



Cambodia: Urbanization and Drivers of Change, and Challenges and Potentials

Regional Science Meeting on
Land Use Land Cover Change Program

January 31 2023-February 02 2024, Hanoi

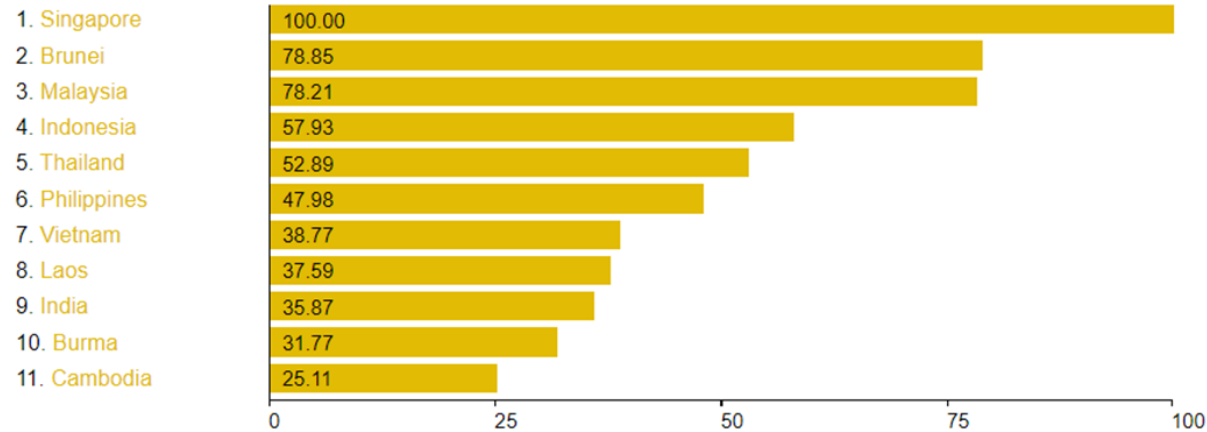
Dr. Makathy Tep And Tola Mach

Cambodian Institute for Urban Studies

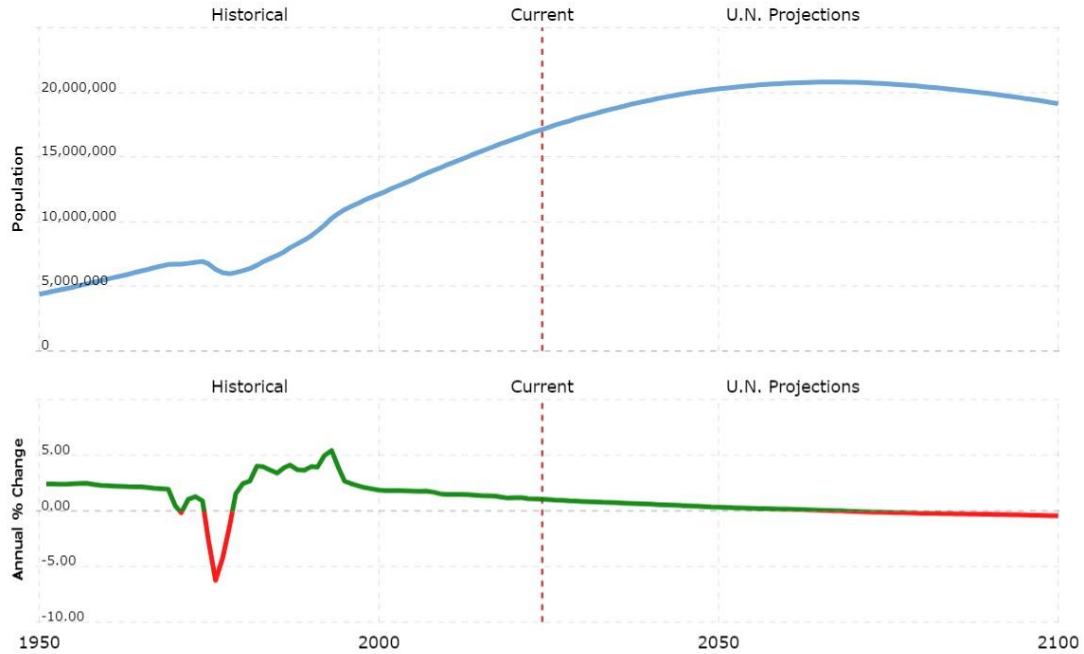
Demographic Profile

Item	Unit	2018	2019	2020	2021	2022	2023
TT Population	Million	16	16.2	16.5	16.7	17	17.3
Pop. Density	per sq km	88	90	91	92	93	95
M/F Ratio	100 Femal	96.7	96.9	97	97.2	97.3	97.5
Rural	% Pop.	75.5	85.1	74.6	74.1	73.7	73.3
Urban	% Pop.	24.5	24.9	25.4	26.9	26.3	26.7
Annual Growth Rate	%	1.4	1.4	1.3	1.3	1.3	1.2

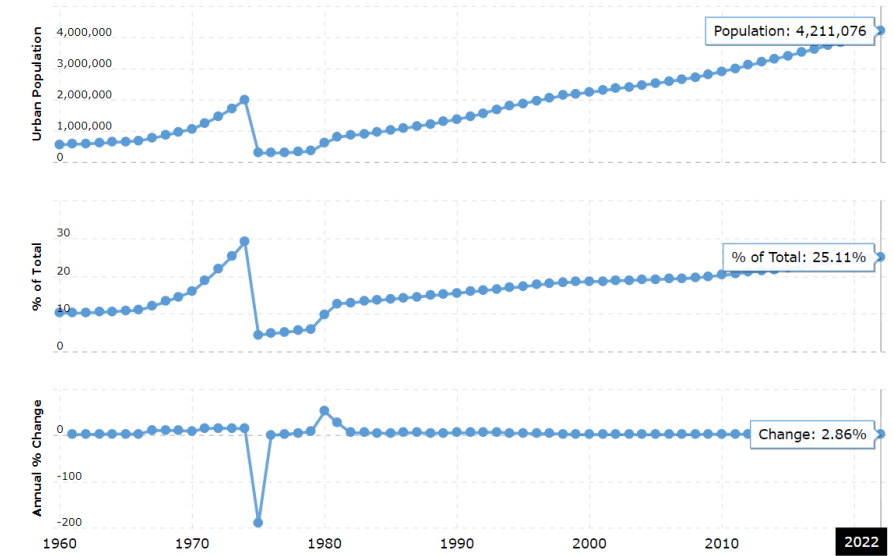
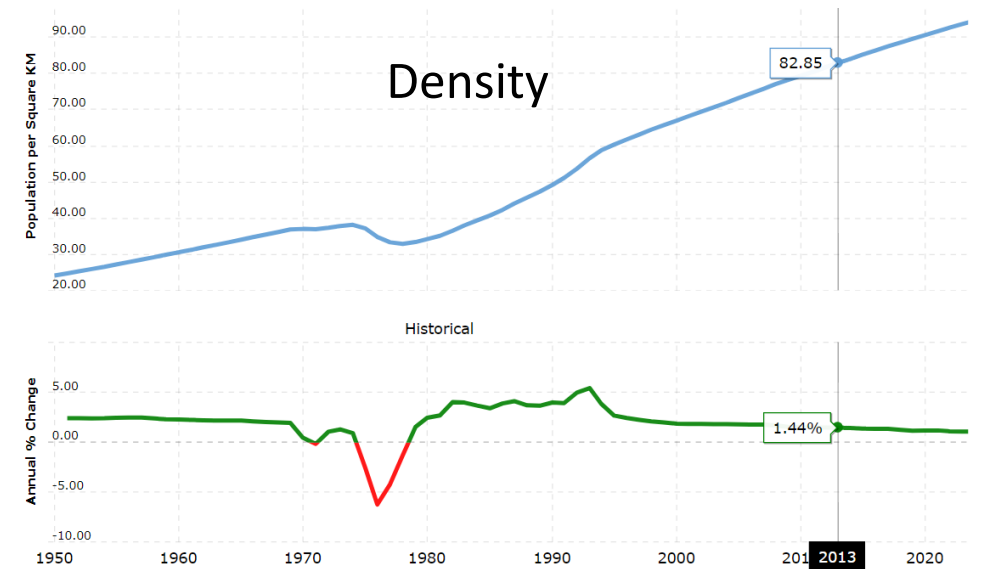
Definition: Urban population refers to people living in urban areas as defined by national statistical offices. The data are collected and smoothed by United Nations Population Division.



