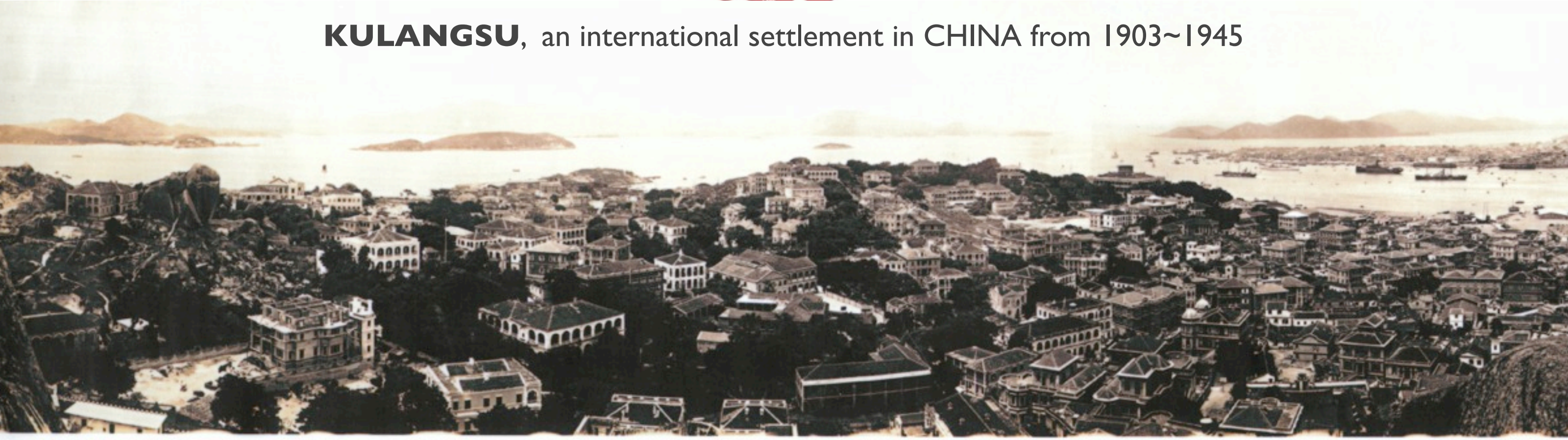




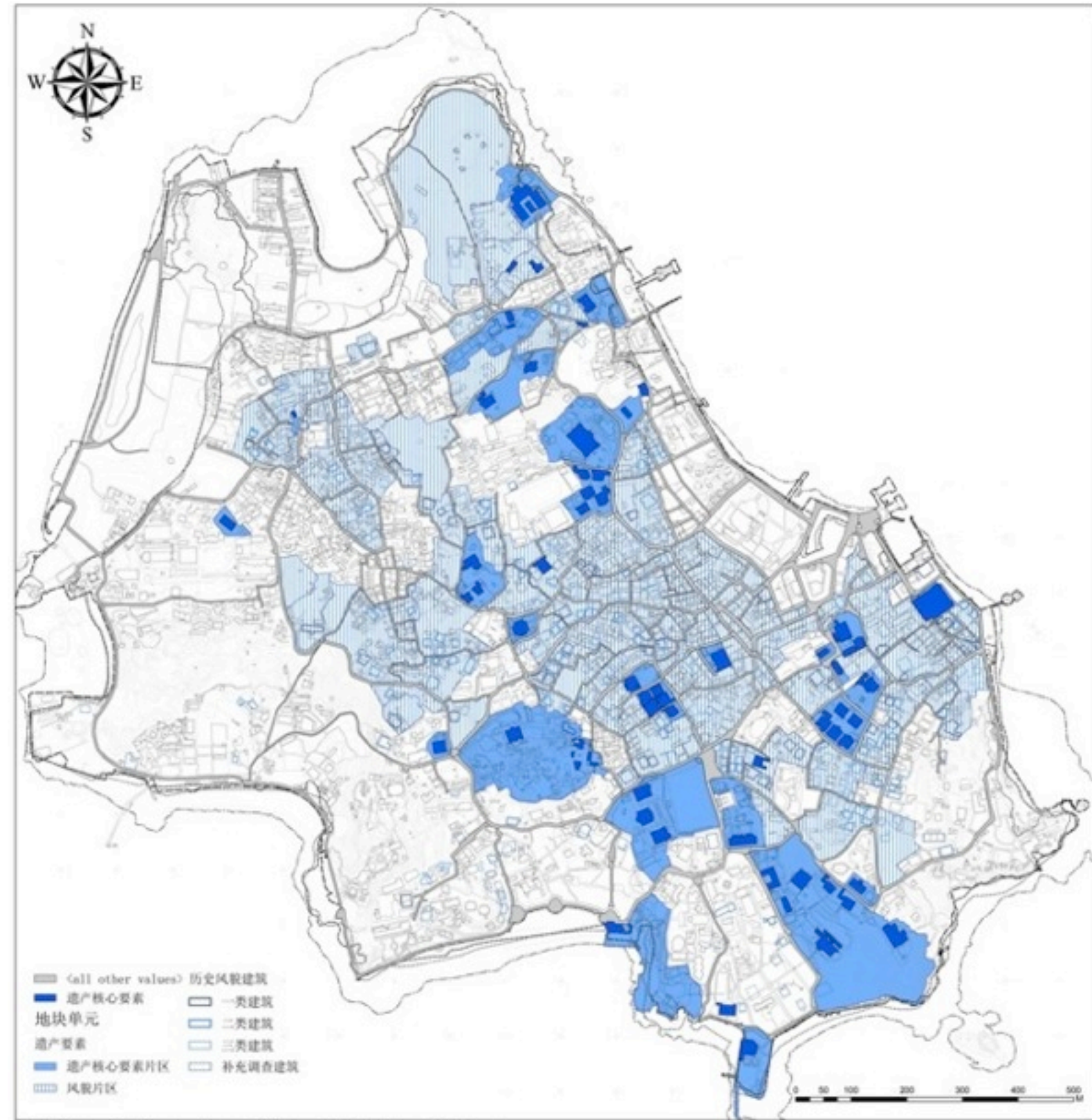
