



Malaysia International Water Convention 2019



Sarawak: Towards a Resilient Water Supply System

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Sarawak : Towards a Resilient Water Supply System

*Dato Ir. Alice Jawan Empaling
Permanent Secretary, Ministry of Utilities SARAWAK*





CHALLENGES

Water Supply Coverage

Current Water Supply Coverage

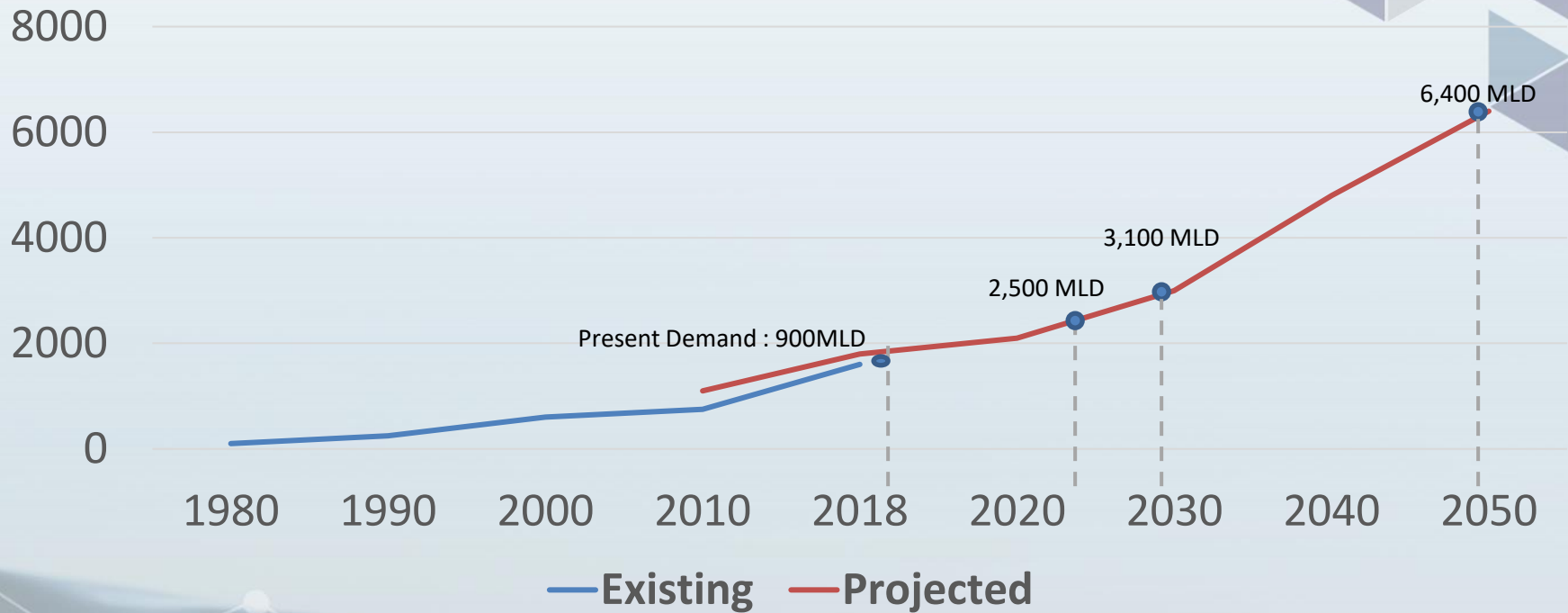
- **Overall: 81 %**
- **Urban Area: 99.9 %**
- **Rural Area: 62%**

State Target

- **100% by 2025**

Water Demand

Existing and Projected Water Demand Curves (MLD)



