

TECHNOLOGY TO IMPROVE IRRIGATION SERVICES

MINISTRY OF PUBLIC WORKS AND HOUSING
DIRECTORATE GENERAL OF WATER RESOURCES
DIRECTORATE IRRIGATION AND LOWLAND



Outline

Challenges on
Water Resources

Utilization of
Technology in
Irrigation Planning

Utilization of
Technology in
Irrigation Services



An archipelagic country that has political, economic, national security and maritime culture/civilization as the world's maritime axis



Sovereign

Resilience, Unity, Independence, Security



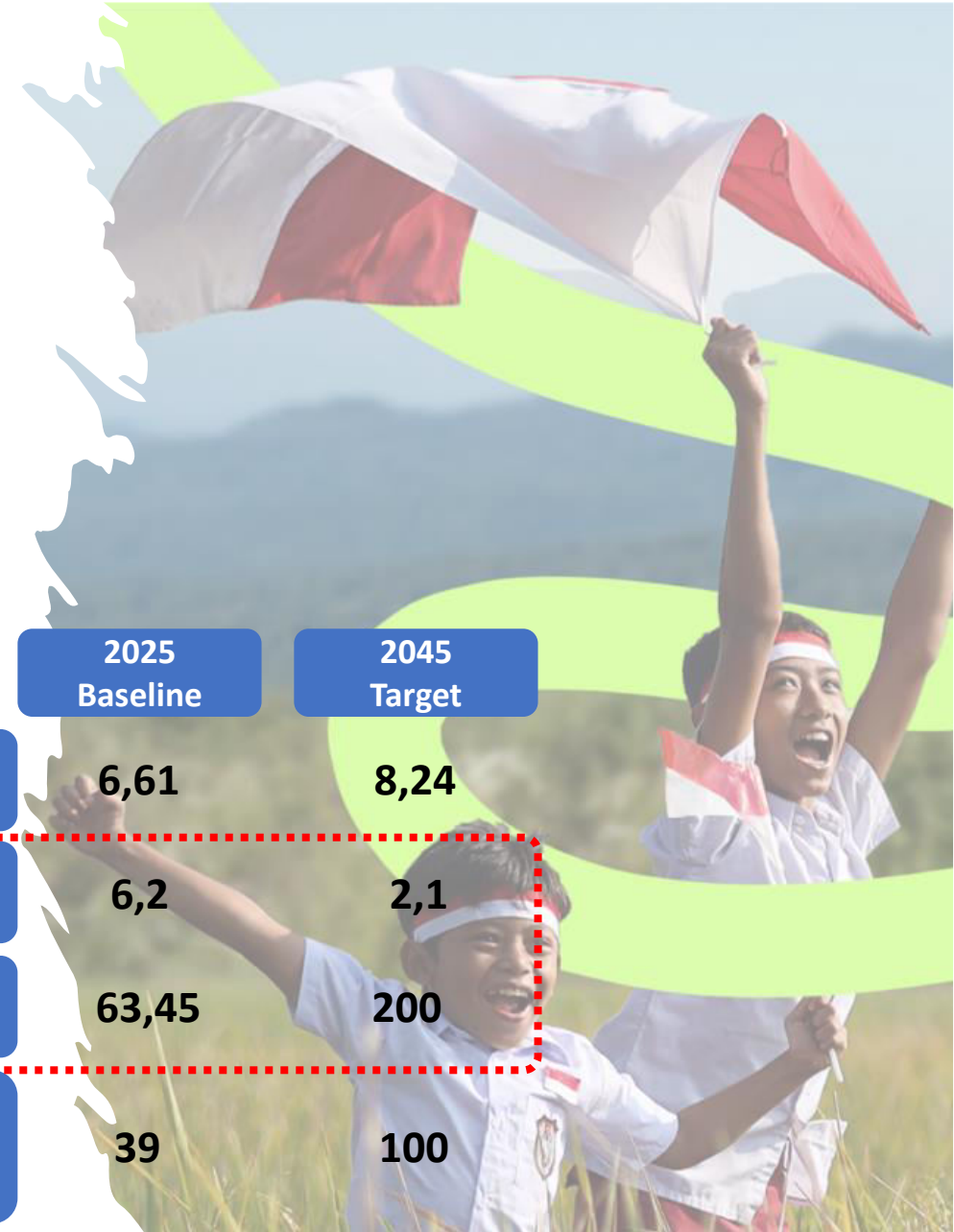
Develop

Powerful, Modern, Tough, Innovative, Fair



Sustainable

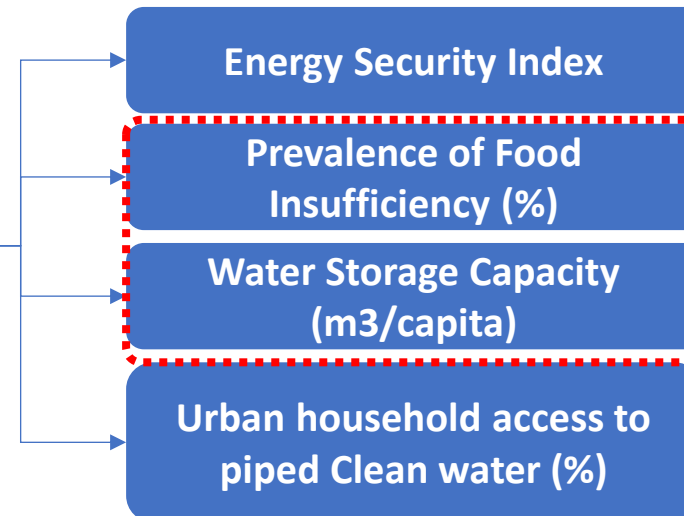
Sustainable and balanced between economic, social and environmental development



