INTEGRATED PLANNING FOR INFRASTRUCTURE DEVELOPMENT IN INDONESIA

Ir. Hadi Sucahyono, MPP, Ph.D
Head of Regional Infrastructure Development Agency

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MINISTRY OF PUBLIC WORKS AND HOUSING
REGIONAL INFRASTRUCTURE DEVELOPMENT AGENCY
I. National Development Policies
- National Long Term Development Plan (Law No. 17/2007)
- Nawacita (President’s Nine Priorities)
- Special Economic Zones (Law No. 39/2009)
- Integrated Economic Development Area (Presidential Decree No. 150/2000)
- National Strategic Projects (Presidential Regulation No. 56/2018)

II. Ministry of Public Works and Housing Development Policies
- Ministry’s Strategic Plan (Ministerial Regulation MPWH No. 13.1/PRT/M/2015)
- Law on Road (Law No. 38/2004)
- Law on Solid Waste Management (Law No. 18/2008)
- Law on Housing & Human Settlement (Law No. 1/2011)
- Etc.

III. Other Ministries/National Institution Policies
- Ministry of Tourism (National Tourism Strategic Area)
- Ministry of Industry (Industrial Area)
- Ministry of Transportation (Main Ports and Airports)
- Ministry of Village, Development of Disadvantage Regions, and Transmigration
- Etc.

IV. Local Development Policies
- Provincial/Municipal Spatial Plan
- Provincial/Municipal Midterm Development Plan

V. Condition of Strategic Development Regions

VI. Financial Resources
- National Budget
- Private Sectors
- Local Government/Municipal Budget

VII. International Agendas
- SDG’S
- New Urban Agenda

VIII. Integrated Regional and Public Works-Housing Infrastructure Plan
- Technical
- Financial
- Social
- Environmental
- Institutional

INTEGRATED REGIONAL AND PUBLIC WORKS-HOUSING INFRASTRUCTURE DEVELOPMENT
REGIONAL CONSULTATION MEETING
MASTER PLAN AND DEVELOPMENT PLAN INTEGRATED WITH SPATIAL PLANNING

The Law on Spatial Planning
- Law No. 26/2007 about Spatial Planning

National Spatial Plan
- Government Regulation No. 23/2017 about National Spatial Plan

Provincial Spatial Plan
- Local Government Regulation

Municipal Spatial Plan
- Local Government/Municipal Regulation

Regency Spatial Plan
- Local Government/Regency Regulation

Detailed Spatial Plan
- Local Government (Municipal/Regency) Regulation

National Long – Term Development Plan
- Law No. 17 / 2007 about National Long Term Dev Plan

National Medium – Term Development Plan
- Presidential Regulation

National Urban Policy and Strategy
- National Development Planning Agency (BAPPENAS)

Sustainable Smart City

Strategic Development Area (WPS)

Master Plan & Development Plan PWH Infrastructure

PWH Infrastructure Program

PWH Strategic Plan
- PWH Minister Regulation
The need to develop infrastructure towards balanced regional development

Developing basic infrastructure to address high urbanization and to improve the quality of life in urban and rural areas

Resource utilization and development for added value to achieve water resilience, food and energy sovereignty towards sustainable economy growth

Improving connectivity within regions and between land and sea to increase national competitiveness
**PUBLIC WORKS AND HOUSING INFRASTRUCTURE OUTPUT TARGET 2015-2019**

**ROAD SECTOR**
- Support on development of 24 New Seaports
- Support on harbour in 60 locations
- Support on Urban road network restructuring
- Construction of urban ring road in Metropolitan and big cities
- Support on 15 industrial priorities areas
- Support on 25 National Tourism Strategic Zones (KSPN)
- Support on development of 15 new Airport
- Support on multi-modal transportation with railways

