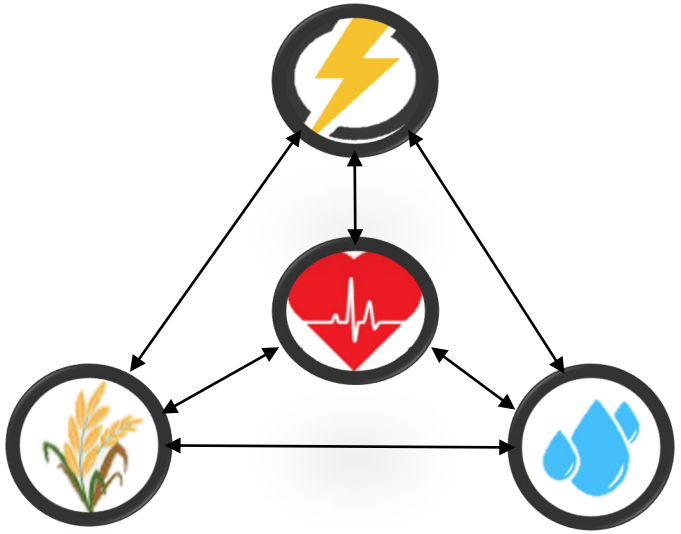
Focus Area: Indonesia

Session Title: Indonesia Climate Resilience Development Policy (2020 – 2045)

Schedule: [2022/08/08 | 3.00 pm]

CLIMATE CHANGE IMPACT

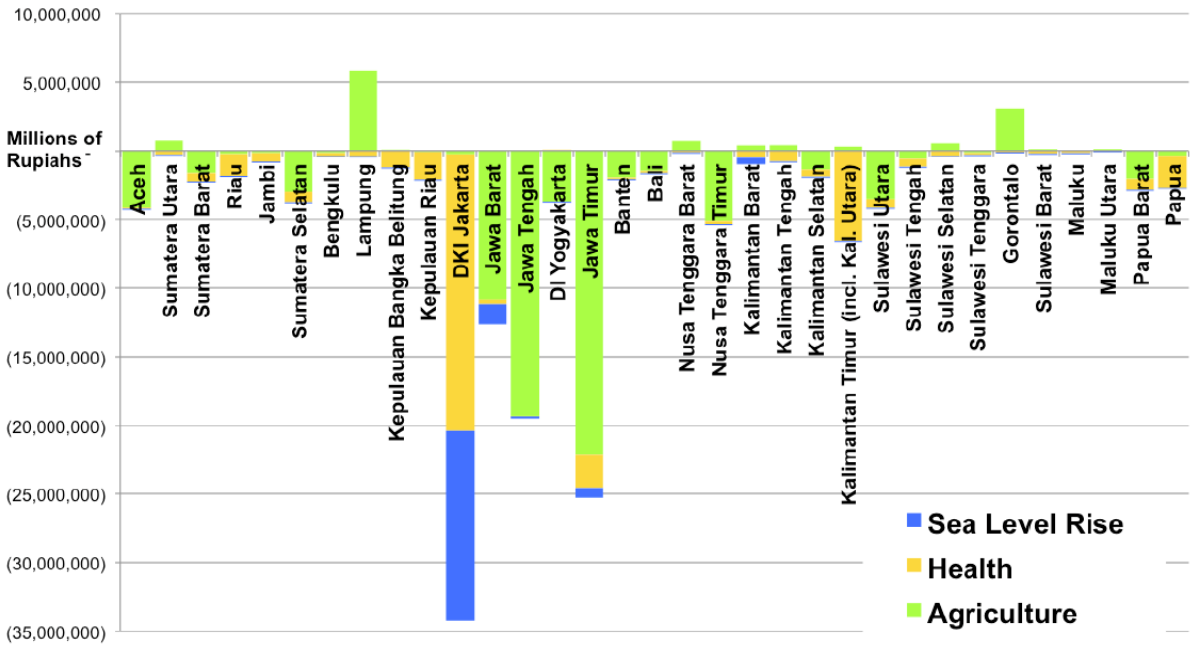


Basis Necessities
Loss 2,87% GDP
(0,66% - 3,45%)