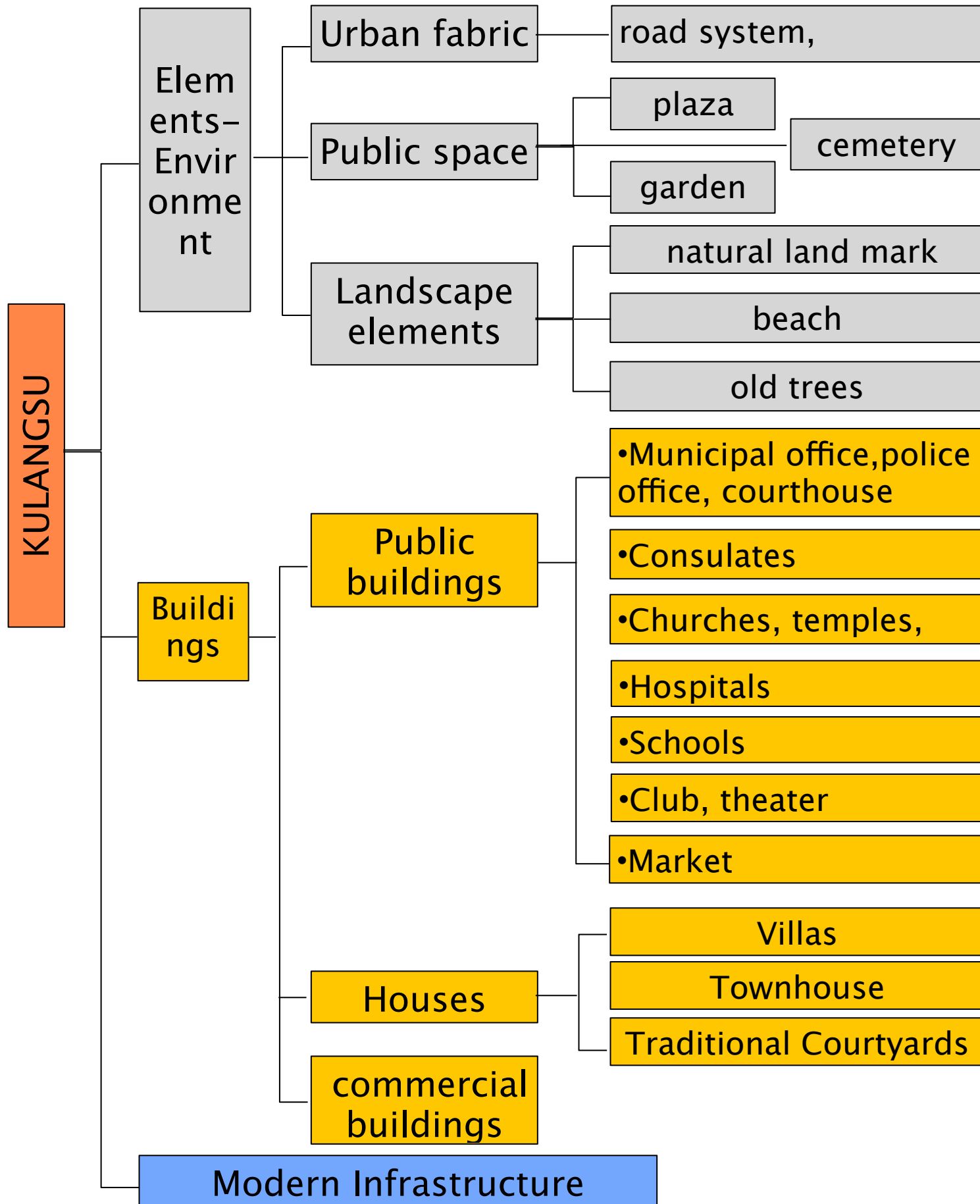
KULANGSU, Amoy, CHINA 2010