**WATER RESOURCES SECTOR**
- 65 Dams construction
- 3,000 km Construction of flood control facilities and infrastructures
- 3 million ha Irrigation network rehabilitation
- 67.52 m³/s Construction/development of raw water treatment facilities and infrastructures
- 500 km Construction and development of coastal protection facilities and infrastructures
- 1 million ha New irrigation network construction
- 29,859 m Bridges construction
- 1,000 km Toll road construction (government & private sector)
- 2,650 km Construction of new road
- 3,073 km Capacity development of national road
- 19,951 m Bridge development

**HOUSING SECTOR**
- Provision of Public Utilities to support public housing provision: 676,950 unit
- Construction of specific purpose house: 50,000 unit
- Construction of apartments for low-income households (MBR): 550,000 unit
- Disbursement of financial aid for self-reliant house construction: 450,000 unit

**HUMAN SETTLEMENT SECTOR**

<table>
<thead>
<tr>
<th>KONDISI AKHIR THN 2014</th>
<th>TARGET AKHIR THN 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safe drinking water access</td>
<td>70 %</td>
</tr>
<tr>
<td>Urban slum areas</td>
<td>38,431 Ha</td>
</tr>
<tr>
<td>Decent Sanitation Access</td>
<td>62 %</td>
</tr>
</tbody>
</table>
VISIUM of Ministry of PWH in 2030

Visium Total Investment 2030 (2020-2024)
- National budget on Visium 2030 (2020-2024)
  - National Budget allocation projection 2020-2024 (Moderate Condition)
  - National Budget allocation projection 2020-2024 (Minimum Condition)

MPWH
Rp. 2058 T
(National Budget + Non National Budget)

- Raw Water Capacity
  - 68.11 m³/c/yr
  - Budget
    - Rp.577 T
- Road in Good Condition 97%
  - Toll road 1.500 Km
  - New National Road 2.500 Km
  - New bridges /FO 60 Km
  - National Budget Rp.330 T
  - Private investment Rp.243 T
- 88% Access Drinking water
  - 17.000 ha
  - Slum Upgrading
  - National Budget Rp.128 T
- 5 million Backlog for low-income ppl
  - New Housing devt. 3.9 mil. units
  - Budget Rp.780 T

FUNDING NEEDS BASED ON
MPWH VISIUM 2030

- 2058
- 1191
- 703
- 623

Source: RIDA, 2019
**PUBLIC WORKS AND HOUSING INFRASTRUCTURE DEVELOPMENT STRATEGY IN MAJOR ISLANDS**

**PAPUA**
1. Strengthen and develop connectivity to optimize potential regions
2. Utilize natural resources to support food security, water security, and energy sovereignty
3. Enhance the quality of life in cities, center of urban and community development
4. Support border areas
5. Protect biodiversity and facilitate mitigation and adaptation to climate change

**BORNEO**
1. Support protected and conservation areas;
2. Enhance the functional urban areas; Support Infrastructure to increase quality of life in urban and center of settlement
3. Increase and strengthen water supply to support food security, water security, and energy sovereignty;
4. Enhance and strengthen the functional border areas as nation’s front gate and international gate.

**SULAWESI**
1. Develop connectivity in the outskirts
2. Optimize the support for food security, water security, and energy sovereignty
3. Enhance the quality of life in the center areas of urban development
4. Optimize the support in enhancing functional border areas
5. Support the development of strategic areas (i.e. historic cities, tourism areas, special economic zones)
6. Optimize the functional rural areas, cities, and outlying islands

**SUMATERA**
1. Support infrastructure in strategic areas of development (i.e. industry, tourism)
2. Develop regional connectivity
3. Support basic services infrastructure
4. Optimization infrastructure to supporting food Sovereignty issue
5. Develop infrastructure to minimize disaster risk
6. Strengthening urban areas
7. Support infrastructure in underdeveloped regions
8. Develop Indonesia – Singapore, Malaysia Border areas

**JAVA - BALI**
1. Optimize infrastructure to supporting food Sovereignty issue
2. Develop basic service infrastructure to support function of the urban areas
3. Develop infrastructure to support economics strategic areas in Java - Bali
4. Support infrastructure in underdeveloped regions and areas that high level disaster risk