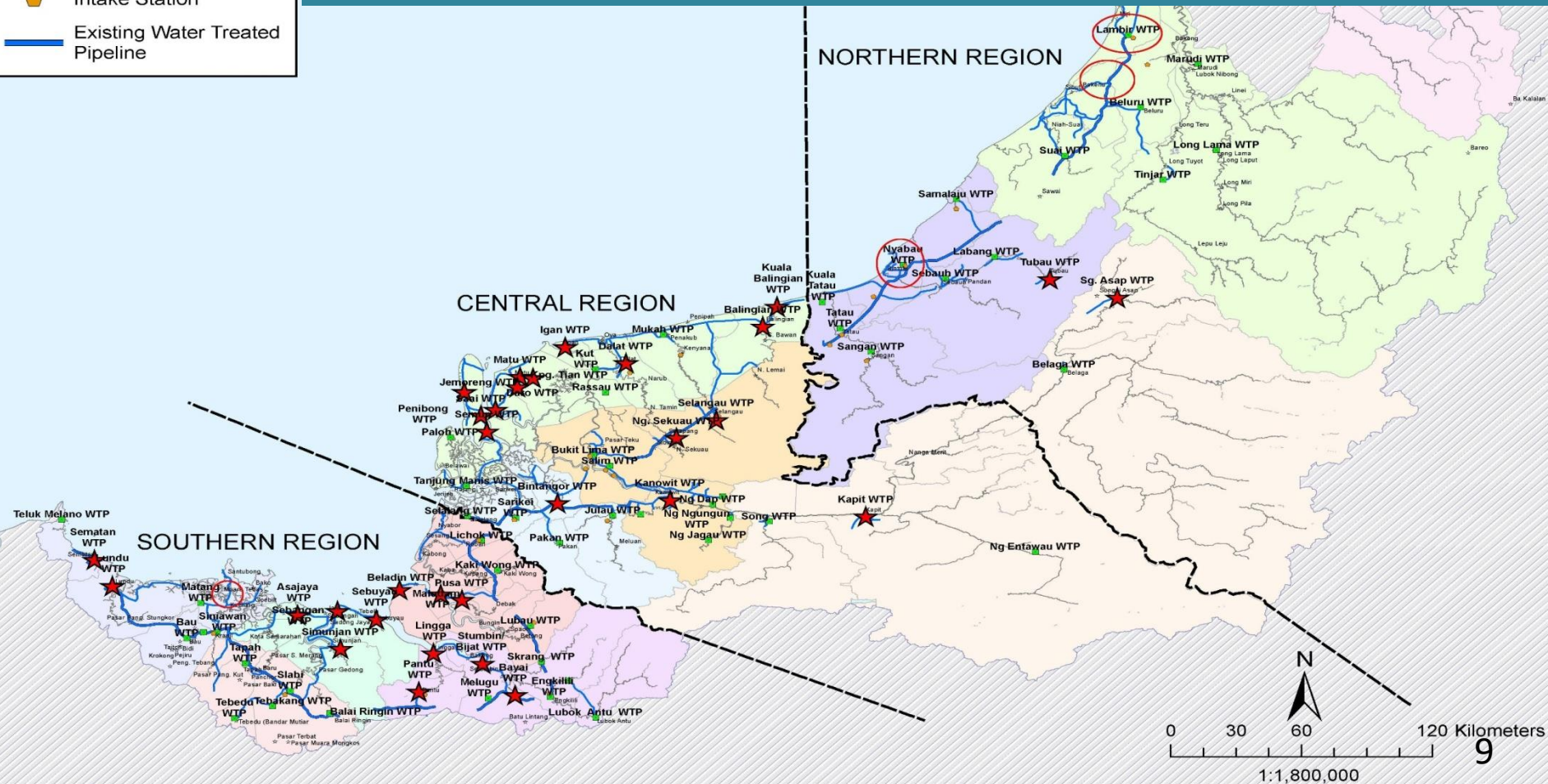
Source: Sarawak Integrated Water Resources Management Master Plan Study - 2009



Legend

- Water Treatment Plant
- Stress Area
- Intake Station
- Existing Water Treated Pipeline