Indicator

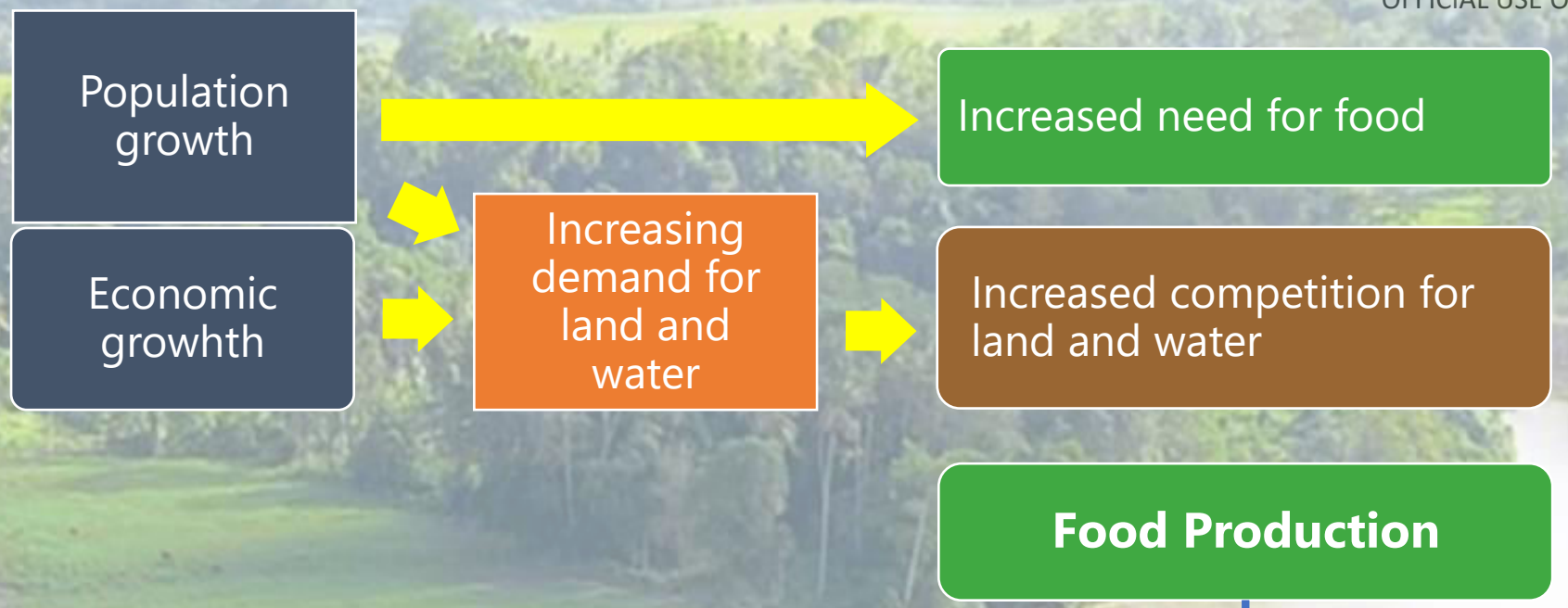
Development Goals

Resilience of Energy, Water and Food

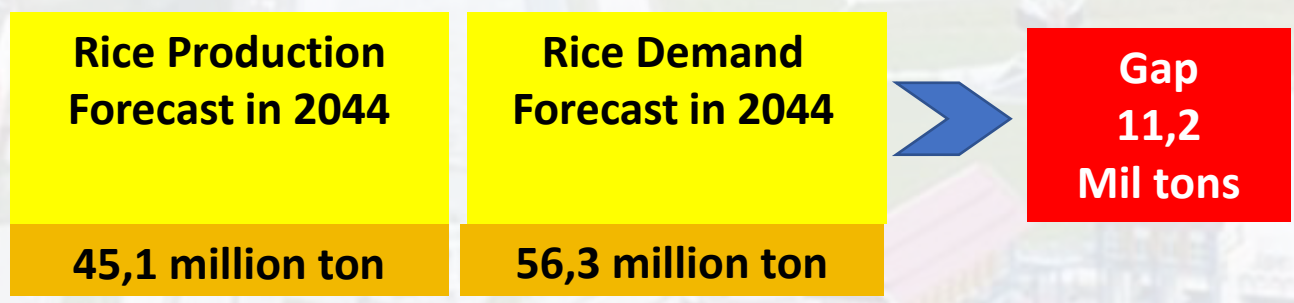


	2025 Baseline	2045 Target
Energy Security Index	6,61	8,24
Prevalence of Food Insufficiency (%)	6,2	2,1
Water Storage Capacity (m3/capita)	63,45	200
Urban household access to piped Clean water (%)	39	100

CHALLENGES ON WATER RESOURCES



