



Water Related Risk Reduction in Yangon

Presented by-

Than Than Myint

Committee Member

Yangon City Development Committee



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- Impacts of climate change in Myanmar
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Impacts of climate change in myanmar



Land slide in Chin State (2015)



Flood in Sagaing Region (2015)

Flood and Land slide, due to continuous heavy rain



Land slide in Mon State (2019)

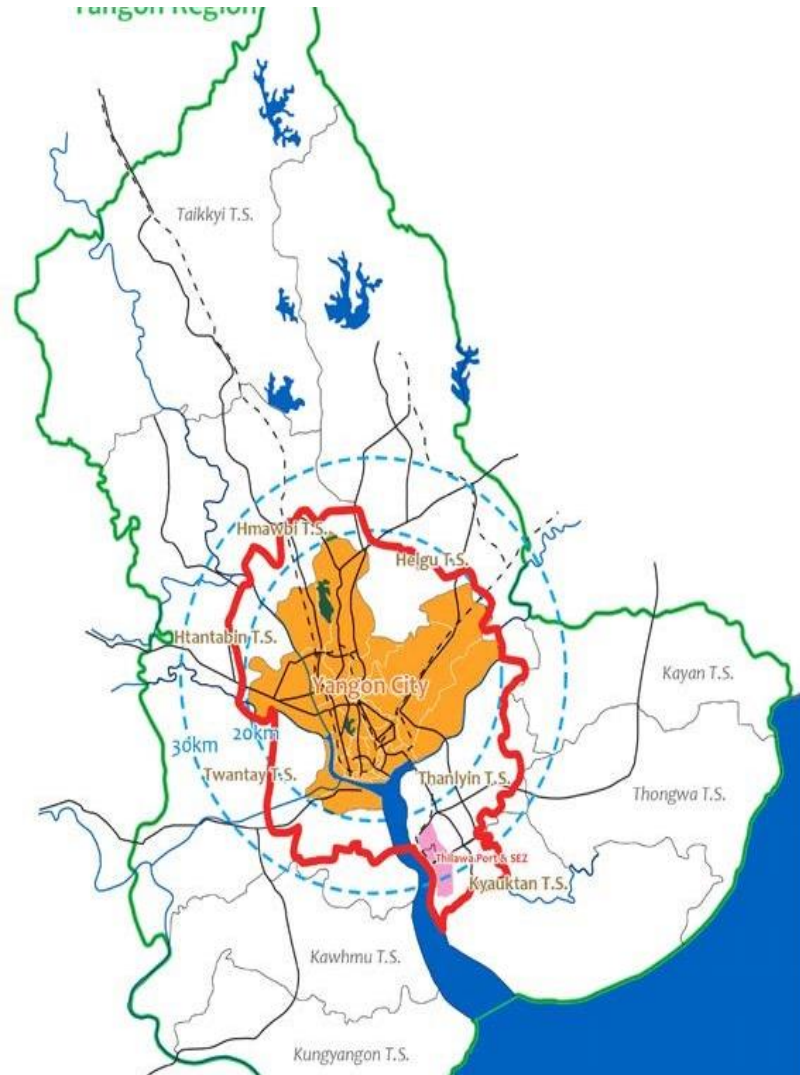


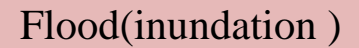
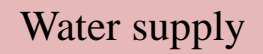
Flood in Kachin State (2019)