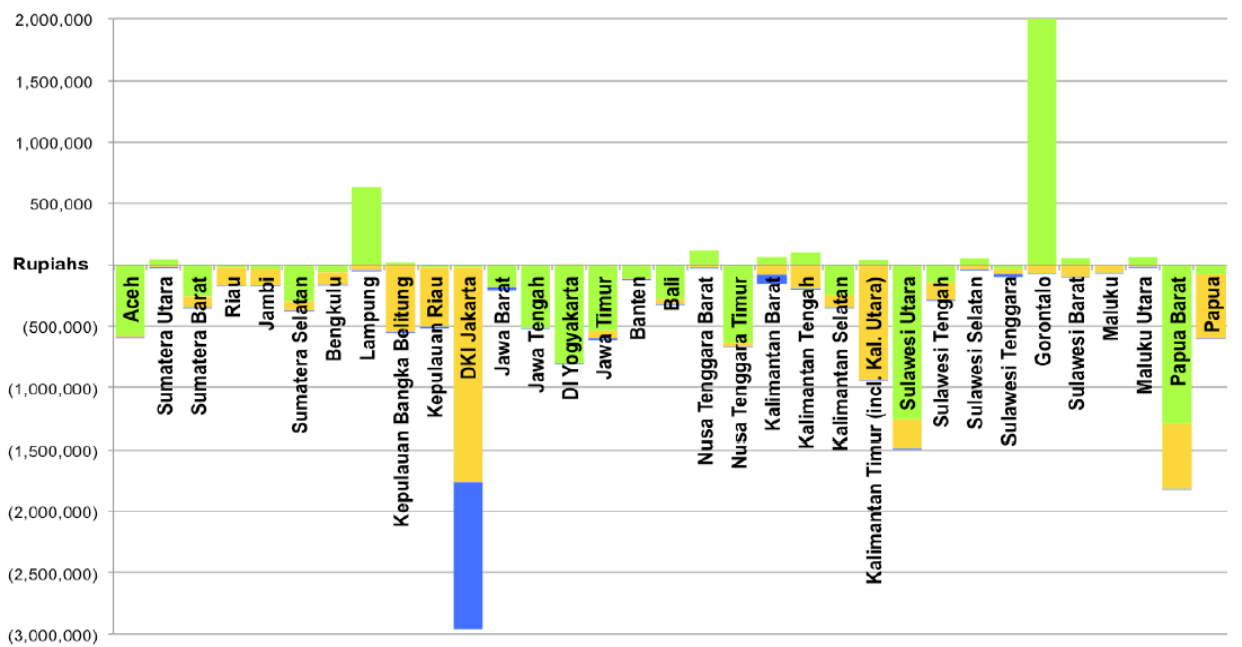
Necessities	Assessment	Loss Ratio (% GDP)
Water	Domestic water and industrial needs	0,33% - 0,43%
Food	Carbohydrate sources supply (rice)	0,18% - 1,26%
Energy	Use of refrigeration and hydropower production	0,0003% - 0,002%
Health	Prevalence of DHF, Malaria, Diarrhea, Pneumonia	0,05 – 1,86%

The impact on energy, food, and water was the result of a dynamic calculation analysis using climate change projections for Indonesia which were translated into sensitivity analysis of an increase in temperature of 1 to 3 degrees and a change in rainfall of -30 to 30% from the baseline condition. Meanwhile, the impact on the health sector was analyzed based on the changed area affected by simulation of vector borne disease

