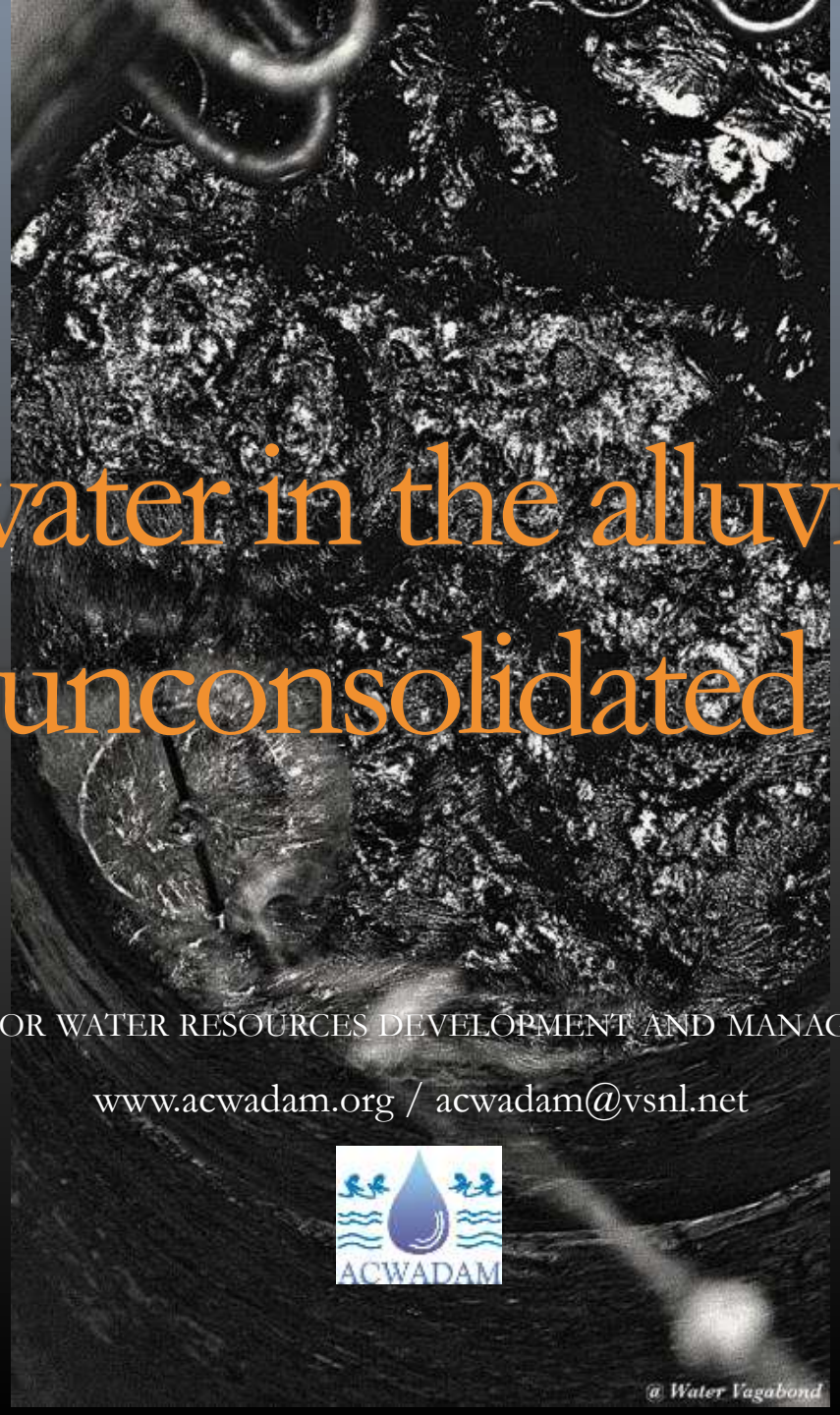
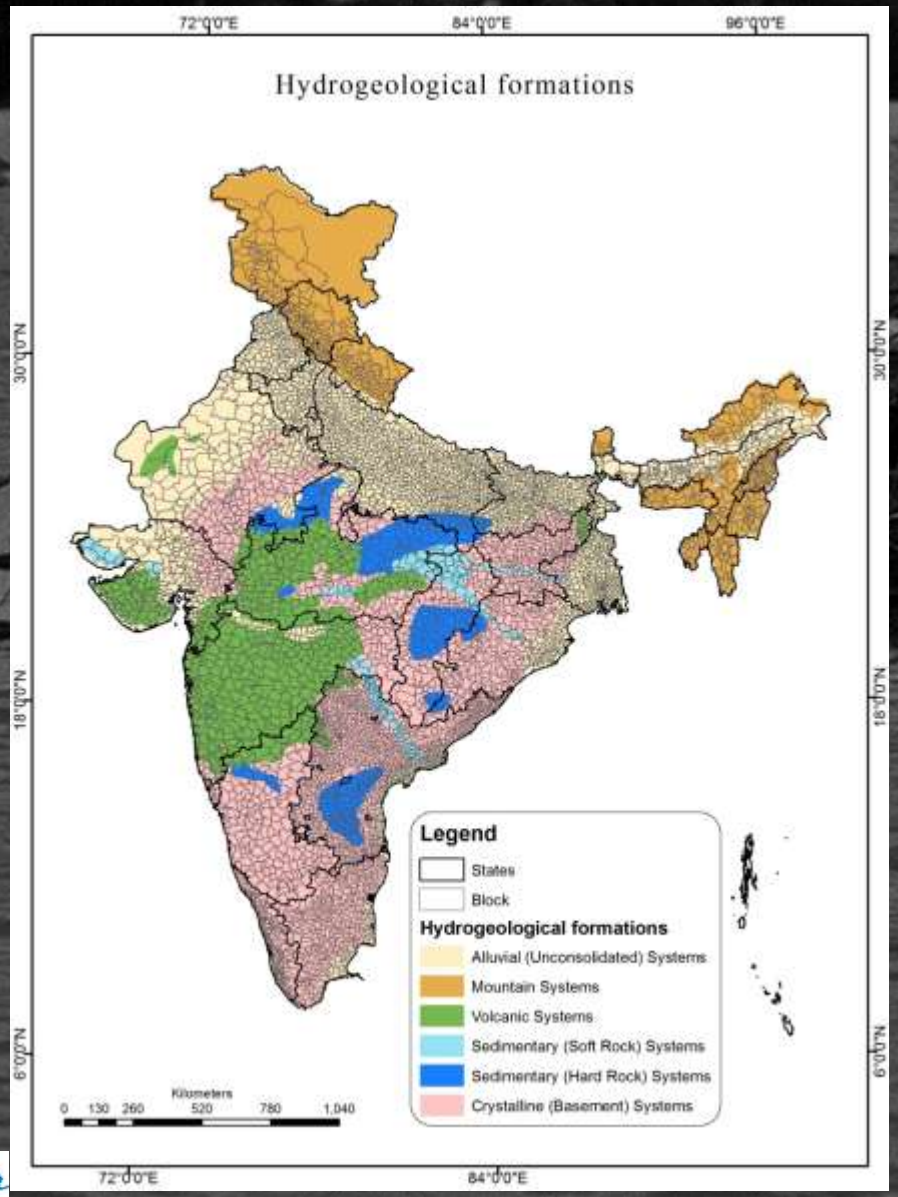