Profile of Yangon

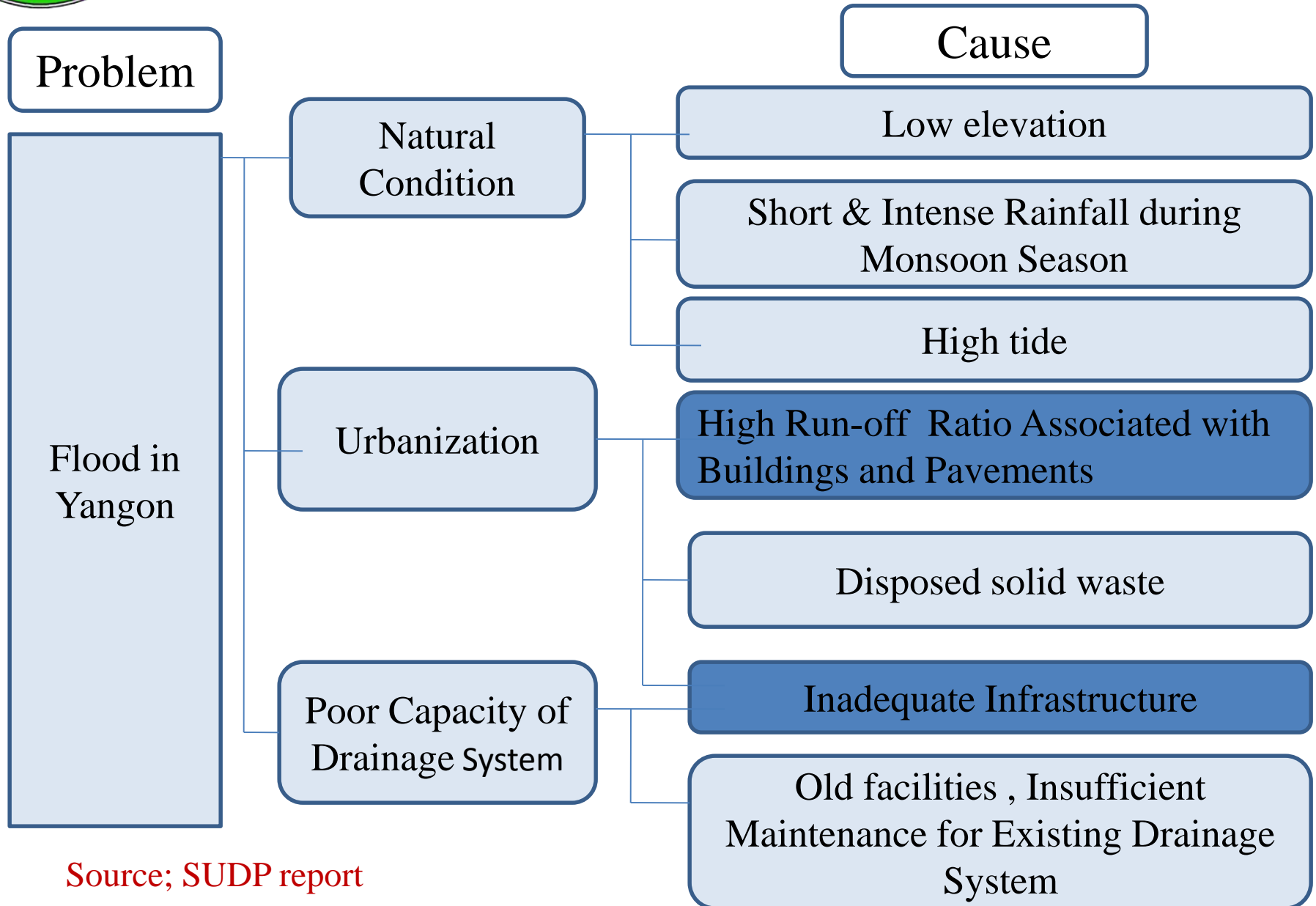
- The largest economic center of Myanmar
- Former Capital
- 794.43 sq-km of Yangon is administrated by YCDC in 33 township out of 45.
- In total population of 7.4 mil in Yangon region, 5.14 mil in YCDC.
- 70% of the Yangon's population are living in Urban Area.







