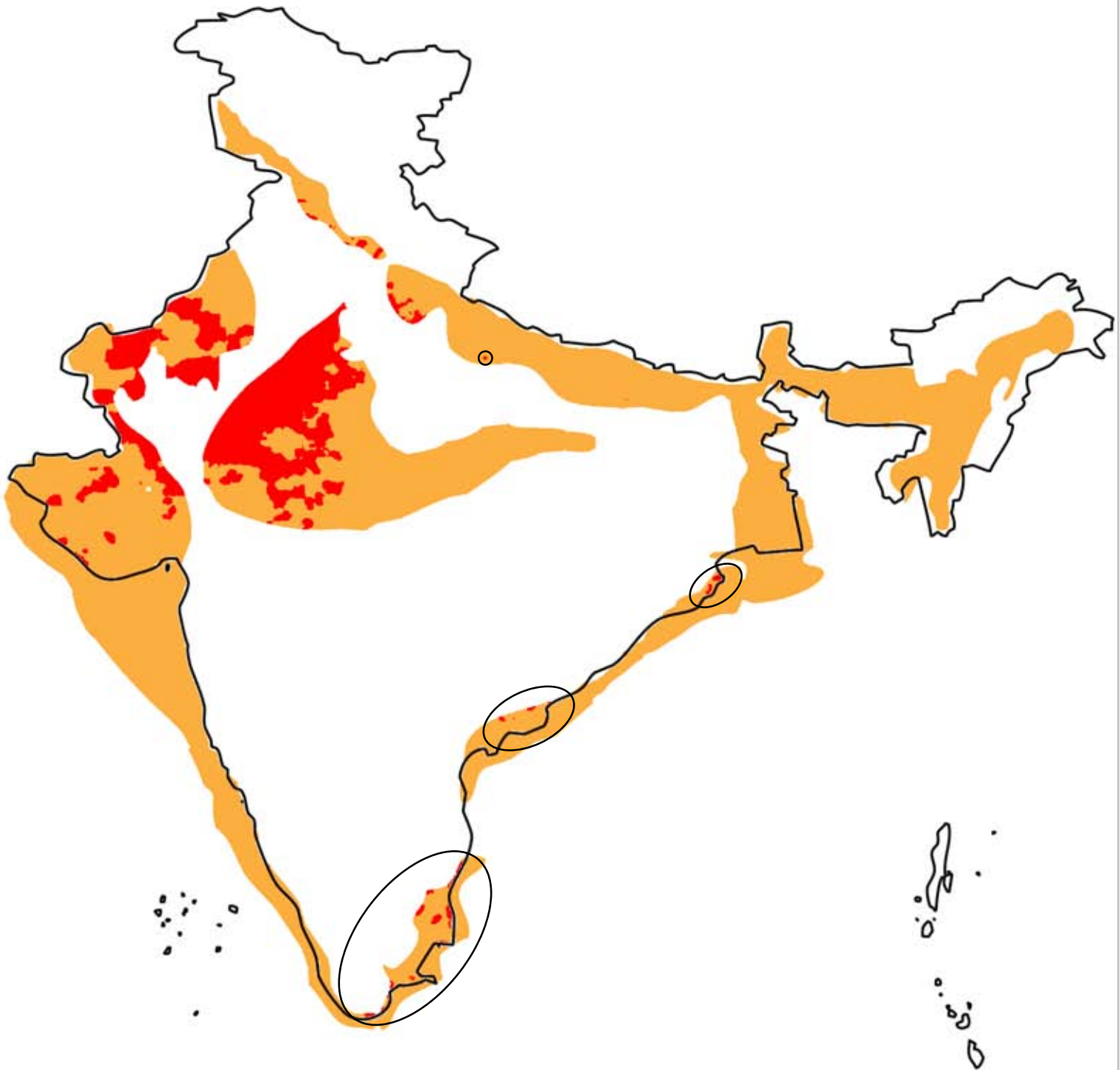
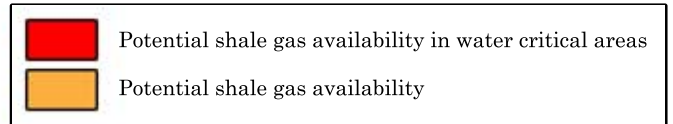


Potential conflict: *Shale gas vs groundwater*

Shale gas is natural gas found trapped in layers of rock. Recent development of technologies such as horizontal drilling and hydraulic fracturing ('fracking') has made it technologically possible to tap into this energy resource and U.S. has rapidly begun exploiting this source of energy. It is expected that India also has significant reserves of shale gas and it signed an MoU with the U.S. for cooperation in shale gas technology during the recent visit of President Obama to India.

However, shale gas extraction has been controversial because fracking requires large amounts of water and it also poses a significant threat of polluting ground water resources with toxic chemicals used in the fracking process. In fact, New York State (U.S.) has imposed a moratorium on fracking until there was a clear understanding of its impacts on ground water. This map – using information from presentations made by the Director General of Hydrocarbons and a report from the Central Ground Water Board – shows the areas in India that have good shale gas prospects overlaid with areas of water scarcity. In particular, it should be noted that West Rajasthan is one of the major areas with *proven* shale gas reserves and is also an area where water resources are critical. Given the significant overlap between areas with potential shale gas availability and areas with water scarcity, there is a strong case for the Government of India to be very cautious and adopt the precautionary principle while finalizing the shale gas exploration policy that is currently being drafted, to ensure that shale gas extraction does not result in worsening water scarcity by either extracting too much or polluting scarce underground water.

Potential conflict: shale gas Vs groundwater



Source: DGH presentation at PetroTech 2010 and CGWB report 2006

Note 1: Map not to scale

Note 2: Approximate and indicative map only for visual representation

Note 3: Areas with proven shale gas reserves are also shown as areas with potential shale gas availability.