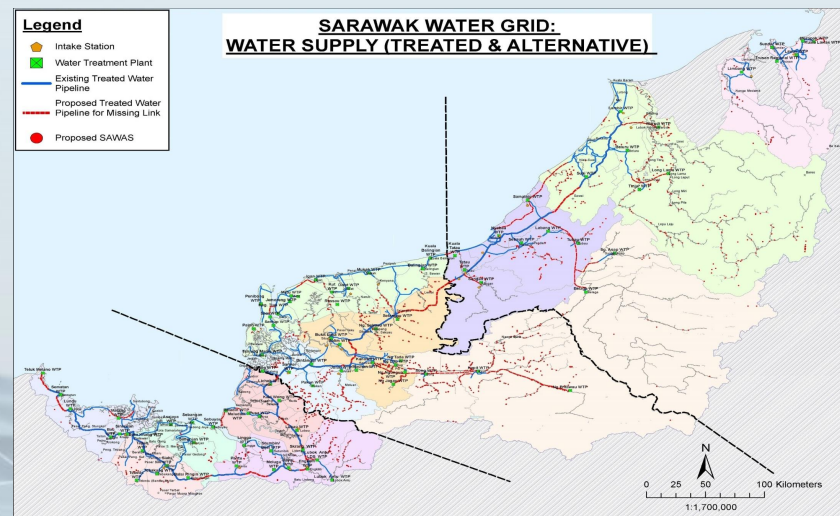
Water Stressed Areas & Current Issues





Rural Water Treatment Plant

Way Forward: Development of a Resilient Water Supply System



WAY FORWARD

Development of a Resilient Water Supply System

SARAWAK Water Supply Master Plan





Preliminary desktop master plan study carried out jointly by MOU & water supply agencies (2017)

State Government commissioned a consultant to carry out the Study on Water Supply Master Plan & Water Grid (2018) – expected to be completed by October 2019

