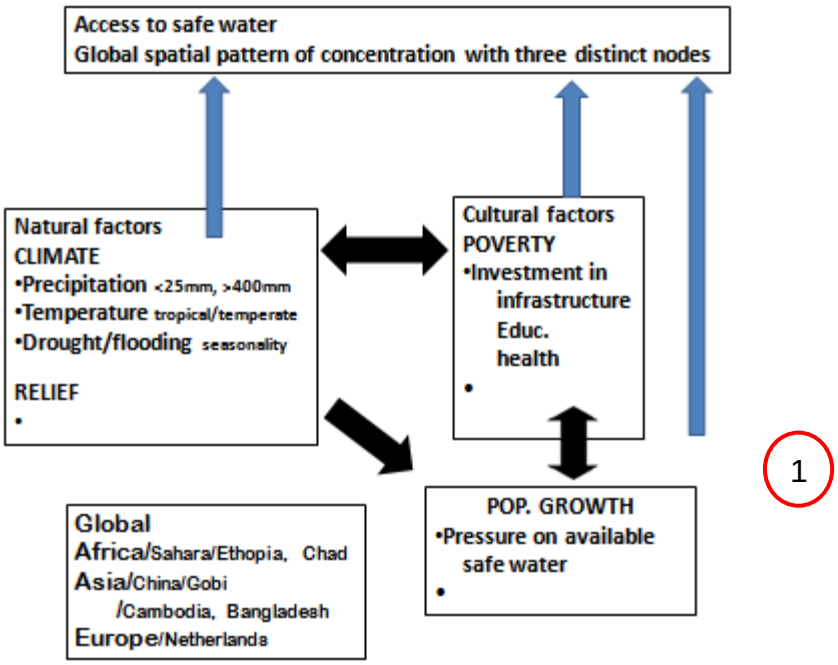
Factors/processes contributing to the pattern of <u>access to safe water</u>



There are three major concentrations shown on the map, they are in Northern Africa, China and South East Asia. These areas have extreme climatic conditions and high levels of poverty.

There are obvious links between the climate zones shown on map 1 with the global patterns of access to safe water. Extreme climatic conditions like droughts and flooding clearly contribute to the spatial pattern of concentrations shown on the map (2).

In arid areas (steppe and desert) there is simply a shortage of water (3) and people have to often survive off surface water like lakes and ponds, wells, and remaining shallow rivers etc. which do not provide safe water… In some of the countries included in the arid regions irrigation systems and reservoirs have been built, but they are unable to provide safe water (4) during the extended periods of drought…

The concentration in Northern Africa, including Ethiopia, Chad across the Sahel region to Mauritania is a region that experiences infrequent precipitation; ranging from 200mm to 600mm a year. Much of Ethiopia experiences very low rainfalls with the lowlands receiving only 250mm annually. It has been experiencing a continued period of drought for the past 2-3 years (3) and relies on trucked water from outside the region (4). In the Sahel region which also receives high temperatures, often in excess of 30ºC much of the available water is evaporated. When rain does occur in

these arid regions it can be in isolated incidents and be very intense often causing flooding…

The interaction between these two climate elements, low rainfall together with high evaporation rates results in a lack of safe water… Arid climates with unreliable rainfall are a major factor contributing to the spatial concentration of unsafe water in northern Africa. …

Other areas experience monsoon climates where excesses of water lead to flooding and clean water sources become polluted. These are the climate characteristics of the concentration in S.E. Asia. In areas like Bangladesh and Cambodia where monsoonal flooding is a common occurrence, the flooding destroys wells, rivers (4) carry a lot of debris and silt and the options for saving clean water are nil… Cambodia receives 75% and Bangladesh 80% of their annual rainfall during the monsoon wet season (5). Bangladesh's climate is one of the wettest in the world. Most places receive more than 1,525 mm of rain a year, and areas near the hills receive 5,080 mm … Bangladesh which is located in the Bay of Bengal, also gets cyclones which bring huge waves leading to the pollution of fresh water with salt…. Surface water like ponds which are used for cleaning, cooking etc. (4) are affected by salinization…