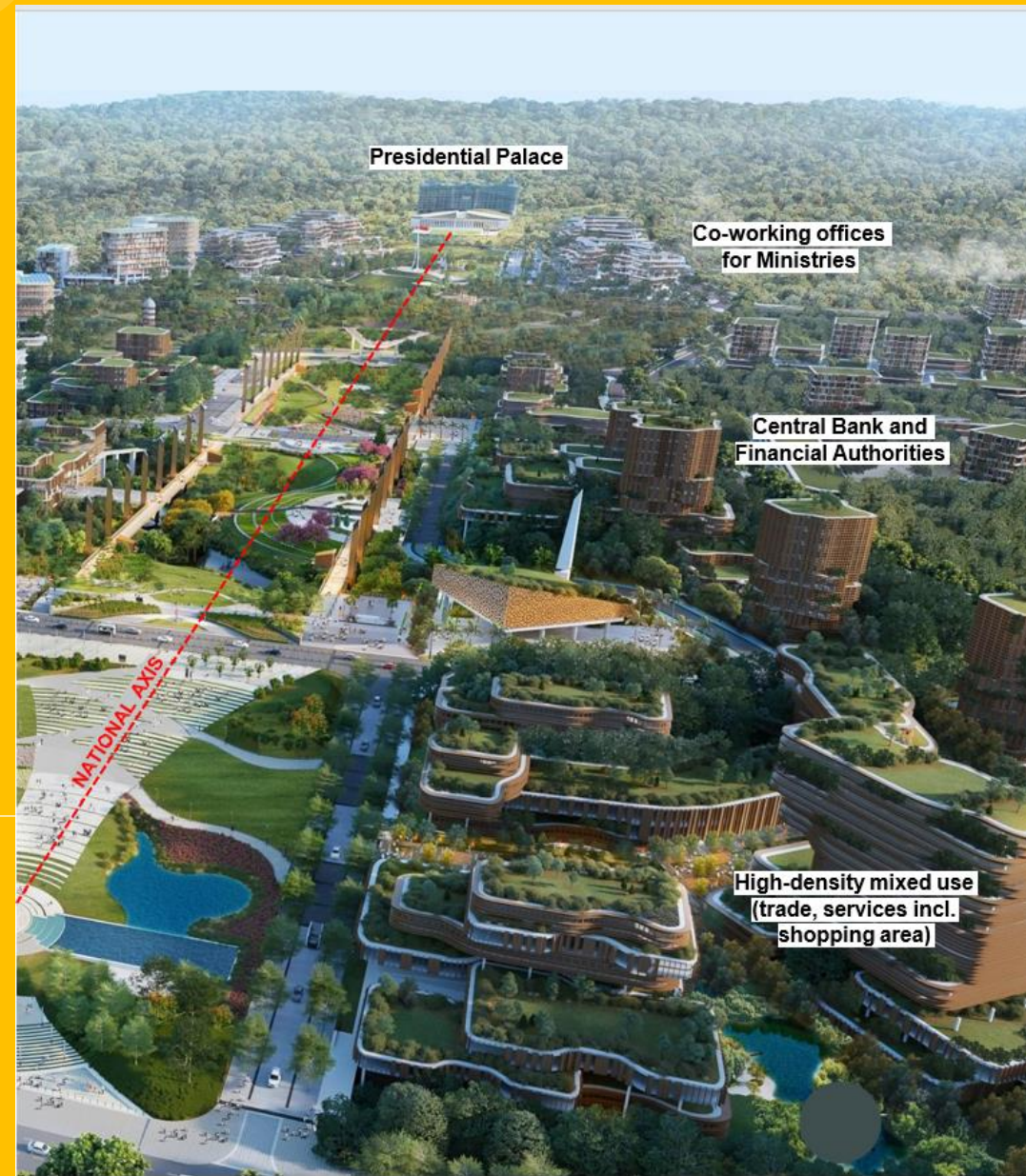


# IKN NUSANTARA: SUSTAINABLE, FOREST, SPONGE, RESILIENT AND SMART CITY



Dr.ISRADI ZAINAL,Ir.,MT.,MH.,MM.,DESS.,M.KKK.,IPU,ASEAN Eng

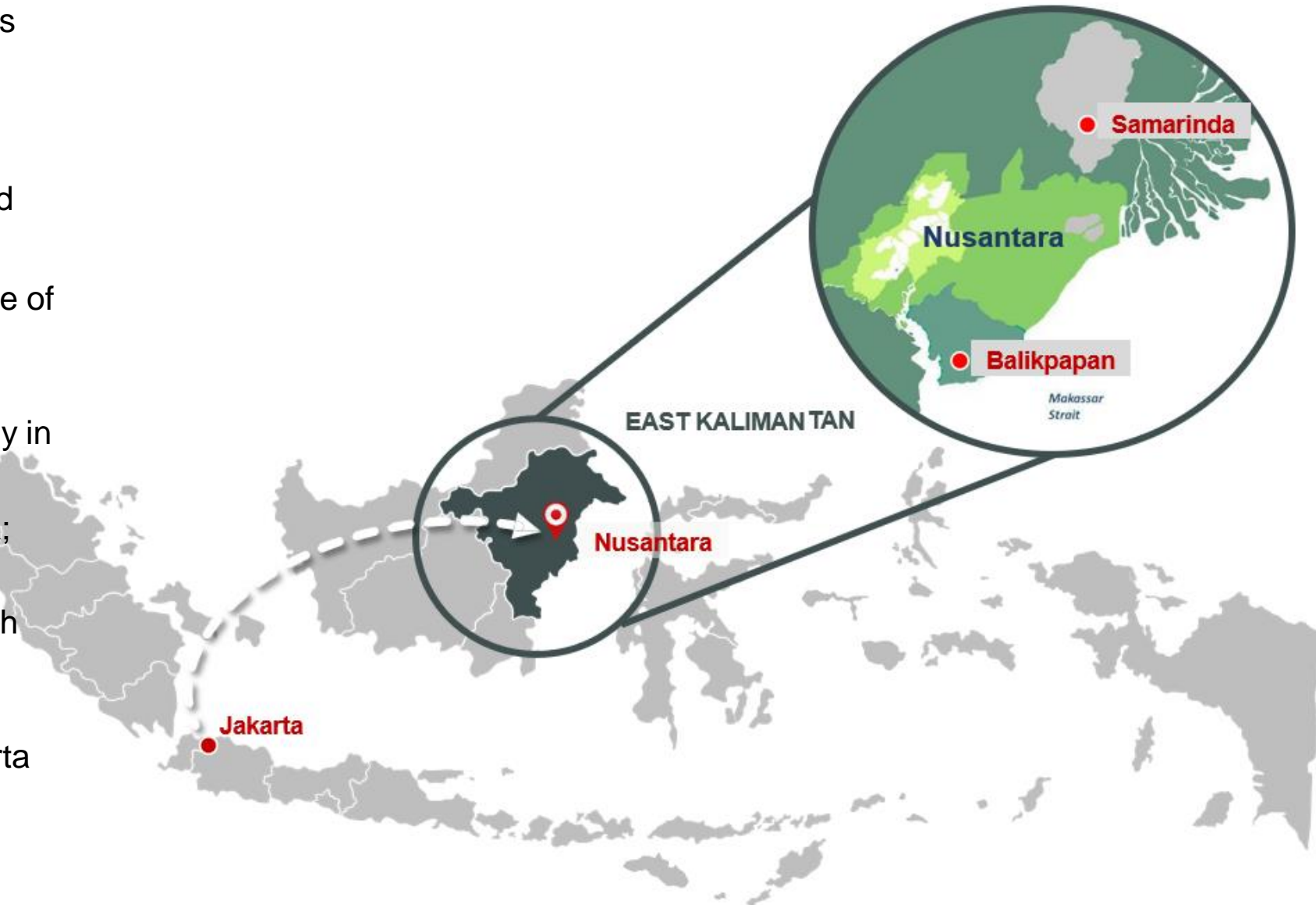
REKTOR UNIVERSITAS BALIKPAPAN/ SEKJEN FORUM REKTOR PII  
WAKIL KETUA BKM PII



# WHY IS THE NEW CAPITAL RELOCATED FROM JAKARTA TO PPU AND KUTAI KERTANEGARA

There are several aspects that encourages the decision, which are:

- To disperse the population more evenly across the country (around 57% Indonesian citizen area located in Java Island);
- To increase economic growth outside of Java (Java's economic contribution 59.0% to National GDP);
- Clean water crisis in Java (especially in Jakarta and East Java);
- High rate of land conversion in Java;
- Concentrated urbanization in Metropolitan Jakarta (causing in high traffic jam and air pollution);
- A decrease in carrying capacity and high level of economic loss in Jakarta (danger on flood, earthquake, and land subsidence).



# WHY IS THE NEW CAPITAL RELOCATED FROM JAKARTA TO PPU AND KUTAI KERTANEGARA

## IBU KOTA BARU INDONESIA di KALIMANTAN TIMUR

Presiden Joko Widodo  
Umumkan Ibu Kota Baru RI  
di Istana Kepresidenan  
Senin, 26 Agustus 2019



