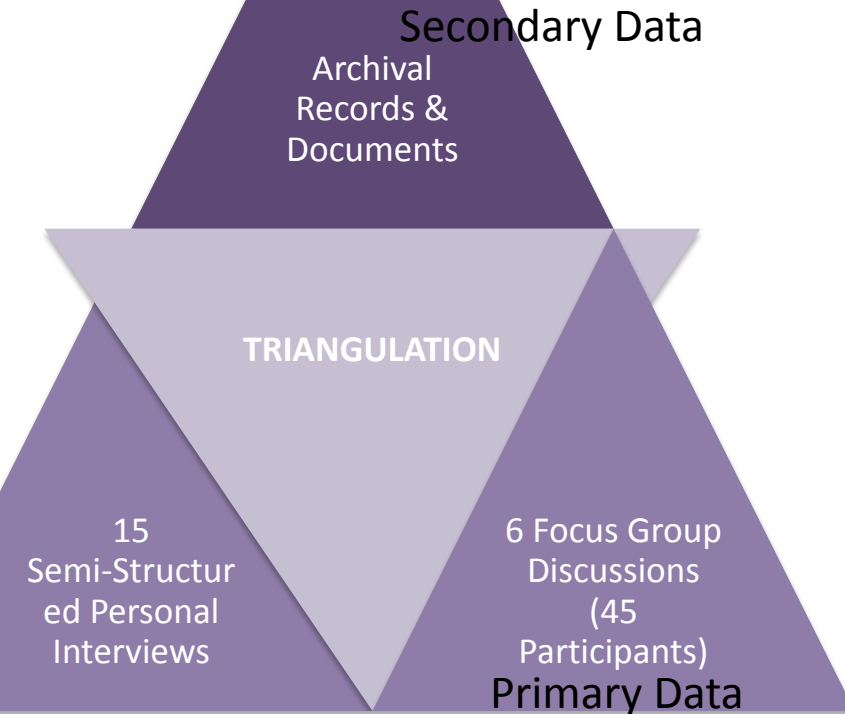


Research Mode





Research Techniques



- FGD Protocol & Questionnaire were designed to address 4 themes of the research
 - i. Perceptions of climate resilience issues related to land use planning.
 - ii. Mainstreaming climate resilience into land use planning of the local government.
 - iii. Sectoral Coordination (Institutionalisation)
 - iv. Capacity Building
- Pilot Testing of questionnaire - 2
- Non-Sampling Techniques
 - i. Purposive
 - ii. Snowball

Data Analysis: In terms of semi-structured interview data and focus group discussion, content analysis and cognitive mapping approaches were employed with the assistance of ATLAS.ti 8

Research question 1: What are the disadvantages/obstacles of the available local plan process/governance structure in mainstreaming climate resilience?

Awareness of climate change impact on local communities

Narratives	Response from FGD participants (n = 45)	
	Number of participants	Percentage (%)
Planner's lack of understanding of predicted, effects, and susceptibility to climate change.	26	58
Types of climate change and its impact on people.	14	31

3 Solutions suggested:

- i) Encourage participative planning
- ii) Organisational cohesion
- iii) Availability of reliable data/information

Who is responsible to address climate change impact in local land use planning?

Narratives	Response from FGD participants (n = 45)	
	Number of participants	Percentage (%)
Responsible organisations and institutions regardless of level in government	45	100
Establishing or empowering coordination agencies	38	84
Agencies/organisations most affected by climate change	28	62

2 sector mostly affected by climate change:

- i) Paddy production
- ii) Fisheries



Findings

Research question 2: *Why is it important and crucial for the local government to mainstream resilience within the context of local land use planning?*

Climate Resilience and Local Plan: What Knowledge to Integrate?