Demographic Profile

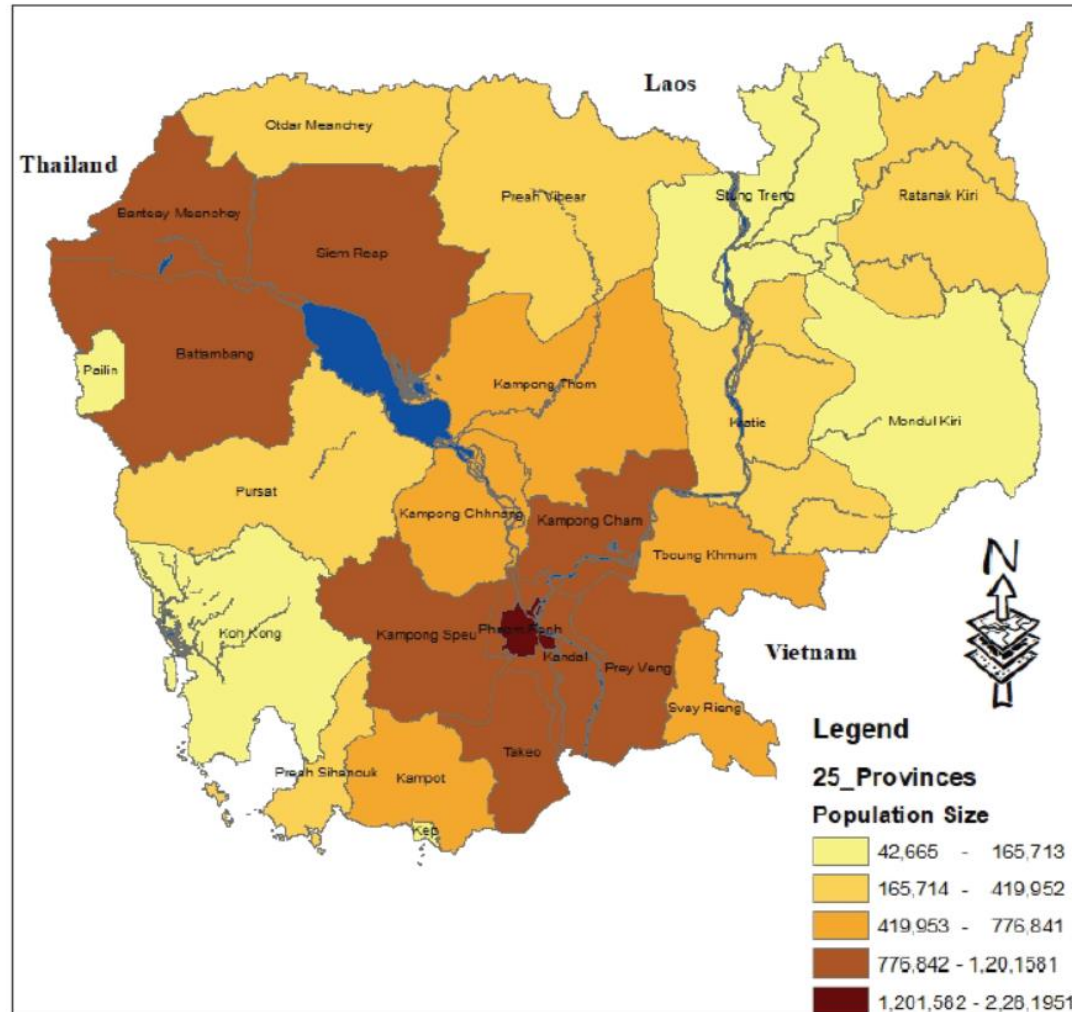


Population Growth rate

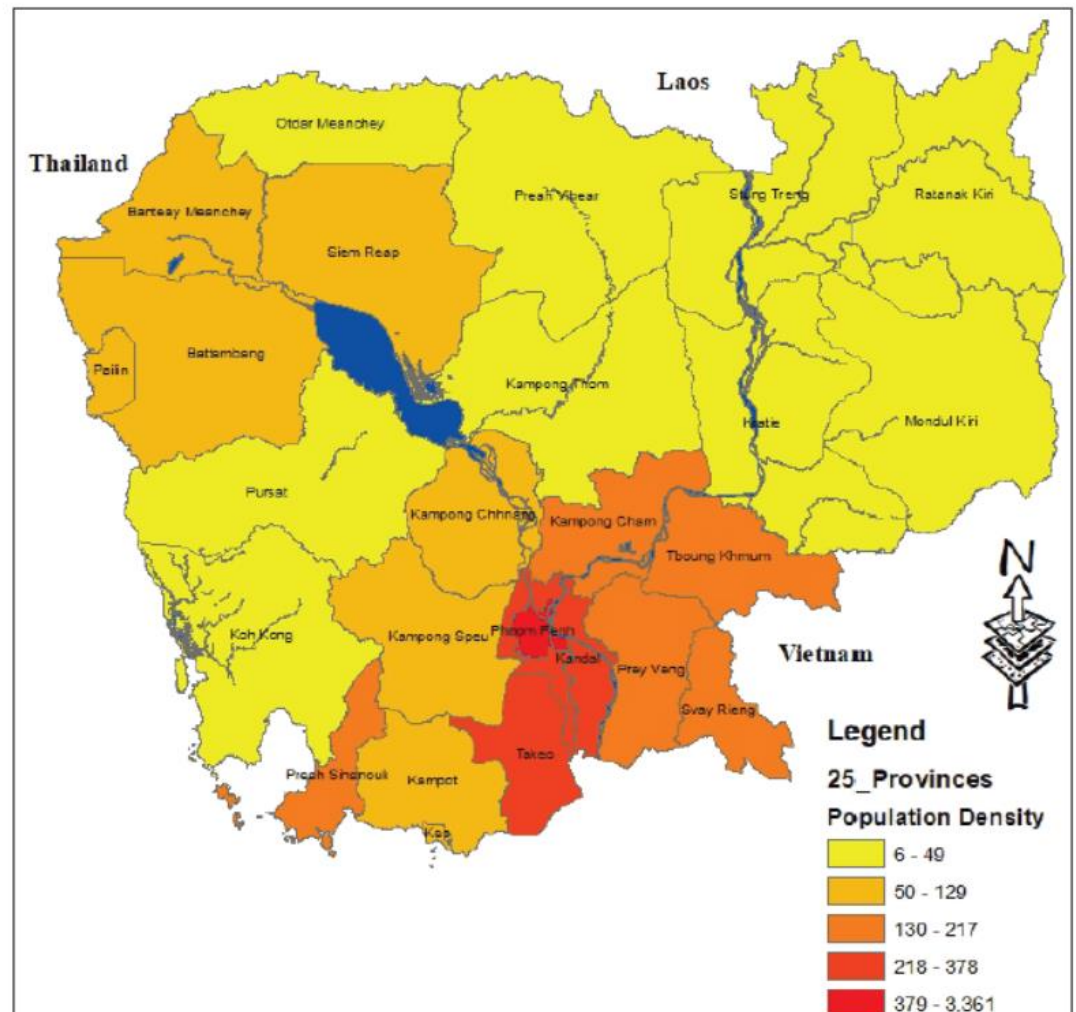


Population Urban

Demographic Profile



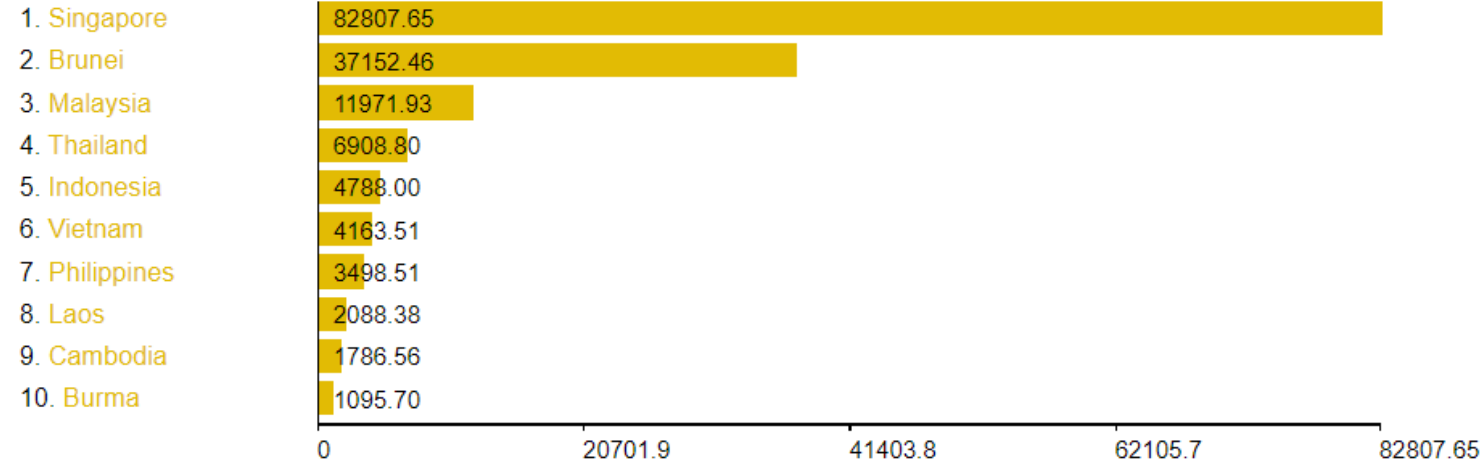
Population Distribution



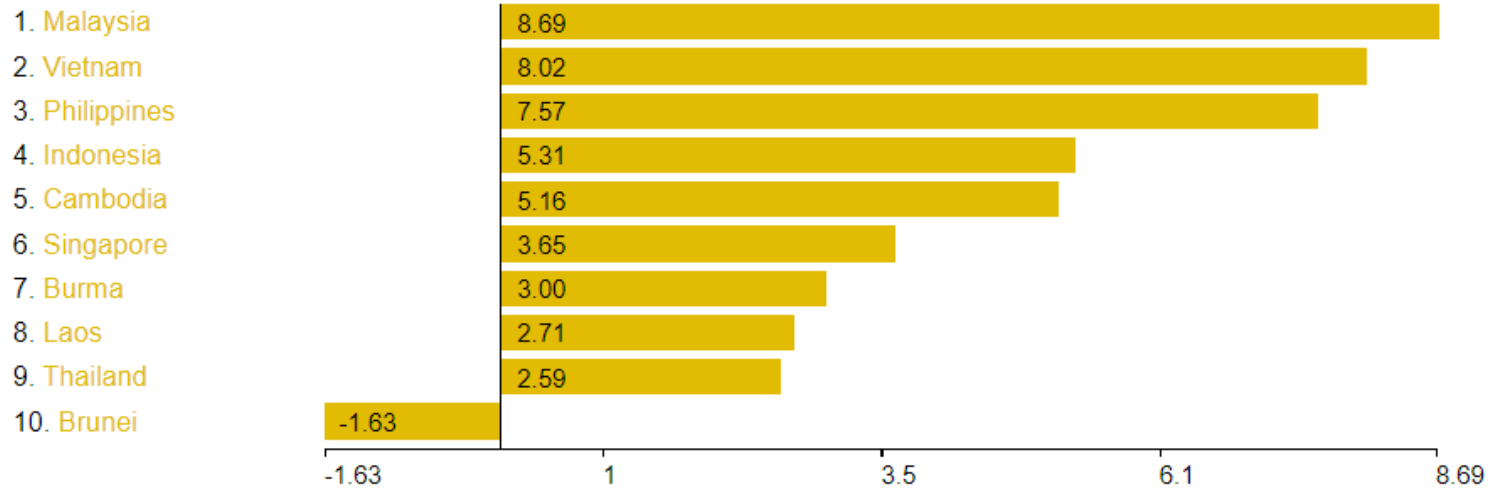
Population Density

Definition: GDP per capita is gross domestic product divided by midyear population. GDP is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources. Data are in current U.S. dollars.

