



43rd IAH CONGRESS

25-29th September, 2016

le Corum , Montpellier, France



Hydrogeological assessment in upper Vientiane Plain, Lao PDR:

Implications for sustainable groundwater development in a data-scarce region

Viossanges Mathieu¹, Haiblen Snowy¹, Heang Vythou², Sotoukee Touleelor¹, Parnthong Waithilad²

¹ International Water Management Institute – SEA regional office

² National University of Laos – Vientiane Capital, Lao PDR



RESEARCH
PROGRAM ON
Water, Land and
Ecosystems



Lao PDR: (water rich country) >2300 mm/year

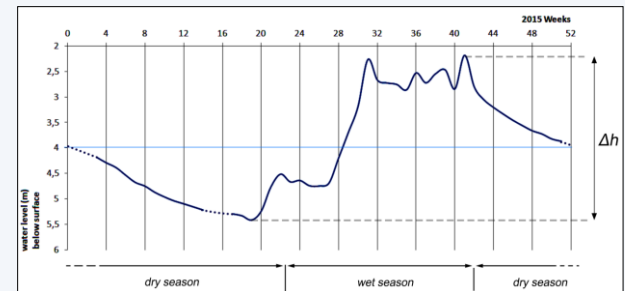
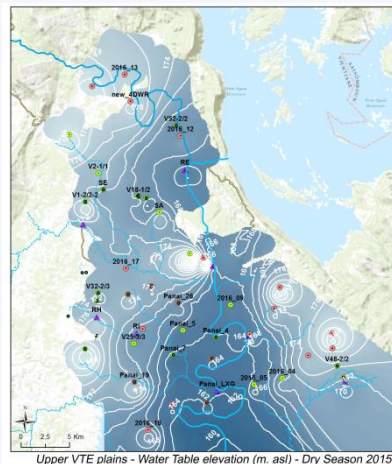
- Lao PDR is one of the Least Developed Countries (U.N.)
- Essentially rainfed agriculture only during the 4 month wet season
 → Possibility to increase food-security using GW in dry season ?



Lao PDR: very limited data on Groundwater systems...

→ Use of simple & pragmatic methods:

Pump tests, GW Budget, Water level fluctuation & Chloride Mass Balance methods



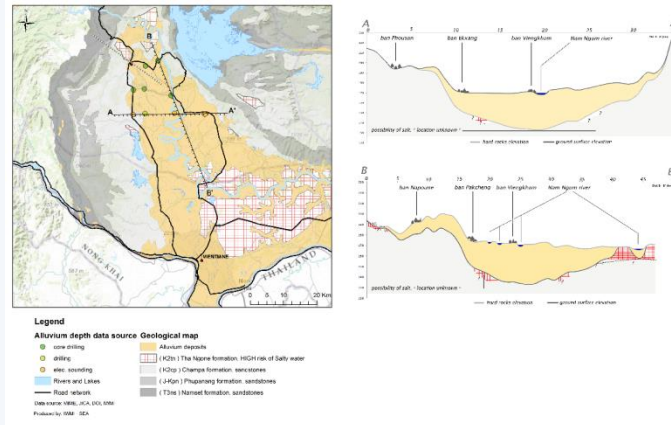
Results

In upper Vientiane alluvial plain:

- Transmissivity: up to 294 m²/day ; borewell yields up to 18 m³/h
- Recharge: 465 mm (20% of rainfall)
- Current GW use: 12 mm (2,5% of rainfall)

→ Significant scope for increasing food-security through small-scale, farmer-controlled groundwater use

- Underlying sandstones (evaporites ?)
- Shallow aquifer



→ Critical need for effective management to ensure sustainable development & avoid negative impacts experienced in similar contexts.

More info @ <http://gw-laos.iwmi.org/>