Study on Formulation Of Irrigation Development And Management Strategy For Food Security (F-IDAMS)



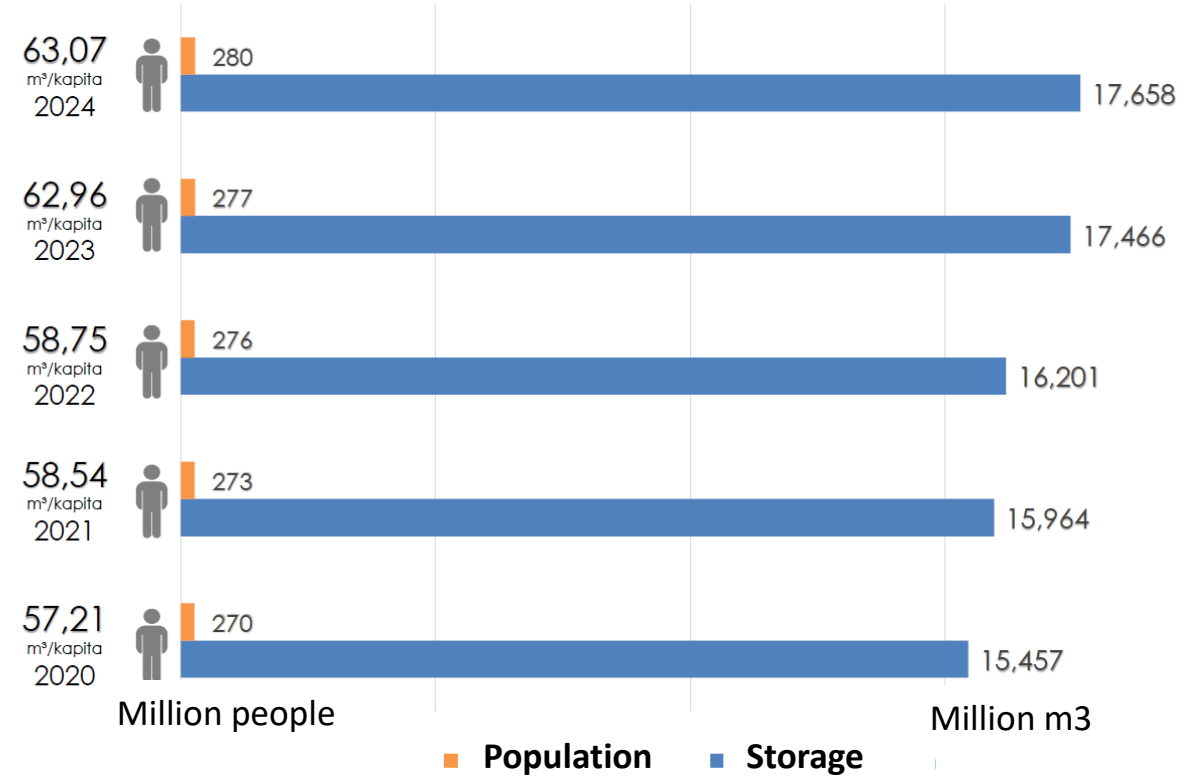
Climate Factor

Availability and reliability of production infrastructures including irrigation systems

CHALLENGES ON WATER RESOURCES

The forecasted storage capacity of Indonesia in 2024 is **63 m³/capita**. Targeted to be **200 m³/capita** by 2045.

