Studies on coastal region (southwest India) contradict the general picture that except during SW monsoon periods, the coastal waters remained oligotrophic and had shown that even after the monsoon, fresh injection of nutrients by hitherto unknown processes fertilizes the coastal waters that are either permanent or quasi-permanent in nature. The input of these nutrients supported high primary production up to 14 mg/m$^3$ of chlorophyll a (peak column production of 1529 mgCm$^{-2}$d$^{-1}$), approximately 3 times greater than the peak values reported so far from these waters. With the injection of nutrients in non-monsoon months when mud banks were passive, a new influence of Vembanad Lake on the coastal waters was clear. The red tides along the southern Arabian Sea might be the result of heavy fluxes of dissolved nitrate and phosphate and with lesser quantity of silicate as subterraneous flows through the porous narrow sediment region separating the lake and sea. Forcing of nutrient rich ground water occurs when the water level difference between sea and lake attains a critical value to overcome the frictional resistance. Such conditions prevail during heavy fresh water discharges and on the sea level remaining at its annual low in monsoon period. The possibility of heavy rains and flash floods linked with cyclones are high with climate variability, the critical conditions for ground water flow can prevail in other seasons and also at similar coastal locations. Attempts for reversing the coastal phytoplankton bloom tendency require management strategies with good sanitation in the coastal region and restoration of wetlands and floodplains that act as nutrient traps.