IMPACT OF CLIMATE CHANGE IN INDONESIA BY PROVINCE



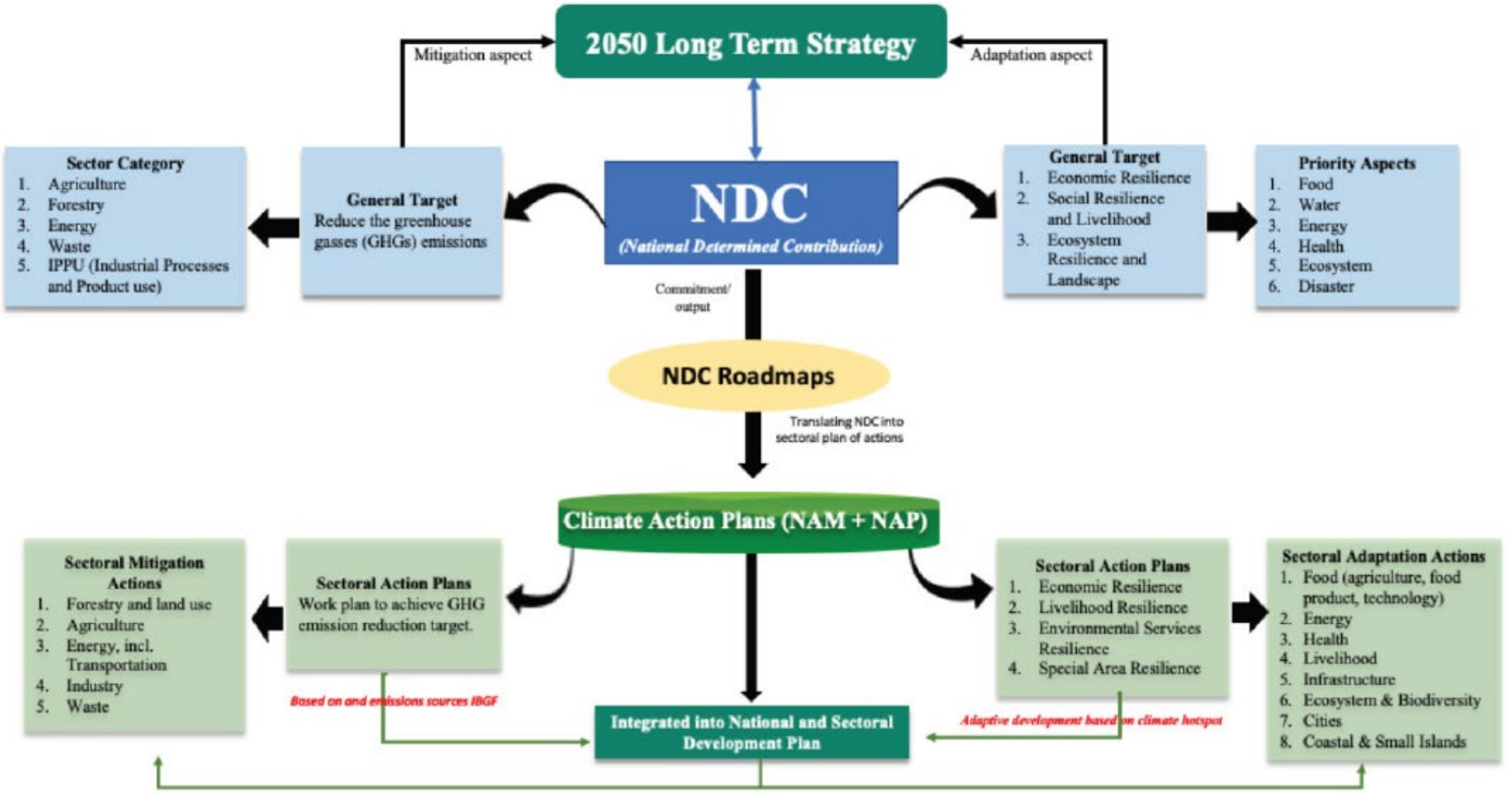
Total impacts of climate change by province and source of impact (in millions of rupiahs)



Per capita impacts of climate change by province and source of impact (in rupiahs)

- Jakarta Capital Region will suffer the most by the impact of the climate change
- All provinces in Java Island, the most populated island and center of economic activities, will hugely suffer
- Majority of the provinces will suffer from climate change, only some provinces will be benefited

POLICY AND STRATEGY OF GOVERNMENT OF INDONESIA - 2050



NAM: National Action on Mitigation
NAP: National Adaptation Plan
IBGF: Index of Biogeophysical

- **Law No 16/2016 of Ratification of Paris Agreement To The United Nations Framework Convention On Climate Change**
- **INDONESIA Long-Term Strategy for Low Carbon and Climate Resilience 2050**
- **Indonesia National Determined Contribution 2016**
- **Climate Action Plan 2014**
- **Integrated into National dan Sectoral Development Plan**

ADAPTATION ASPECT

Field/ areas

There are 6 priority areas in NDC with a target of reducing Impact through adaptation (Food, water, energy, health, ecosystem, and disaster). Eg Food, by reducing impact of 0.68% from total GDP

Key Programs

The adaptation program presented in the NDC is an effort to increase resilience. For example: Sustainable agriculture and plantations

NDC Strategy

The direction for the key NDC program (in the roadmap) as a commitment to the national adaptation plan (RAN-API) which consists of 8 adaptive and sustainable strategies. For example: Increasing climate literacy about vulnerability and risk (Strategy 3)

Strategy Pillars

These are the pillars in the strategy of NDC (roadmap) on adaptation aspect. For example: the strategy on Increasing climate literacy. Pillars:

1. Fostering a communal understanding to take action based on the vulnerability and risk of climate change
2. Determination of environmental risk standards in various development activities
3. Encourage research and publication of best practice