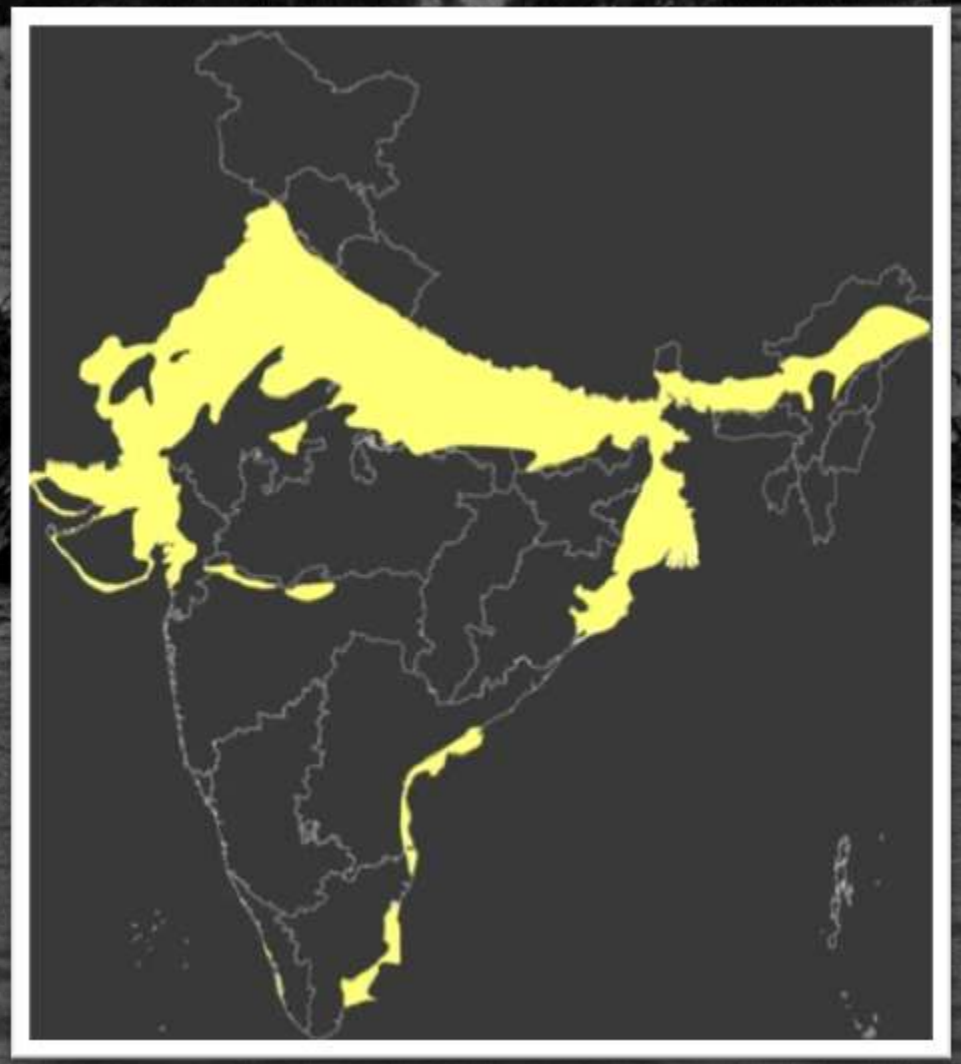
Groundwater in the alluvial systems (Loose unconsolidated systems)

ADVANCED CENTER FOR WATER RESOURCES DEVELOPMENT AND MANAGEMENT (ACWADAM)