Economic Profile



GDP Per Capita, 2022

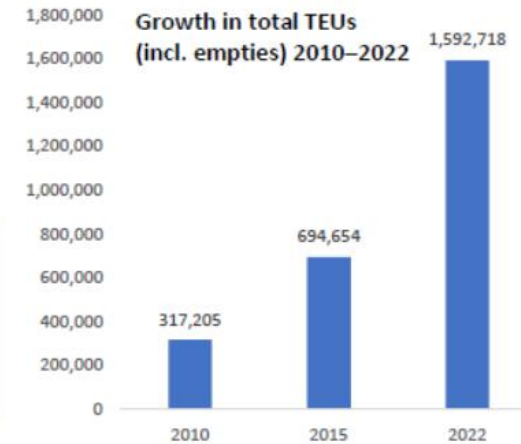


Economic Growth Rate-2022

Trades and Economic Growth

Trade and Economic Growth

- The value of imports grew at 19% per annum 60% faster than exports that grew at 12% per annum
- Containerized import and export cargo movements increased by 400% from 2010–2022 (incl. empties)
- Based on these trends, the volume of goods moving along highways, and through ports, airports, and warehouses could be double by 2030 compared to 2022

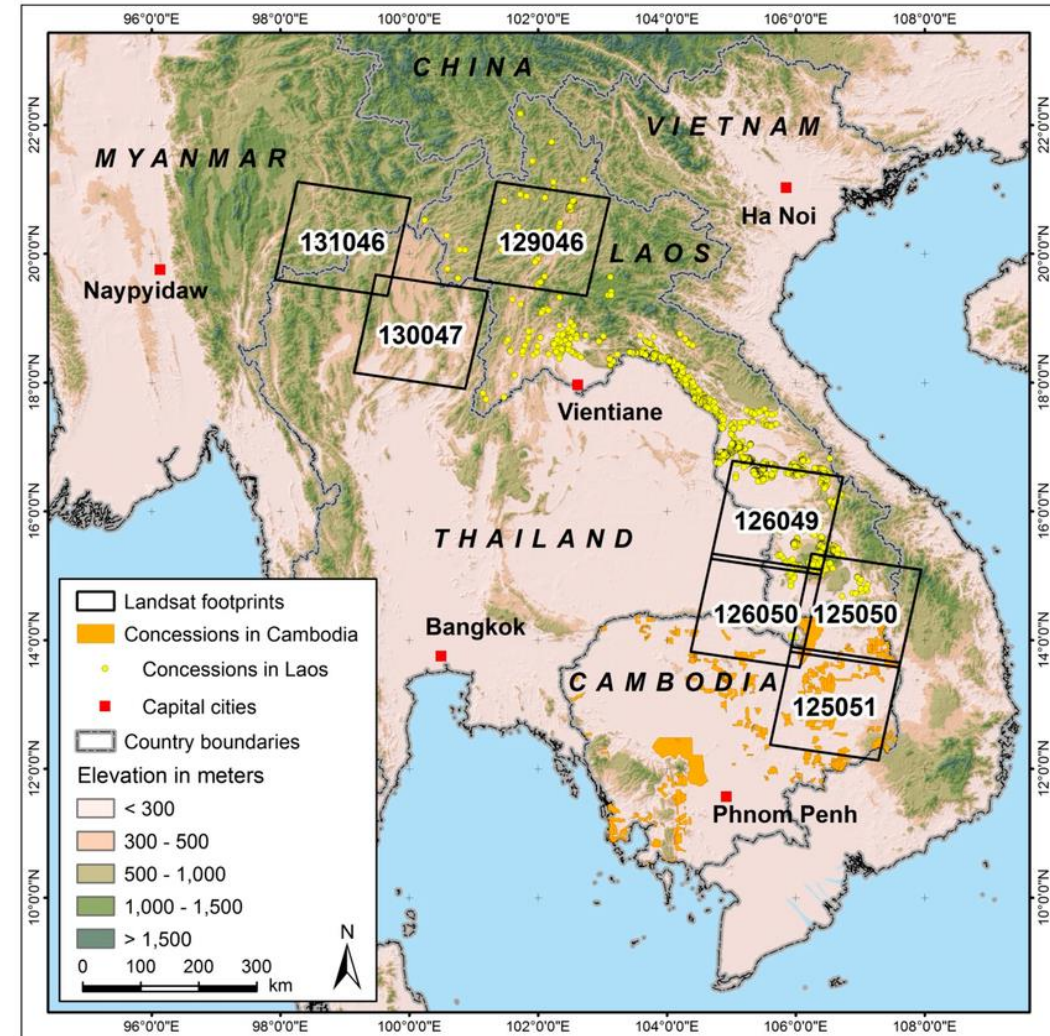
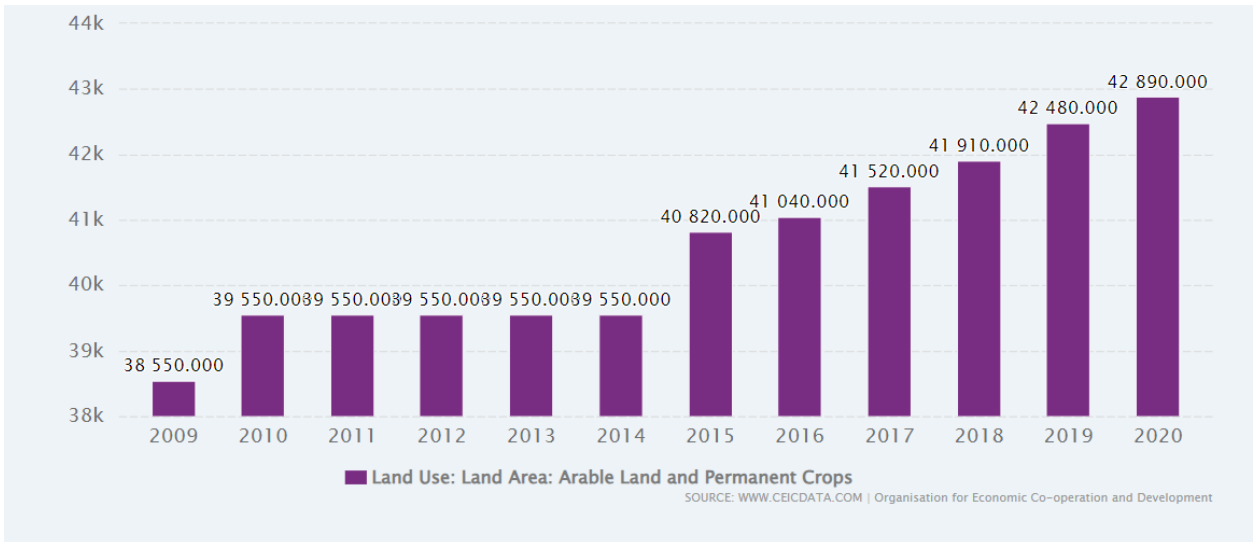
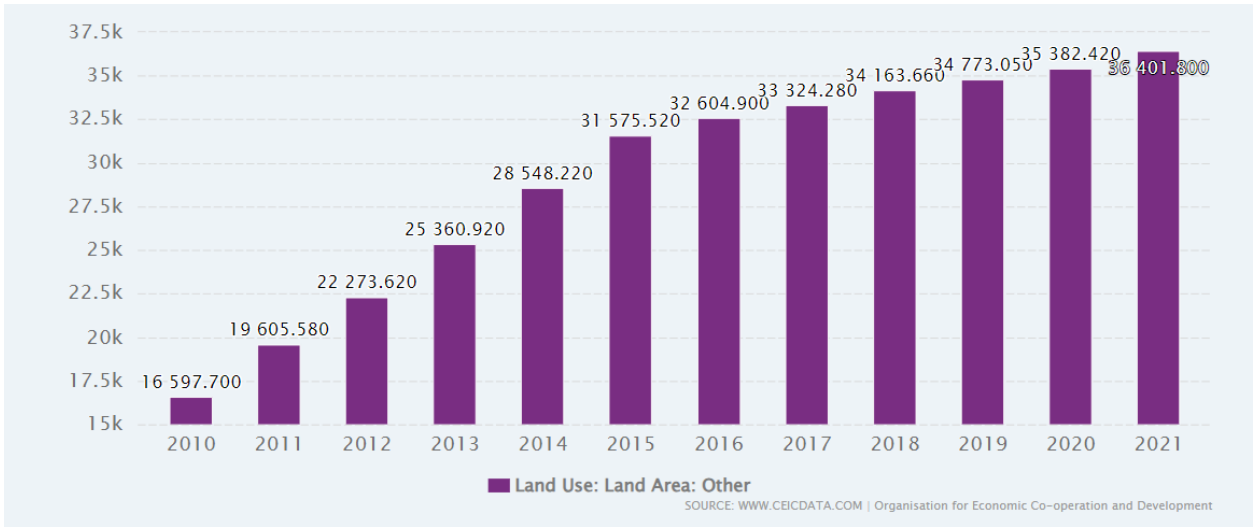


Export: Two thirds of Cambodia's exports by value are sent to highly competitive markets such as the United States of America, the European Union and Singapore, which increasingly require efficient and sustainable transport and logistic solutions

Import: China (40%), Thailand (15%) and Vietnam (14%) dominates the sources of Cambodia's imports



