

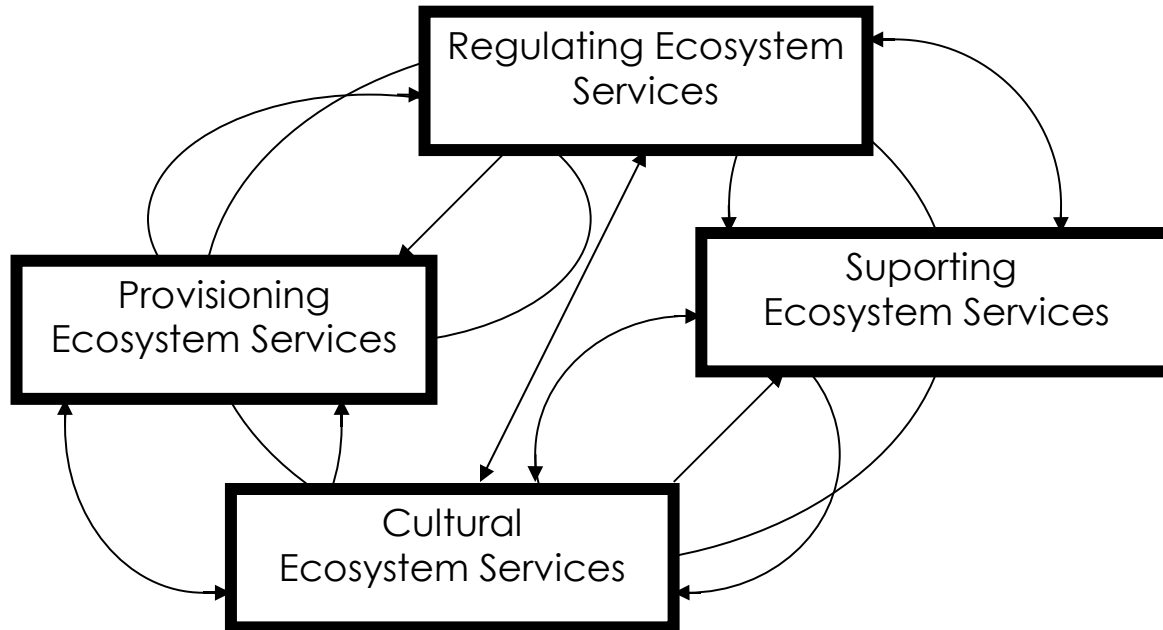


La notion de « trade-off » proposée par le MEA

Dorothee Denayer

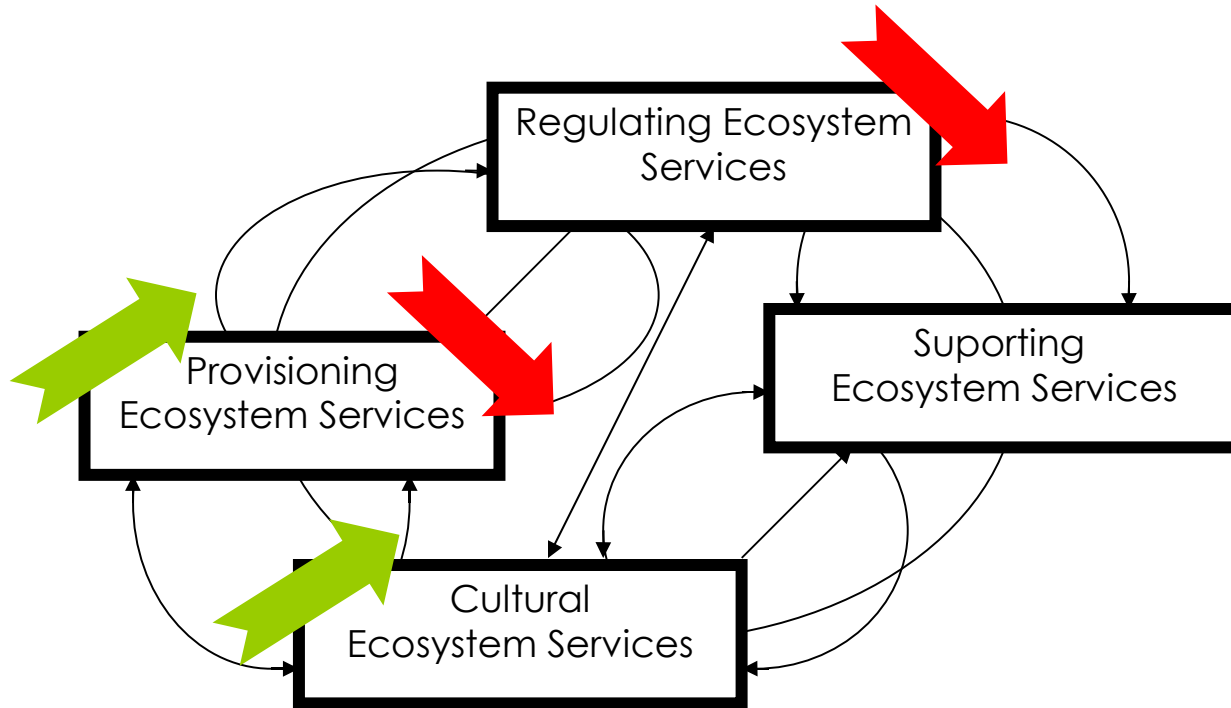


Interactions among ecosystem services :