www.acwadam.org / acwadam@vsnl.net

INDIA'S HYDROGEOLOGICAL FRAMEWORK





ALLUVIAL AQUIFER SYSTEMS

0m

Fine sand / silt

0.4 m

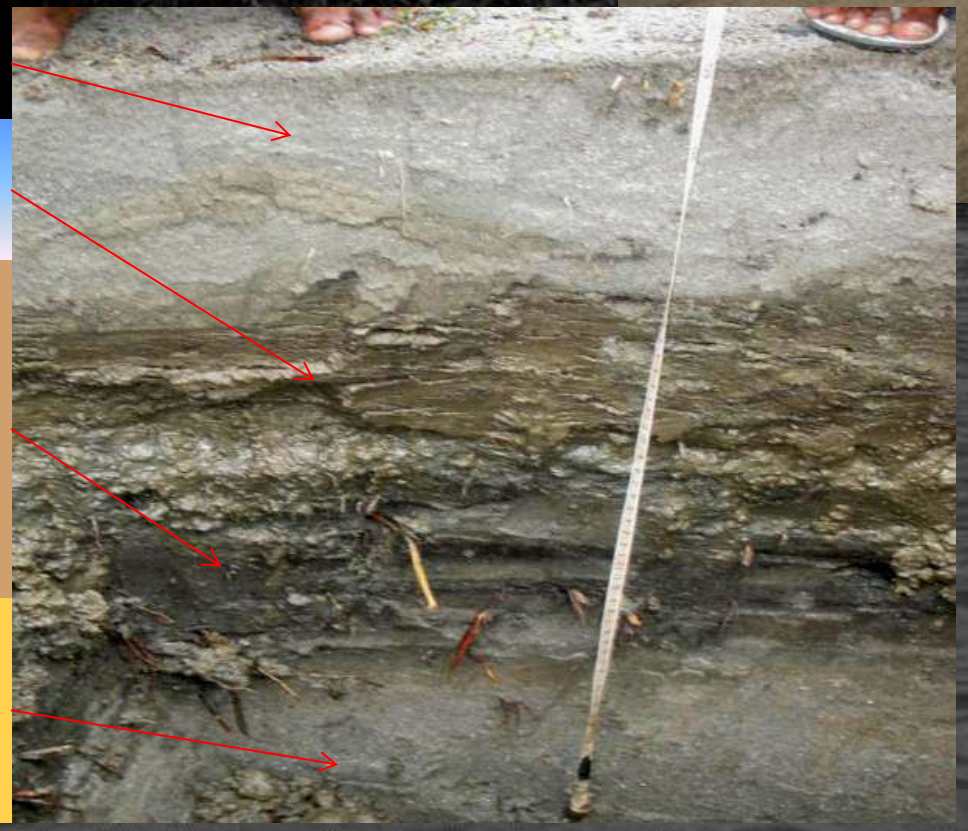
Clay

0.8 m

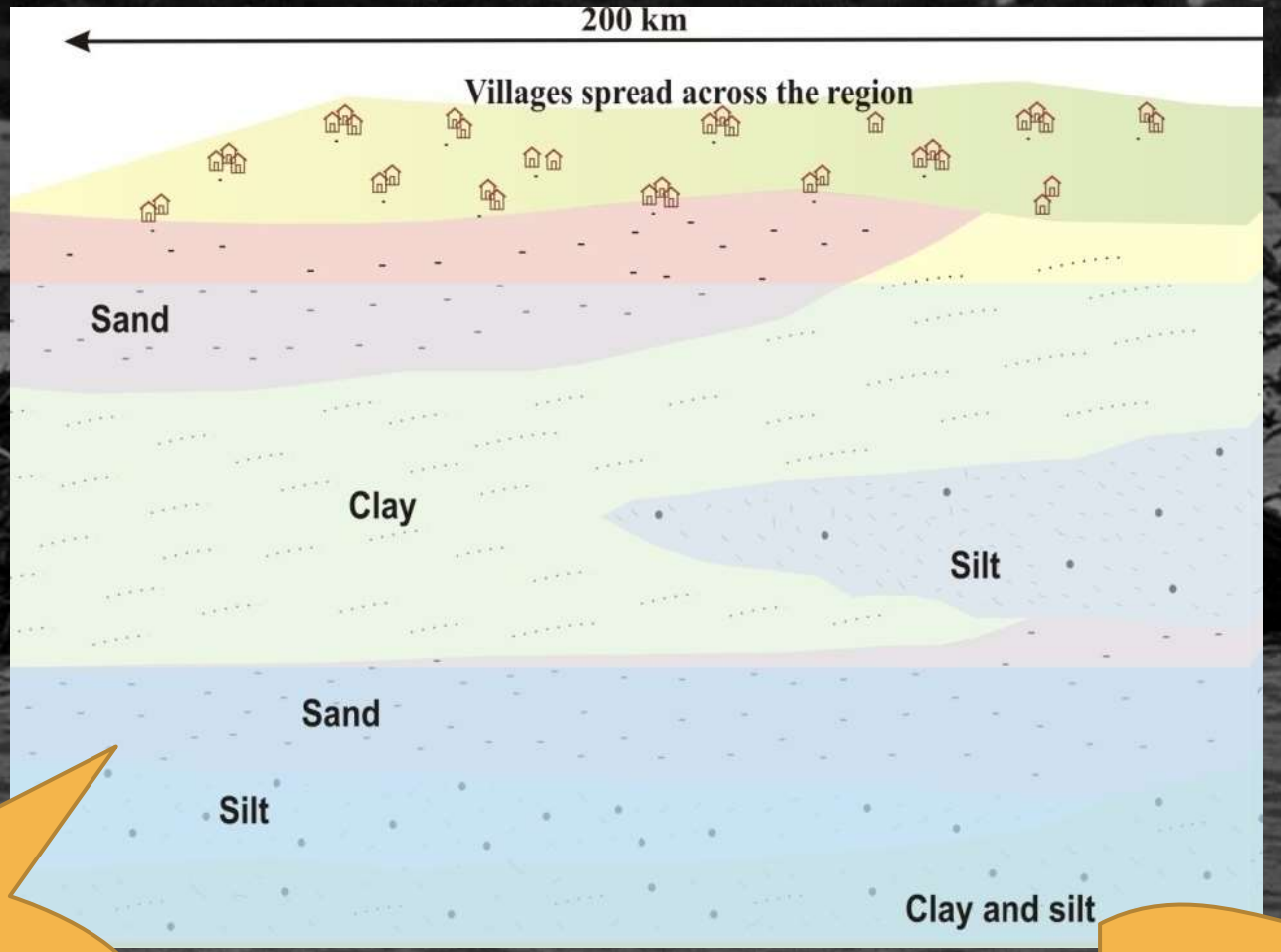
Dark coloured silt

Sand

1.2 m