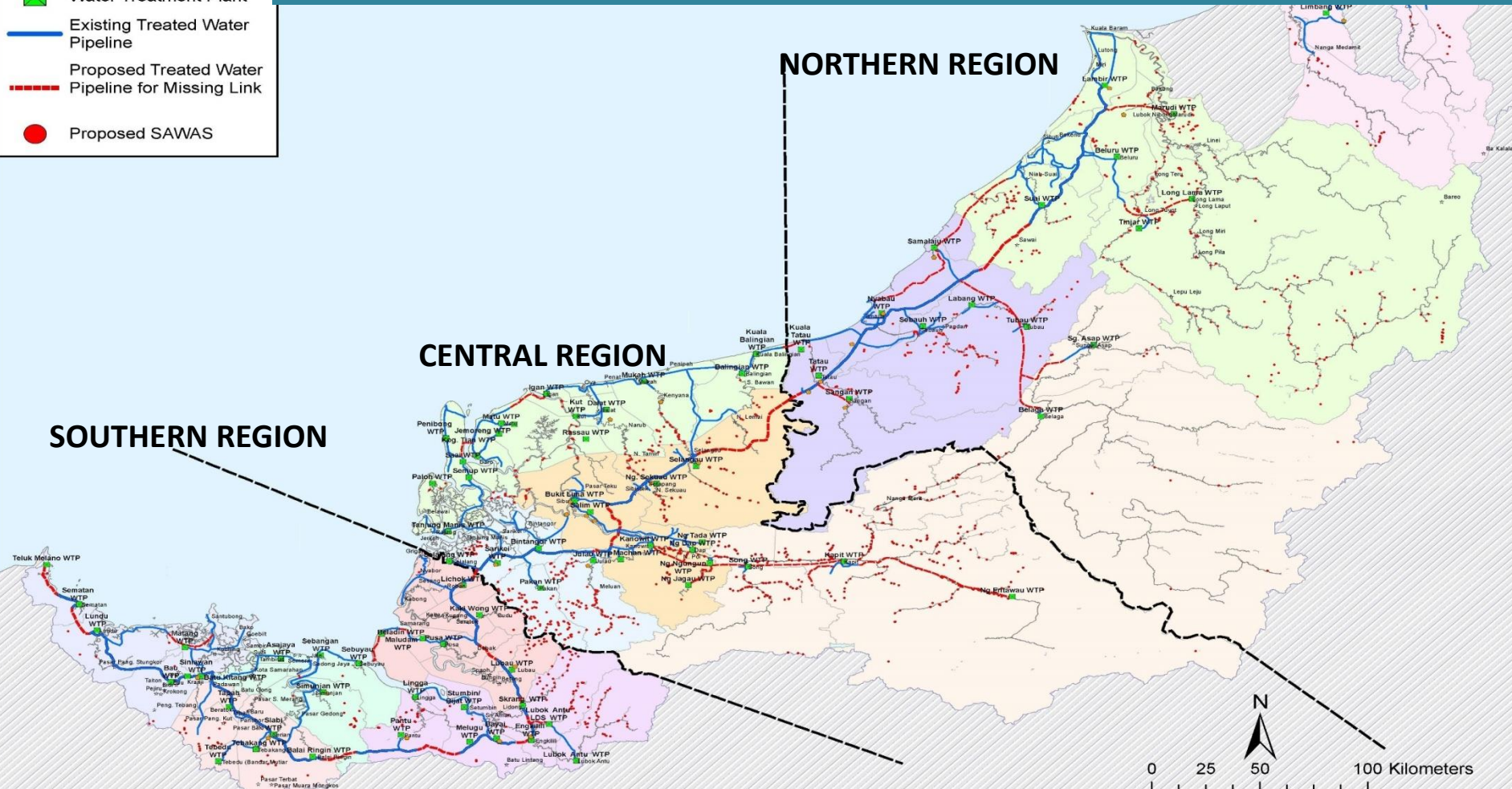




Legend

-  Intake Station
-  Water Treatment Plant
-  Existing Treated Water Pipeline
-  Proposed Treated Water Pipeline for Missing Link
-  Proposed SAWAS