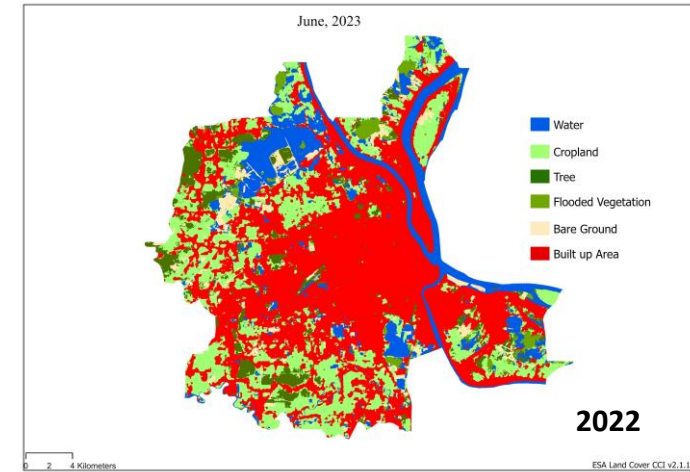
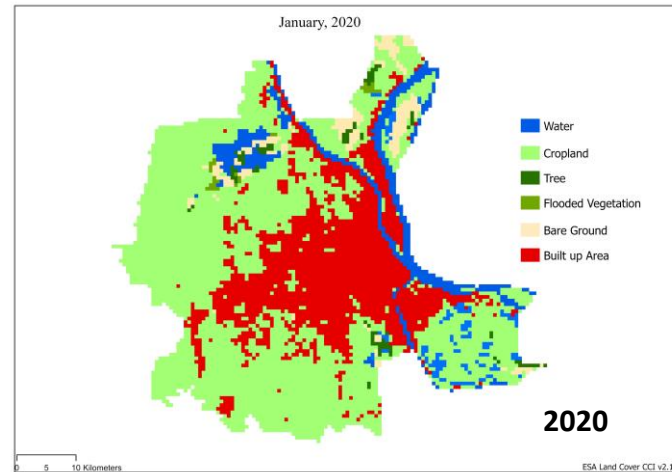
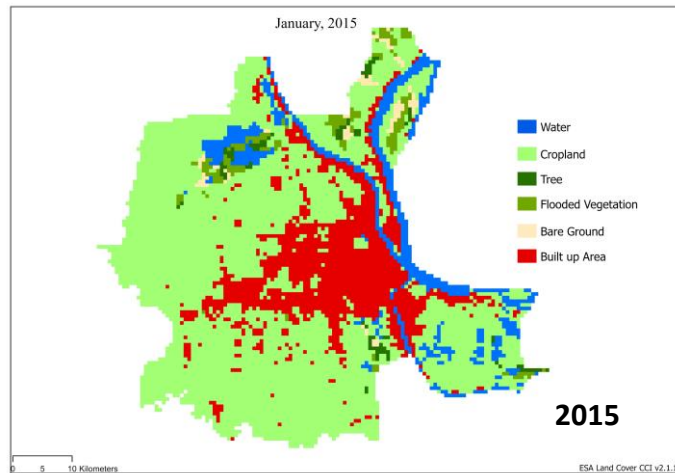
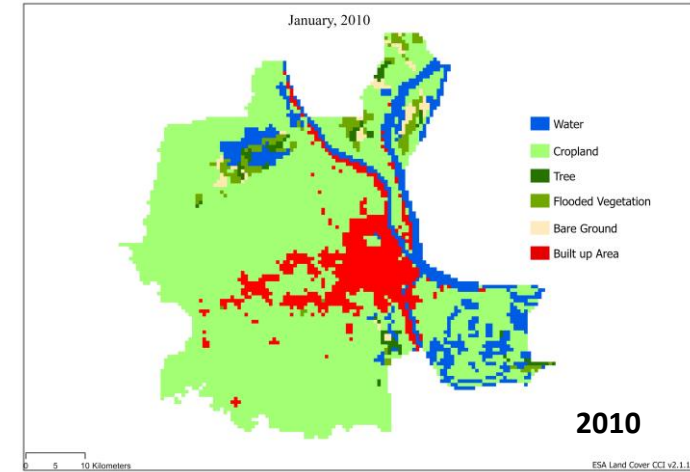
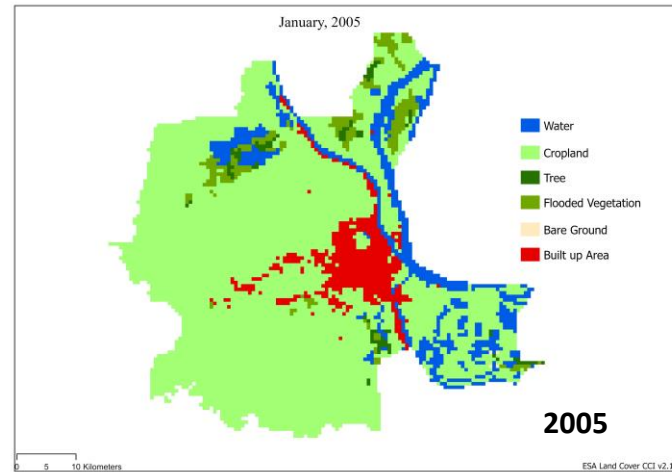
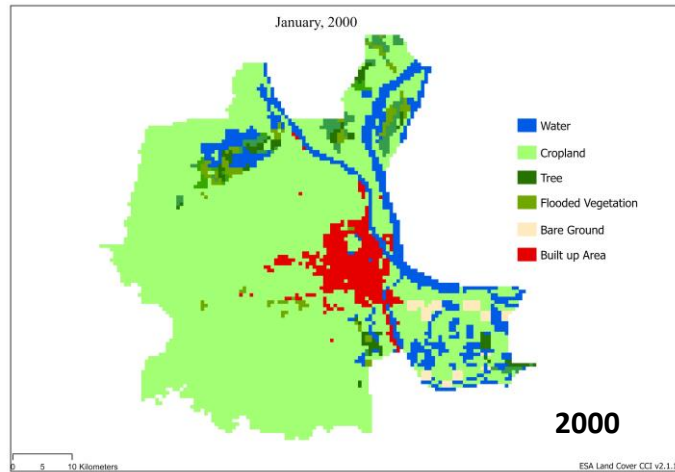
Land use and Land Cover Change



Mapping the Expansion of Boom Crops in Mainland Southeast Asia, 2017

Land Use, Land Area-<https://www.ceicdata.com/>
 Organization for Economic Co-operation and
 Development

LUC-Phnom Penh Capital (2000-2022)



NAME	AREA-Ha	NAME	AREA-Ha
WATER	6246	WATER	8028
CROPLAND	51942	CROPLAND	4734
TREE	4935	TREE	1327
FLOODED VEGETATION	1038	FLOODED VEGETATIO	3913
BARE GROUND	309	BARE GROUND	15709
BUILT UP AREA	3885	BUILT UP AREA	34642