STORAGE CAPACITY DEVELOPMENT 2020-2024



Sumber :
Jumlah Penduduk Data BPS

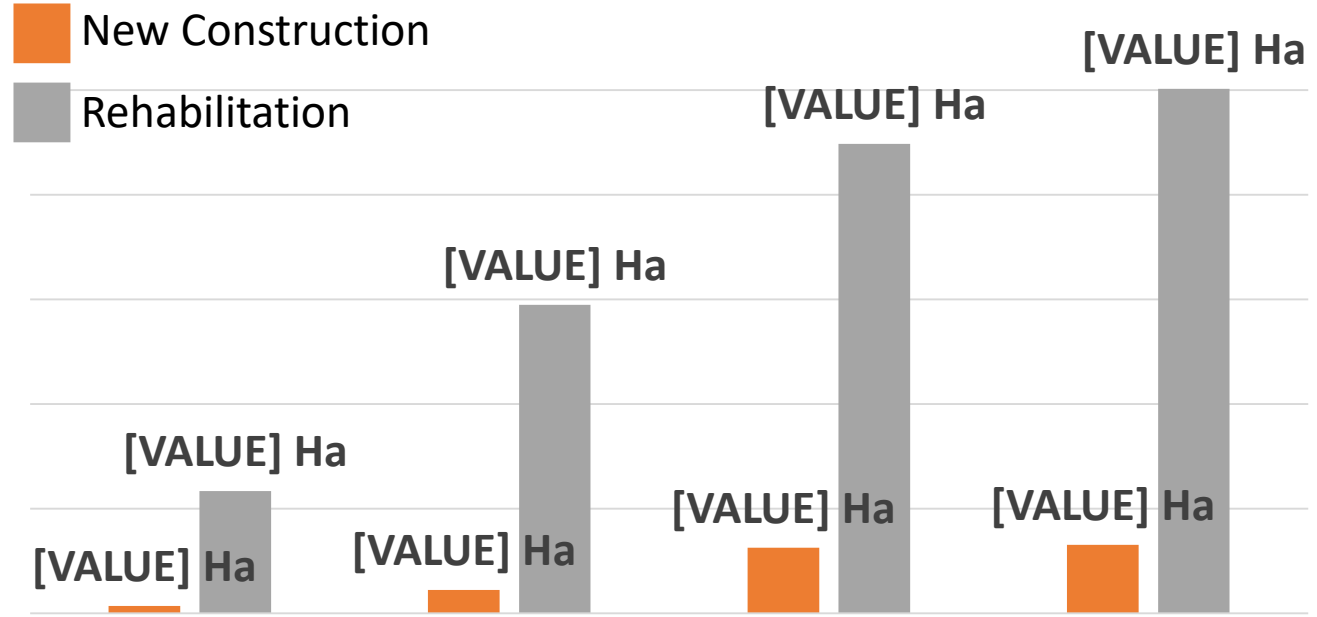
Irrigation Infrastructure

TARGETS AND ACHIEVEMENT

NEW CONSTRUCTION
500.000
 Hectares

REHABILITATION
2 Mil
 Hectares

Progress in the development and rehabilitation of infrastructure



Improve Water Reliability

NEW DAMS CONSTRUCTION
61
 DAMS

New Dam Construction (accumulative)



Bendung D.I. Baliase

IMPROVE THE PLANNING AND PERFORMANCE OF IRRIGATION SERVICES

USE OF SATELLITE IMAGE DATA

- Filling in gaps in data, especially at the study stage
- Speed up planning in Feasibility Stage
- Provides real-time field condition

Current implementation:

- Use of high accuracy Satellite Image and DEM
- Integration of Satellite Image with hydrological modelling
- Mapping of planting growth phases and planting area
- Irrigation water balance analysis and monitoring using satellite image

UTILIZATION OF RENEWABLE ENERGY AND TECHNOLOGY

Mechanical gate and telemetry can improve irrigation service

Problems with electrical in remote locations require alternatives such as:

- Solar Panel
- Micro hydro

Current implementation:

- Construction of micro hydro in Lembor Irrigation Scheme (East Nusa Tenggara)

STRATEGY TO IMPROVE PLANNING AND PERFORMANCE OF IRRIGATION SERVICES

UTILIZATION OF INFORMATION TECHNOLOGY

- Speed up the decision-making process with DSS on irrigation operating and services.
- Increase the effectiveness of water supply by shortening the water time travel.

Current implementation:

- Use of SCADA systems in the Modernization of Rentang Irrigation Scheme (West Java)

UTILIZATION OF PRECAST CONCRETE

- Accelerate the construction.
- Improve the quality.
- Reducing the waste of the in-site concrete molding process.

Current implementation :

- The use of modular precast lining



Terima Kasih

Thank You