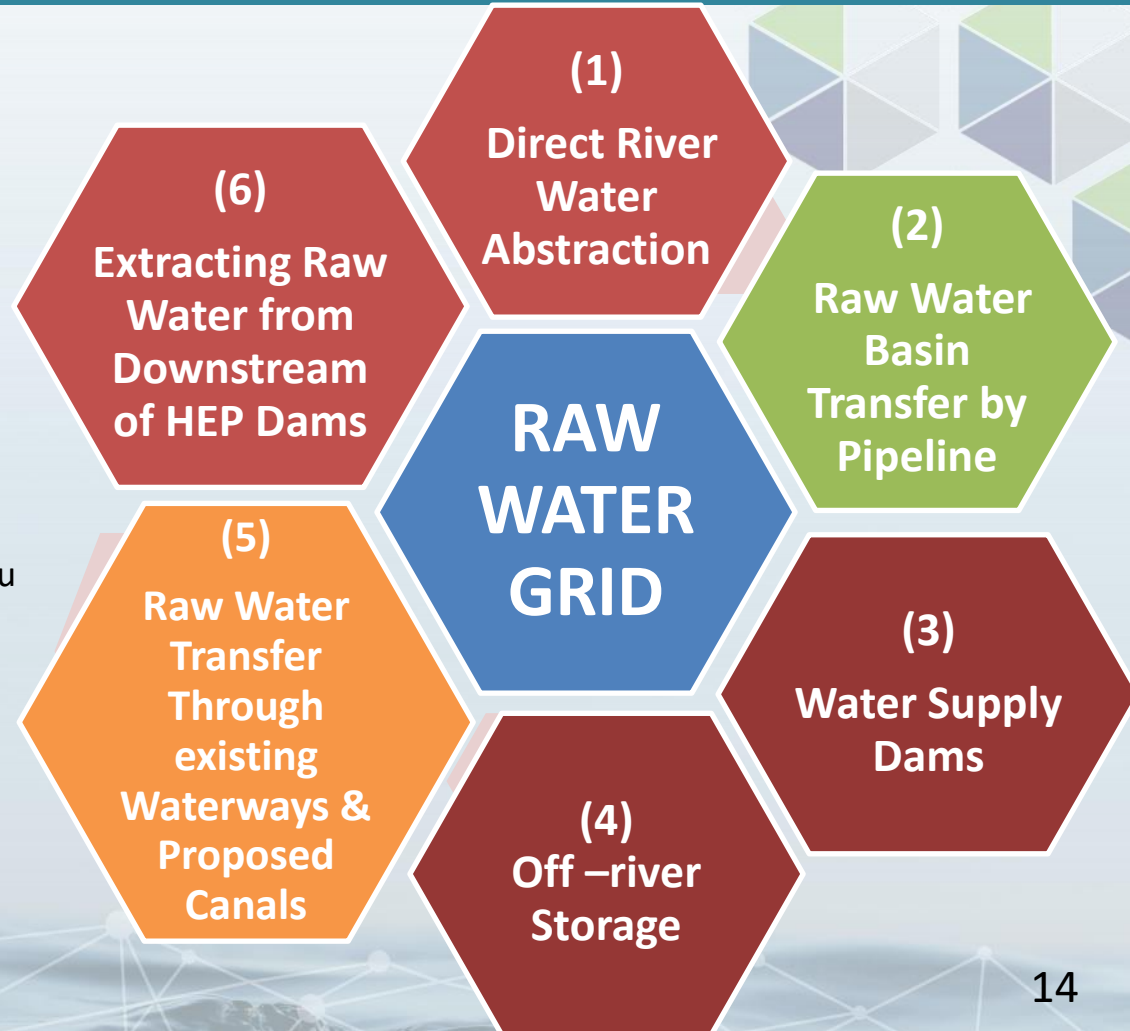
Regional Water Supply



Proposed Raw Water Grid





Sika Dam, Bintulu-storage for raw water for Nyabau

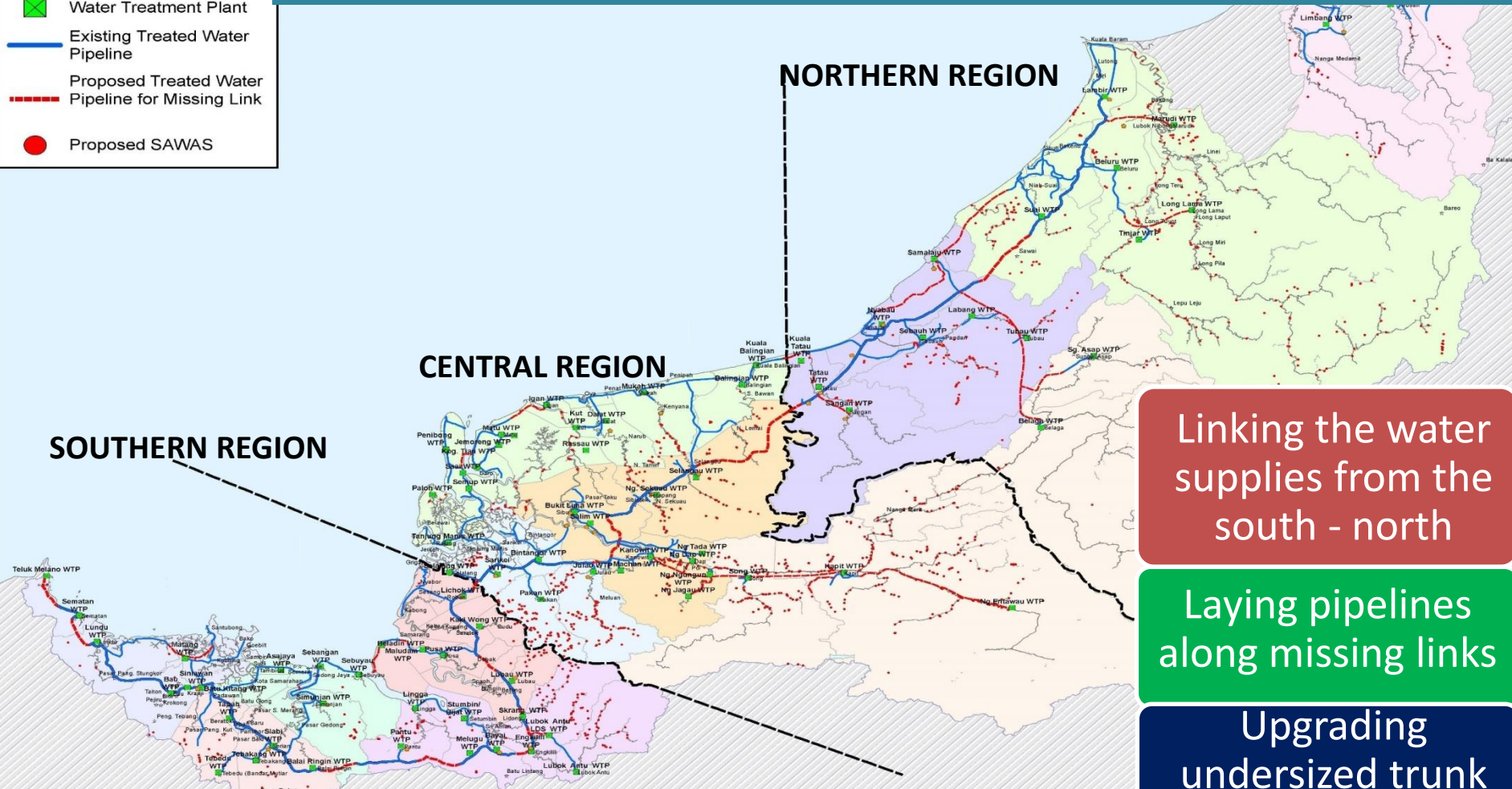




Legend

-  Intake Station
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Proposed Water Grid – Pipeline Network



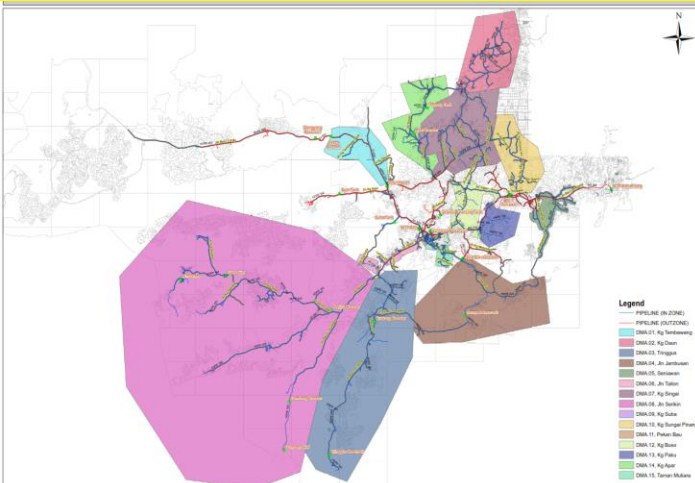
Linking the water supplies from the south - north

Laying pipelines along missing links

Upgrading undersized trunk mains

Non-Revenue Water (NRW) Management

Establish District Metering Areas (Bau)



Repairing Work

(1) Training Program

(2) Establish District Metering Areas

(3) Active Leakage Control

(4) Pressure Management

(5) Pipelines & Assets Management

(6) Speed & Quality of Repairs

(7) Meter Replacement Programs

(8) Strengthening Enforcement Activities

(9) Public Awareness

(10) GIS & Network Modelling



CELCOM 4G

11:08 AM

53%

BAU WATER SUPPLY



BAU Water Supply



Management – Digital Economy Initiatives & Modernization



WATER SUPPLY MONITORING SYSTEM

- BAU Water Supply
- SERIAN Water Treatment Plant
- LAWAS Water Supply
- Map
- Executive summary