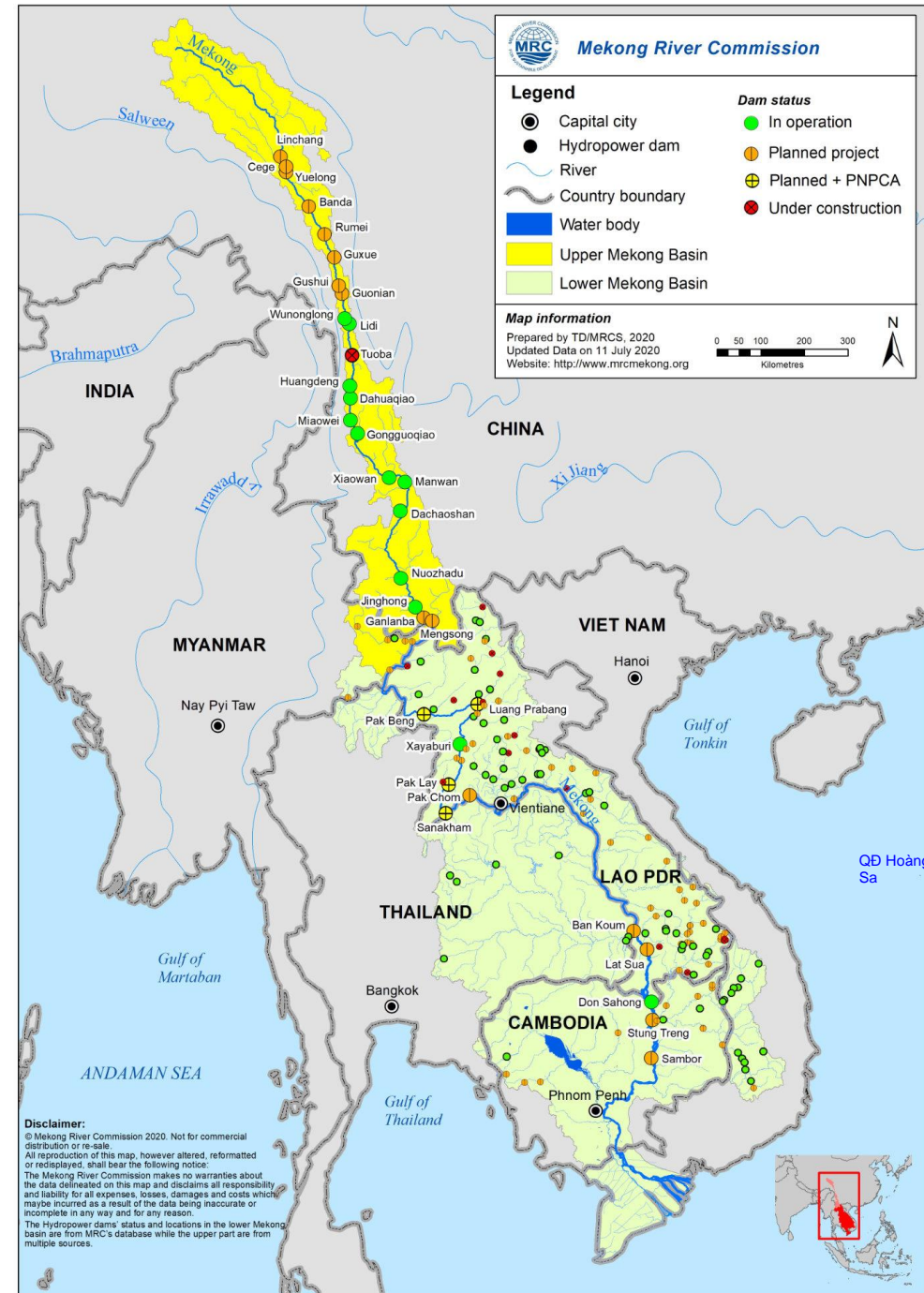
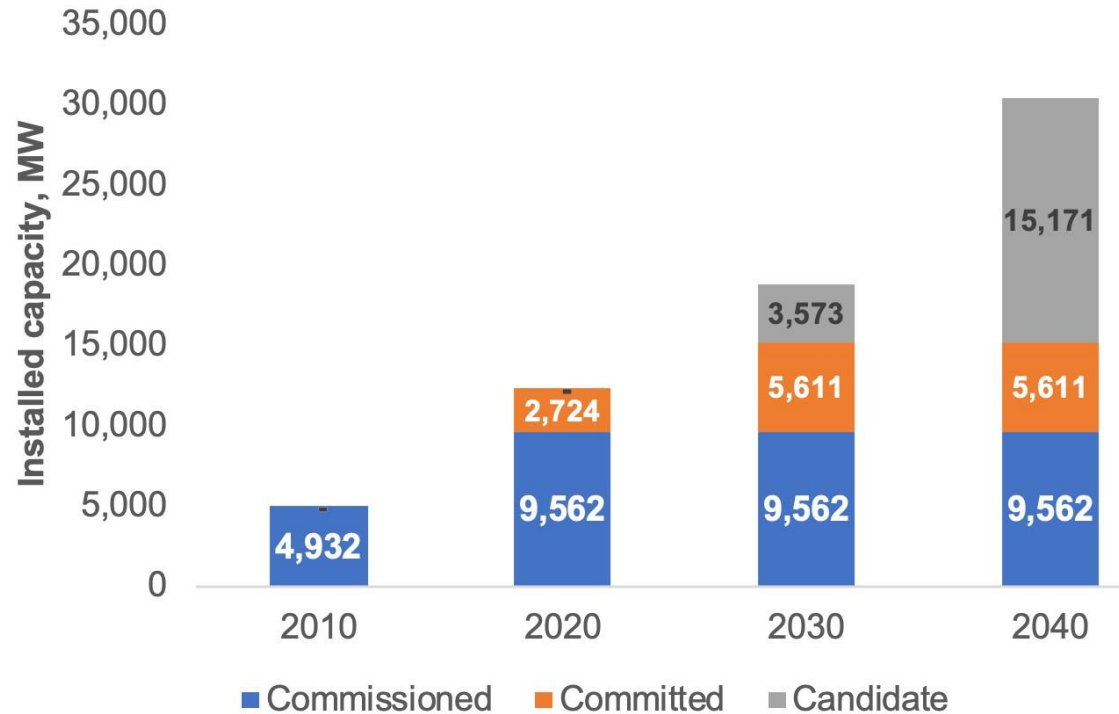
ESA Land Cover-CCT v2.1.1

Source: CIUS, 2024 (data generated by Seihamuniroth P)

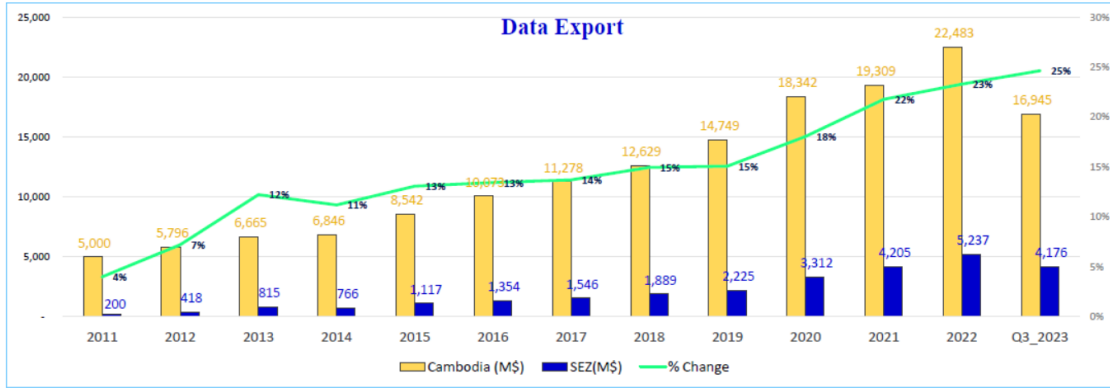
Regional Level: Commissioned, Committed and Potential Hydropower Projects

The decline of fisheries could cost nearly \$23 billion by 2040. The loss of forests, wetlands, and mangroves may cost up to \$145 billion (MRC). **Is this one of the factors led to an involuntary economic displacement?**

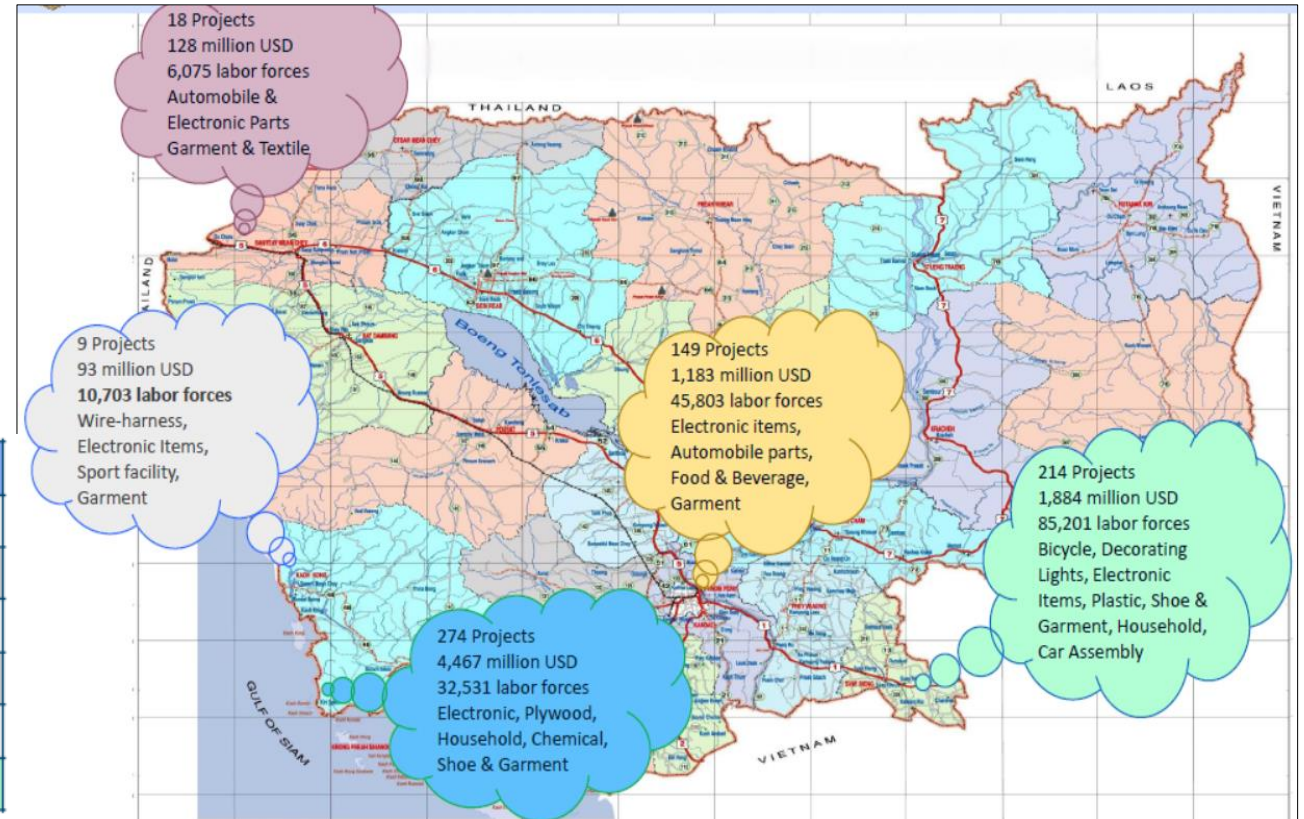
Source: Mekong River Commission



Special Economic Zones-SEZs



Year	No. Projects	Inv. Capt. (M\$)	Labor
2006-2010	40	374	7,950
2011-2015	199	1,556	94,690
2016-2020	304	2,318	38,935
2021	38	2,038	8,730
2022	43	587	17,236
Q3_2023	49	550	36,106

