Figure 1. Ecosystem services (after MA 2005).

Provisioning	Regulating	Cultural
Goods produced or provided by ecosystems	*Benefits obtained from regulation of ecosystem processes*	*Non-material benefits obtained from ecosystems*
• food • fresh water • woodfuel • timber • fiber • biochemicals • genetic resources	• climate regulation • disease regulation • flood regulation • water purification	• spiritual • inspirational • aesthetic • educational • recriational
Supporting *Services necessary for production of other services* • Soil formation & conservation • Nutrient cycling • Primary production • Supporting biodiversity		

Fig. 2. Loss of ecosystem service of soil conservation, due to damage to biodiversity. An air photo of a grazing-protected area (right of the two vertical lines) and a common grazing land (left of the two lines). Vertical lines are patrol road, on both sides of the international border between Israel (right) and Egypt (left). Black dots are shrubs and grey surface is sand covered by a biological crust created by a diversity of microorganisms, which generates runoff that supports the shrubs, and both combined provide the service of soil conservation, through sand-dune stabilization of this desert rangeland. On the grazed and trampled area this service is degraded, the sand is denuded of shrubs and biological crust, and its stability and further provision of forage are compromised.

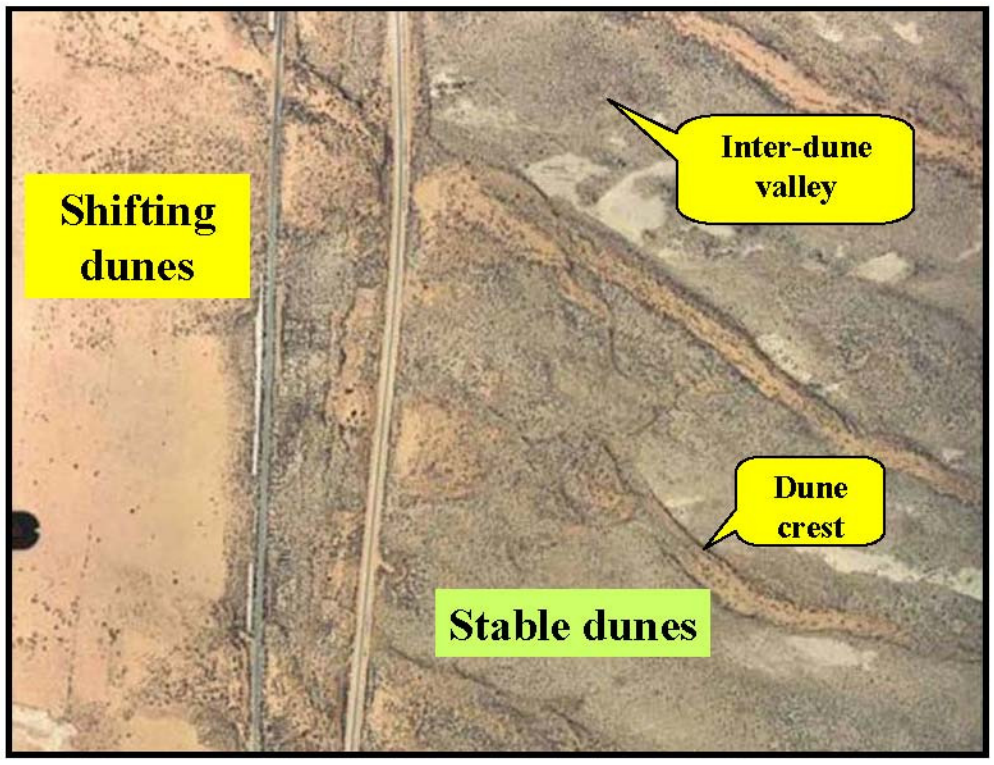

Figure 3. Estimated global value of ecosystem services expressed as percentage of the aggregated value of all global ecosystems (mean of US$33 trillion). Columns: dark blue – water-related services; light blue – services that are only partly water-related; grey – services not related to water. Data from Contanza et al. 1997.