Multi-sectoral Actions

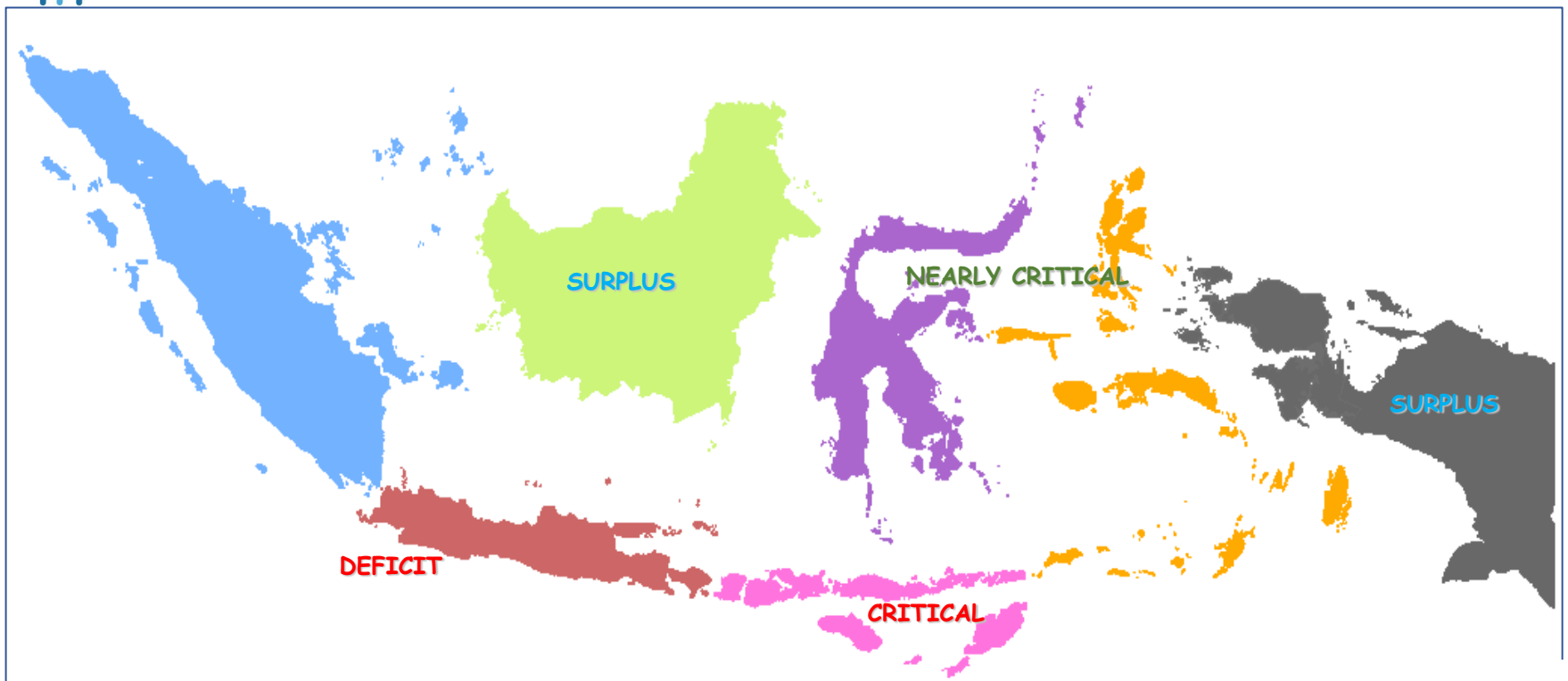
It is an adaptive program in various sectors as the implementation of actions from the strategy and pillars of NDC (translated in RAN API).For example, the food security program is carried out through coordination: Ministry of Agriculture, KKP, PUPR, ATR/BPN, Ministry of Health, Bappenas, BMKG, BNPB, LIPI, etc

Promoting LTS 2050 on adaptation aspect

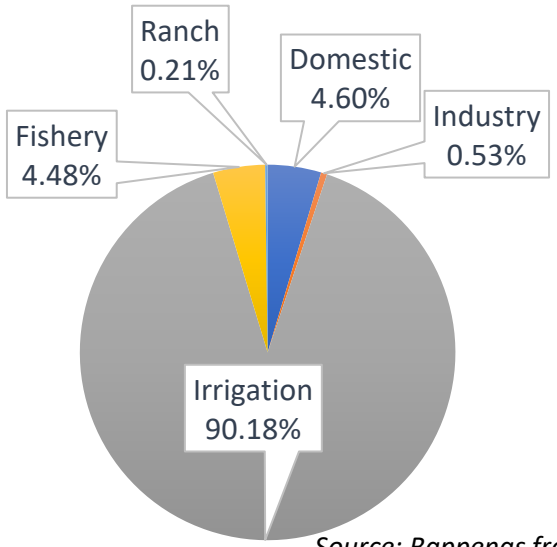
- Investment (E)
- Human resources capacity & green jobs (S)
- Landscape management (L)

- The synergy between sectoral ministries/agencies is needed in climate change adaptation. All sectors should also consider cross-cutting issues, such as knowledge management sharing (i.e., increasing literacy) and community engagement for local climate actions
- Adaptation cost will only 30% of the potential loss as the impact of the climate change. The cost divides into two categories:
  - ✓ Governance Aspect (5-10%), consist of initiating, managing, coordinating, reporting, monitoring, and evaluating the proposed adaptation actions
  - ✓ Implementation (90-95%), consist of implement the adaptation actions