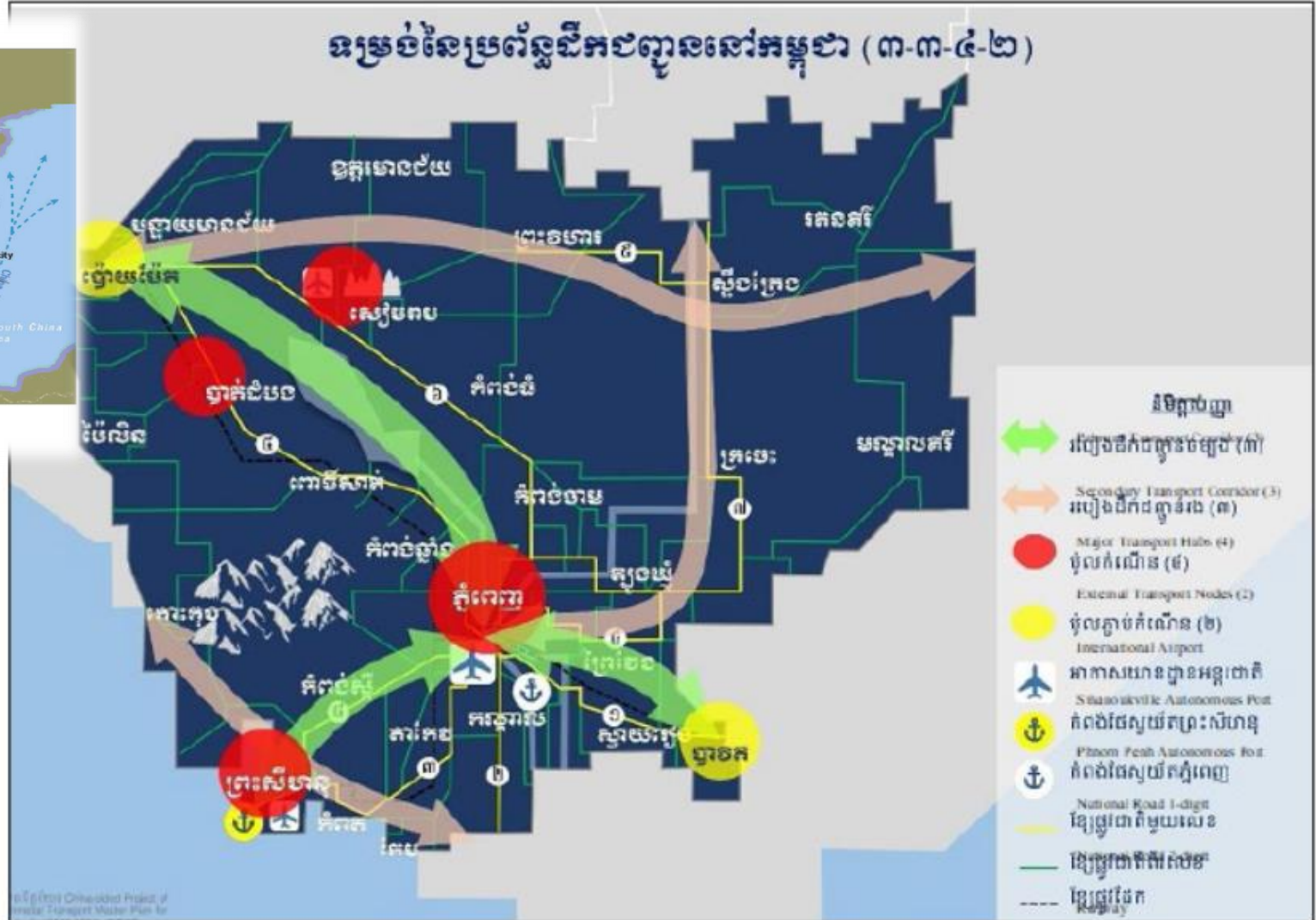


SEZ companies were provided with access to land, infrastructure, and services to facilitate the set-up and operation of businesses.

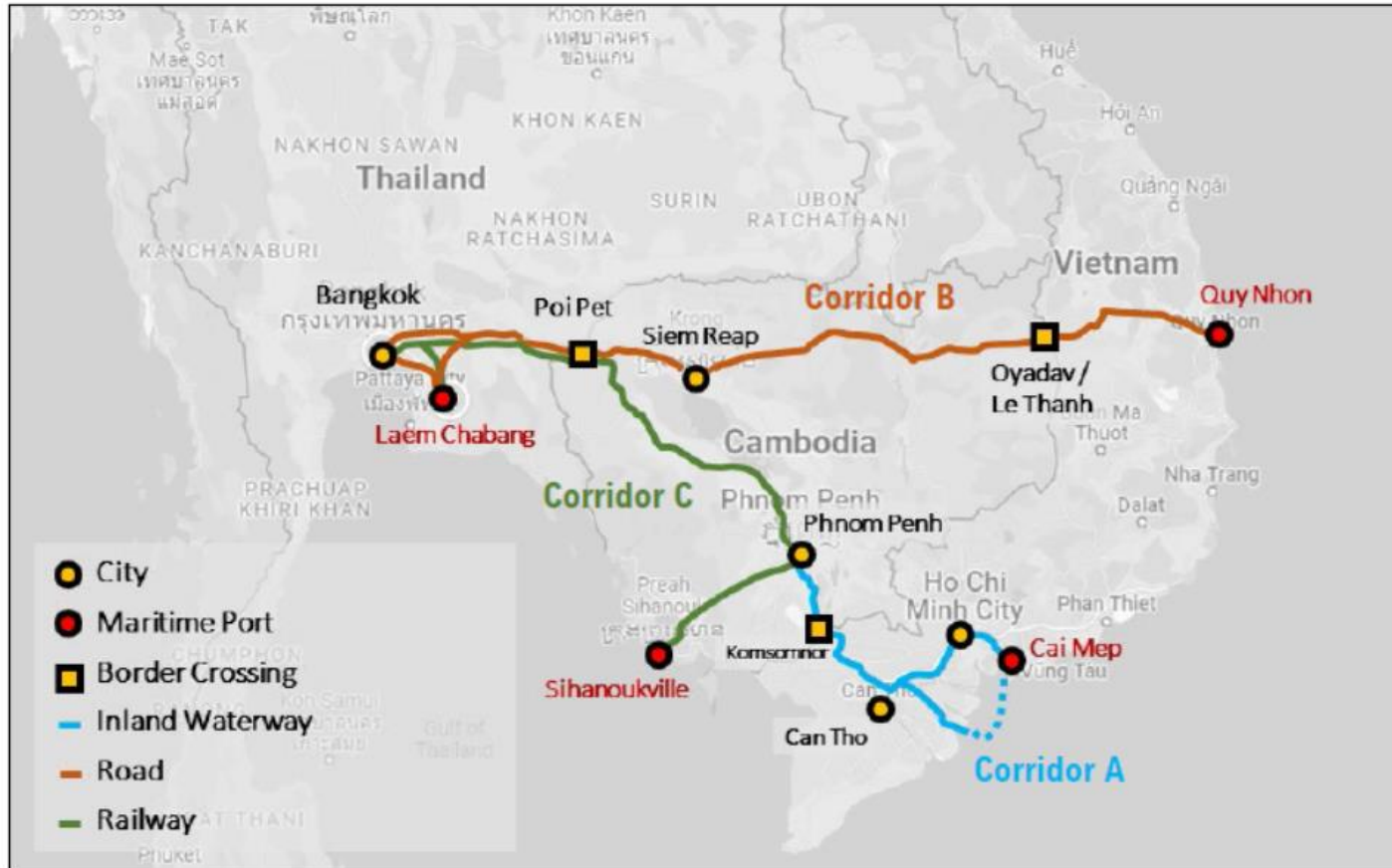
CDC, 2023

National & Regional Connectivity

MPWT, 2023



Inland Waterway



Corridor A: Improved Existing Waterway

Phnom Penh –Kamsomnor
Border – HCMC – Cai Mep, *plus other possible international connections*

Corridor B: Developed East-West Road

Laem Chabang – Poipet – Siem Reap
Reap – Oyadav – Quy Nhon

Corridor C: Improved Existing Rail

Laem Chabang – Poipet – Phnom Penh – Sihanoukville Port

MPWT, 2023

Infrastructure: New Airports

- **Techo Inter. Airport:** In the first phase, set a target of 13 million passengers per year. By 2030, it is anticipated that phase two of the project will have carried 30 million passengers. Will be operated in 2024.
- **Siem Reap airport:** 3,600m long runway, designed a 4E-airport. Cost: 1.1 BL, target: 7 MI passengers/year. Being operated.



Perspective of Techo International Airport - Phnom Penh



New Airport-Siem Reap, operate from 2023

Rehab. & Construction of Roads and Bridges

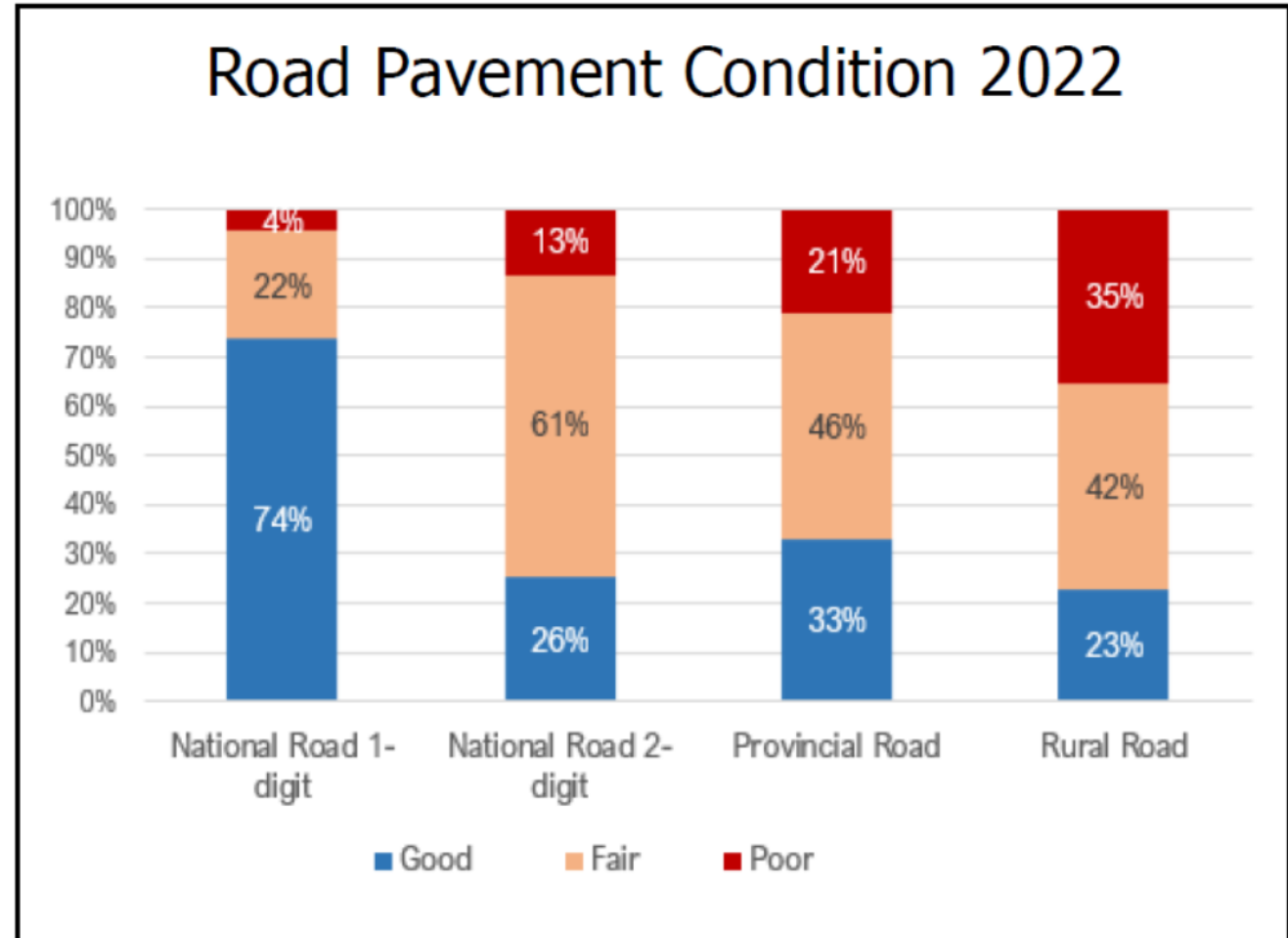
Source of finance: WB, ADB, JICA/JBEC, KFW, and China