**LOKASI**

- Sebagian Kabupaten Penajam Paser Utara
- Sebagian Kabupaten Kutai Kartanegara

**LIPUTAN 6**  
Sumber Data: Liputan6.com  
Dian Data: Anri Syaiful  
Grafis: Trie Yas  
Foto: Liputan6.com, Instagram @Jokowi

**ALASAN**

- Risiko Bencana Minimal
- Lokasi Strategis di Tengah Indonesia
- Dekat dengan Kota Berkembang: Balikpapan & Samarinda
- Infrastruktur Lengkap
- Tersedia Lahan Negara 158 Ribu Hektare

**BIAYA PEMINDAHAN**

- Total Rp 466 Triliun
- 19% dari APBN dengan Skema Kerja Sama Pengelolaan Aset
- Sisanya dari Kerja Sama Pemerintah & Badan Usaha
- Investasi Langsung Swasta dengan BUMN

**STATUS JAKARTA**

- Pusat Bisnis Skala Regional & Global
- Pusat Keuangan & Perdagangan
- Bagian dari Prioritas Pembangunan

- MINIMUM DISASTER RISK
- LOCATION STRATEGY IN CENTRAL INDONESIA
- CLOSE TO DEVELOPING CITIES
- COMPLETE INFRASTRUCTURE
- AVAILABLE STATE LAND 158,000 HA
- CLOSE TO THE PORT AND AIRPORT
- LAND Slope AND SOIL BEARING Capacity
- AVAILABILITY OF AIR RESOURCES
- SOCIO-CULTURAL SUPPORTING CAPABILITIES, ESPECIALLY OPENNESS TOWARDS IMMIGRATIONS
- MEETS SECURITY DEFENSE PARIMETERS
- THROUGH ALKI II
- POTENTIAL TO BECOME A NEW ECONOMIC GROWTH CENTER
- SYMBOL OF NATIONAL IDENTITY AND NKRI