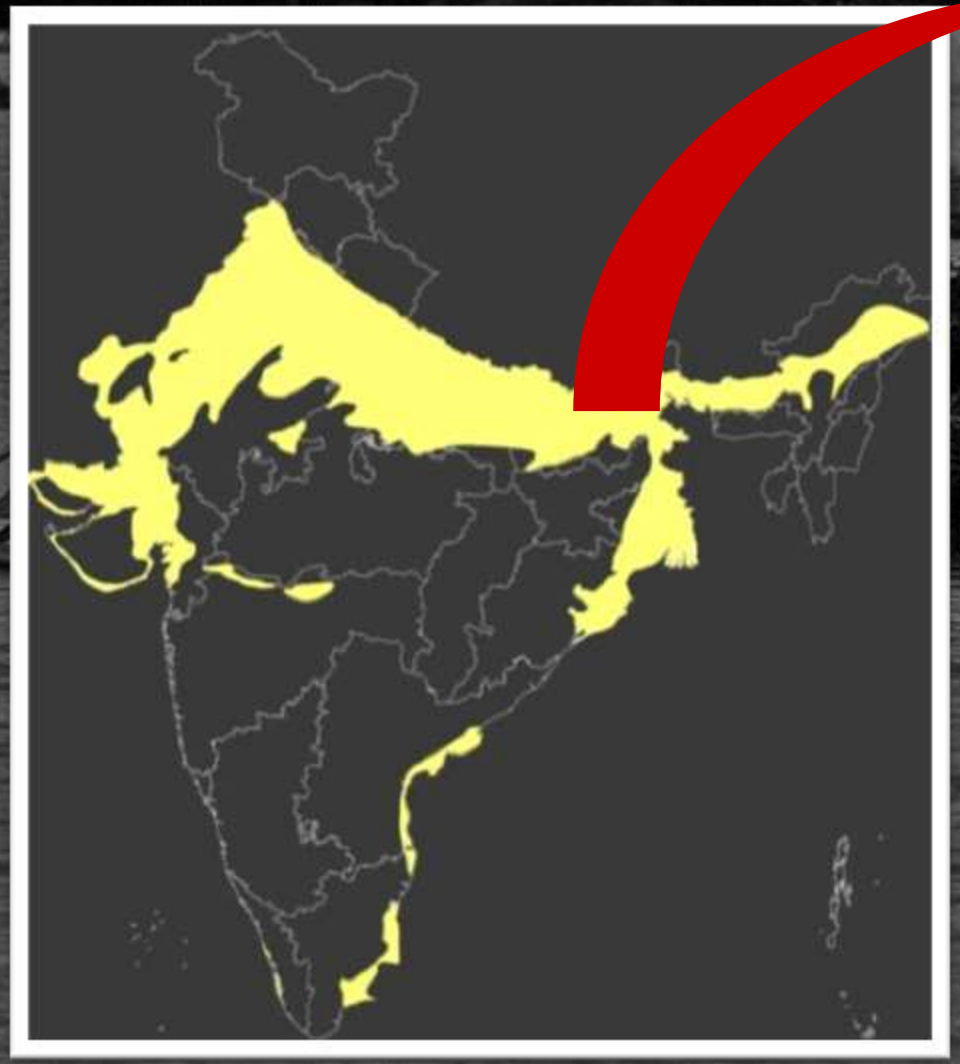
ALLUVIAL AQUIFER SYSTEMS

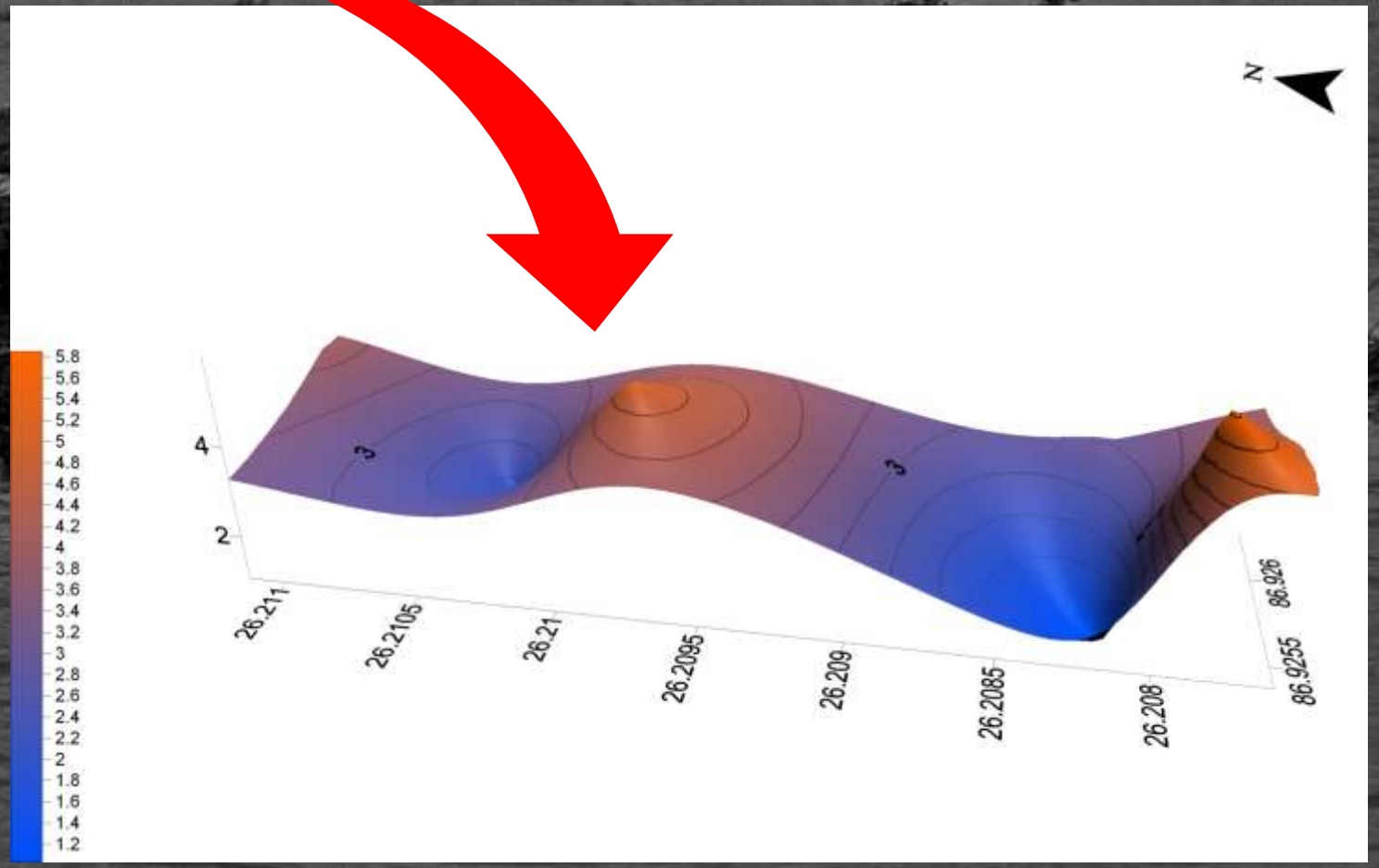


Very high storage volumes,
Very slow groundwater movement

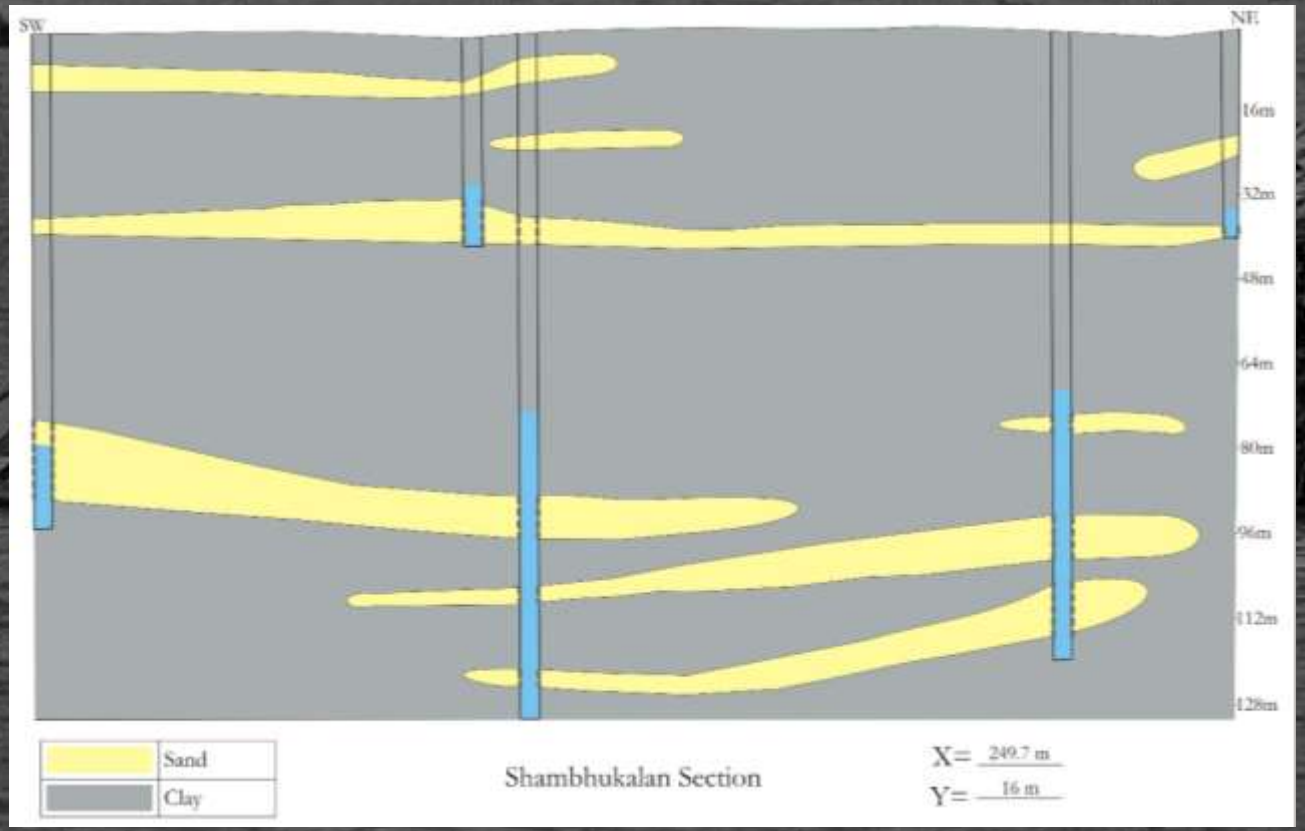
-Recharge.
-Dilution.
-Long term vulnerabilities.