**NUSA TENGGARA**
1. Develop regional connectivity
2. Increase and strengthen water supply
3. Enhance the quality of life through residential infrastructure
4. Improve the resilience and capacity of mitigation and adaptation to climate change, and reduce disaster risk
5. Strengthen the border areas

**MOLLUCAS**
1. Optimize regional connectivity
2. Improve infrastructure to enhance the quality of life
3. Develop infrastructure with implementation of mitigation and adaptation to climate change and to reduce disaster risk
4. Develop border areas as nation’s front gate and international gate

Source: RIDA, 2019
Water Availability in Sumatera Island

<table>
<thead>
<tr>
<th>Dam</th>
<th>Province</th>
<th>Volume (Million m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rajui</td>
<td>Aceh</td>
<td>2.05</td>
</tr>
<tr>
<td>Keuliling</td>
<td>Aceh</td>
<td>18.36</td>
</tr>
<tr>
<td>Leubok</td>
<td>Aceh</td>
<td>0.80</td>
</tr>
<tr>
<td>Sianjo-anjo</td>
<td>Aceh</td>
<td>1.52</td>
</tr>
<tr>
<td>Batutegi</td>
<td>Lampung</td>
<td>860</td>
</tr>
<tr>
<td>Way Rarem</td>
<td>Lampung</td>
<td>72.40</td>
</tr>
<tr>
<td>Way Jepara</td>
<td>Lampung</td>
<td>34.85</td>
</tr>
</tbody>
</table>

Source: RIDA, 2019
STRATEGIC DEVELOPMENT REGION
METROPOLITAN MEBIDANGRO – TEBING TINGGI – DUMAI - PEKANBARU

Megapolitan Area
MEBIDANGRO
• Medan City (PKN)
• Binjai City (PKN)
• Kab Deli Serdang (PKW)
• Kab Karo (PKW)
• Medan Industrial Area
• Medan Star Industrial Park
• Belawan Port
• Lamhotma Belawan Industrial Area
• Pantai Labu Industrial Area & Warehouse Complex
• Metropolitan Mebidangro
• Tanjung Morowa Industrial Area
• Hamparan Perak Industrial Area
• Binjai Industrial Area
• Kualanamu Airport

New Development Area
SEI MANGKE KUALA TANJUNG
• Tebing Tinggi City
• Kuala Tanjung Port
• Kuala Tanjung Industrial Area
• Sei Mangke Industrial Area
• Sei Mangke Special Economic Zone
• Sei Mangke New City

DUMAI Industrial Area
• Dumai City
• Tourism Strategic Development Area Rupat
• Dumai Port
• Dumai Industrial Area (Pelintung)
• Lubuk Gaung Industrial Area

Major Growth Centers PEKANSIKAWAN
(PEKANBARU, SIAK, KAMPAR, PELALAWAN)
• Pekanbaru City
• Siak Regency
• Kampar Regency
• Pelalawan Regency
• Tanjung Buton Industrial Area
• Penayan Industrial Area

DANAU TOBA - SAMOSIR
Tourism Strategic Development Area

Source: RIDA, 2019
ROAD NETWORK DEVELOPMENT PLAN
METROPOLITAN MEBIDANGRO

source: RIDA, 2019
Medan-Parapat Toll Road consists of several segments:

- **Medan-Kualanamu-Tebing Tinggi** (61.7 Km, in operation)
- **Tebing Tinggi-Pematang Siantar** (35 Km, under construction)
- **Pematang Siantar-Parapat** (27 KM, Land Acquisition)

Land acquisition is targeted to be completed in 2020. It is estimated that the Medan-Parapat Toll Road can operate in 2023-2024.
NATIONAL STRATEGIC TOURISM AREA (KSPN) TOBA LAKE

Source: ITMP, 2019
Deliniation Area

- Kabupaten Simalungun
- Kabupaten Toba Samosir
- Kabupaten Tapanuli Utara
- Kabupaten Humbang Hasundutan
- Kabupaten Dairi
- Kabupaten Karo
- Kabupaten Samosir
- Kabupaten Pakpak Bharat

