Two audiences, two peer-review systems

Peer-review is an adequate means to advance communication between science and implementation but it needs to take into account the value systems and rules of both the science and development communities. Adequate review criteria are necessary to guide authors into producing the right kind of article.

Peer review for MountainDevelopment articles: To ensure that sound and relevant transformation knowledge is presented, manuscripts are reviewed anonymously by an internationally recognized scientist and an expert oriented towards development. The following main criteria are considered: Are innovative development approaches/methods presented, are they validated (eg systematically assessed experiences; validation through the communities concerned, etc), and are they transferable to other mountain regions? Are new research insights presented for a mountain development/policy community? Are they useful and convincing?

Peer review for MountainResearch articles: To ensure that sound, innovative, and relevant systems knowledge is presented, manuscripts are reviewed anonymously by two scientific experts, according to the following main criteria: Does the paper describe how the systems focused on—are society, the economy, the environment, etc—function and interact? Is the systems knowledge presented novel and relevant to sustainable development in mountains? Is the work sound from the point of view of concept and method, and are the references pertinent and international?

Value system for scientific communication
- interpretability (tells to knowledge)
- acceptability
- generality
- replicability
- timeliness

Criteria for peer review
- replicability
- relevance for development debate
- impact
- variability
- underlying development
- rapid production methods
- adherence
- interaction

Value system for development communication
- dialogue
- trust
- effectiveness (inducing behavior changes)
- conflict-resolution
- adaptability
- credibility

Criteria for peer review
- replicability
- relevance for development debate
- impact
- variability
- underlying development
- rapid production methods
- adherence
- interaction

Sustainable development requires different types of knowledge and interaction between them

In the context of globally and locally induced changes, mountain areas face demanding challenges when trying to achieve more sustainable development. Socioeconomic, cultural, and biophysical systems in mountains interact via a set of organizational, spatial, and temporal “couplings” (Lassoie and Sherman 2010) that are highly complex. Despite much progress in science, these interacting systems are still characterized by many uncertainties and are little understood. As underlined by Hurni et al (2004), coupled human and natural systems require further “systems knowledge,” which can be disciplinary but often also needs to be interdisciplinary.

On the other hand, the normative orientation towards sustainability (which needs to be negotiated among stakeholders and produces “target knowledge”) calls for an additional type of knowledge about how these interactions between people and ecosystems can be transformed to make development more sustainable and more capable of adapting to change. We call this knowledge “transformation knowledge” (Hurni et al 2004).

Open access ensures permeability between knowledge types and audiences (from local to global): systems and transformation knowledge are accessible for both the scientific community and a broader community of practitioners, policymakers, and decision-makers—and co-production of knowledge is encouraged (Roux et al 2006).