Electro-chlorination



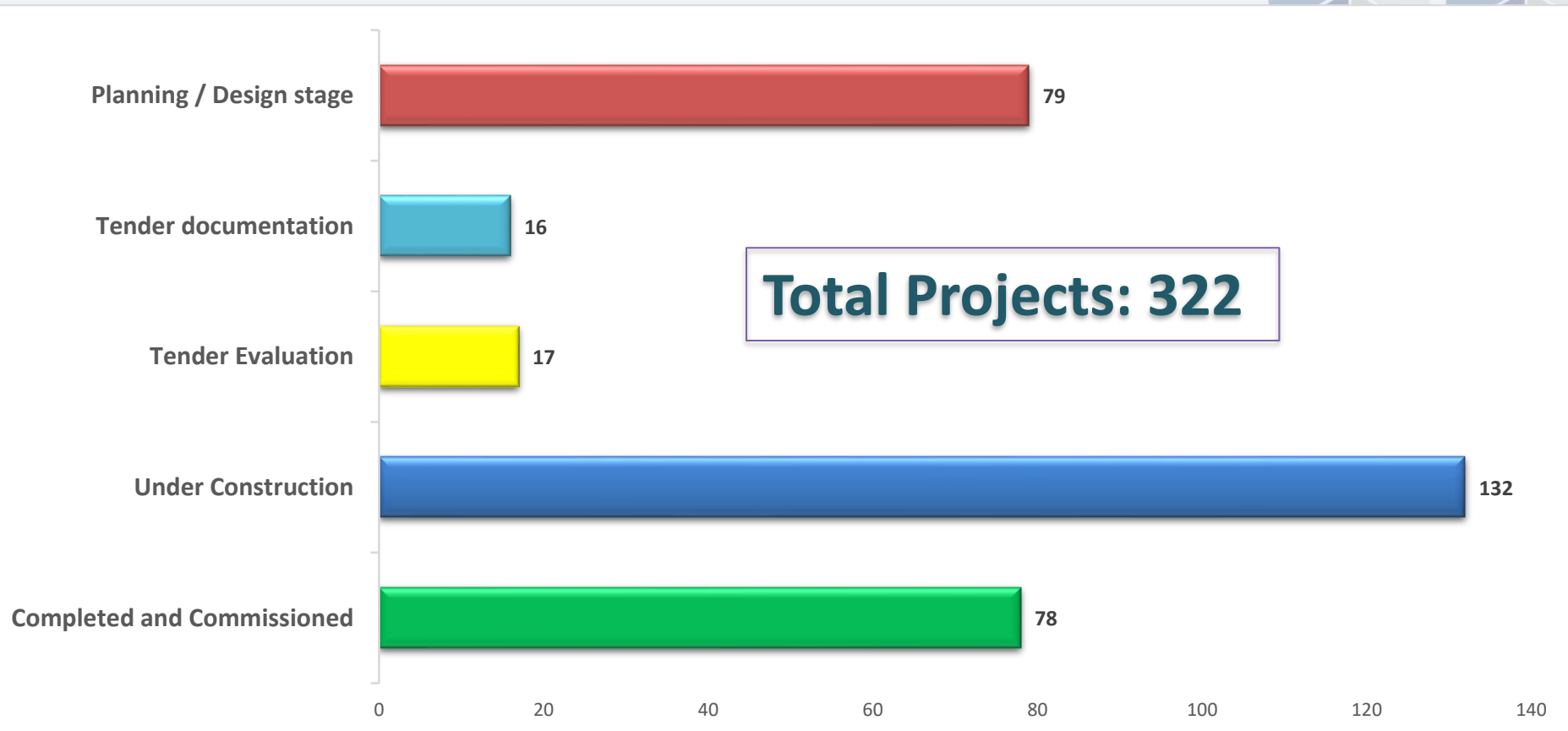
Electro-chlorination System at Salim Water Treatment Plant , Sibü