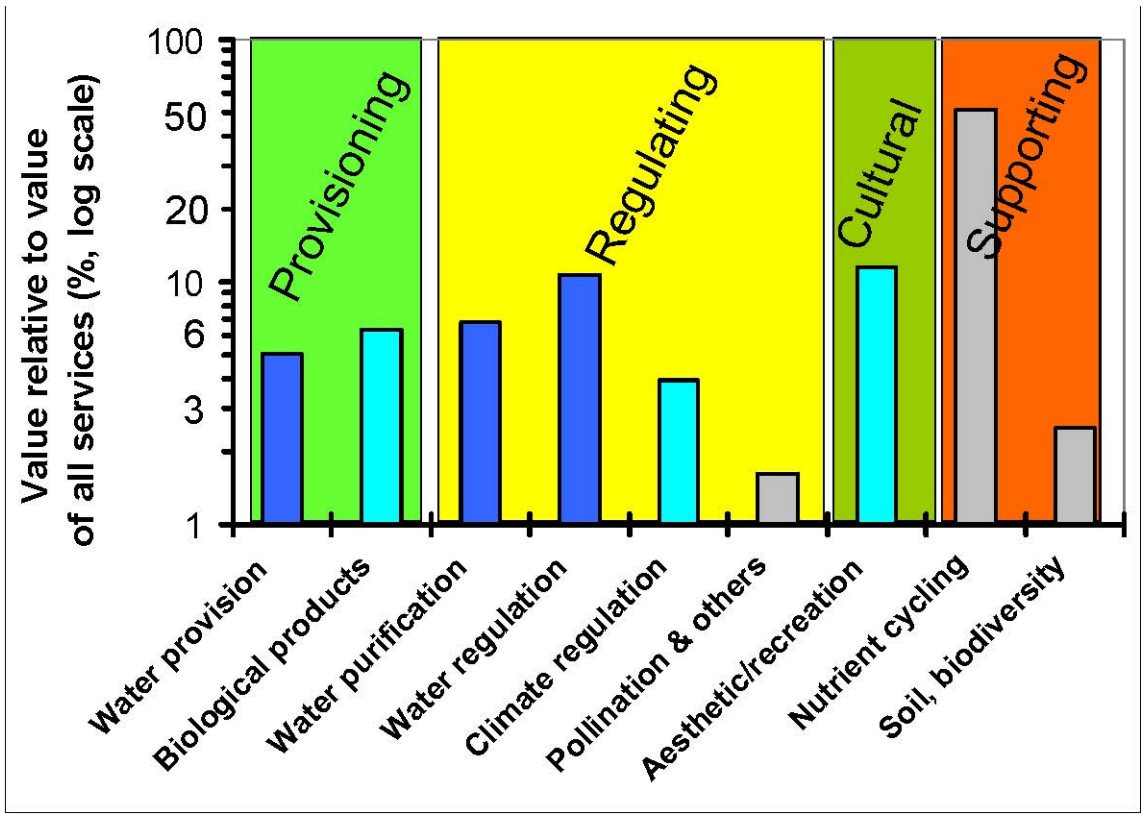

Figure 4. The linkages between ecosystem services, human well-being, and their direct and indirect drivers. Rectangles are states and trends, circles are drivers of states and trends (after MA 2005).

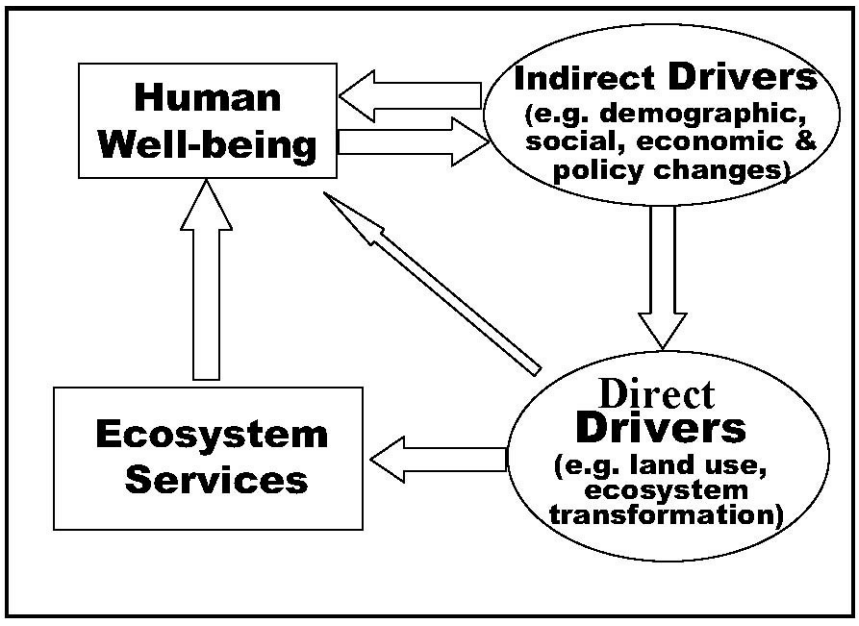

Figure 5. Linkages between over-exploitation and intensification of the water provision service, which in drylands may lead to soil degradation (expressed in salinization and erosion), that in turn leads to reduced, rather than the aspired increase, of the primary productivity service. The degraded soil and the reduced productivity drive two mutually interacting self-reinforcing feedback loops, nested within another feedback loop, which drives and exacerbates desertification and biodiversity loss in the dryland, and even global climate change (After Adeel et al. 2005).