# Nusantara's Scope of Development

Total Area  
Land & Water IKN  
**324,332 Ha**

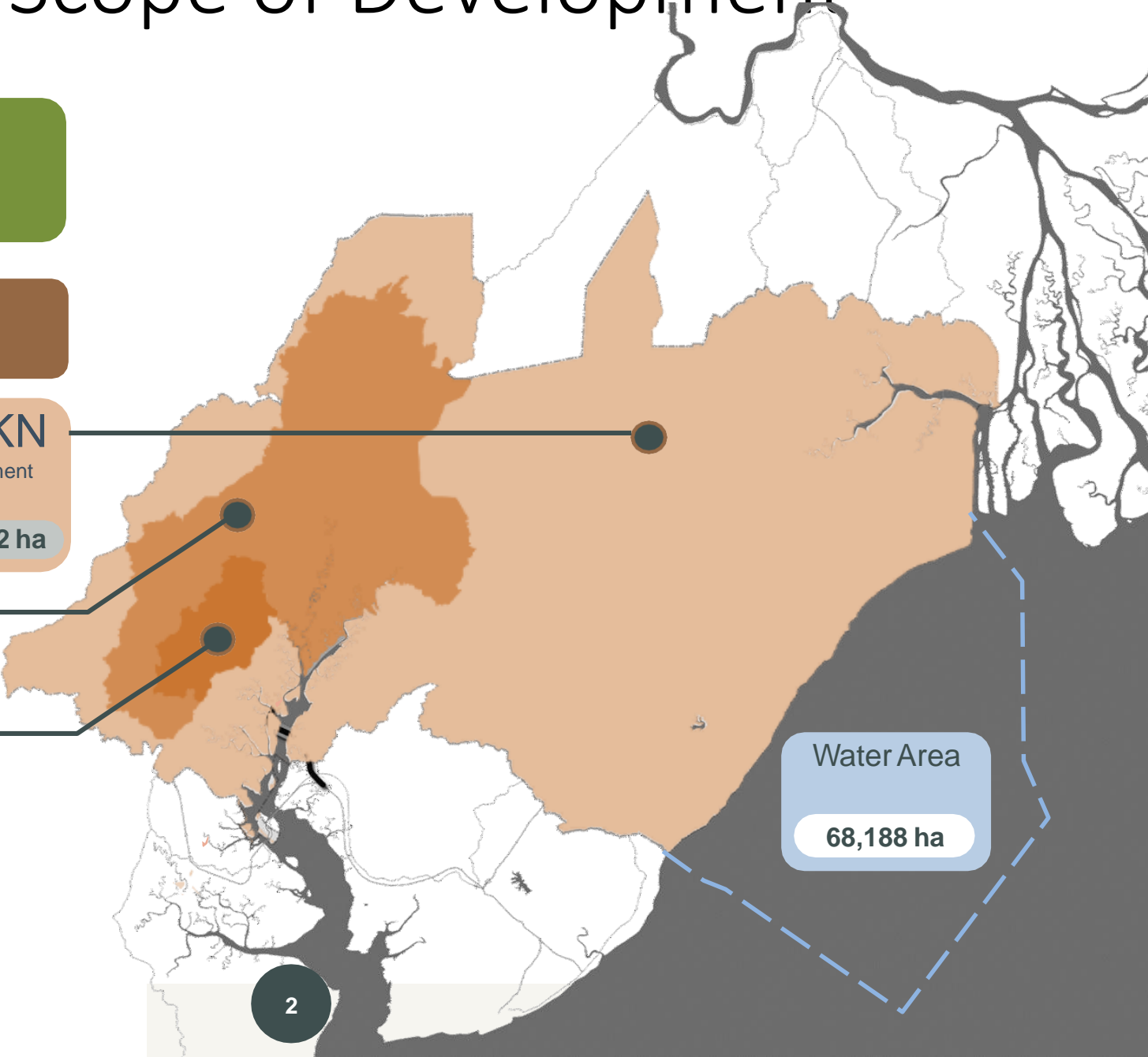
Land Area  
**256,142 ha**

**KIKN**  
Urban Area  
