



Ministry of Water Resources and Meteorology

National Capacity on Water Resources Management

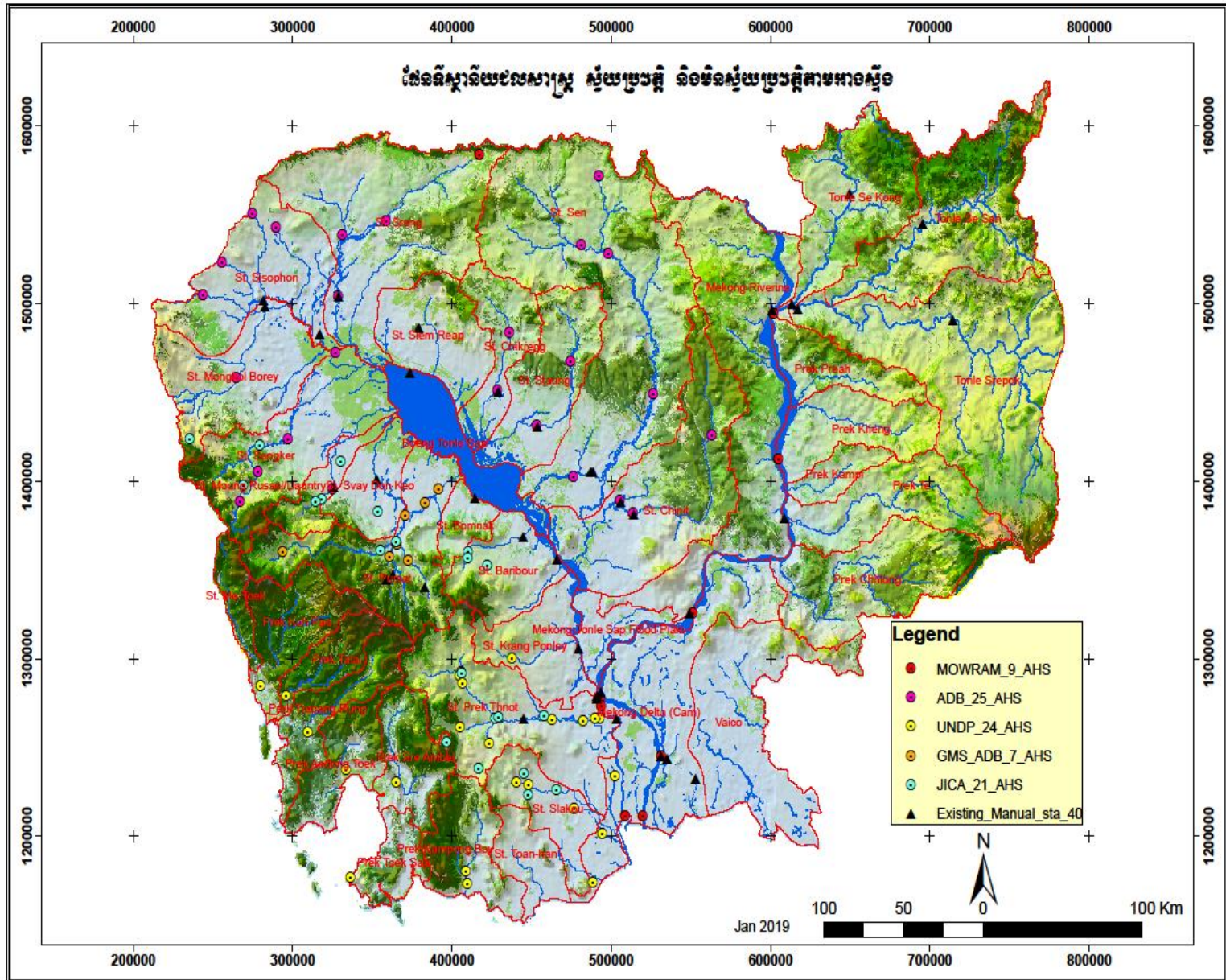
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Outline

1. Introduction: Hydrological Stations Network
2. Current status after decentralization
3. Challenges on capacity building
4. Way forward in next 10 years

1. Hydrological Stations Network



1. Introduction: Hydrological Stations Network

- Hydrological data provides the basis for planning, development and operation of water resources project.
- Comprehensive water resources management requires a series of hydrological data
- Hydrological phenomena should be observed and measured in accordance with standard practices
- Data must also be recorded in enough to enable an accurate assessment of water resources.