Narratives	Response from FGD and interview participants (n = 60)	
	Number of participants	Percentage (%)
Attaining credible real-time local information (using tools such as scientific assessments)	51	85
Participatory planning approach (people base assessment)	46	77
Proactive decision making.	45	75

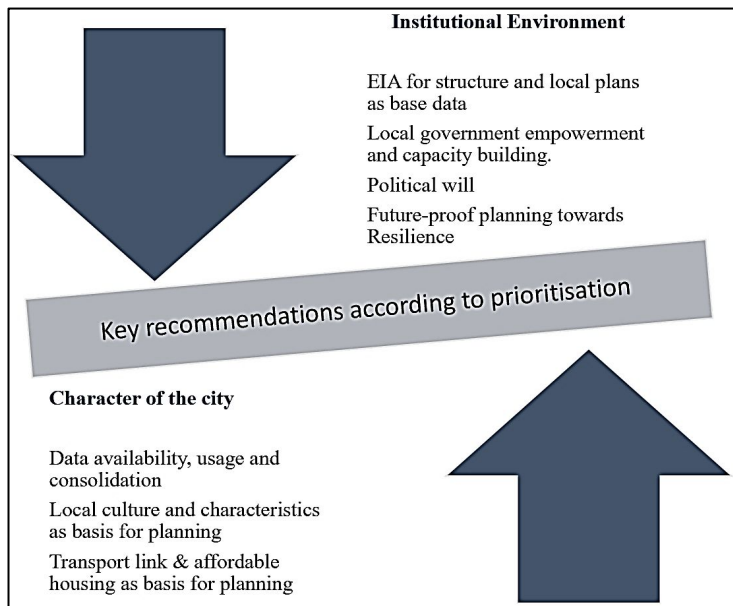
How can local communities enable mainstreaming?

Narratives	Response from FGD and interview participants (n = 60)	
	Number of participants	Percentage (%)
Potential roles that can be performed by the local communities or entrusted to them	60	100
Encouraging/supporting local communities' initiatives	56	93

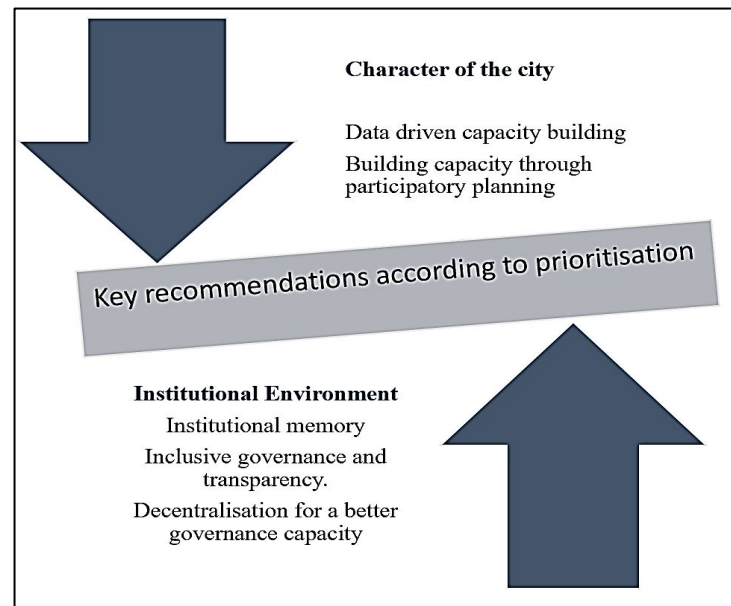
Findings

Research question 3: *How local government can effectively mainstream climate resilience initiatives in local land use planning processes?*

□ Effective Sectoral Coordination



□ Strong Local Capacity Building



Research Significance

Problem Identification

Challenges encountered in mainstreaming and how to tackle these challenges especially when it comes to operationalising or implementation 'on the ground' efforts of mainstreaming climate resilience in local land use planning of cities in Malaysia.

Research Aim

To understand and explore the challenges as well as problems faced by Malaysian Local Governments to mainstream climate resilience in local land use planning processes.

To develop a framework to empower Malaysian Local Government to mainstream climate resilience initiatives in the planning context – Local Plan.