Key Priority Area

1. Parapat, Kecamatan Girsang Sipangan Bolon, Kabupaten Simalungun
2. Kecamatan Simanindo, Kabupaten Samosir
3. Kecamatan Pangururan, Kabupaten Samosir
4. Kecamatan Balige, Kabupaten Toba Samosir

Source: TOR ITMP Danau Toba
KTA / N-KTA
Parapat + Sibisa
Simanindo
Pangururan
Baliige
Merek
Muara – Baktiraja

Cluster / Extended KTA

Tourism Corridor
Tourism Gate - Road
Tourism Gate - Air

Source: ITMP, 2019
INTEGRATED PROGRAM 2020 IN KSPN TOBA LAKE

- Development Tano Ponggol Canal
- Development of Tano Ponggo Bridge
- Waterfront City Pangururan Revitalization (Road construction, Pedestrian, Drainage, Street Furniture and Pangururan Landscape)

Construction of Self-Help Housing (Rumah Swadaya) North Sumatera Province
INTEGRATED TOURISM MASTERPLAN

ANALYSIS OF BASELINE CONDITION
Regulatory Framework and Planning Document
• Identification of Planning Authorities
• Evaluation of Regulatory Framework
• Review and Evaluation of Relevant Existing Spatial and Sectoral Development Plan

Existing Information
• Land Use, Economy, Environment, Social Culture and Institutional
• Infrastructure Service of Tourism

ASSESSMENT OF FUTURE TOURISM DESTINATION
Growth Projection
• Population and Regional Growth
• Tourism Growth and Tourism Demand Pertumbuhan di sektor pariwisata dan kebutuhan akan permintaan pariwisata
• Growth of Potential Areas Pertumuhan area potensial

Articulation of Opportunity and Constraint
• Interpret Basic Data with World Bank Policies to Develop Maps of Opportunity and Constraint
• Assessment of Basic Data and Gaps of Infrastructure Provision

FORMULATION OF GOALS AND SCENARIOS
Preparation of Growth Projections
• Projection (population, employment, local economic sector)
• Market Analysis and Demand Assessment Study
• Assessment of Future Infrastructure Needs
• Future Strategic Areas Identification, Mandated by Government of Indonesia (GoI)

Formulation of Land Use Scenario Alternative
• Identify additional land needs
• Identify competing demands for land, natural resources and infrastructure
• Identify strategic interventions
• Identify opportunities for clustering of development

INTEGRATED PLANNING ANALYSIS
Prepare a Phased Tourism Development Plan
• Consolidate the results of the overall development plan and the detailed development plans
• Cost estimates for all required infrastructure and services

Prepare of Urgent Investment 2018
• Prioritized development plan
• Stakeholder coordination

Prepare a Capacity Building Program
• Roles and responsibilities of all stakeholder in implementation of the integrated tourism master plan
• Local community and SME
• Environmental and social impact evaluation and mitigation plan

ASSESSMENT OF ENVIRONMENTAL AND SOCIAL IMPACTS
Stakeholders Coordination (technical aspect, economy, etc.)

DEVELOPMENT SCENARIOS (MINIMUM)

1-5 years
• Prioritization for phasing construction

INTERNATIONAL INTEGRATED MASTERPLAN (25 YEARS)
Pedestrian Way Lake Waterfront

After

Before

Source: ITMP, 2019
Pedestrian Way Lake Waterfront

Source: ITMP, 2019
Pedestrian Way Lake Waterfront

After

Before

Source: ITMP, 2019
1. Revitalization of Pantai Bebas

Before (Fantastic view to lake blocked by signage & on street parking)

After (Fantastic view to lake can be seen freely from plaza & road)

Before (Fantastic view to lake blocked, lake side covered by hardscape & less greenery)

After (Fantastic view to lake open, more greenery in lake side)
Revitalization of Siallagan Port

King Siallagan monument

Buffer Zone Geosite, Kiosk moved to surrounding Huta batak, left only Selected Kiosks