Water Conservation



Water Conservation Surcharge

SARAWAK “Projek Rakyat”: Water Projects in Identified Stressed Areas

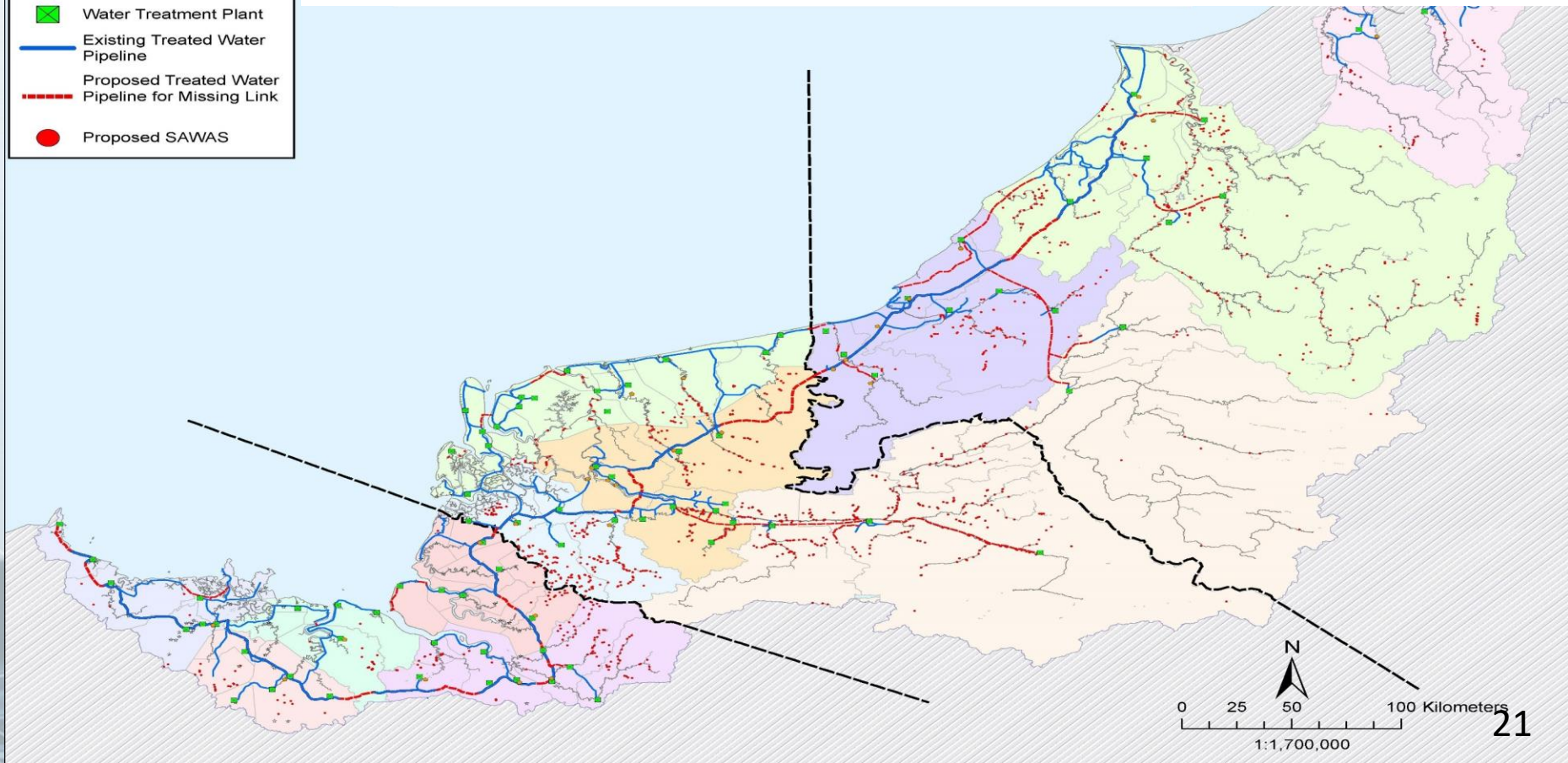


Expansion of Water Supply to Rural Areas

Sarawak Alternative Water Supply (SAWAS)

Legend

- Intake Station
- Water Treatment Plant
- Existing Treated Water Pipeline
- Proposed Treated Water Pipeline for Missing Link
- Proposed SAWAS



SAWAS System



Longhouse Community at Rh Ninting, Sri Aman

Longhouse Community at Kalampun, Lawas



Illustration Pictures



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**WATER &
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2020
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**"SUSTAINABILITY & RESILIENCE,
OVERCOMING CHALLENGES OF
WATER GRID THROUGH SMART NETWORK"**

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BCK, KUCHING, SARAWAK

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to submit their abstracts/details to
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