NeakLoeung Bridge, Japan



New expressway Phnom Penh-Bavet



MPWT, 2023

National Invest. & FDI in Construction Sector



Sihanouk Ville, costal province

- High demand for local skill and unstill labour, aborbing manpower resource from several provinces in the country-imposing threats on need for housing, medical care, education, etc.
- International migration including inter. labour force (from China-skill workers), fueling labour market competition in construction sector, inducing culture shock, cyber crime,....)

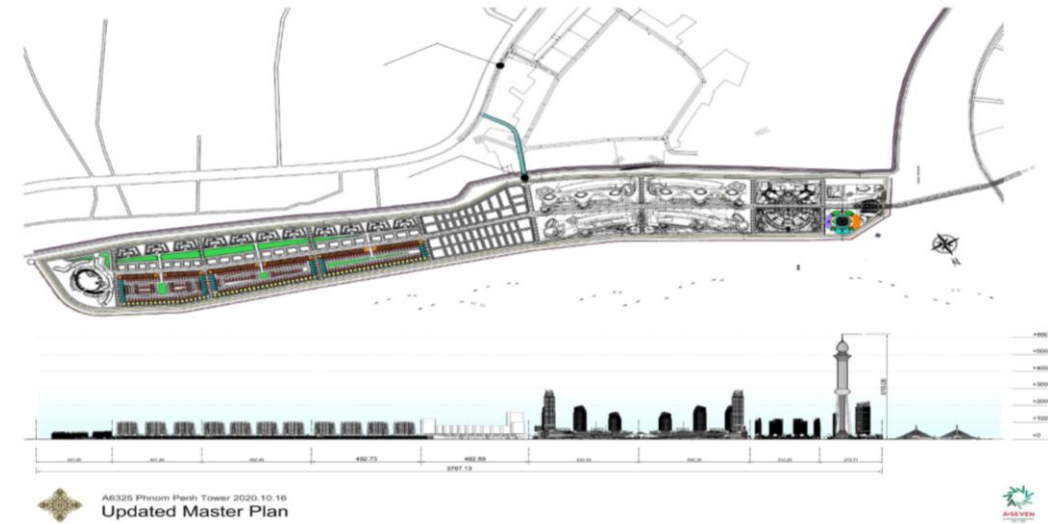
Year	Projects Executed	Floor Area (Sq.m)	Investment (USD)
2017	3,418	11,381,883	6,798,663,125
2018	3,290	12,378,119	5,755,070,120
2019	4,888	23,257,414	11,437,267,145
2020	513	1,602,178	752,801,664
2021	327	858,468	333,554,610
2022	378	313,971	123,439,016

MLMUPC, Annual Report, 2022



Phnom Penh City, 2020 (Credit: Construction Property News)

Land Reclamation

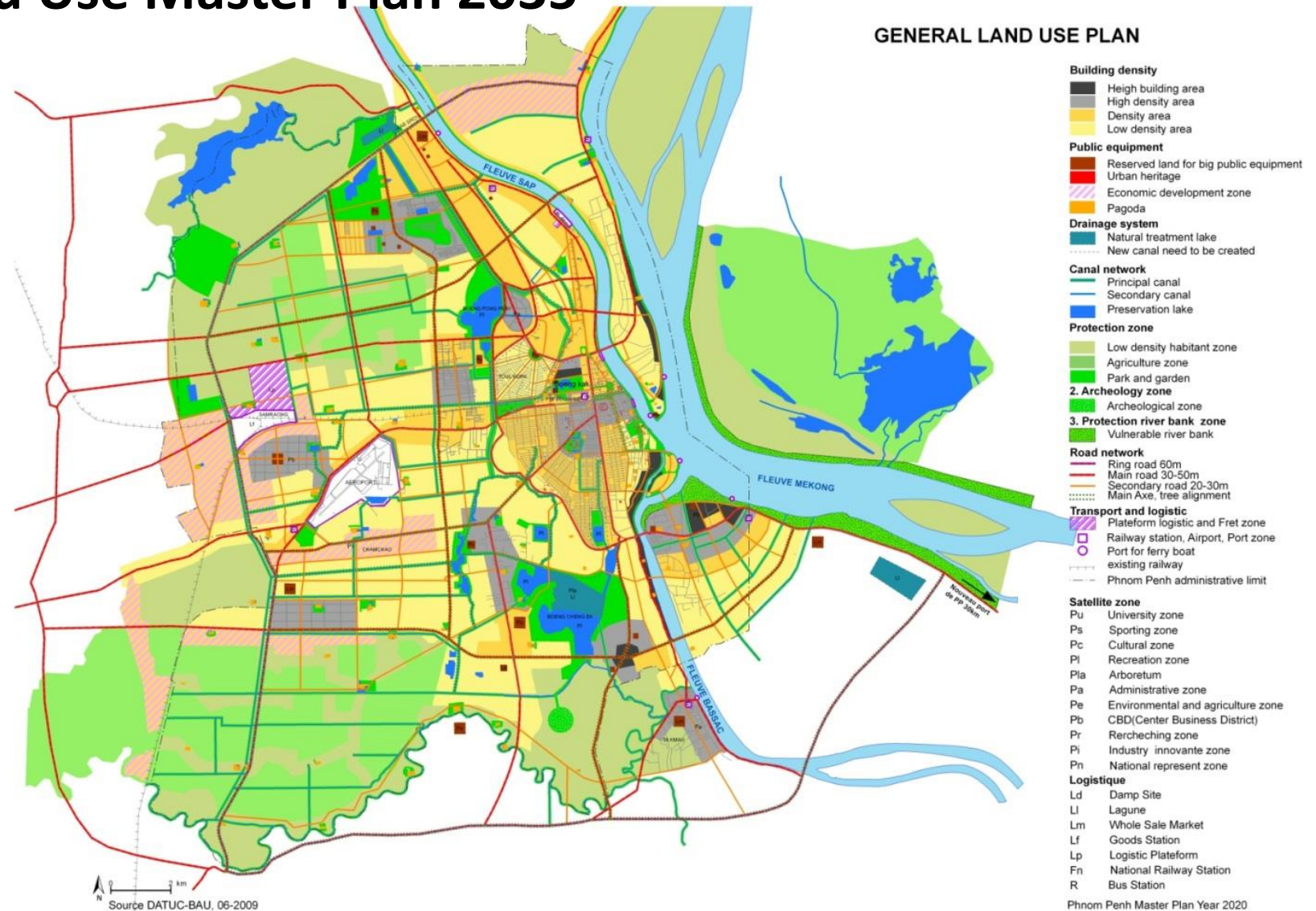


Koh Norea Development Project, OCIC, 2023 (400mW by 4,000mL)

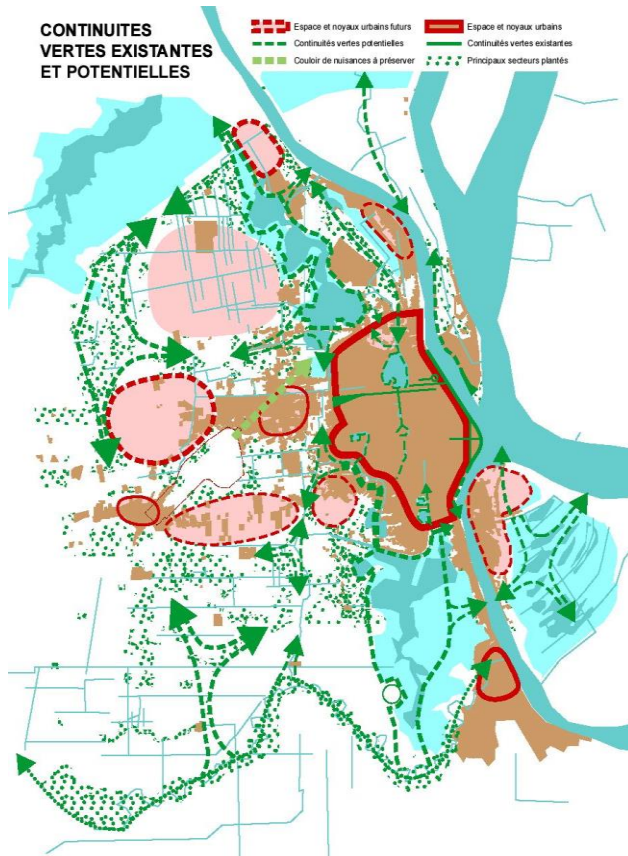
Phnom Penh Capital: Land Use Master Plan 2035