WATER BALANCE, USAGE AND RICE PRODUCTION



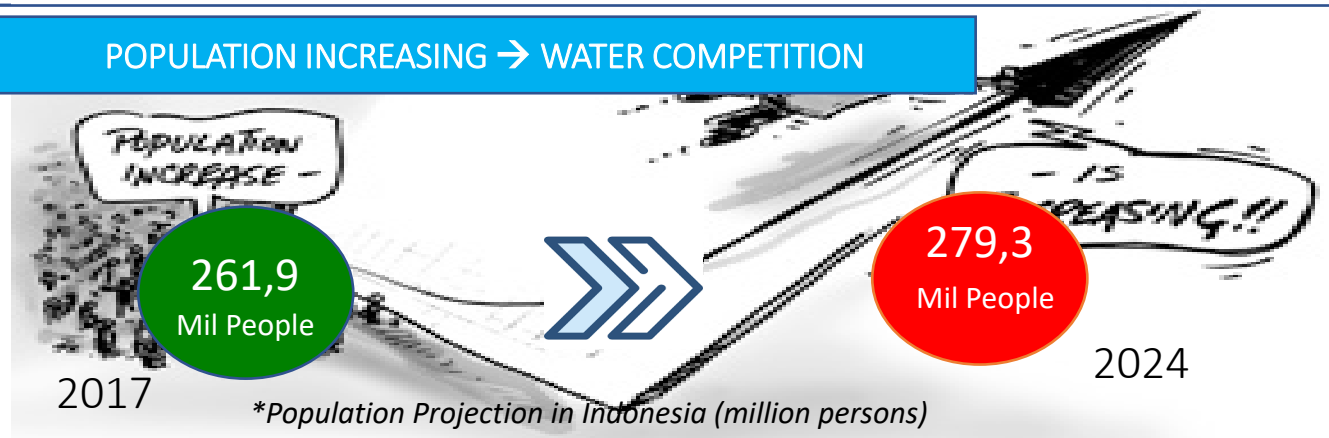
Water Usage of Surface Water



Source: Bappenas from various

Island(s)	% Rice Production	% Rice Consumption
Sumatera	20,0%	21,9%
Java	55,5%	56,3%
Kalimantan	5,4%	6,2%
Sulawesi	13,2%	7,3%
Bali dan Nusa Tenggara	5,1%	5,6%
Maluku & Papua	0,7%	2,8%

POPULATION INCREASING → WATER COMPETITION



**Population Projection in Indonesia (million persons)*

POLICY STRUCTURE OF WATER SECURITY IN INDONESIA TOWARDS 2045

Tackling the six sectoral threats and challenges

Dealing with the three cross-cutting issues

Water Threats

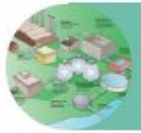
1. Relieving the growing water stress

2. Tackling pollution

3. Enhancing sustainability and improving resilience to disasters

Water Services

4. Accelerate water supply for urban and rural areas



5. Improve sanitation services and wastewater management

6. Modernise irrigation and improve productivity

Water Governance

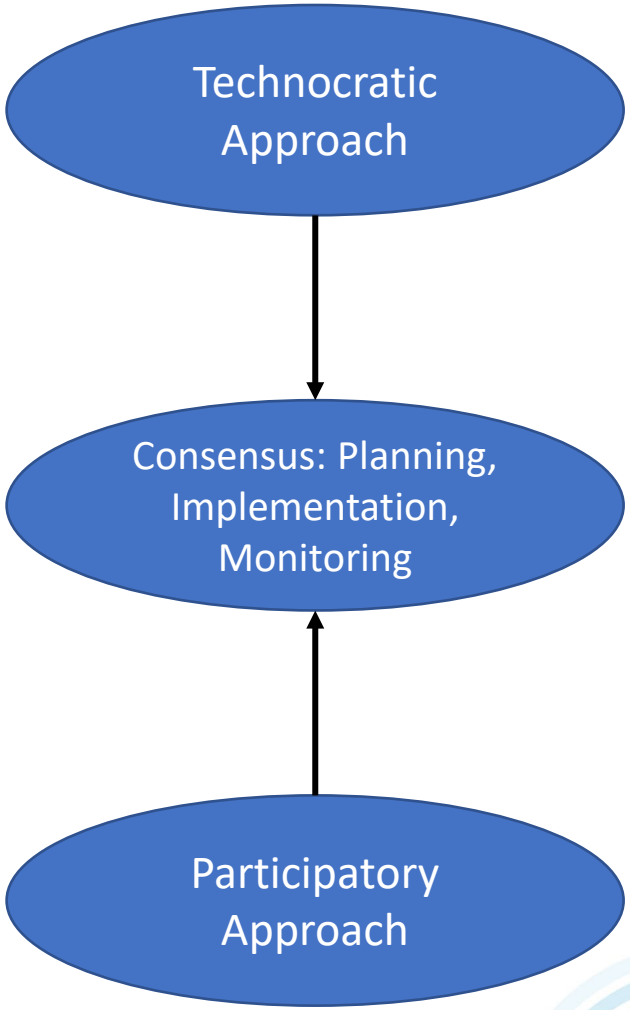
1. Strengthening the governance framework