Cause of Flood in Yangon

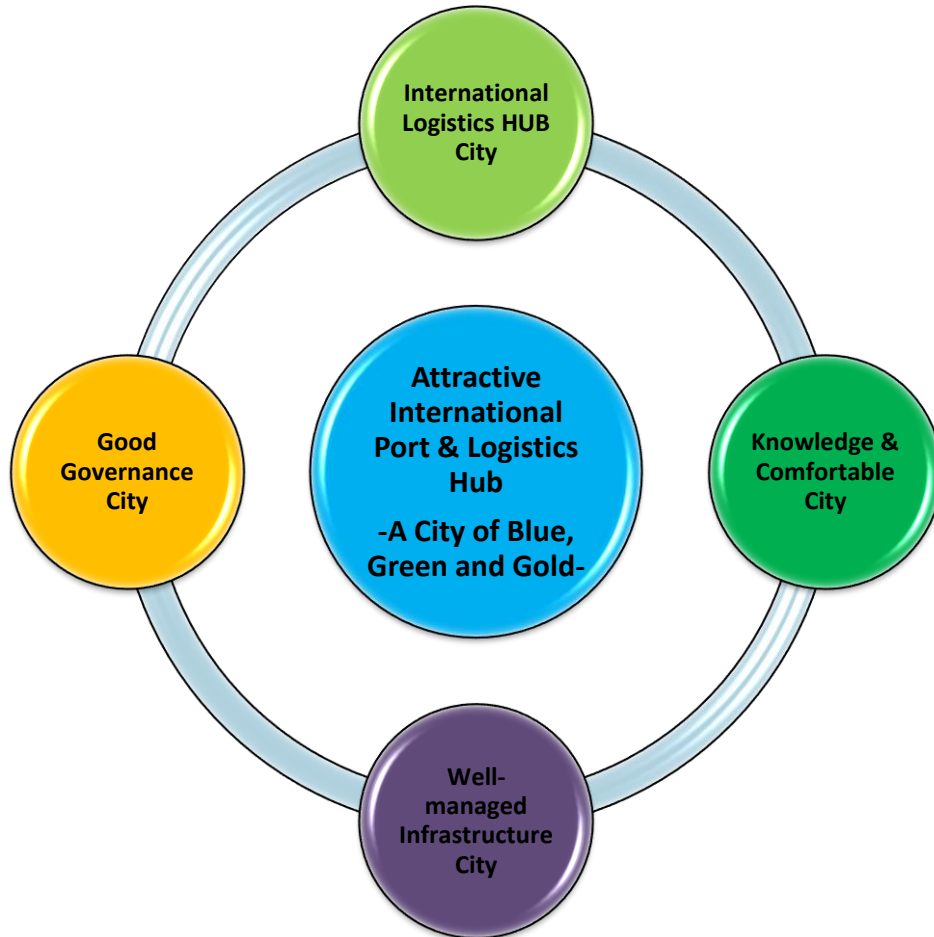


Source; SUDP report



Planning Framework

Development Vision of Yangon



1. Development Vision

- To indicate an ideal future image of the city catering to the citizen's need
- To set a socio-economic framework

2. Urban Structure

- To set layout plan of urban, industrial and infrastructure function
- To set land use plan especially for new town development

3. Development Policies

- To set development directions and necessary actions by urban development, urban services and infrastructure sectors

4. Priority Projects

- To identify necessary projects, and those rough budgets
- To implement projects to realize the plan

5. Urban Development Management

- To set strategies of financing urban



Urban Structure

Principles

1. Compact

Urban expansion shall be basically limited inside of the outer ring road

2. Decentralization

Urban center function shall be dispersed to outer areas

3. Four Growth Axis

Four axis along trunk roads and railways shall be strengthened.

4. Four New Cities

Four new cities of suburb shall be developed with large-scale.

5. CBD Renovation

Current CBD shall be renovated as more pedestrian, cultural ecologically-friendly.

6. Transport Linkage

Bus, railway, waterway and other public way shall be improved.