**56,180 ha**

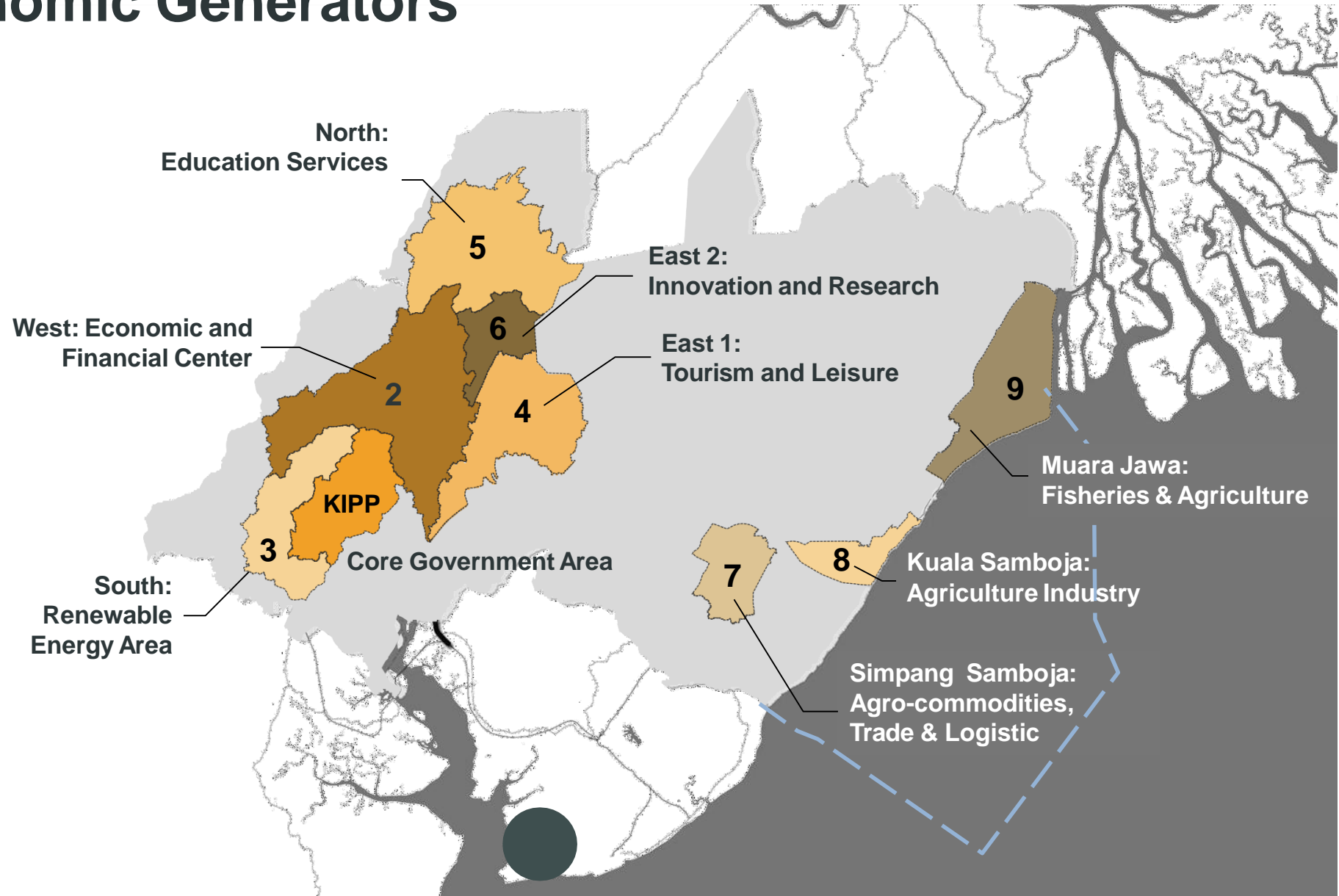
+

**KP-IKN**  
Development Area  
**199,962 ha**

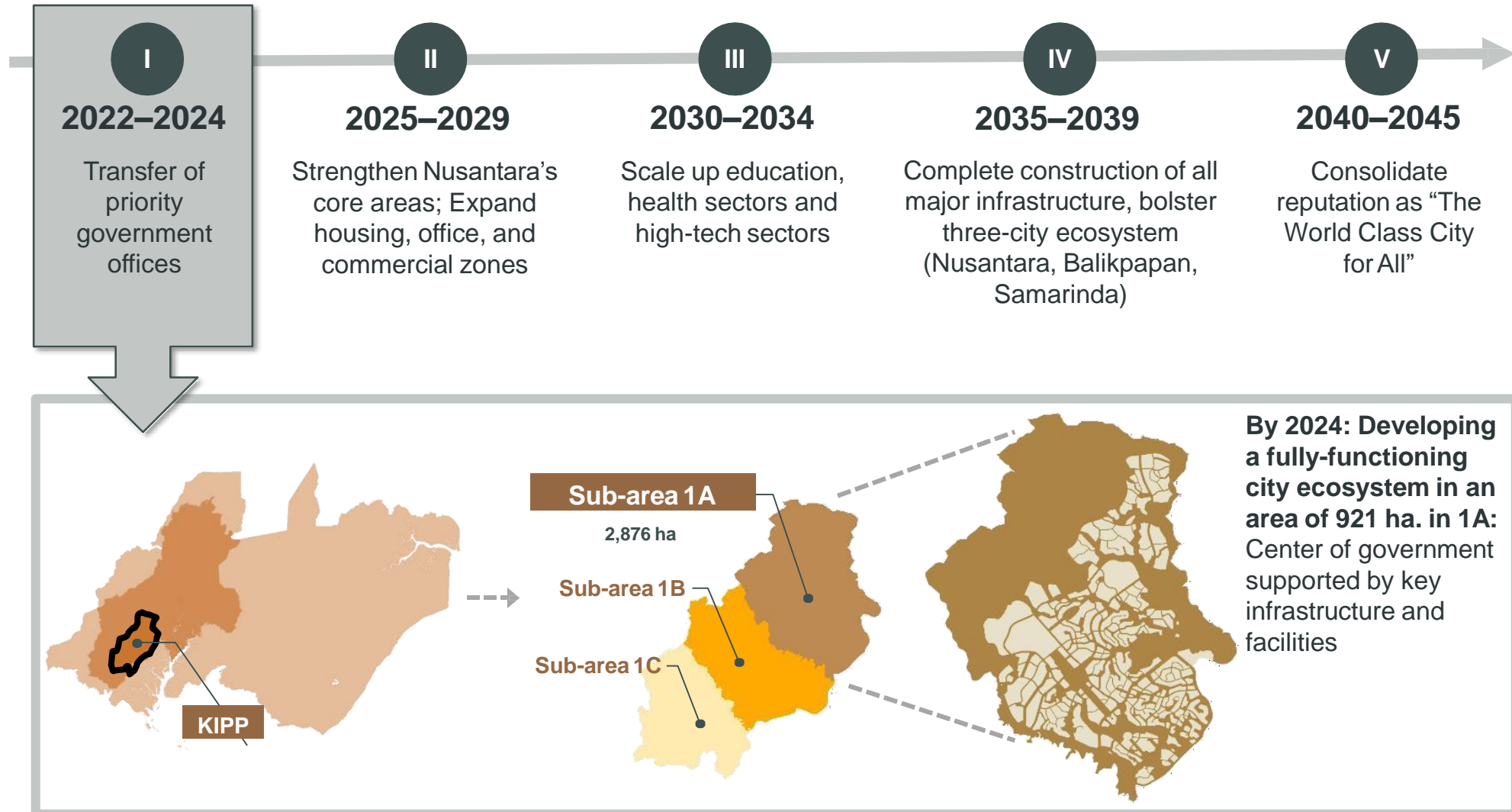
**KIPP**  
Government Core Area  
**6,671 ha**