2. Reinforcing institutions and developing capacity

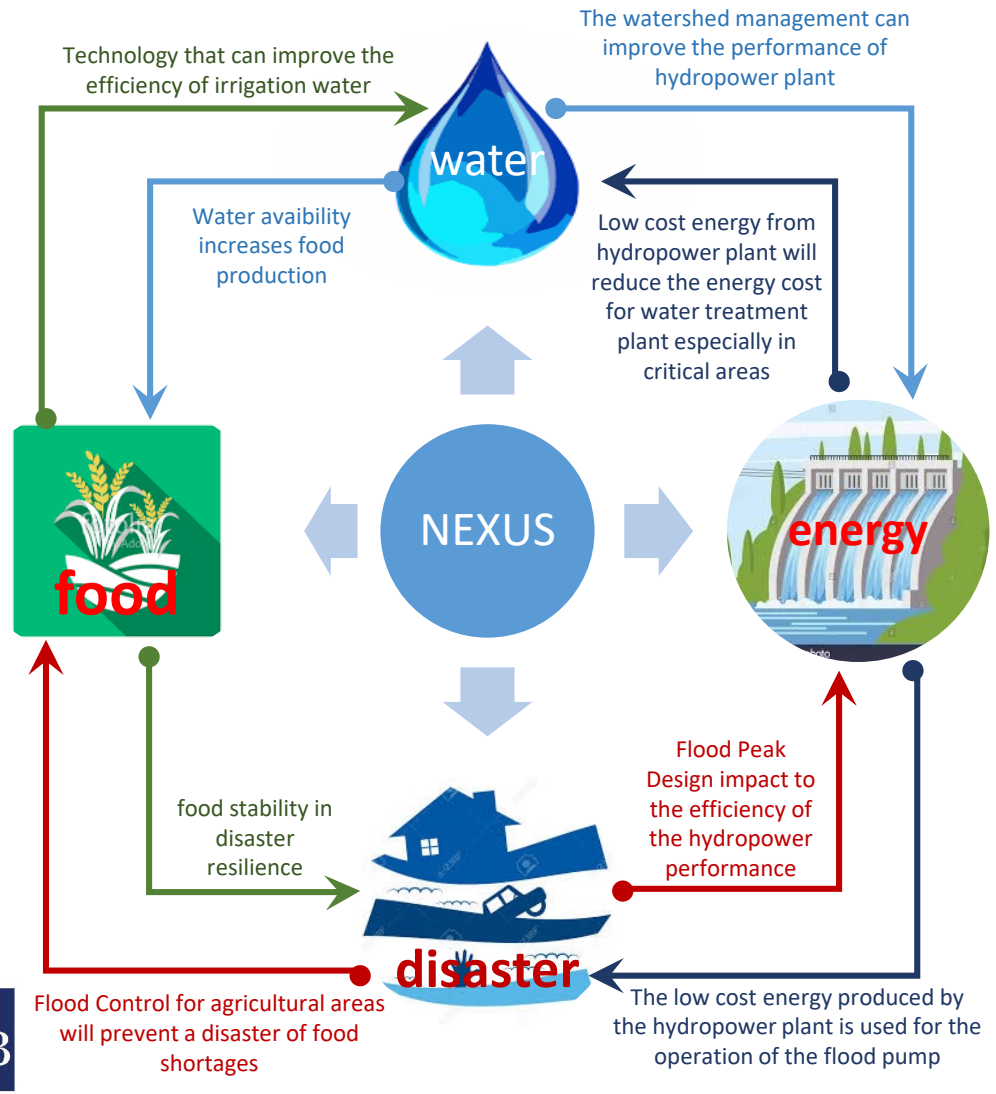
3. Improving the efficiency of public expenditures and affording the high cost

ACTION PLAN TOWARDS 2045

	ACTION 1	ACTION 2	ACTION 3
Pillar I. Managing water resources sustainably and strengthening resilience to water threats	Take action to reduce localized water stress and optimize scarce resources in future development planning	Significantly reduce water pollution by increasing wastewater treatment (municipal, industrial, and mining), reduce nonpoint water pollution from agriculture and aquaculture, and strengthen water pollution control.	Enhance sustainability and improve resilience to disasters.
Pillar II. Improving the inclusivity, sustainability and efficiency of water services	Accelerate inclusive, sustainable, and efficient water supply for all Indonesians	Expand and finance inclusive, sustainable, and efficient sanitation services and wastewater treatment	Modernize irrigation and improve its productivity
Pillar III. Strengthening governance and institutions for sustainable and efficient water management	Strengthen the governance framework.	Strengthen institutions through better coordination and capacity building.	Improve the efficiency of public expenditures for water and mobilize finance.