KULANGSU, an international settlement in CHINA from 1903~1945



Attributes



Vulnerabilities - physical aspect

Attributes			Typhoon	Earthquake	Fire	Tsunami	High T&H	Termite	Plant G
Buildings	Structures	wood structure	vulnerable [condition,location, roof structure]	not very vulnerable [condition and basement]	very vulnerable	very vulnerable [location]	vulnerable	vulnerable	-
		brick structure	not very vulnerable [condition and roof structure]	vulnerable [condition and basement]	not very vulnerable [condition, other materials]	very vulnerable [location]	not very vulnerable	-	vulnerable
	Decoration	plaster	Vulnerable [condition,location, building]	Vulnerable [condition,location, building]	Vulnerable	very vulnerable [location]	Vulnerable	-	vulnerable
		granitic plaster	not very vulnerable [condition,location, building]	Vulnerable [condition,location, building]	Vulnerable	very vulnerable [location]	not very vulnerable	-	not very vulnerable
		painting	Vulnerable [condition,location, building]	Vulnerable [condition,location, building]	Vulnerable	very vulnerable [location]	vulnerable	Vulnerable [wood basement]	vulnerable
	Furnishing		not very Vulnerable [building]	Vulnerable [building]	very vulnerable	very vulnerable [location]	not very vulnerable	vulnerable	-
Collections	In exhibition		not very Vulnerable [building]	Vulnerable [building]	very vulnerable	very vulnerable [location]	-	-	-
	In store		not very Vulnerable [building]	Vulnerable [building]	very vulnerable	very vulnerable [location]	vulnerable	vulnerable	-
Historical Urban Landscapes	Street scape		not very Vulnerable [building, wall, tree]	Vulnerable [building, wall, tree]	Vulnerable [building, wall, tree]	very vulnerable [location]	-	-	could be changed
	Urban fabric		not very Vulnerable [building]	Vulnerable [building]	Vulnerable [building]	very vulnerable [location]	-	-	-
	Trees		Vulnerable [health condition]	not very Vulnerable [soil]	very vulnerable	very vulnerable [location]	not very vulnerable	vulnerable	-
	Landscaping element		not very Vulnerable [stable or not, surroundings]	not very vulnerable [health condition]	vulnerable	very vulnerable [location]	vulnerable [material]	vulnerable [material]	vulnerable

