

Title

Environmental Justice Conflicts and the Ecosystem Service Cascade: further developing the metaphor to accommodate real world challenges

Summary

Environmental justice conflicts emerge when ecosystem services (ESS) are defined, mobilised and appropriated. However, the social processes underlying these steps are rarely taken into account in ESS analysis, thus risking to turn ESS analysis into a legitimisation science for prevailing, power based use patterns.

The paper uses an revised version of the ESS cascade to integrate social processes, and uses several cases to illustrate the role of use value attribution, ecosystem service potential mobilisation and ESS appropriation for environmental justice conflicts.

Doing so can help to avoid misguided advice and avoid several fallacies inherent to the current use of ESS analysis. Early analysis may contribute to avoiding conflicts, but at least will make the policy dimension behind them obvious, and accessible to political solutions.

Extended Abstract

Environmental justice conflicts arise whenever different stakeholder groups have different preferences regarding which use to make of ecosystem functions identified as potentially useful to human purposes. Different societal groups will express different, culture and value based individual and collective preferences in this process of use value attribution. Depending on the institutional setting, the conflicts of interest between groups claiming different, often mutually exclusive ecosystem service potentials will either lead to compromise (which is more often the case in democratic systems), or the suppression of some users' demands, even if based on traditional or legal ownership rights (dispossession, expropriation).

This is the first conflict on the conceptual or planning level; the next one arises when the potential ecosystem services (ESS) identified are to be realised. For provisioning and many cultural services, the process requires investment of labour, time, resources and energy, and money as a means to provide them. As the endowments of different stakeholder groups with resources can differ widely, this imbalance can tip the balance to those with access to external resources including credit, at the disadvantage of local stakeholders.

Finally, when a service has been provided, additional conflicts can arise when it comes to the appropriation of the benefits expected from the ESS.

In all three steps there is a potential conflict between common goods, collective possessions and private property, and between market based and collective forms of regulation. The 'tragedy of the commons' (Hardin) usually does not exist, being more a 'tragedy of common sense' (Clark) as in most cases regulations and management systems exist, with strict if informal rules, guiding the management and use of common pool goods (Ostrom).

By defining ESS as "nature's free gifts to humankind" the prevailing ESS research tends to obscure the nature-society interactions (an expression of a specific societal relationship with nature). By deriving ecosystem functions from (enjoyed) ecosystem services, this tendency falls victim to the classical

epistemic fallacy of concluding from 'is' what 'ought' to be. However, this is not only a problem in terms of scientific quality, but has severe political implications: ecosystem research is turned into legitimation science, justifying the status quo as if no other alternatives would have been possible. Declaring the current use patterns as derived from nature, and ignoring the societal processes co-producing ESS, the naturalistic fallacy, once the legitimation base of social Darwinism, seems to be very much alive. Ever since the dark age of social Darwinism the risk of such biologisms in social science should be well known, and they should be carefully avoided. We suggest an extension of the ecosystem service cascade model allowing to integrate such processes, and thus escape the risk of introducing biologisms into socio-economic assessments of ecosystem services.

The 'cascade model' of ecosystem service (ESS) generation and valuation highlights the links between physical aspects/biodiversity and human well-being. Unfortunately, in its widely spread form (Potschin & Haines-Young) societal decision making processes do not play a role; despite its authors' sensitivity their model shares the social blindness of much of the profession. Nonetheless, its basic structure is a useful starting point for integrating ESS and social processes (Spangenberg et al., von Haaren et al.). This integration also offers the opportunity to show where ESS provision and appropriation play a crucial role in the emergence of environmental conflicts. The core modification introduced is adding the ecosystem service potential in between functions and services, and a focus on the processes generating potentials and services. Use value attribution turns biophysical ecosystem functions into ecosystem service potentials, a potentially controversial societal process. The potential is mobilised to provide the service, and subsequently benefits accrue to agents after appropriation and commercialisation of the ESS mobilised. . Furthermore, after ecosystem service provision, the subsequent steps are value appropriation and – in some cases commercialisation.

This paper builds upon the revised version of the ESS cascade; it intends to highlight both where conflicts arise and environmental justice concerns have to be taken into account, and which kinds of processes have to be analysed to detect, analyse and possibly avoid the escalation of emerging environmental conflicts. For this behalf several cases are indicated where conflicts have been arising by suppressing certain societal groups in each of the processes of use value attribution, ecosystem service potential mobilisation and ESS appropriation.

One example illustrating the relevance of use value attribution is the different ecosystem service potentials attributed to the same ecosystem function, biomass provision, and the resulting different ESS. Other examples refer to the process of accumulation by dispossession, commodification of natural resources, and problems occurring with collective possession of common pool goods. The examples demonstrate the importance of the societal processes for the final (e)valuation of policies, plans and their expected outcome.