**Highlights**

* Coastal aquifers with land side bed slopes are more affected by SWI than sea side and horizontal bed slopes,
* Climate change risk (SLR, precipitation) and artificial forces (over pumping) worst SWI,
* Cutoff walls and check dams work better for horizontal bed aquifers,
* Subsurface dams, earth fill and freshwater recharge work better for land bed slope aquifer,
* Abstraction of brackish water and combination of recharge and abstraction work better for sea side slope aquifers.