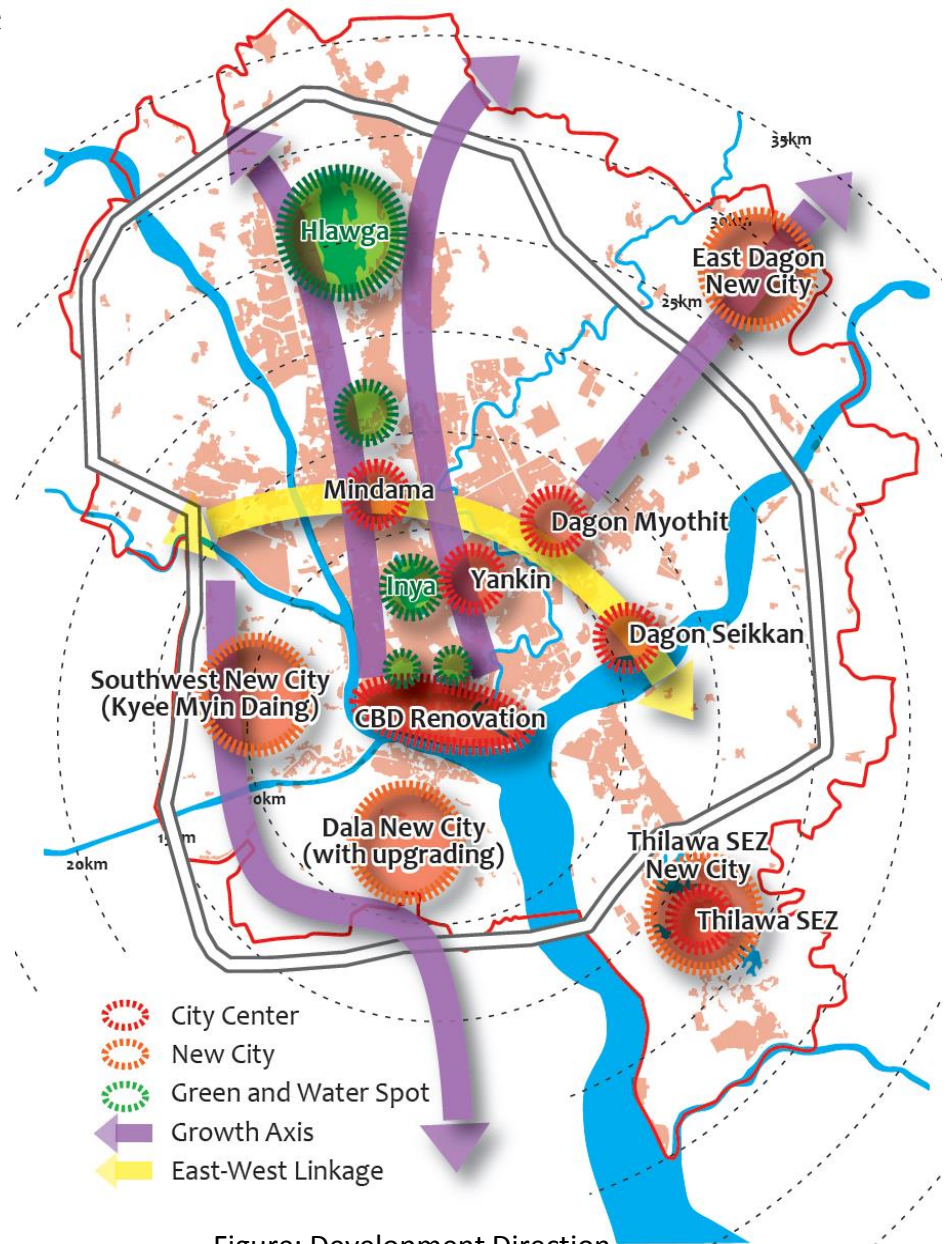


Figure: Development Direction



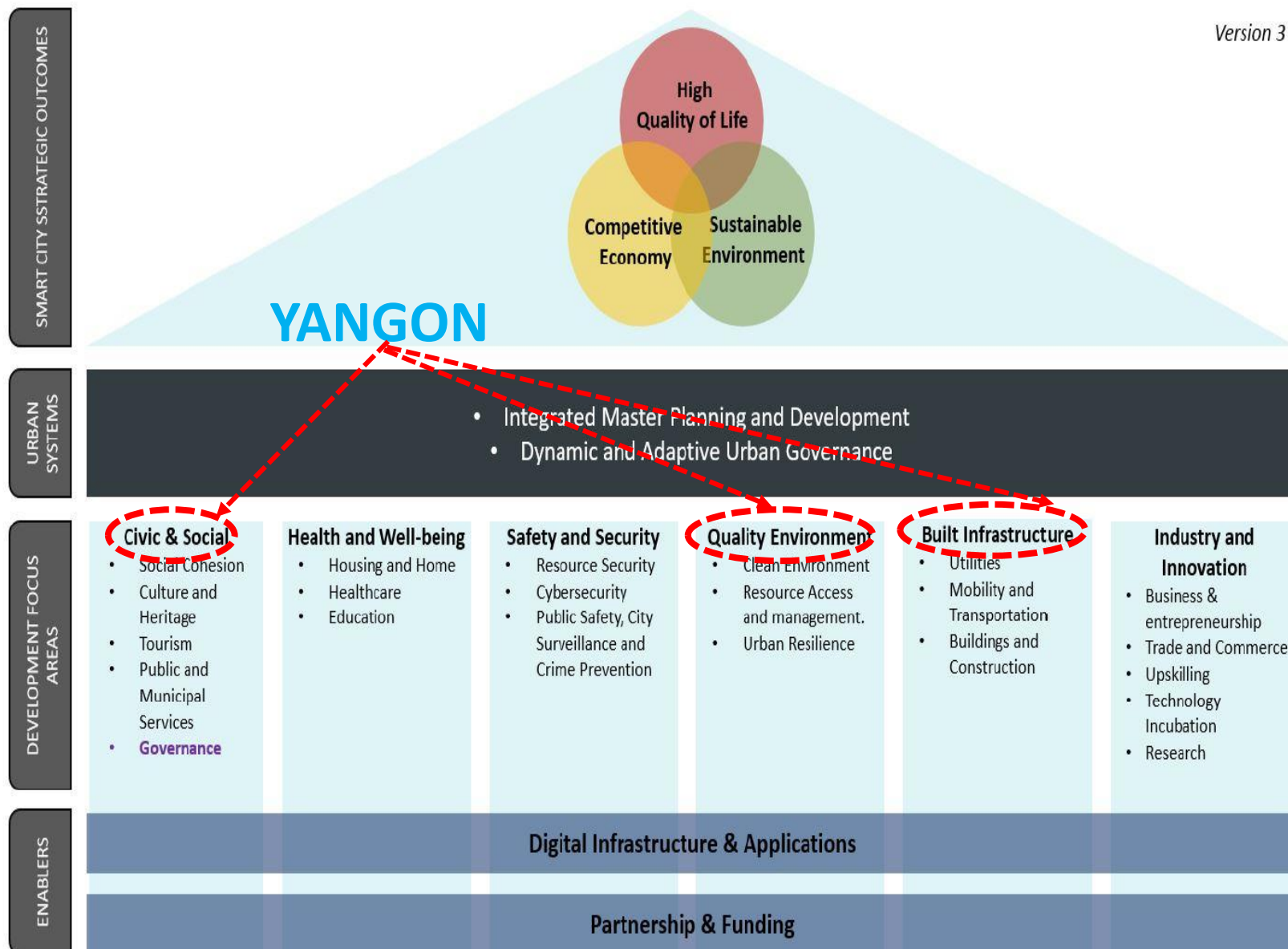
Related Projects of YCDC

Sr. No	Project Name	Cooperated Organization	Result
1	The Project for Urban Development Management in Yangon	JICA	Implantation of zoning regulations, development plan permission and land use
2	Yangon-Paris City to City cooperation Program	Paris-YCDC	Zoning regulations
3	Po-poor Community Infrastructure and Basic Service Project	ADB(JFPR)	Pro-poor infrastructure development in Dala and Hlaing Tharyar Townships
4	Multi risks management in extremely events in Yangon	University of Cologne	For implementing the developed concepts and procedures for risk management
5	Myanmar Southeast Asia Disaster Risk Management Project	World Bank	To reduce flood risk by improving and increasing the capacity of drainage infrastructure



ASEAN Smart Cities Framework

Version 3





Adapting Measures for Resilience

- Reform the drainage structure
- Construct Sluice gate along Strand Road in Downtown
- Implement greening the city activities(Parks , Roadside planting, etc.)
- cleaning & pollution control of the city
- distribute sufficient water supply to the city dweller
- Formulate systematic Urban planning



Reform the drainage structure



old drainage - 1'6" - 2'0"

Extension of Roads, pavement and Drainage in downtown of Yangon

New drainage facilities



Sluice gate at river outlet along Strand road



new drainage - 4' 0"

