

*Coupling sustainable sanitation & groundwater protection
Symposium.14-17 October, 2008 Hannover*



Water supply and sanitation of Kabul basin

By: Prof.M.Naim Eqrar
Head of Geology Department
University of Kabul



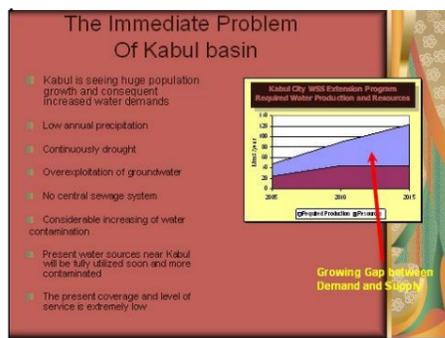
Background:

Kabul is located between Latitude 34-31' North and Longitude 69-12' East at an altitude of 1800 m (6000 feet) above sea level, which makes it one of the world's highest capital cities.

Kabul is home to 4.5 million people but has no public sewage system; Piped city water reaches only 18 percent of people. Kabul is strategically situated in a valley surrounded by high mountains at cross roads of north-south and east-west trade routes.

Main goal:

The quality of groundwater in the Kabul city varies widely. In some limited areas, groundwater quality is good, with low concentration of dissolved solids and no problematic constituents. In most areas, however, high concentration of dissolved solid and the presence of some constituents at concentration seemed harmful to humans and even crops render untreated groundwater marginal or unsuitable for public supply and agriculture use. Afghanistan is one of the poorest countries in all over the world from point of coverage of sustainable save drinking water and water sanitation.



Water supply and sanitation:

From point of water supply and sanitation coverage, Afghanistan is located in lower stage of the Asian countries.

According the report of UNDP (2007)
The access of water Consumption for an Afghan inhabitant is 20 l/day/capita.



Because of continuously drought, overexploitation of groundwater, low annual precipitation present water sources near Kabul will be fully utilized soon.

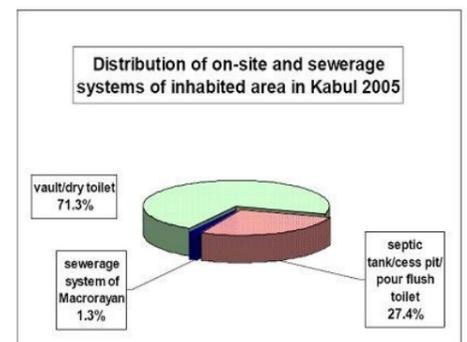
Implementation of artificial recharge projects in appropriate regions for groundwater recharge of Kabul would be one of the basic strategic options in a future.

A restricted number of sewerage systems only exist in some apartment complexes of the city.

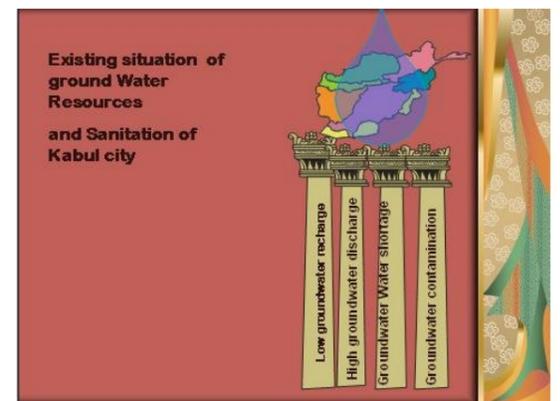
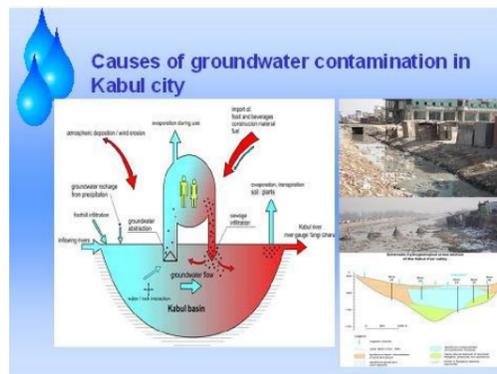
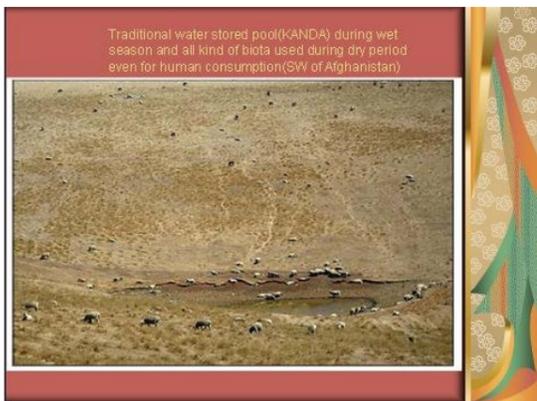
Most parts of the generated wastewater are conveyed to on site tank systems.

Only the area of Macrorayan is connected to a biological treatment system in Kabul city.

Only about (172,200) inhabitants of Kabul are connected to a sewerage system.



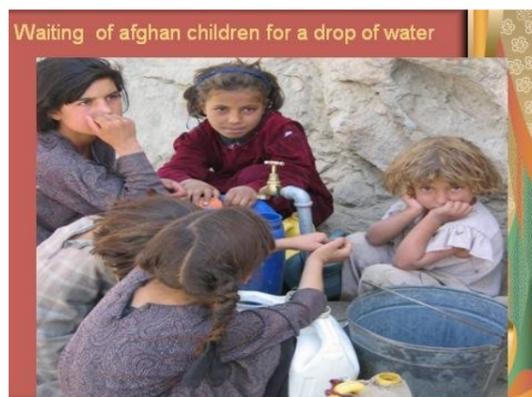
Another big problem in Kabul basin is the pollution of the open channel or River and receiving waste water and flows directly to the Kabul River and this amount of waste water is only the main recharge of Kabul basin during dry period.



Traditional natural seasonal rain water storage (KANDA) during wet season, all kind of biota used during dry period even for human consumption (SW of Afghanistan).

Rference:

1. Bockh, E.G: *Groundwater resources of the city of Kabul*; 1972.
2. Eqrar. M.N: *Hydrogeology of Kabul basin: Kabul* 1982
3. Eqrar.M.N: *groundwater monitoring of Kabul basin, Kabul, 2005-2006*
4. Eqrar.M.N: *Drought affect on groundwater resources of Kabul basin, Kabul .2007*
5. George .Houben: *Hydrogeology of Kabul basin:2005 , Germany.*



Existing situation of groundwater:

The existing situation of groundwater and Coverage of save and sustainable drinking water In Kabul basin will be faced with many challenge in A future.