Core Zone Geosite, for Siallagan's Archaeological Site

HKBP Siallagan

Integrated Parking Spot (for Electric Tourist Bus, Car/Motorbike, Bicycle, Electric Car)

ARCHITECTURE & LANDSCAPE DESIGN

LAKE TOBA

2. Revitalization of Siallagan Stone Chair & its surrounding area

Before

After (Restoration with Minimum Intervention)
Preservation of Paddy Field

Revitalization of Huta Batak
Batak Culture Centre
Desa Wisata
Traditional Market
House of Learning
Youth Centre
Art Studio

Trekking Track
Bicycle Track

Beautification of Tano Ponggol Bridge landscape & revitalization of Huta Batak

LaKE TOBA

Integrated Parking Spot
(for Electric Tourist Bus, Car/Motorbike, Bicycle, Electric Car)
Revitalization of Balige Onan Balerong Market

Legend:
A. Restored Heritage building
B. 6m width Pedestrian Ways
C. Moved Shophouses
D. Preserved Market Building
E. Preserved Shophouses

Before (Pedestrian Ways divided by Fences)
After (6m width Pedestrian ways)
After (Heritage buildings clearly seen since some shophouses removed)

Heritage buildings blocked
Pedestrian ways divided by double fences
On street parking

Heritage buildings seen clearly
6m width pedestrian ways
Rain garden
Streets act as electric tourist bus & electric car route
CONSTRUCTION PROGRESS IN LAKE TOBA (1)

Tano Ponggol Bridge Construction

Source: RIDA, 2019
CONSTRUCTION PROGRESS IN LAKE TOBA (2)

Kampung Tenun Ulos Huta Raja

Public Spaces in Samosir Regency

Source: RIDA, 2019
Widen the Manokwari-Maruni road

TOTAL LENGTH
1.098,2 Km

CONNECTED
890,6 Km

NOT CONNECTED
207,6 Km
POS LINTAS BATAS NEGARA (PLBN)

7 PLBN:
1. PLBN MOTAAIN, NTT
2. PLBN MOTAMASSIN, NTT
3. PLBN WINI, NTT
4. PLBN SKOUW, PAPUA
5. PLBN NANGA BADAU, KALBAR
6. PLBN ARUK, KALBAR
7. PLBN ENTIKONG, KALBAR
WEST KALIMANTAN BORDER ROAD
MALAYSIA – INDONESIA BORDER
RAK NAMO DAM
NUSA TENGGARA TIMUR
OFFICIALLY ANNOUNCED 9 JANUARI 2018

First of the 49 dams that has been constructed, to be groundbreake by the president and to be officially announced in 2018.

Budget
Rp. 760 Billion

Volume
16 juta m³

Raw Water
0,1 m³/det

Irrigation
1.250 Ha

Electricity
0,22 MW
Integrated Planning for Infrastructure Development in Indonesia has been conducted by Regional Infrastructure Development Agency, Ministry of Public Works and Housing since 2015.

National and Provincial Spatial Planning, as well as Global Agenda such as SDGs and NUA have been used as references for integrated planning for infrastructure development conducted by RIDA. In promoting global agenda, RIDA has translated International Guidelines in Urban and Territorial Planning from UN Habitat.

The sectors covered in integrated planning for infrastructure development consists of Water Resources Development, Road and Bridges Development, Human Settlements and Housing Development. The integrated planning for specific areas such as in tourism areas have covered also the need of tourism infrastructures, including amenities and facilities for attractions in Key Tourism Areas.

The process of the integrated planning conducted by RIDA has been combining Top down and Bottom up Approach. During the process, Public Consultations have been done in many cities by inviting local governments, academia, central government institution and NGO’s.

The Integrated planning for infrastructure development conducted by RIDA promotes sustainable development in city and regions in the country. RIDA has published The State of Indonesian Cities since 2017, and this year the theme is Resilient City.
THANKYOU

Regional Infrastructure Development Agency
Ministry of Public Works and Housing