Research Questions

What are the challenges/weaknesses of the existing Local Plan process/governance structure in mainstreaming climate resilience?

Why it is important and crucial for local government to mainstream resilience within the context of local land use planning?

How local government can effectively main stream climate resilient initiatives in local land use planning processes?

Research Objectives

To identify the challenges/weaknesses of the existing local land use planning process structure in mainstreaming climate resilience.

To investigate climate resilient management process, from both institutional and government perspective.

To investigate the present state of land use planning and the institutional conditions that shape planning related issues to climate resilience in Malaysia.

To develop a framework that identifies key impediments to a mainstreamed approach to climate resilient response land use planning that provides an organised approach to making climate resilient an imperative part of land use planning process.

Contributions

The importance of mainstreaming climate resilience in local governments especially cities in Malaysia by identifying the climate change concerns that have impact on cities and its inhabitants.

Systematically presented an identification and understanding of the challenges that were extremely pivotal for mainstreaming climate resilience into local land use planning of cities, which enhance the importance of institutional environment and character of a city that indirectly enables to improve service delivery in local government administrations

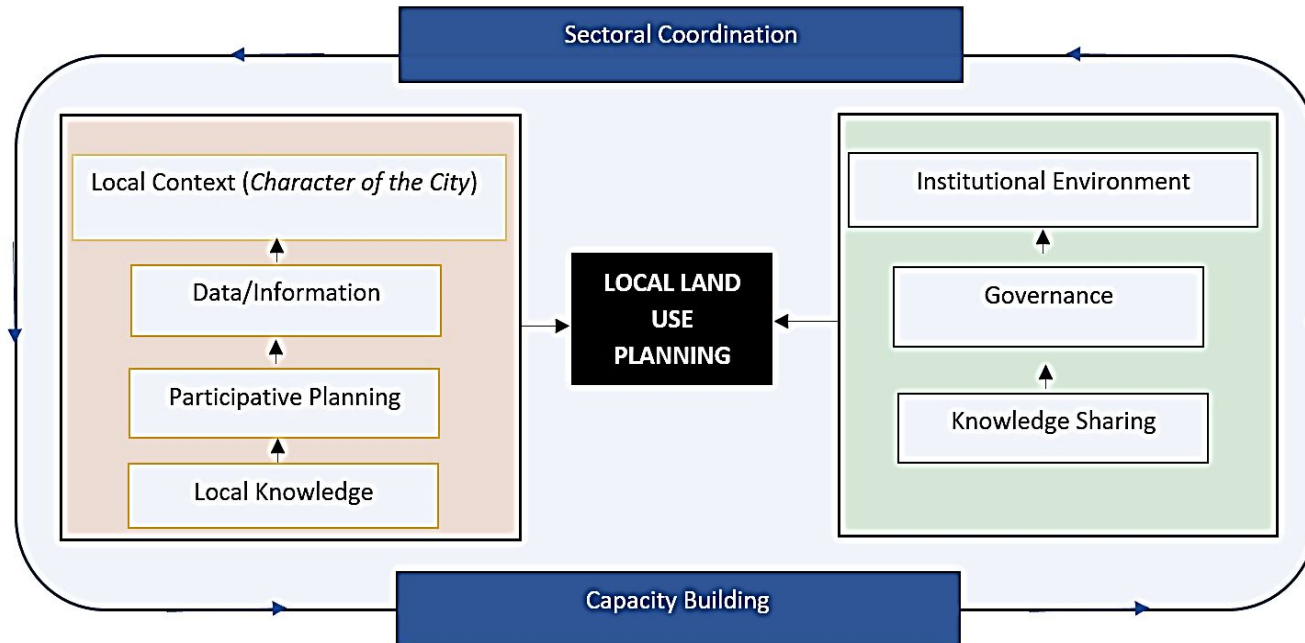
This research will provide awareness and understanding of the climate change impact in institutions and how to preserve the tacit knowledge held in their employees' minds via effective sectoral coordination and capacity building

The conceptual framework presented in this research represents an integrated bottom up approach in the context to enable holistic interaction between various stake holders and actors for an effective local land use planning.