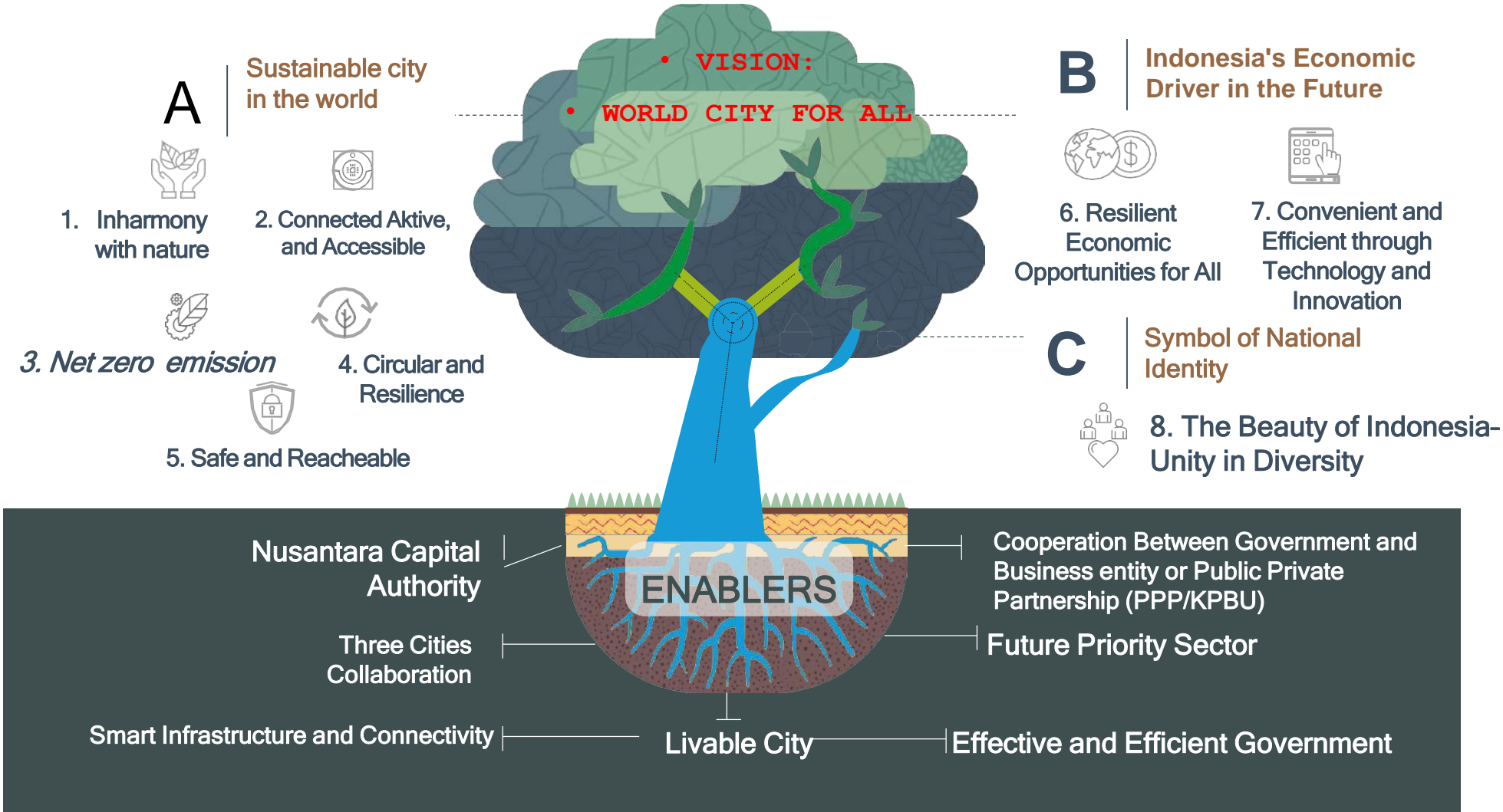
# Nusantara's Nine Economic Generators



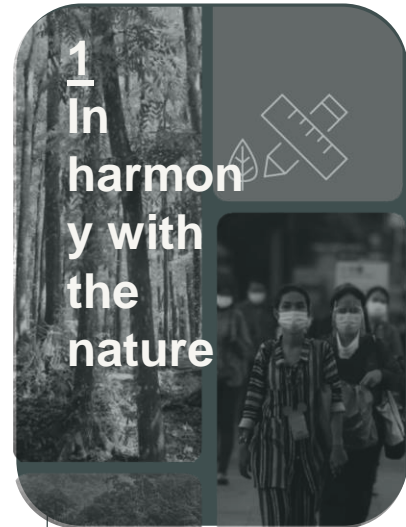
# Nusantara's Development Phases



# Nusantara Vision and Goals



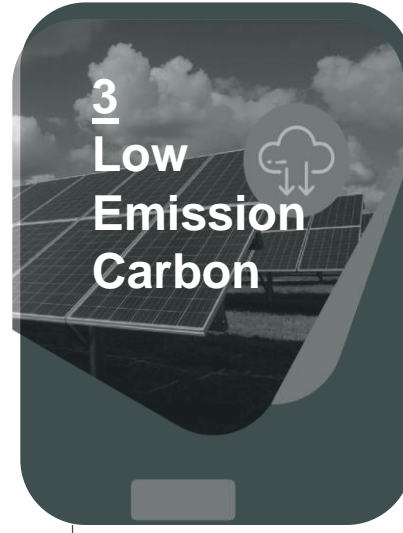
# IKN SUSTAINABLE CITIES (5 Principles, 15 KPI's of IKN)



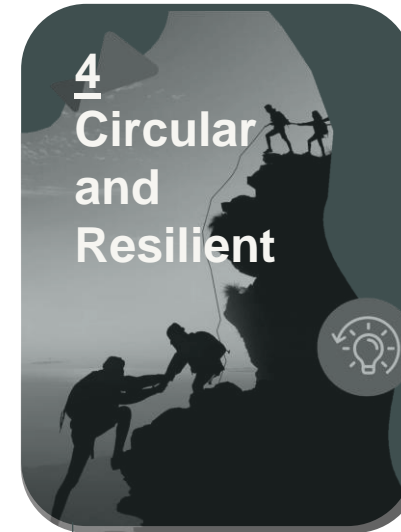
- 1.1 >75% of 256,142 Ha area for green space (65% protected area and 10% food production area)
- 1.2 100% of residents can access recreational green space within 10 minutes
- 1.3 100% green space replacement for every institutional, commercial and residential high-rise building



- 2.1 80% travel by public transport or active mobility
- 2.2 10 minutes to important facilities and public transport nodes
- 2.3 <50 minute express transit connection from the Central Government Core Area to strategic airports by 2030



- 3.1 The installation of renewable energy capacity will meet 100% of the energy needs of the Indonesian capital
- 3.2 60% energy savings for energy conservation in buildings
- 3.3 Net zero emissions for the capital city of the archipelago in 2045 in an area of 256,142 Ha



- 4.1 >10% of the 256,142 Ha land is available for food production needs
- 4.2 60% of recycling creates solid waste by 2045
- 4.3 100% of waste water will be treated through treatment systems by 2035