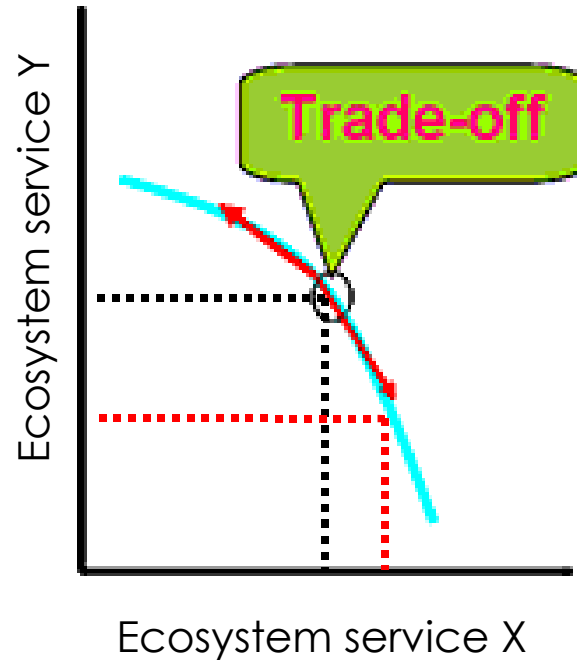


Interactions among ecosystem services : Synergisms





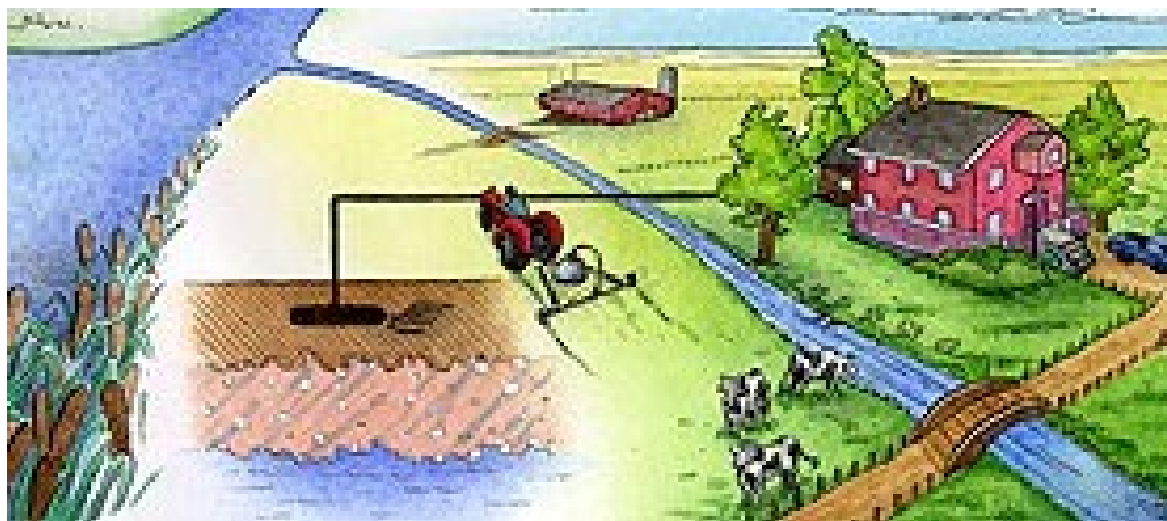
Interactions among ecosystem services : Trade-offs