The framework established the significance of mainstreaming in presenting an integrated approach for the stakeholders and actors involved in local authorities concerning their duties, responsibilities, where such duties and responsibilities to mainstream climate resilience successfully in relevance to land use planning.

Research Significance

A framework for mainstreaming climate resilience in local land use planning





□ Planning Research and Guidelines

NPP3 : Thrust 1
NUP2 : Principle 4
NRPP : Thrust 1, Thrust 3, Thrust 4

□ Planning Research and Guidelines



NPP3 : Thrust 3
NRPP : Thrust 3



NPP3 : Thrust 3,

□ Planning Research and Guidelines



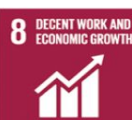
NPP3 : Thrust 2, Thrust 3
NRPP : Thrust 1, Thrust 3

□ Planning Research and Guidelines



NPP3 : Thrust 2
NUP2 : Principle 5
NRPP : Thrust 3

□ Planning Research and Guidelines



NPP3 : Thrust 1
NUP2 : Principle 3
NRPP : Thrust 4



NPP3 : Thrust 1
NUP2 : Principle 3 Principle 4
NRPP : Thrust 2, Thrust 3, Thrust 4

□ Planning Research and Guidelines

17 SDGs

**“Transforming Our World :
The 2030 Agenda for
Sustainable Development ”**

16 

**are directly related to
Malaysia's Spatial Development Context**

- Planning Legislation and Regulations
- National Development Plans (NPP, NUP, NRPP)
- Regional Planning Committee and Regional Plans
- Development Plans (State Structure Plans, Local Plans, Special Area Plans & other development plans)
- Planning Information System and Decision Support System

1 Goal with indicators that is not directly related to Malaysian Spatial Development Context



□ Planning Research and Guidelines

NPP3 : Thrust 1, Thrust 2
NUP2 : Principle 1, Principle 2, Principle 4, Principle 5
NRPP : Thrust 1, Thrust 2, Thrust 3

□ Planning Research and Guidelines

NPP3 : Thrust 2
NUP2 : Principle 5

NPP3 : Thrust 2
NUP2 : Principle 2, Principle 5
NRPP : Thrust 1, Thrust 3

NPP3 : Thrust 2

NPP3 : Thrust 2
NUP2 : Principle 5
NRPP : Thrust 1

□ Planning Research and Guidelines

NPP3 : Thrust 3
NUP2 : Principle 1
NRPP2: Thrust 5

□ Planning Research and Guidelines





THEME

A
Increase liveability
to enhance quality
of life

B
Upgrade the
economy to raise
household incomes

C
Empower people to
strengthen civic
participation

D
Invest in the built
environment
to improve resilience

STRATEGIC INITIATIVES

A1
Address housing
affordability and
diversity

B1
Advance readiness of
local manufacturing
industries for the
digital age and the
green economy

C1
Uplift vulnerable
communities and
reduce inequalities

D1
Balance development
through effective
spatial planning

A2
Continue to improve
public safety and
cleanliness

B2
Modernise and
diversify sustainable
agriculture

C2
Boost participation of
youth, women and
seniors in community
life

D2
Strengthen mobility,
connectivity and
digital infrastructure

A3
Enhance welfare and
care systems

B3
Create a variety of
quality tourism
products across
island and mainland

C3
Create more platforms
for public involvement
in social development

D3
Integrate municipal
services with smart
technologies

A4
Diversify recreation,
sports, arts and
culture facilities

B4
Foster an ecosystem
that nurtures creative
industries and niche
business services

C4
Accelerate
programme delivery
and institutional
reform

D4
Implement climate
change adaptation
plans



THANK YOU



“RESILIENCE”

“The oak fought the wind and was broken, the willow bent when it must and survived.”

— Robert Jordan