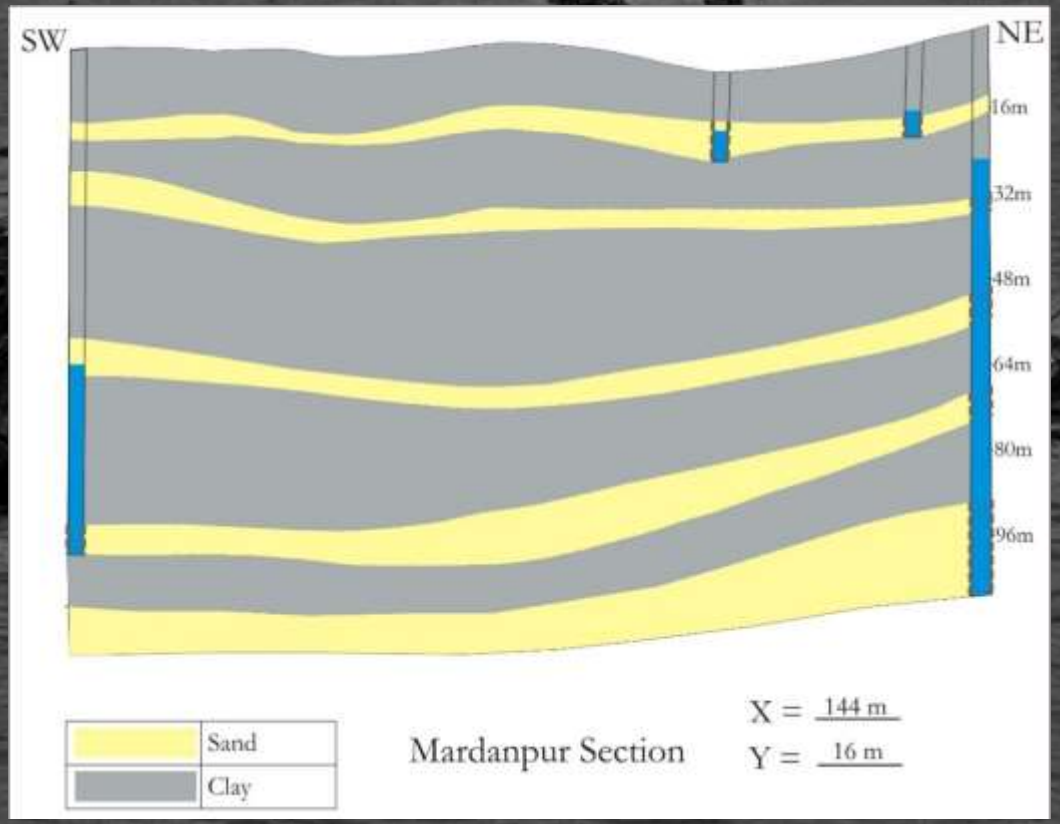
THE ISSUE OF SCALE



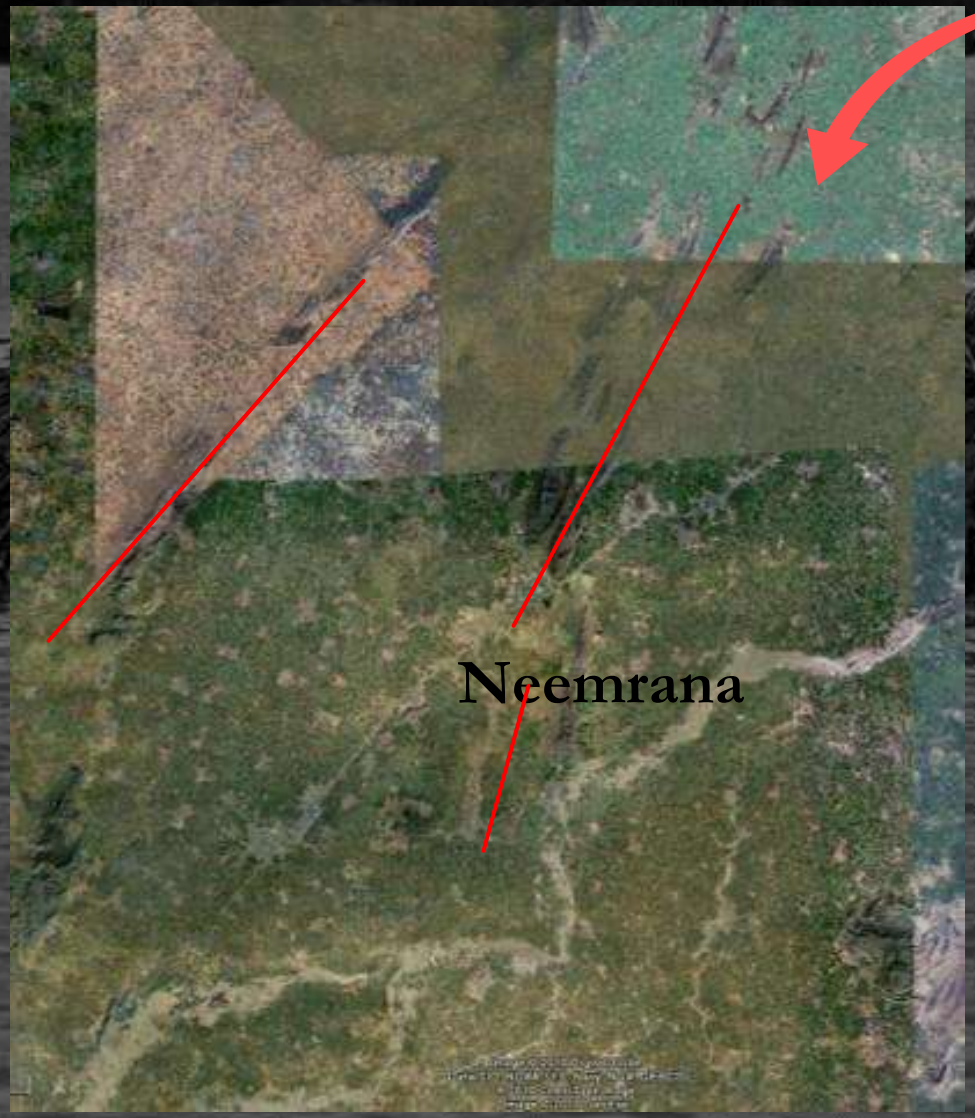


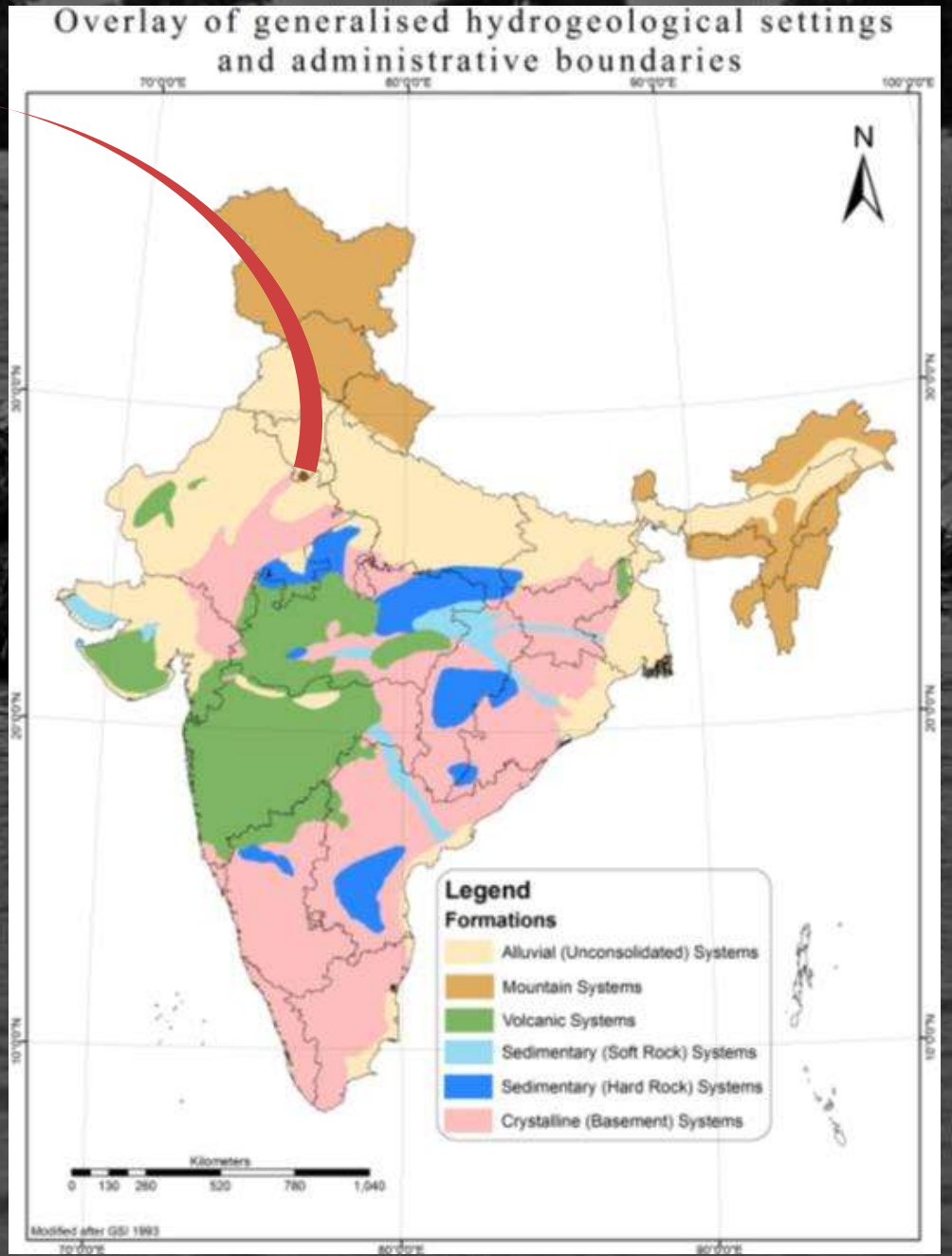
ALLUVIAL AQUIFER SYSTEMS





GROUNDWATER IN NEEMRANA, RAJASTHAN

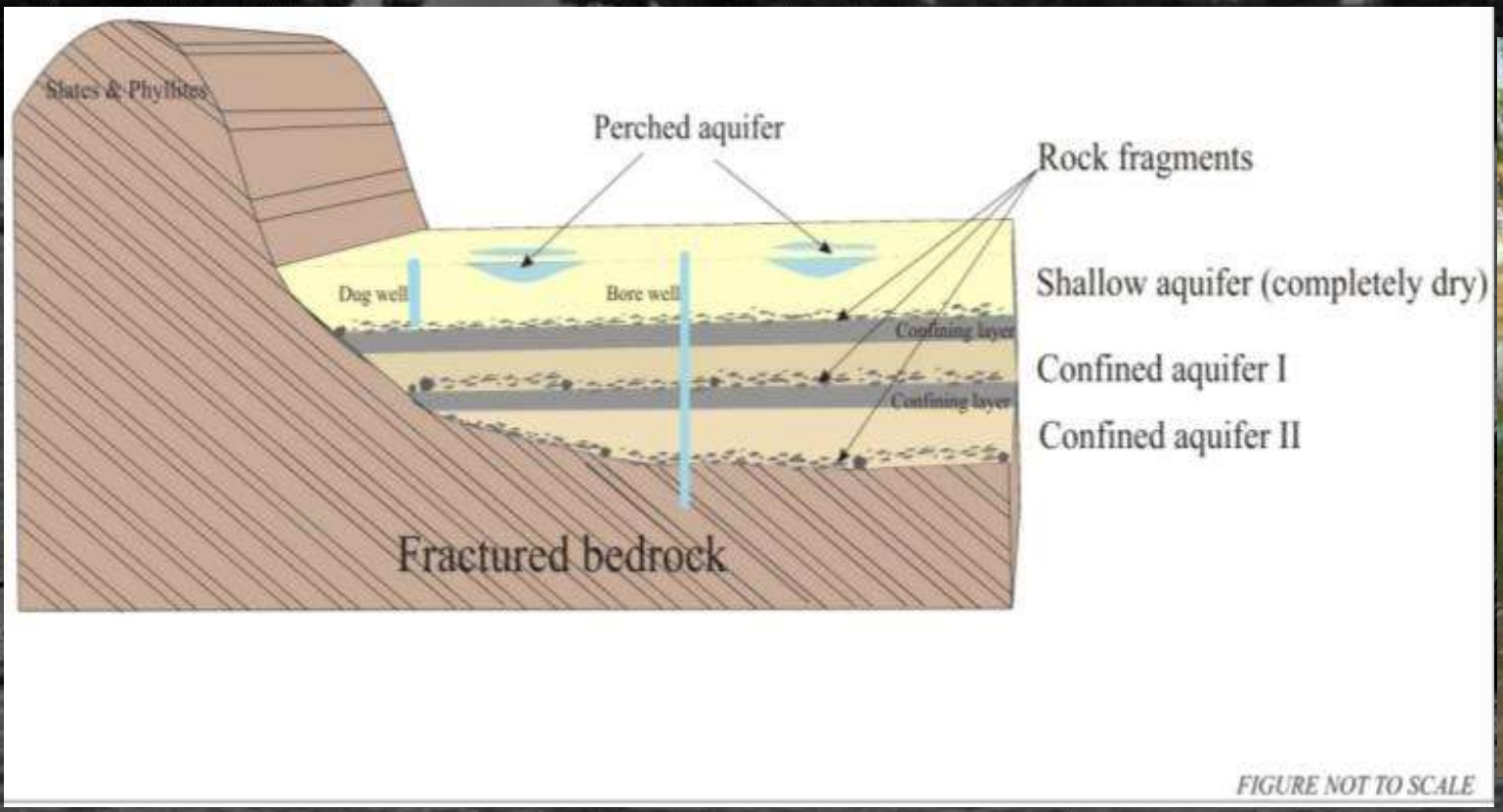




ACWADAM

ACWADAM

HYDROGEOLOGY



- RECHARGING A DRY SHALLOW AQUIFER NOT PRACTICAL IN IMMEDIATE FUTURE
- ROCKS FORMING THE RIDGES ARE INCLINED TOWARDS THE STUDY AREA – RECHARGE STRUCTURES WOULD BE MOST EFFECTIVE ON OR CLOSE TO THE RIDGES.
- PERCHED SYSTEMS – HAVE TRADITIONALLY BEEN A PART OF PEOPLES LIVES. NEED TO BE REVIVED
- WATER MANAGEMENT SYSTEMS ARE THE NEED OF THE HOUR. LOCAL GOVERNING BODIES NEED TO REGULATE USE OF GROUNDWATER AND SET PROTOCOLS FOR BEST PRACTICES