<http://www.nies.go.jp/event/kaigitopics20051203eimgkey3-1.gif>

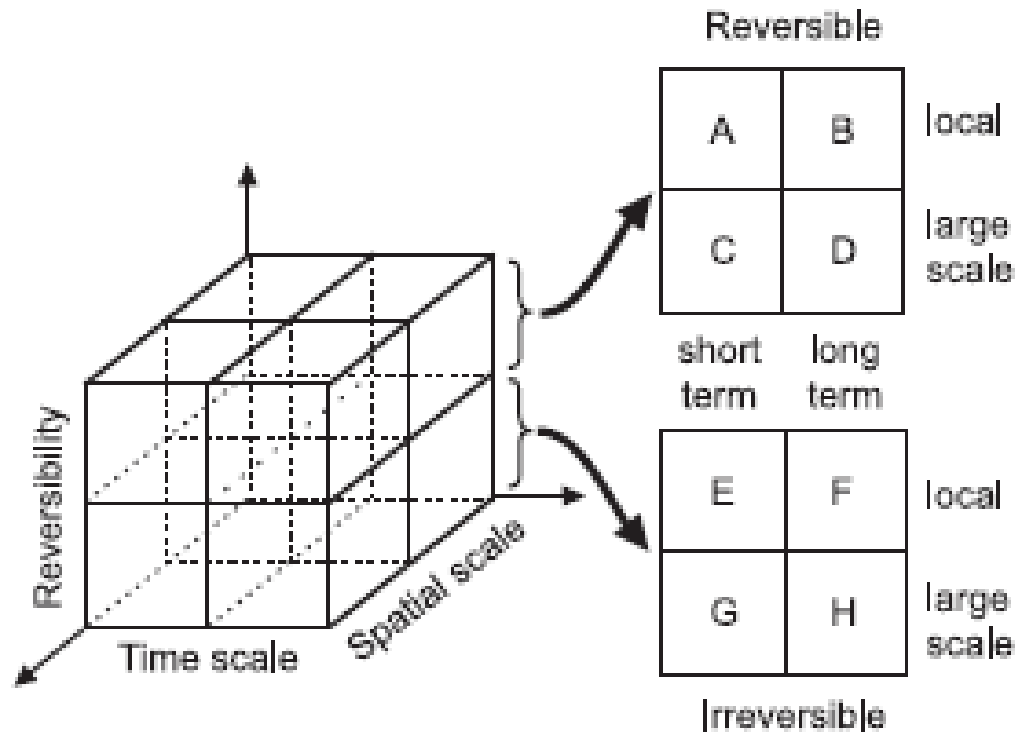


Agricultural production, water quality, and aquatic habitats and species





Categories of ecosystem service trade-offs



Excerpted from:

Millenium Ecosystem Assessment. 2005. Ecosystem and human well-being: Scenarios, Volume 2



Selected case studies

- **Vultures declines in India**



static.zsl.org/.../vulture-project-1250.jpg



www.peregrinfund.org/vulture.photos.asp



tariquesani.net/albums/userpics/DSC_0592_1.jpg



Types of trade-offs in case studies

Ecosystem Service Traded off	Ecosystem Service Targeted			
	Provisioning	Regulating	Cultural	Supporting
Provisioning				
Regulating	Vultures (- -)			
Cultural		Vultures (-)		
Supporting				

Excerpted from:

Millenium Ecosystem Assessment. 2005. *Ecosystem and human well-being: Scenarios, Volume 2*



- Lakeshore development in the northern United States



www.duluthcharterfishing.com/.../fish/fish24.jpg



www.mountainproject.com/images/19/73/10579197...