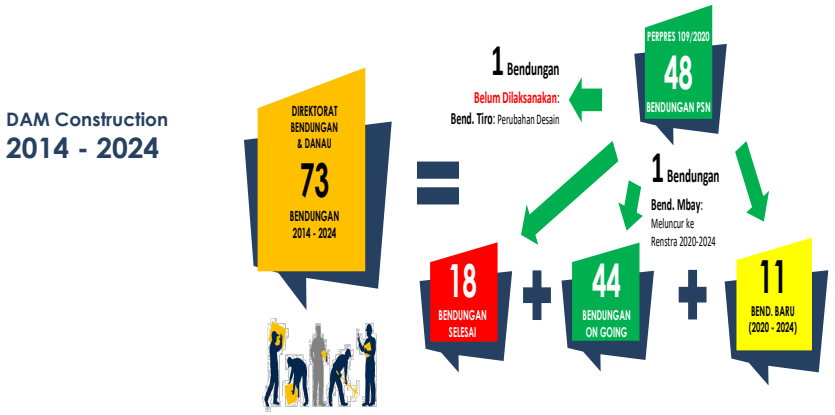
POLICY DIRECTION FOR WATER INFRASTRUCTURE DEVELOPMENT (BASED ON RPJMN 2020-2024)



Nexus Concept

Water, Food, Energy and Disaster For Multipurpose DAM Optimization

DAM Construction



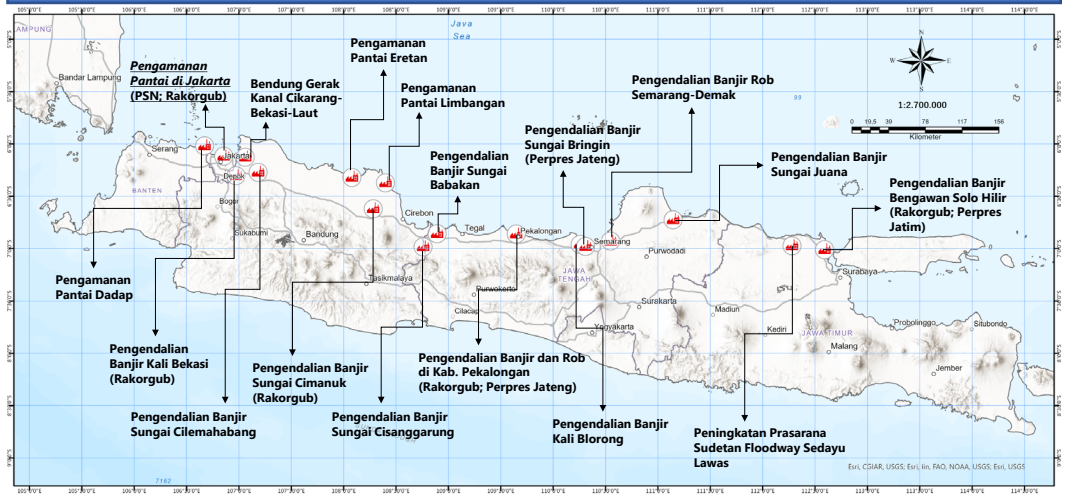
Rehabilitation and Modernization of Irrigation Networks (Ha)

Flood Control (Pump, Retention Basin, Check Dam, Ifrastructure Rehabilitation, etc)

