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## The ethics of socio-ecohydrological catchment management: towards hydrosolidarity

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**Abstract.** This paper attempts to clarify key biophysical issues and the problems involved in the ethics of socio-ecohydrological catchment management. The issue in managing complex systems is to live with unavoidable change while securing the capacity of the ecohydrological system of the catchment to sustain vital ecological goods and services, aquatic as well as terrestrial, on which humanity depends ultimately. Catchment management oriented to sustainability has to be based on ethical principles: human rights, international conventions, sustaining crucial ecological goods and services, and protecting ecosystem resilience, all of which have water linkages.

Many weaknesses have to be identified, assessed and mitigated to improve the tools by which the ethical issues can be addressed and solved:

- a heritage of constraining tunnel vision in both science and management;
- inadequate shortcuts made in modern scientific system analyses (e.g. science addressing sustainability issues);
- simplistic technical-fix approaches to water and ecosystems in land/water/ecosystem management;
- conventional tools for evaluation of scientific quality with its focus on “doing the thing right” rather than “doing the right thing”.

The new ethics have to incorporate principles that, on a catchment basis, allow for proper attention to the hungry and poor, upstream and downstream, to descendants, and to sites and habitats that need to be protected.

**Keywords:** catchment, hydrosolidarity, ecosystem, water determinants, resilience, green water, blue water, sustainability science

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