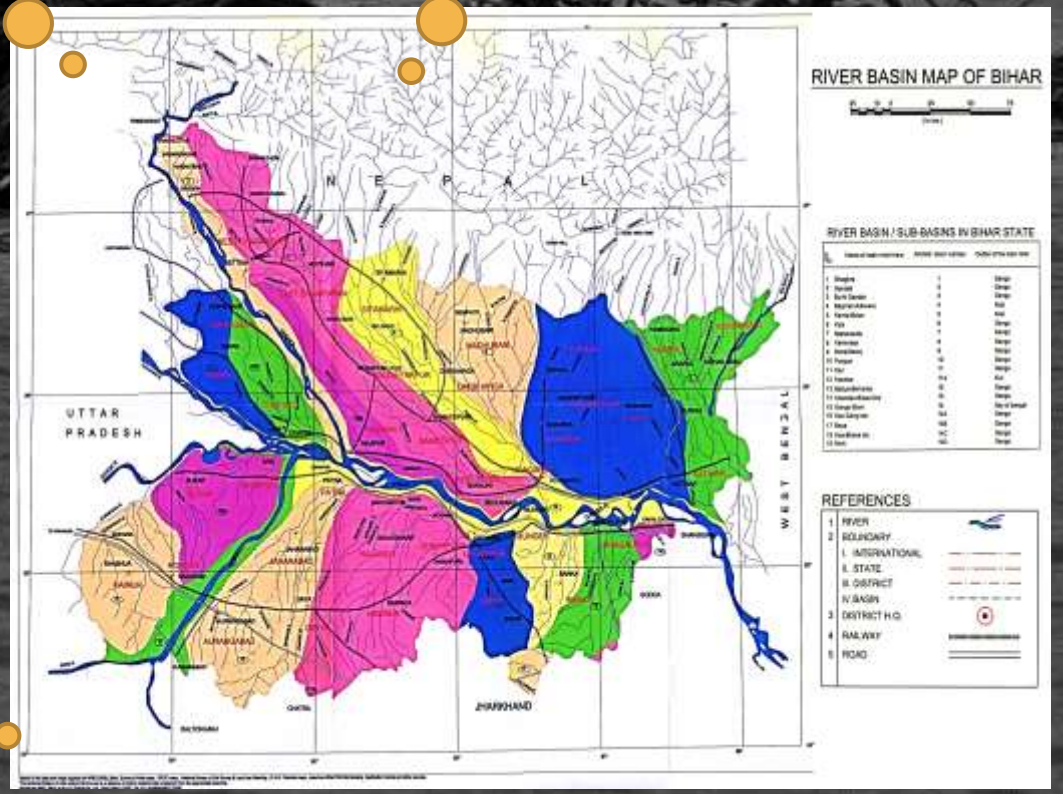
ALLUVIAL AQUIFERS IN NORTH BIHAR

98.17% Minor Irrigation schemes groundwater based

80% sources developed under NRDWP are groundwater based

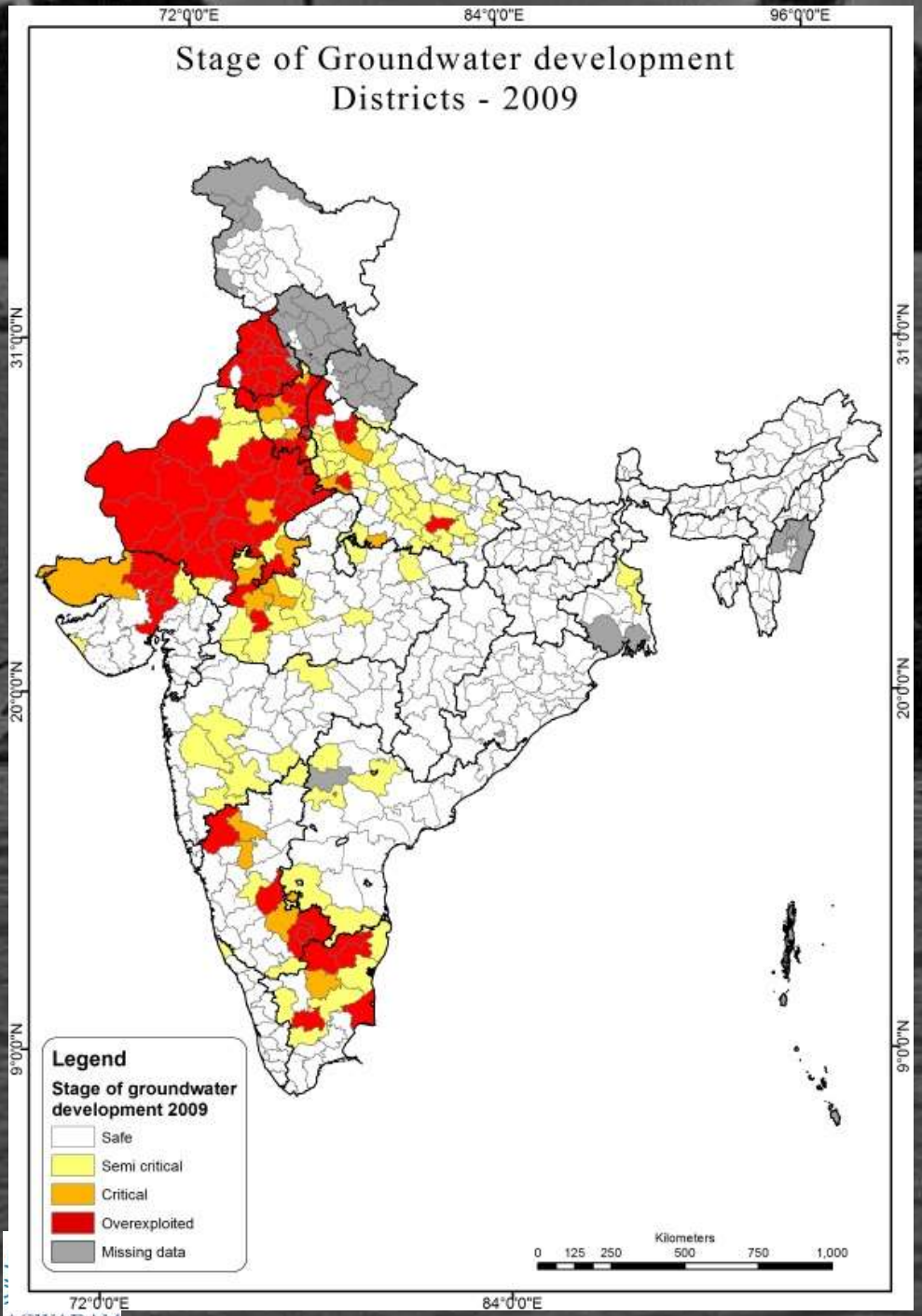
Drinking water issues during floods - ACCESS

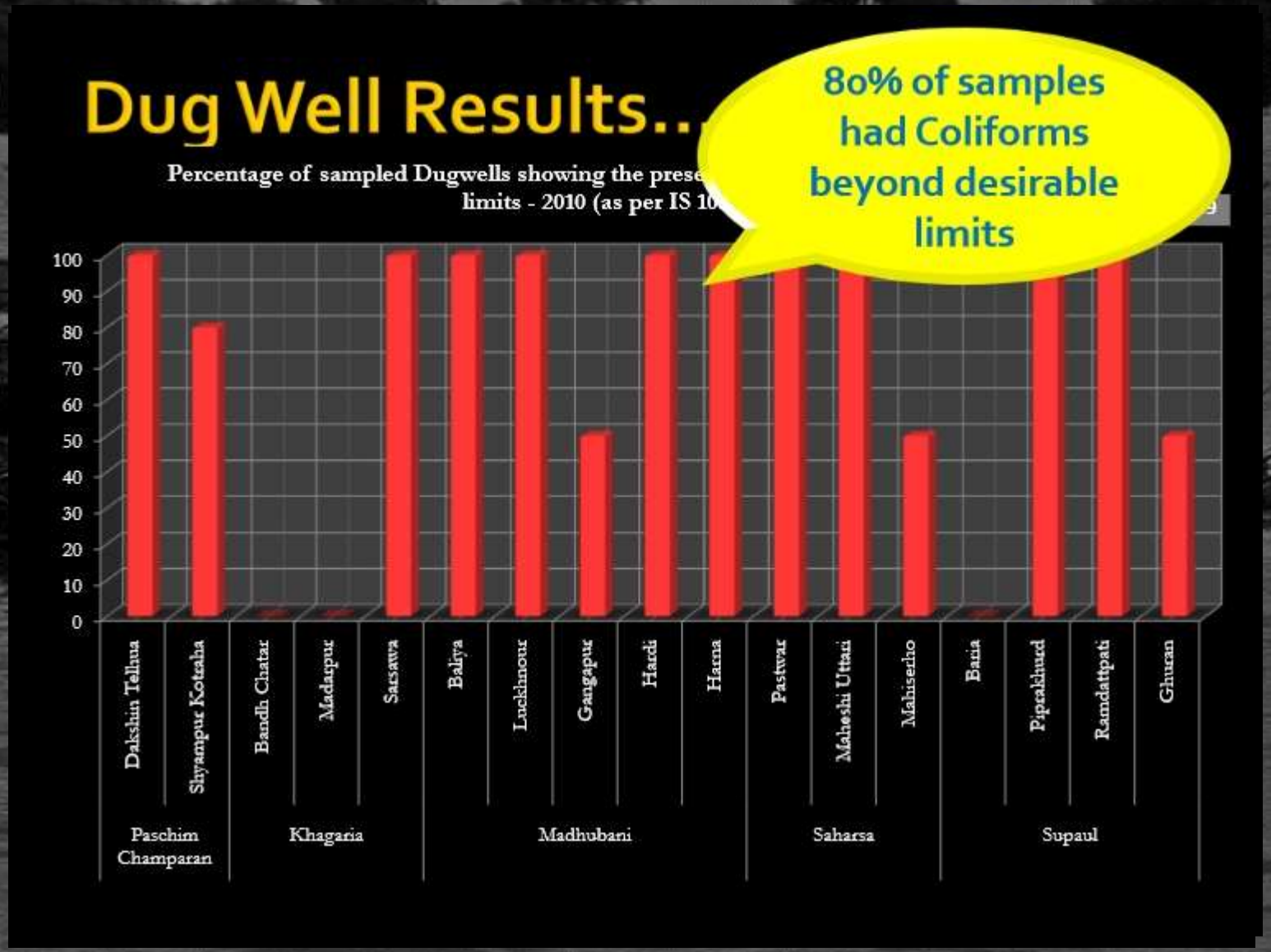
Sanitation ?