Types of trade-offs in case studies

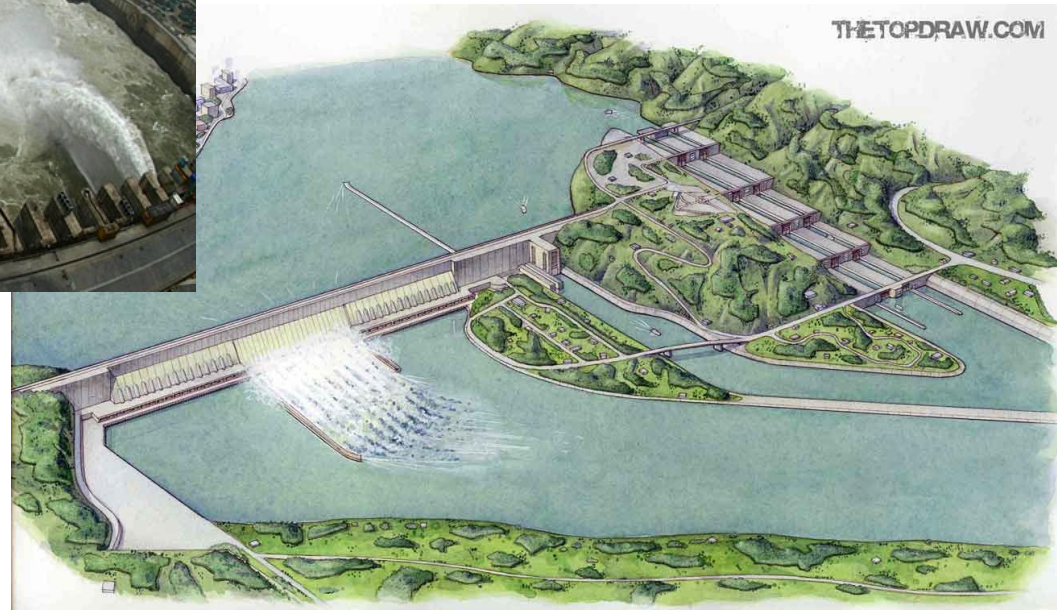
Ecosystem Service Traded off	Ecosystem Service Targeted			
	Provisioning	Regulating	Cultural	Supporting
Provisioning			Lakes (-)	
Regulating	Vultures (- -)		Lakes (-)	
Cultural		Vultures (-)	Lakes (-)	
Supporting			Lakes (-)	

Excerpted from:

Millenium Ecosystem Assessment. 2005. *Ecosystem and human well-being: Scenarios, Volume 2*



- Flood control by the Three Gorges dam in China





Types of trade-offs in case studies

Ecosystem Service Traded off	Ecosystem Service Targeted			
	Provisioning	Regulating	Cultural	Supporting
Provisioning		Dam (+)	Lakes (-)	
Regulating	Vultures (- -)	Dam (- -)	Lakes (-)	
Cultural		Vultures (-)	Lakes (-)	
Supporting			Lakes (-)	

Excerpted from:

Millenium Ecosystem Assessment. 2005. *Ecosystem and human well-being: Scenarios, Volume 2*



Conclusions

- Dilemmas in ecosystem services decisions
- Complex and cascading effects of trade-offs
- Improving our knowledge on synergisms among ecosystem services
- Identification of policies that lead to « win-win » situation
- Management of synergisms to improve ES
- Principle of precaution