➤ Phnom Penh Land Use Planning

- Zoning
- Road network / Urban transport/Port
- Drainage system plan / Urban sanitation plan
- Urban facilities
- Historical Heritage Preservation/ Limiting building heights in the old area
- Urban Green growth / Urban agriculture
- Improvement of the Urban Poor
- Waste management plan / Waste water treatment
- Sustainable Drinking water supply plan
- Sustainable Electricity supply plan



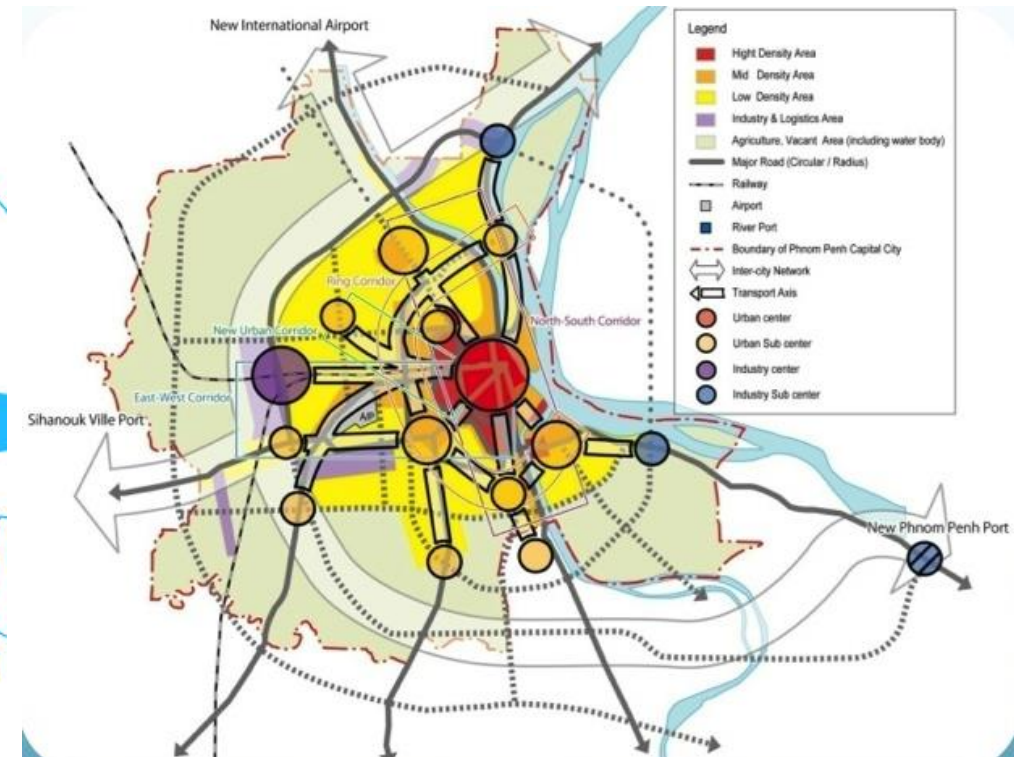
Phnom Penh Capital: Land Use Master Plan 2035



Green and Blue connection network (Land-use master plan)



Green and Blue connection network (Land-use master plan)

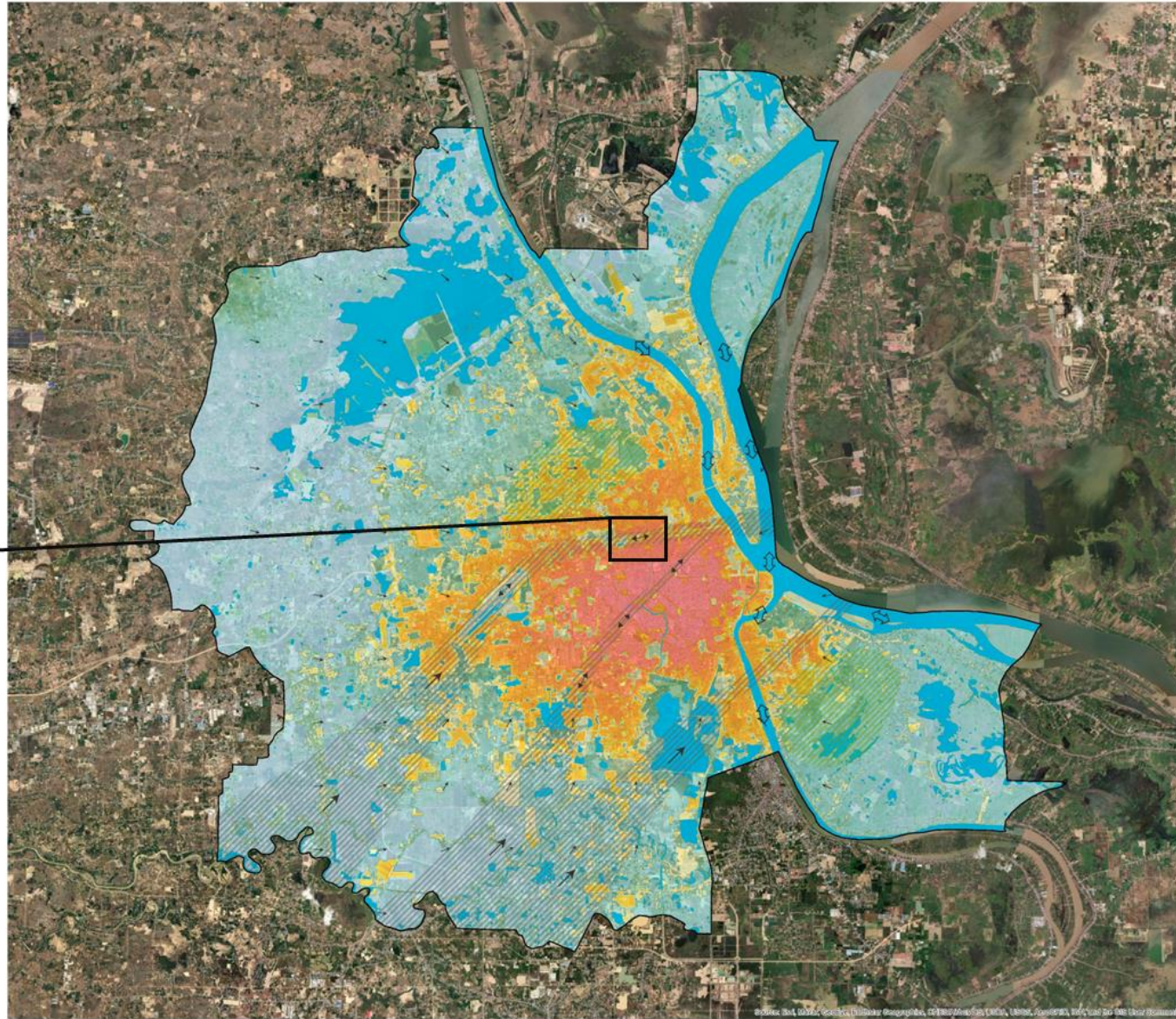
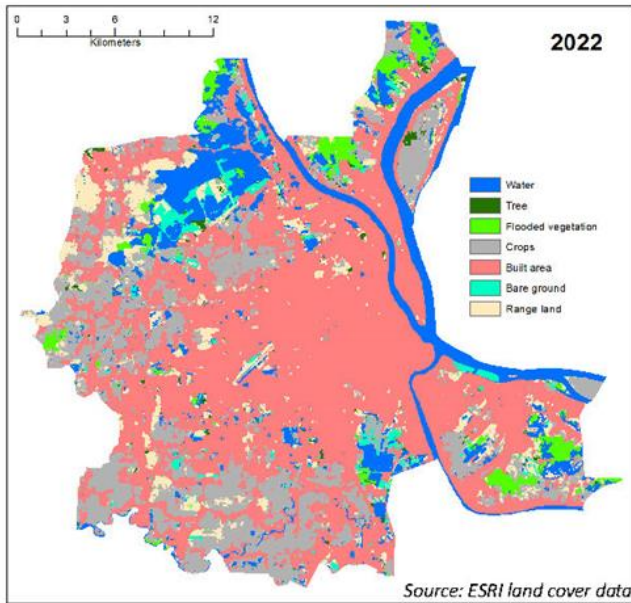


Phnom Penh's Urban Structure

Development Induced-Impacts

- ✓ Urban floods,
- ✓ Oversupply of housing units-limit urban infrastructure (esp. storm and sewerage system);
- ✓ Congestion-private motorized-dependent;
- ✓ Environmental pollutions (wastewater discharging to open water bodies, solid waste,...);
- ✓ Shrinking of urban fertile lands, water bodies, green areas,





URBAN CLIMATE MAP PHNOM PENH 2022^{ver02}

Climatope

Category	Name
Light Blue	Strong cooling potentials
Dark Green	Moderate cooling potentials
Light Green	Slight cooling potentials
Yellow	Reduced heat load
Orange	Moderate heat load
Red	Strong heat load

Dynamic pattern

Category	Name
Vertical double-headed arrow	Ventilation corridor
Upward arrow	Winddirection air paths
Vertical double-headed arrow	Wind direction air paths for all seasons
Diagonal hatching	Main air paths
Green diagonal hatching	Good ventilation

WP5 Urban Climate អាកាសធាតុទីក្រុង

Initiated by the
Federal Ministry
of Education
and Research

FONA
Research for sustainability

INKEK Institute for
climate and
energy concepts
Kupski, Jan. 2023

Scale 1:100,000
1 cm = 1000 m

Zoom In Neighbourhood Scale Map.
Source: BUILD4PEOPLE project.



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