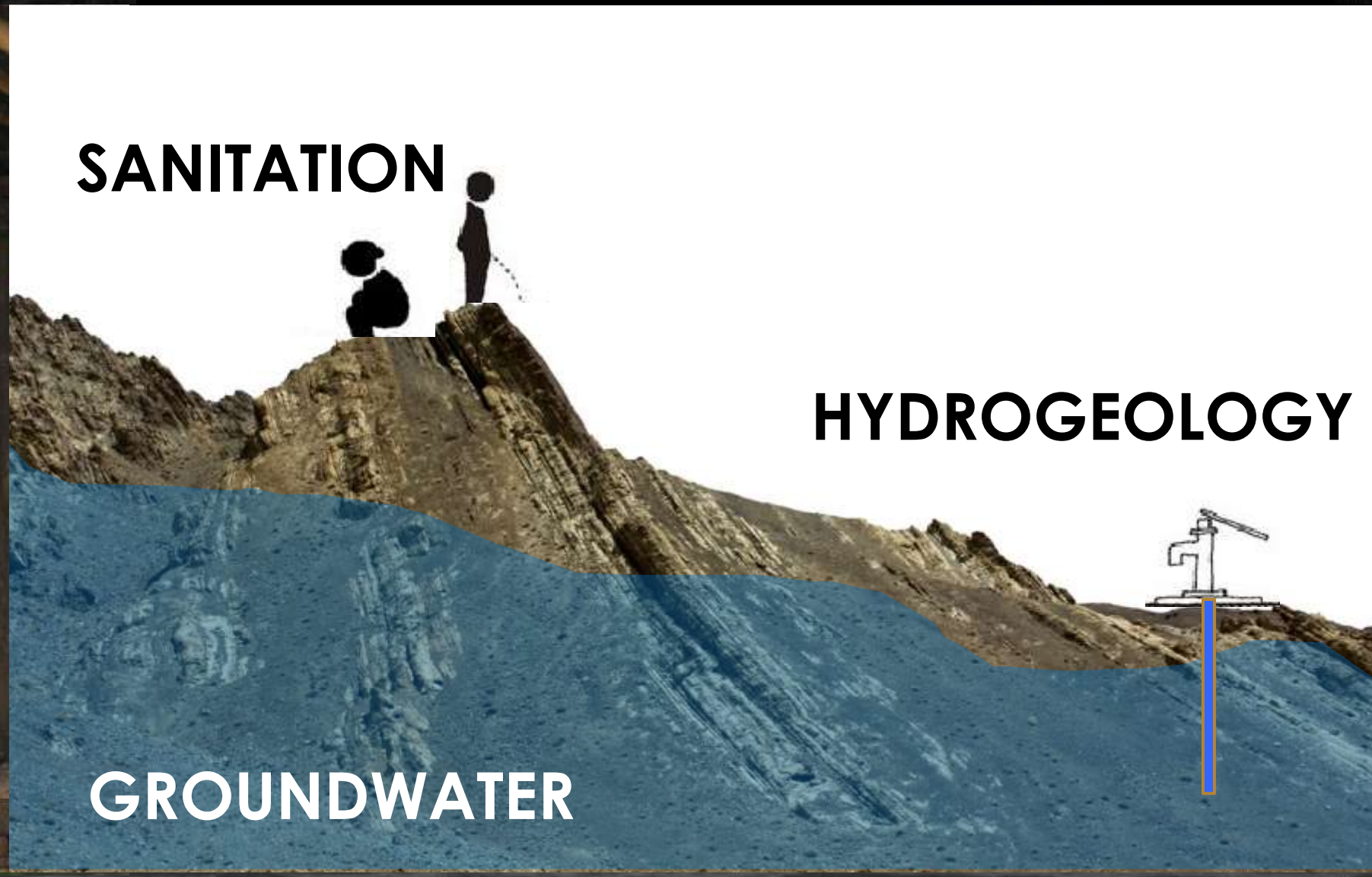
ACWADAM

REDEFINING VULNERABILITY

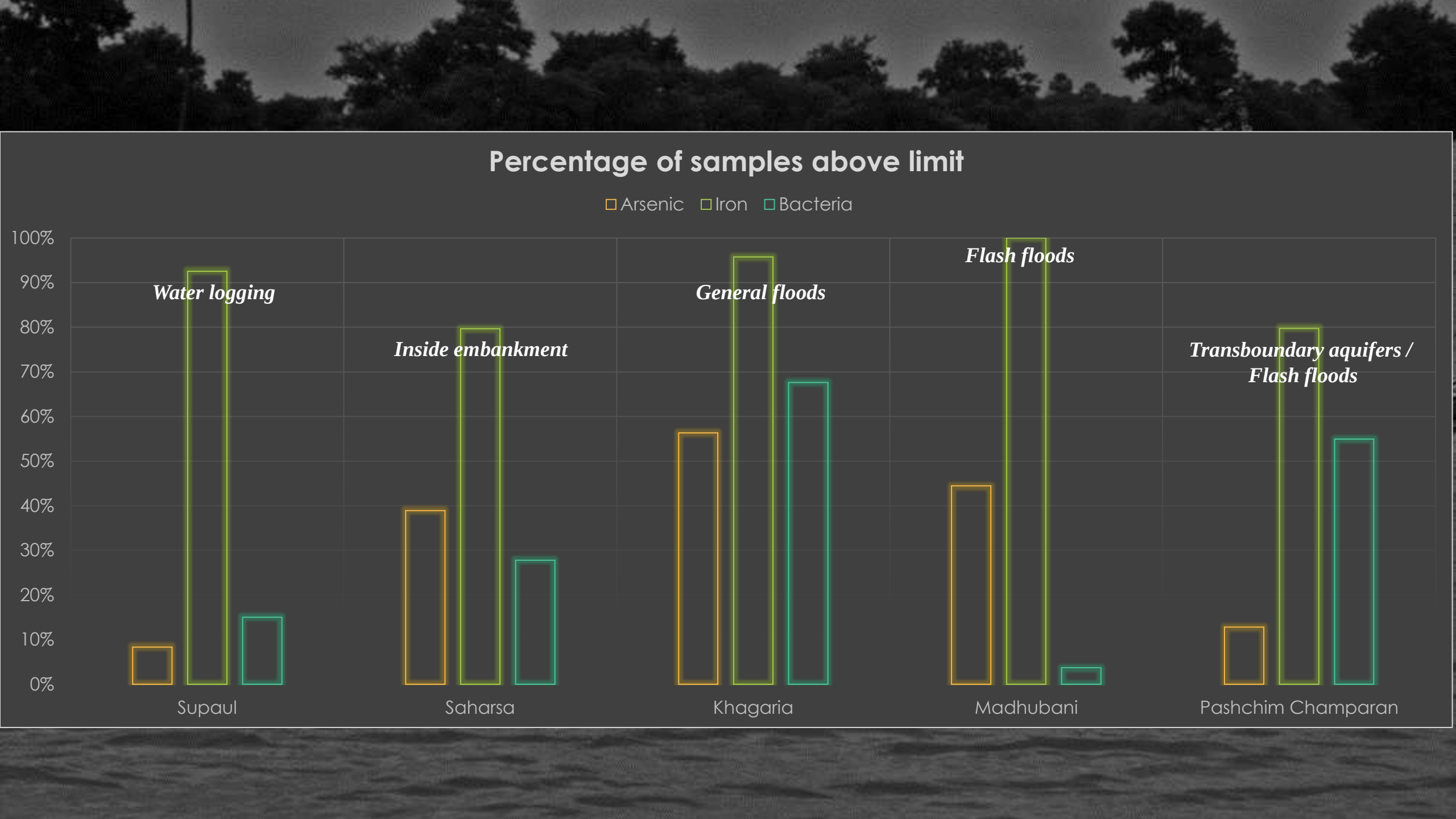




SANITATION



PGWM IN NORTH BIHAR


Percentage of samples above limit
Arsenic
Iron
Bacteria
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
Water logging
Inside embankment
General floods
Flash floods
Transboundary aquifers / Flash floods
Supaul
Saharsa
Khagaria
Madhubani
Pashchim Champaran

THANK YOU

ACWADAM