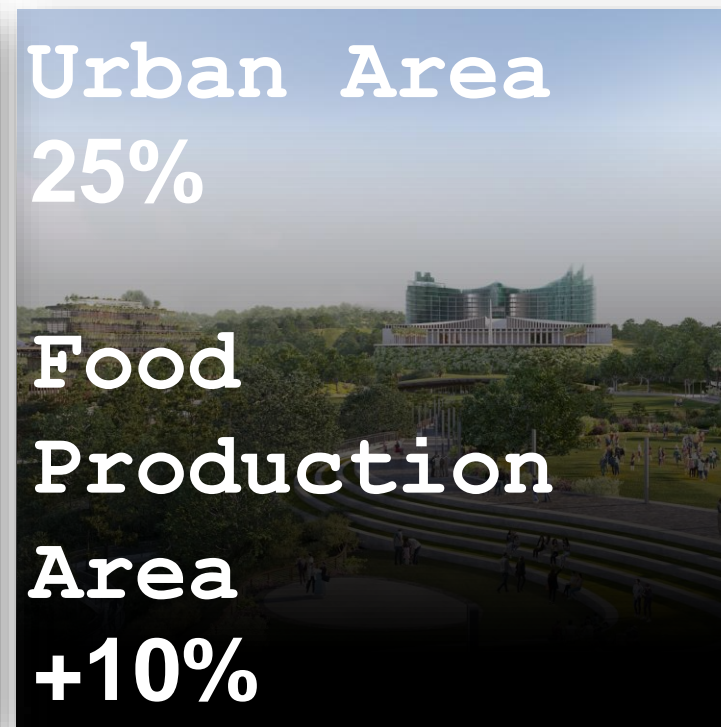


- 5.1 Ranked in the top 10 most livable cities in the world by 2045
- 5.2 Existing and planned settlements in the 256,142 Ha area will have access to critical infrastructure by 2045
- 5.3 Decent, safe and affordable housing that meets a balanced occupancy ratio.



# IKN - Forest City (256,000 Ha)

Tropical Forests as Carbon Sinks and controlled built up areas to minimize emissions



Carbon Neutral City by 2045 (or sooner)

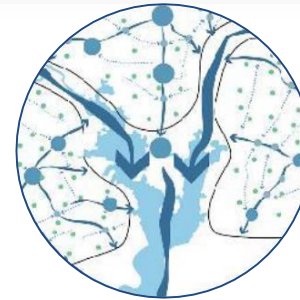
# IKN – SPONGE CITY



- **Combining green and gray infrastructure**
- **Nature-based solutions approach**



- Purification and harvesting of water
- Flood Resilience
- Preservation and improvement of ecology



- Increase resource system efficiency
- Providing recreational benefits to the community

# IKN - Resilient City

## Enhancing Actions to Tackle Climate Change



Clean Energy



Sustainable transport



Sustainable urban development



Climate-smart agriculture



Source: Asian Development Bank (2021)

# IKN- Smart City

## Public Service Sector

## Government Service Sector

### Smart Transportation

- Intelligence Transport System (ITS)
- Area Traffic Control & Monitoring System
- Smart Geographic Information System
- Airport Operation Control Center (AOCC)
- Electronic Transaction Platform For Ticketing And Citizen Mobility
- Digital Tourism Information and Reservation Service
- Public Transport & Traffic Monitoring Service
- Fleet Management Platform

### Smart Green & Waste Management

- Integrated Waste Management
- Smart Waste Treatment

### International Standard School & University

- Academic Information System
- Digital Library
- E-learning Platform For Distance Learning
- National Student Admission Platform
- Integrated Education Platform For Teacher, Student & Parent
- Professional & Skill Development Platform

### Sustainable Urban Drainage System

- Smart Irrigation
- Smart Agriculture

### Smart Hospital & Sport Facilities

- Smart Hospital (Digital Appliance)
- Tele-Medicine Solution
- Automated External Defibrillators (AED)
- Integrated Health Dashboard
- Integrated Platform and Solution for Public Health Services (Hospital, Clinics, Pharmacy)
- Emergency & Medical Helpline
- Digital Medical Record Platform
- Digital Medical Appointment And Prescription

### Smart Energy : Power & Gas Supply

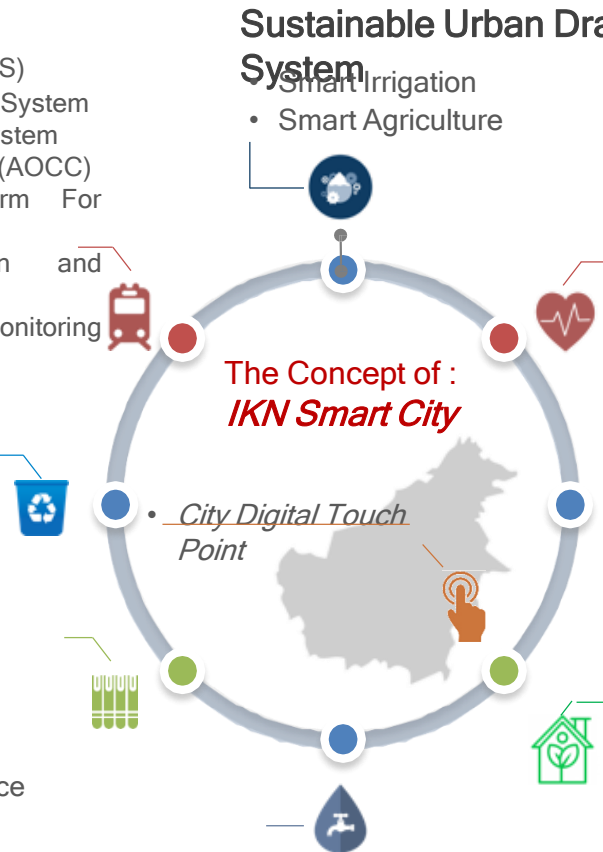
- Smart Energy Power & Gas Supply
- Smart Green Power
- Energy Monitoring System
- Process Measurement Control Platform
- Smart Meter (IoT Solution)