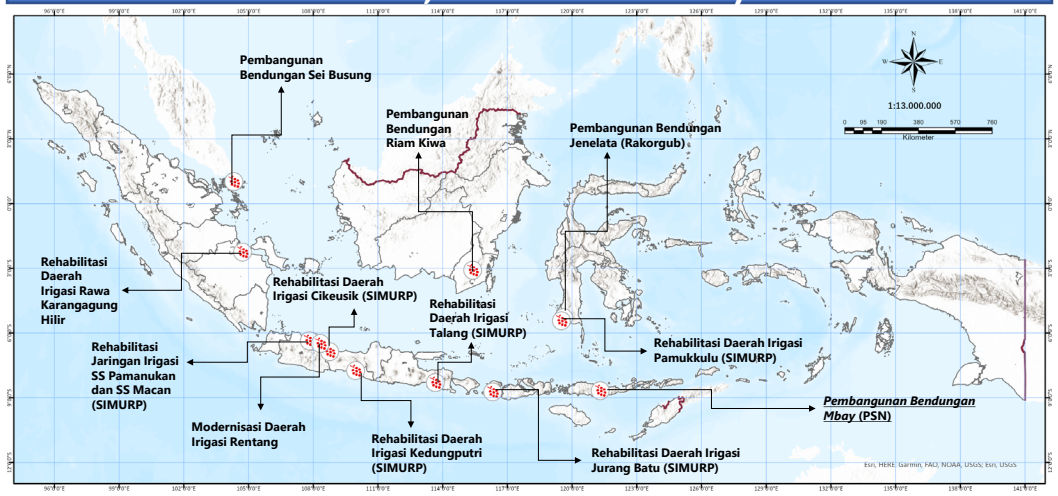
Improvement of Provision and Quality of Raw Water

POLICY DIRECTION FOR WATER INFRASTRUCTURE DEVELOPMENT (BASED ON RPJMN 2020-2024)

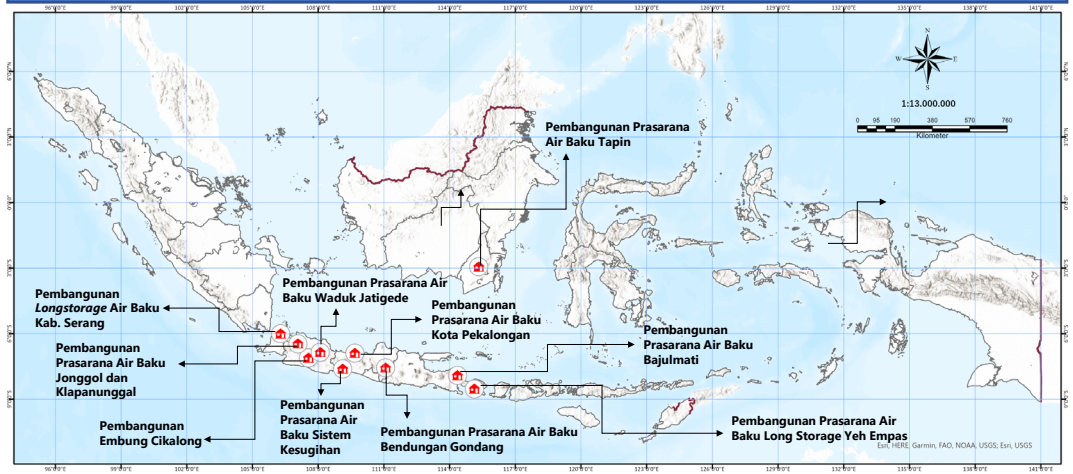
North Java Integrated Coastal Development



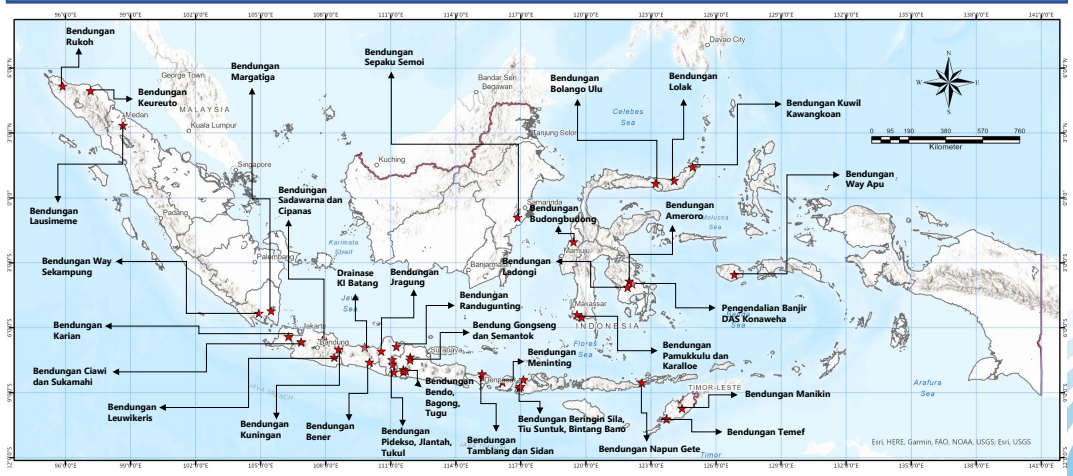
18 Multipurpose Reservoir (Power Plant, Irrigation, Raw Water, Flood Reduction)



Piping Drinking Water Access (10 Million)



Dam, Drainage, And Flood Control



THANK YOU