Scenario

Primary
Earthquake
Golden week
Afternoon

Secondary
Fire
in density areas

Potential
Tsunami
5 meters high

Hazard

Vulnerability

RISK

Buildings & walls collapse

few people injured

Fires occur

No water supply

Fire spread quickly

More building collapse

Streets blocked

Alarm of tsunami

Chaos occur

People could not escape

No enough space for escape

Extremely chaos, out of control

Lots of people dead or injured by stampede

... ..

Buildings

Aging

brick structure

wood structure

Collections

unstable

Urban

narrow street

no sufficient evacuate space

Social

>30000(local&tourist)

24% old&kid

incompact community

Supply

submarine pipe supply only

no water tank

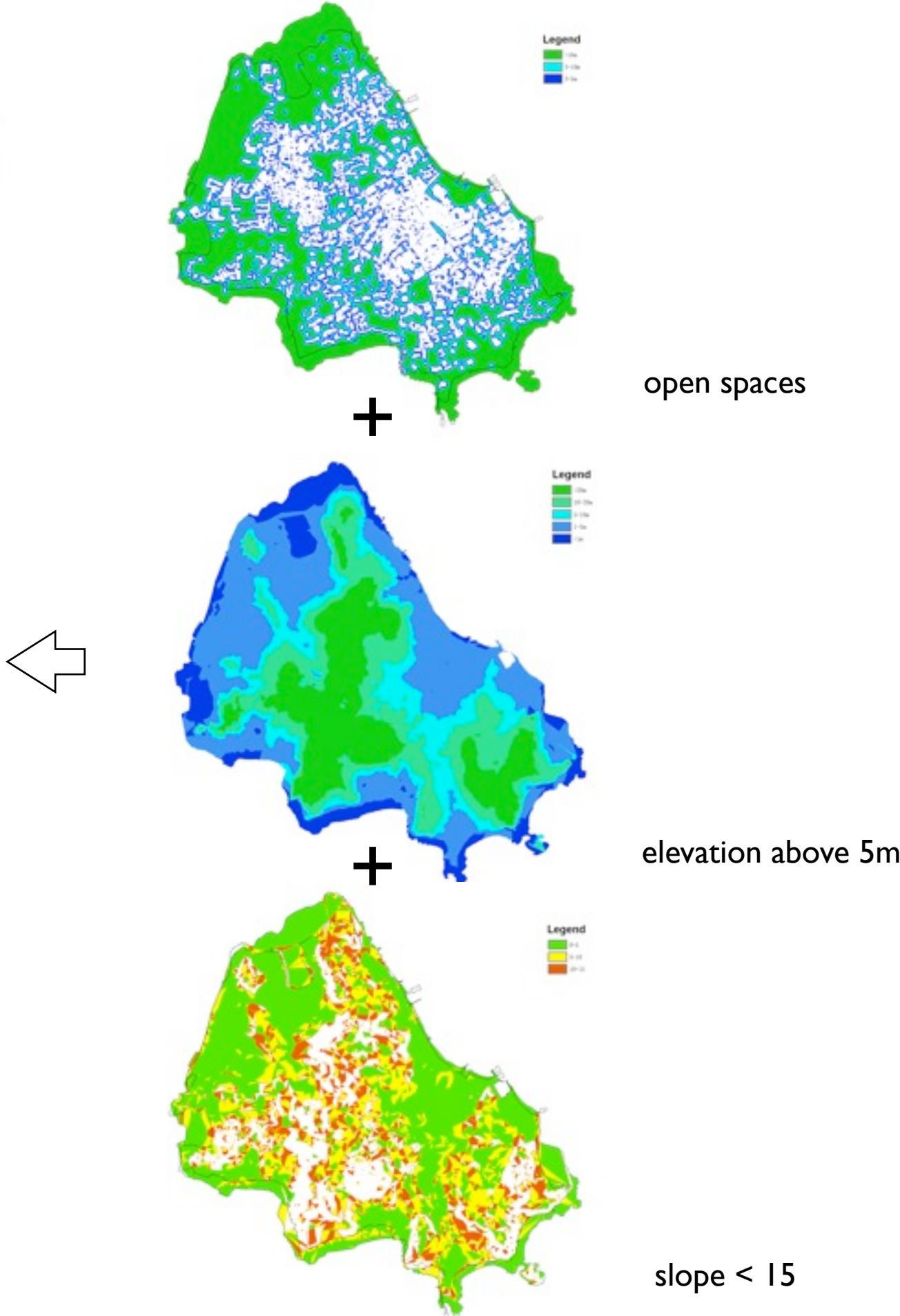
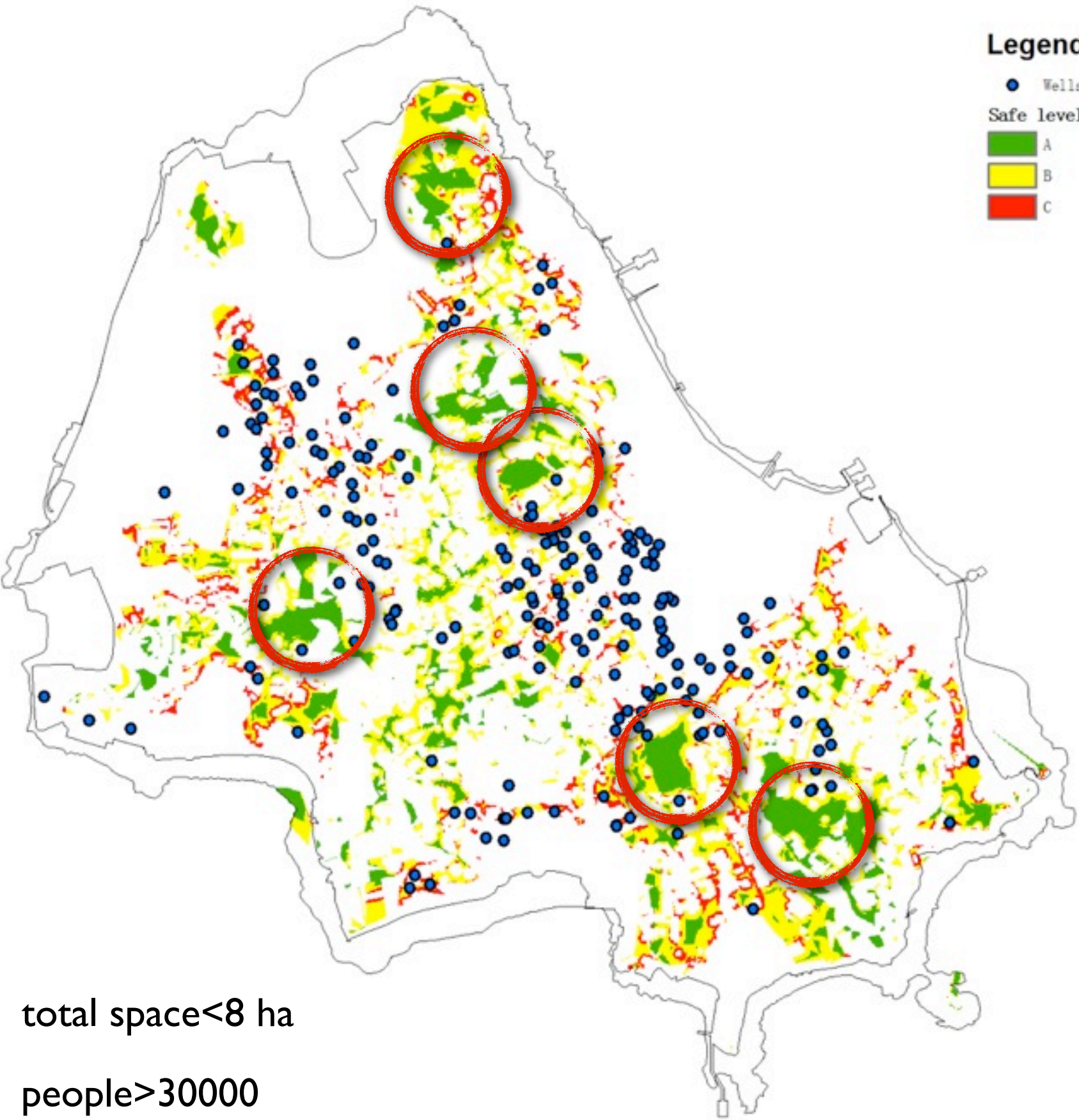
ferry only