### Green Buildings

- Microcell Services
- IoT Appliance Services
- Building Automation (Green Building Concept)
- Intelligent Building Management
- Smart Parking

### Smart Water Treatment System

- Treatment and Distribution Management (IoT based Platform & Solution)



### Smart Government (Central, Regional & Rural)

- Integrated KPI Dashboard (Sectoral Performance Report)
- Big Data for Satu Data Indonesia Platform
- Tax and Retribution Collection Platform
- Governance Evaluation Report
- Project Management Platform
- Geospatial Information Management
- Digital Certification and Signature
- Govt Procurement Services
- Integrated Tourism and People Movement Data Hub
- Financial Management Platform
- Digital Public Contact Service for Incident &



# Community Empowerment

- Management of community services with local government
- Empowerment of local communities as part of IKN development
- Arrangement of existing village settlements
- Preparation of guidelines for construction methods that are environment-friendly and in accordance with local socio-cultural conditions



# Nusantara as Part of “Indonesia 2045” Vision



# Nusantara Contribution in Three Global Campaigns

## Biodiversity

Protecting and conserving the Nusantara's biodiversity including those that are endangered through *Nusantara Nature Positive Plan* to ensure wildlife habitat's existence and security.

## Sustainable Development Goals

Nusantara will have its own Voluntary Local Review (VLR) to track SDGs achievements at local level, and accelerate the attainment of UN 2030 Sustainable Agenda.



## Climate Change

Nusantara is Indonesia's first city that declares its locally-determined contributions (LDC) and it is instrumental in ensuring its carbon-neutral goal by 2045 and helping to deliver national climate change targets.

# Alignment with ESG Principles



**Nusantara is currently setting up a committee with two goals:**

To ensure implementation of ESG in Nusantara as the basis of city's sustainability and credibility → First Indonesia's city to implement ESG standards

To develop a "framework on ESG"  
→ to provide other sub-national governments with guiding principles in measuring their respective ESG targets







# BRIEF NOTES (1-4)

## 1. GREETINGS AND APPRECIATION

- a. Honorable Mayor of Balikpapan, Mr. Rahmat Mas'ud;
- b. Honorable Chairman of the board of trustees of Higher Education Foundation Dharma Wirawan East Kalimantan, Mr. Rendi Susiswo Ismail;
- c. Honorable Invited Speakers and participant
- d. Distinguished Guest, Ladies and Gentlements
- e. First of all, I would like to say thanks to all of you for your participation on this international conference especially to the Mayor of Balikpapan, University of Brunei Darussalam (UBD), University Malaysia Serawak (Unimas), Bayan Coal, RU 5, etc.

## 2. INTRUDUCTION

- a. In this occasion I would like say my gratitude to the master of ceremony who given me a chance to present my presentation entitled 'Improving IKN Nusantara Concept as Sustainable, Forest, Sponge, and Smart city
- b. To Talk about this, there are several aspects to be discussed, namely:
  - Backgorunds of the relocation of the new capital city of Indonesia and why was Sepaku and Part of Kutainegara chosen as the new capital
  - Total area and scope of development, zone of economic generators and Nusantara Development phase
  - Vision and Goals of Nusantara Capital City ( Vision : World City for All\_ Goals : World Sustainable city, Indonsia's economic Driver, Symbol of National Identity
  - Nusantara as part of 'Indonesia 2045' vision (Human D& Techn Adv, Sust Ec Dev, National Resilience & G, Equittable Dev
  - Nusantara contribution in three Global campaign (Biodiversty, Sustainable Development Goals & Climate change)
  - Nusantara Alligment with ESG Principles

## BRIEF NOTES [2-4]

### 3. WHY IS THE NEW CAPITAL RELOCATED FROM JAKARTA TO PPU AND KUTAI KERTANEGARA

- a. Jakarta is overpopulation, pollution, rising sea levels, Land subsidence, earthquake, Unequal distribution
- b. the location's of the new capital is high accessibility and close proximity to 2 big cities such as Balikpapan and Samarinda,
- c. the population structure is heterogeneous and open so the potential for conflict is considered low
- d. defense can be supported by the Tri Dimensions of Land, Sea and Air,
- e. East Kalimantan is also considered to be a safe location with minimal threat of disaster,
- f. this area still has large areas of land and has production forest (HP) and plantation status,
- g. the presence of main infrastructure such as the Balikpapan-Samarinda and Trans-Kalimantan toll roads, airports in Balikpapan and Samarinda, Kariangau Container Terminal Port, Balikpapan and Semayang Port, Samarinda.
- h. the IKN Nusantara location is said to have raw water sources from 3 existing reservoirs, 2 reservoirs that are being planned, 4 rivers and 4 river basins.
- i. the government sees that the area is in the Indonesian Archipelago Sea Route II (Makassar Strait).

### 4. TOTAL AREA, SCOPE OF DEVELOPMENT AND ECONOMIC GENERATORS

- a. Total area of land and water in IKN is 324,332 HA, Land area : 256,142 HA, Water Area: 68,188 HA
- b. Scope of Development : Central Government Core Area: 6671, Urban Area: 56,180, Development Area : 199,962
- c. Nusantara's 9 Economic Generators : Central Government Core Area, Economic & Financial center (west), Renewable energy area (South), Tourism and Leisure (East 1), Innovation & Research (East 2) Education Services (North), Agro commodities, Trade & Logistics (Samboja), Agriculture industry (Kuala Samboja), Fisheries and Sagricultur (Muara jawa)