7" thick concrete roads

4" thick, 4' width pavement



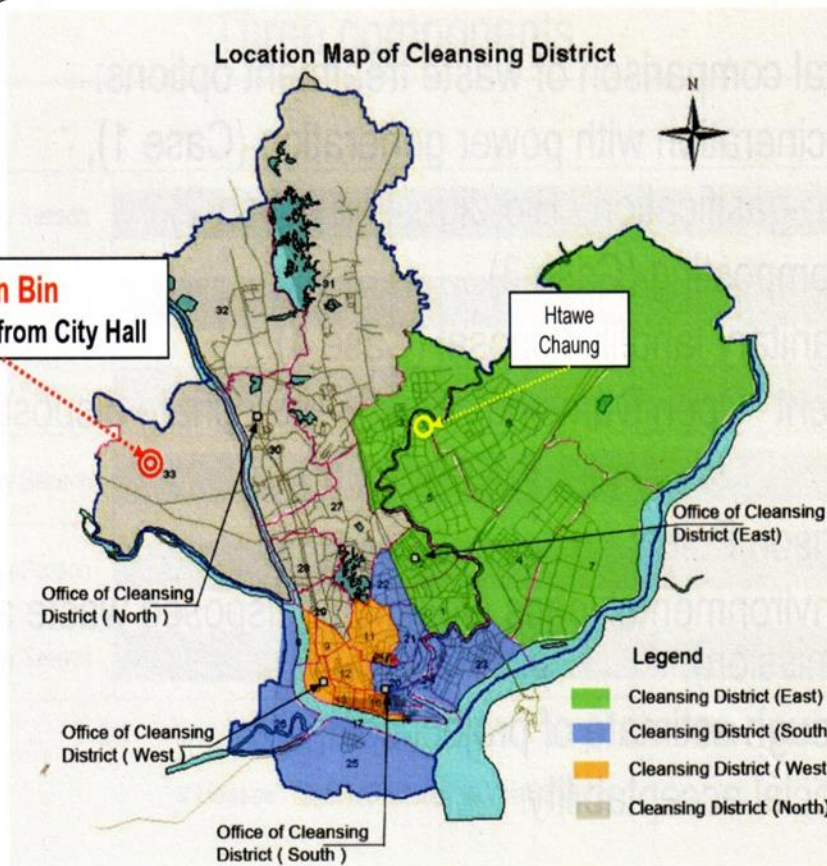
Upgrading of parks





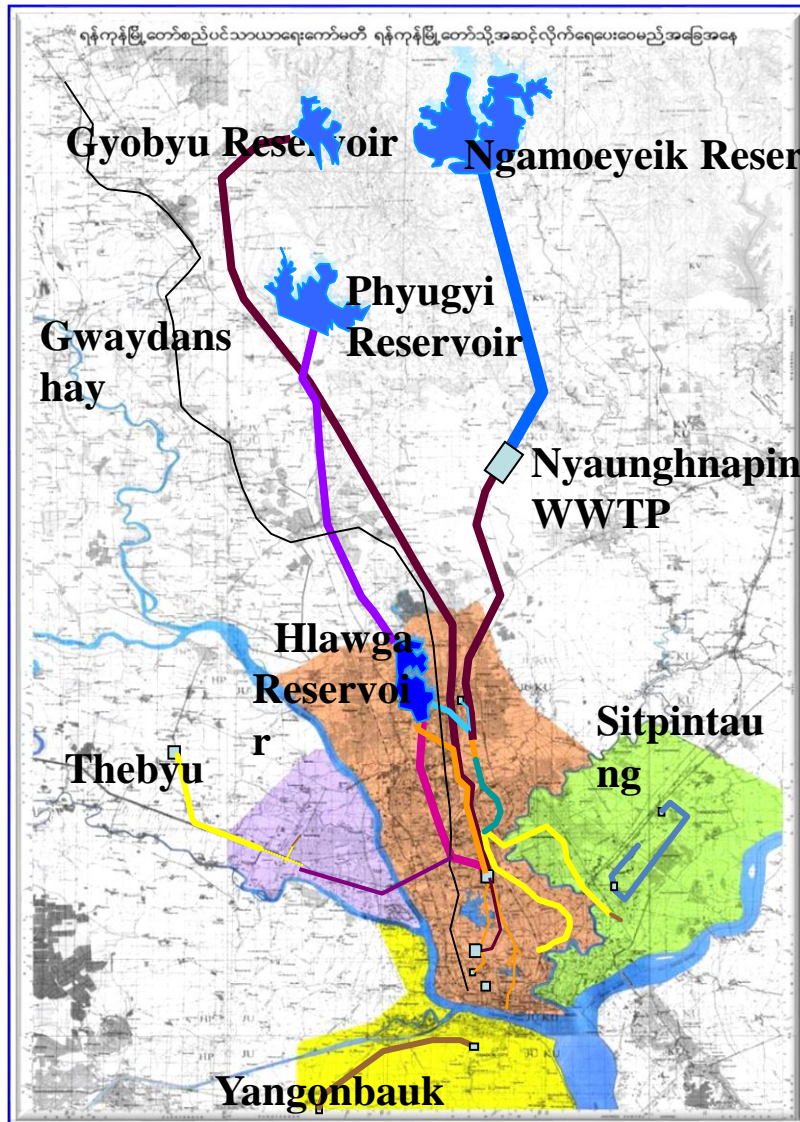
Environmental Friendly: Solid Waste Management

- Waste segregation
- Collected waste > 2000 TPD
- Final disposal site
- Upgrading SWM facilities
- Initiate waste to energy





Current Water supply system of Yangon



- Supply 205 MGD
- 53% of City area can covered
- 50% of NRW
 - old facilities
 - long transmission line
 - illegal connection
- Pilot project for reducing NRW at Mayangone township
- Replacing old facilities
- Extension of water supply network
- Plan to distribute by zoning in 10 zones
- Plan to stop using tube well in 2025

Source: Engg. Dept. of Water Supply



Conclusion

- Multi-sectorial coordination is necessary
- Need to create integrated urban resilience at both national and local level , systematic policy framework is needed .
- Need to understand the vulnerability to natural and manmade disaster .
- To promote public awareness of the impact of climate change and other water related problems
- Y.C.D.C managed to try to fulfill our vision “ **Quality Environment and Build Infrastructure**” according to the framework of Smart City.



Thank you for your kind attention!