Management

No signs

No enough facilities in evacuation space

Safe places



Disaster Risk Mitigation vulnerability – risk

physical aspect



Attributes		Physical intervention	Prevention measures	Management
Buildings	wood structure	repair in time, remove plants	improve fire fighting system improve drainage, prevent from termite	keep maintenance, guidelines of use, periodic inspection
	brick structure	remove plants, reinforcement (especially to high walls)	improve fire fighting system improve drainage, prevent from termite	
	Decoration(plaster, painting)	reinforcement, remove grass...		documentation, add to inventory periodic inspection
	Furnishing		prevent from termite	
Collections	In exhibition		fix properties & cabinets, remove risks in surroundings	documentation, prepare safe space & facilities in emergency
	In store		fix properties & cabinets, remove risks in surroundings add environment control system	
Historical Urban Landscapes	Street scape	reinforce the high walls along streets	add direction sign in multi- languages- escape route & safe spaces& danger	keep maintenance periodic inspection
	Urban fabric	add necessary equipments in evacuation space	designate big public buildings as evacuation center, reinforce & prepare	keep maintenance periodic inspection
	Trees	add supporting, rejuvenate old trees	prevent from termite	keep maintenance periodic inspection
	Landscaping element	reinforcement		documentation, add to inventory periodic inspection

Disaster Risk Mitigation risk – disaster

information dissemination, training and drilling



	information	training & drilling
local community	risk map with evacuation center&routes building condition assessment report emergency response plan description of heritage properties guideline on maintenance of HB	evacuation (fire, earthquake, tsunami) maintenance of HB
tourist manager	risk map with evacuation center&routes emergency response plan description of heritage properties	tourist evacuation (fire, earthquake, tsunami)
fire fighter	risk map with evacuation center&routes building condition assessment report guideline on fire fighting of HB	fire fighting fire fighting of HB
heritage conservation staff	guideline on rescue of heritage property (buildings/different collections)	rescue skills
building maintenance team	guideline on historical building maintenance(different types) guideline on temporary reinforcement of HB	daily maintenance temporary reinforcement
other departments	address list of all related department&people risk map with evacuation center&routes emergency response plan	emergency response
local volunteer	risk map with evacuation center&routes guideline of different aspects (first aid, heritage rescue...)	trainings in different aspects

Disaster Risk Mitigation risk – disaster

evacuation plan



- Evacuation center
- Open space
 - Public building
 - Helicopter platform
 - Ferry Dock