### 5. NUSANTARA'S DEVELOPMENT PHASES (2022-2024, 2025-2029, 2030-2034,2035-2039,2040-2045)

## BRIEF NOTES [3-4]

### 6. **IKN NUSANTARA\_ WORLD SUSTAINABLE CITY**

- a. In harmony with the Nature (>75% of 256,142 Ha area for green space (65% protected area and 10% food production area, 100% of residents can access recreational green space within 10 minute, 100% green space replacement for every institutional, commercial and residential high-rise building)
- b. Connected, Active and Accessible (80% travel by public transport or active mobility, 10 minutes to important facilities and public transport nodes, <50 minute express transit connection from the Central Government Core Area to strategic airports by 2030)
- c. Low Carbon Emission (The installation of renewable energy capacity will meet 100% of the energy needs of the Indonesian capital, 60% energy savings for energy conservation in buildings, Net zero emissions for the capital city of the archipelago in 2045 in an area of 256,142 Ha)
- d. Circular and Resilient (>10% of the 256,142 Ha land is available for food production needs, 60% of recycling creates solid waste by 2045, 100% of waste water will be treated through treatment systems by 2035)
- e. Safe and Reachable (Ranked in the top 10 most livable cities in the world by 2045, Existing and planned settlements in the 256,142 Ha area will have access to critical infrastructure by 2045, Decent, safe and affordable housing that meets a balanced occupancy ratio)

### 7 **IKN- FOREST CITY (256,000 Ha)**

- a. Protected Area 65%
- b. Urban Area 25%
- c. Food Production Area 10%
- d. Enhancing Tropical Forests as Carbon Sinks and controlled built up areas to minimize emissions
- e. Carbon Neutral City by 2045 (or sooner)

# BRIEF NOTES [3-4]

## 8. IKN\_ SPONGE CITY

- a. Combining green and gray infrastructure
- b. Low Carbon Nature-based solutions approach
- c. Purification and harvesting of water, Flood Resilience, Preservation and improvement of ecology
- d. Increase resource system efficiency and Providing recreational benefits to the community

## 9. IKN\_ RESILIENT CITY

- a. Enhancing Actions to Tackle Climate Change ( Clean energy, sustainable transport, sustainable urban development, Climate smart agriculture)
- b. Resilience (Ecological resilience, Physical Resilience, Social and Institutional Resilience, Financial Resilience)

## 10. IKN\_ SMART CITY

- a. Public Services sector (Smart Transportation, Smart Green & Waste management, International standard school and University, Sustainable urban Drainage system, Smart Hospital & Sport facilities, Smart Energy: Power & Gas Supply, Green building, Smart water treatment system)
- b. Government Services Center\_Central, Regional & Rural (ntegrated KPI Dashboard (Sectoral Performance Report, Big Data for Satu Data Indonesia Platform, Tax and Retribution Collection Platform, Governance Evaluation Report, Project Management Platform, Geospatial Information Management, Digital Certification and Signature, Govt Procurement Services, Integrated Tourism and People Movement Data Hub, Financial Management Platform, Digital Public Contact Service for Incident & Emergency Reporting, etc)

## BRIEF NOTES [4-4]

### 8. NUSANTARA CONTRIBUTION IN THREE GLOBAL CAMPAIGN

- a. **Biodiversty** (Protecting and conserving the Nusantara's biodiversity including those that are endangered through Nusantara Nature Positive Plan to ensure wildlife habitat's existence and security)
- b. **Sustainable Development Goal** (Nusantara will have its own Voluntary Local Review (VLR) to track SDGs achievements at local level, and accelerate the attainment of UN 2030 sustainable agenda)
- c. **Climate Change** (Nusantara is Indonesia's first city that declares its locally-determined contributions (LDC) and it is instrumental in ensuring its carbon- neutral goal by 2045 and helping to deliver national climate change targets)

### 9. IKN NUSANTARA'S ALIGNMENT WITH ESG PRINCIPALS

- a. Environment (Climate change mitigation and adaptation, pollution control, circular economy, preservation of biodiversity)
- b. Social (Ensuring equality, inclusiveness, human and community development, public safety and health)
- c. Governance (Zero-tolerance to corruption, transparency, staff diversity, healthy working environment)

### 10. SUGGESTION



**SEMINAR NASIONAL K3**

**PERANAN K3 GUNA MEWUJUDKAN IKN YANG SEHAT DAN AMAN**

**NEWS**

**Balikpapan - Kaltim**

**DR IR ISRADI ZAINAL**

**KETUA PII KALTIM - SEKJEN FDTI**

**Balikpapan - Kaltim**



TALK SHOW DAN PENANDATANGANAN MOU  
ANTARA UNIBA, ITS DAN ITK  
PERAN PENDIDIKAN TINGGI  
DALAM MEMBANGUN DAN MENGAWAL IKN



**WELCOME SPEECH:**  
Dr. Rendi Susiswo Ismail, S.E., S.H., M.H.  
(Ketua Pembina YAPENTI-DWK)

**PEMBICARA :**  
**1** Dr. Ir. Hetifah Sjaifudian, MPP.  
Wakil Ketua Komisi X DPR RI

**2** Prof. Dr. Mochamad Ashari, M.Eng., IPU.,  
ASEAN Eng.  
(Rektor Institut Teknologi Surabaya)

**3** Dr. Ir. M. Isradi Zainal, M.T., M.H., M.M.,  
DESS., IPU., ASEAN Eng.  
(Rektor Universitas Balikpapan)

**4** Prof. Ir. Budi Santosa, M.S., Ph.D.  
(Rektor Institut Teknologi Kalimantan)

**MODERATOR:**  
Merry Krisdawati Siphatur,  
S.Pi., M.Si., Ph.D.  
(Wakil Rektor Bidang Perencanaan,  
Penelitian, Pengembangan dan  
Kerjasama Universitas Balikpapan)

**Jum'at**  
**28 Mei 2021**  
**09.00 WITA s/d Selesai**

LINK PENDAFTARAN:  
<http://bit.ly/talkshowUniba>

MEETING ID:  
969 123 7938

PASSCODE:  
uniba2805



# KONSEP SMART

(versi Dr Ir Isradi Zainal)

## S (Safe) : Aman

Aman dari banjir, aman dari polusi,  
aman dari macet dan aman dari  
bencana

## M (Modern ): Modern

Modern adalah penerapan teknologi  
yang canggih dengan mencontoh tek-  
nologi di negara lain

## Art (Artistic): Keindahan

Keindahan meliputi penataan kota  
yang baik dan terencana jangka pan-  
jang sehingga dapat dimanfaatkan  
hingga dalam waktu yang lama.