- Hydrological stations/ Automatic Hydrological Station should be installed
 - Station increased sharply since 1994-2010, and 2014-2019
 - Up to now 89 AHS (MOWRAM, M-HYCOS, ADB., JICA and UNDP)
- Equipment: Bubble, Sensor, Pressure Sensor, Shaft Encoder, Radar Sensor, Modem, Solar panel, battery, TB3

Hydro-meteorological Equipment



Bubble Sensor



Shaft Encoder



Radar



Dousens Data logger



Tipping Bucket



Modem



Power supply

Type of M-HYCOS Station

Bubble, Shaft Econdor and Radar

Stung Treng



Kratie



Chaktomuk



Prek Kdam



Kompong Luong

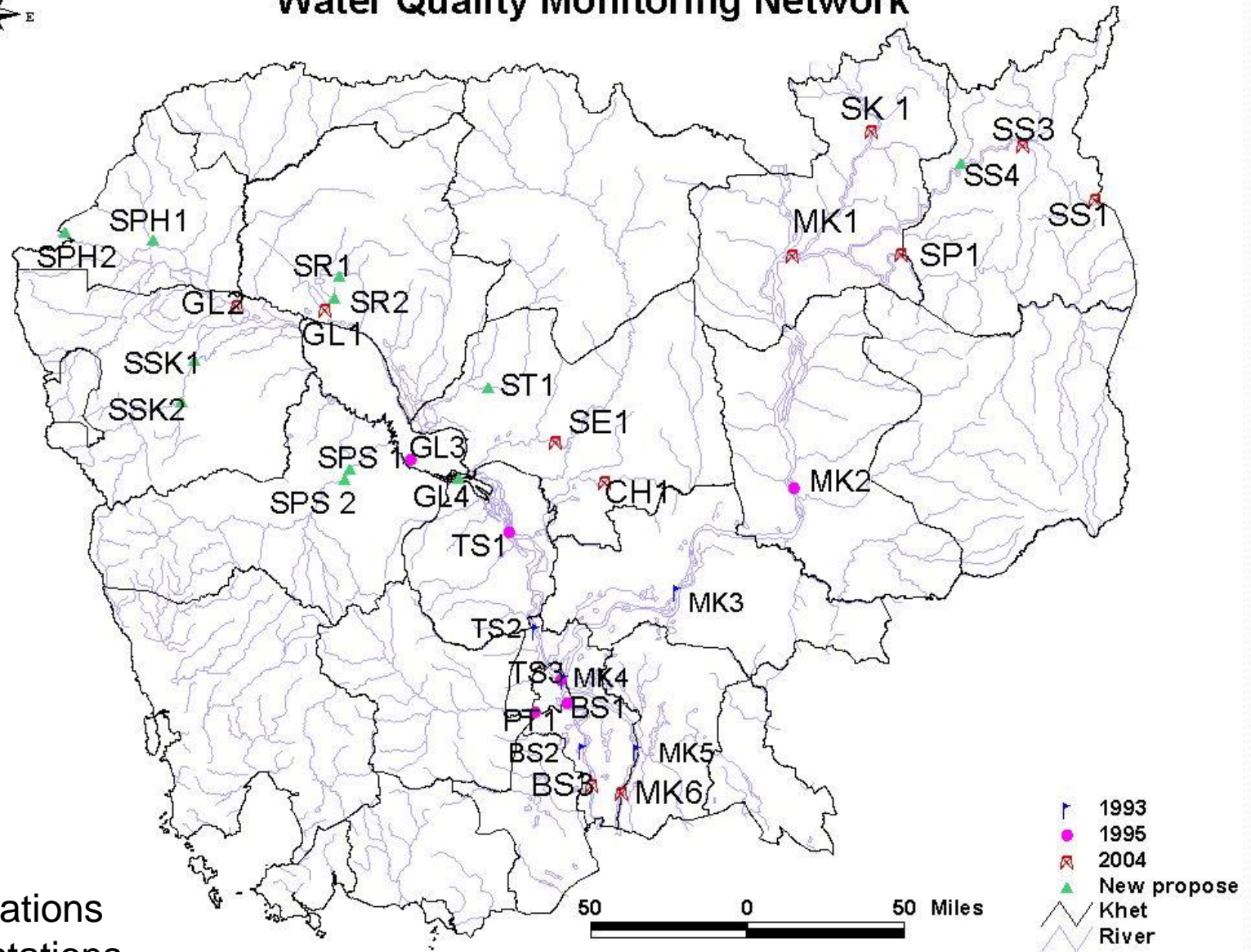


Kg. Thom





Water Quality Monitoring Network

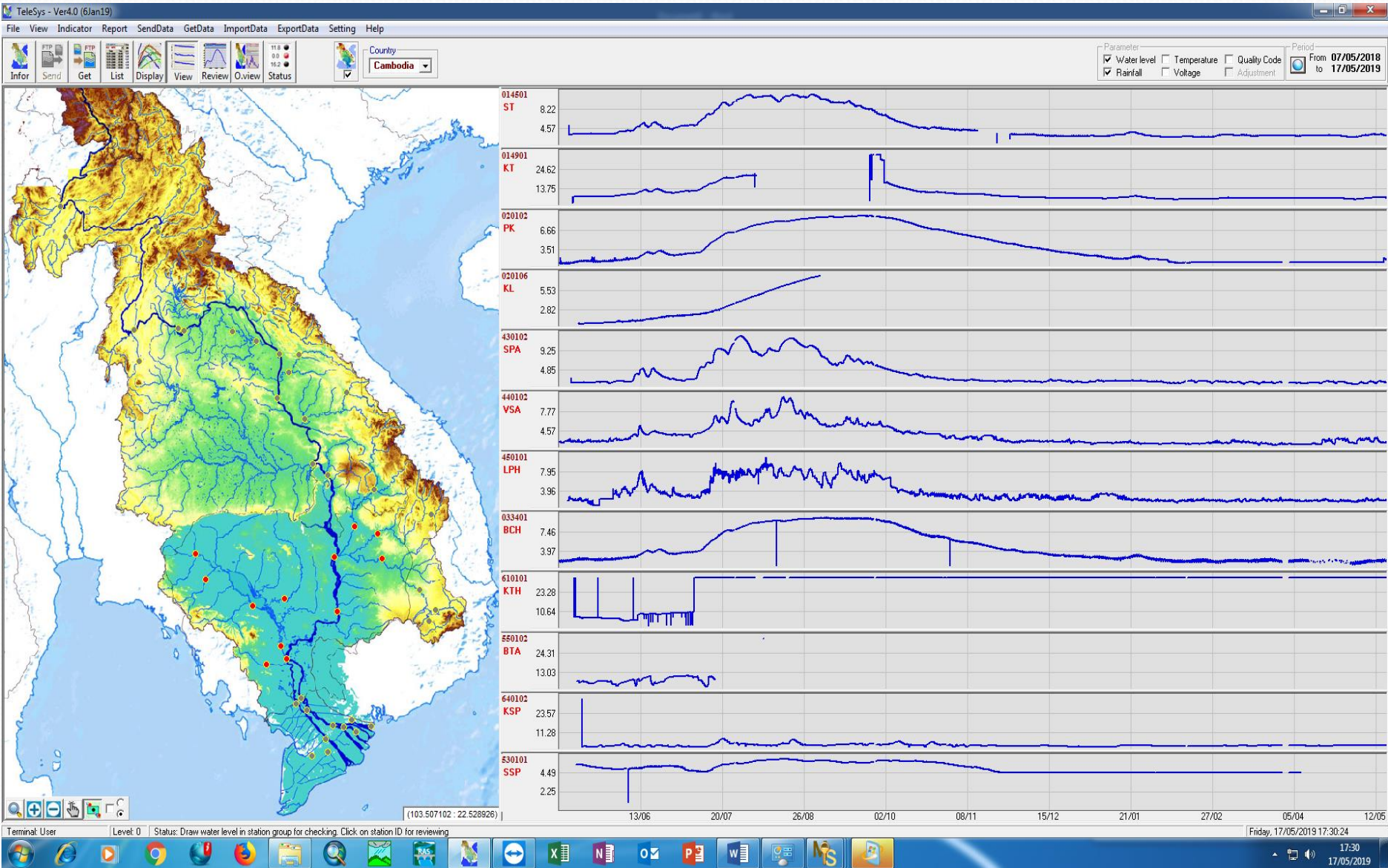


In 1993: 5 stations

In 1995: 11 stations

In 2004: 21 Up to now in 2019: Stations

2. Current status after decentralization



2. Current status after decentralization

- 15 Stations of Manual Data provide to MRC for river monitoring in dry season and flood forecasting are still good and on time.
- 8 of 12 Telemetry station are working well. Other 4 were not functioning well because of lacking some spare parts.
- Water quality monitoring and analysis were done well, but equipment for laboratory need to improve to get accurate data and standards.

3.Challenges on capacity building

- Some Equipment life is too short and not functioning well
- Equipment are very expensive and high technology for O&M
- Equipment can not repair in local country
- Staffs capacities are limited in National and Sub National and need strengthen for O&M
- Budget are limited for O&M
- Need spare part
- Data analyses
- Need training the modelling tools, and tools analysis to young official staffs at National and Sub national,
- Equipment for discharge measurement and water quality works need to be improved
- Full decentralize for all activities will face the problem

4.Way forward in next 10 years

- Database Centre will be establish (ADB)
- Expansion of telemetry hydro network stations
- Technical official have ability to O&M
- Technical official have capacity to use modelling tools and data analyses
- Available Budget for O&M and spare parts
- Requirement of IT specialist for Server and Database Management
- Cooperation with LAs, MRCS and Riparian Countries for data and information exchange and sharing for flood forecasting

Suggestion:

- Need developing partner to help on hardware and software (Capacity building, hydro-network installation)
- Increase budget for O&M and spare parts need



Thank you very much for your attention