

STEWARDSHIP OF THE EARTH'S SOCIAL-ECOLOGICAL SYSTEMS



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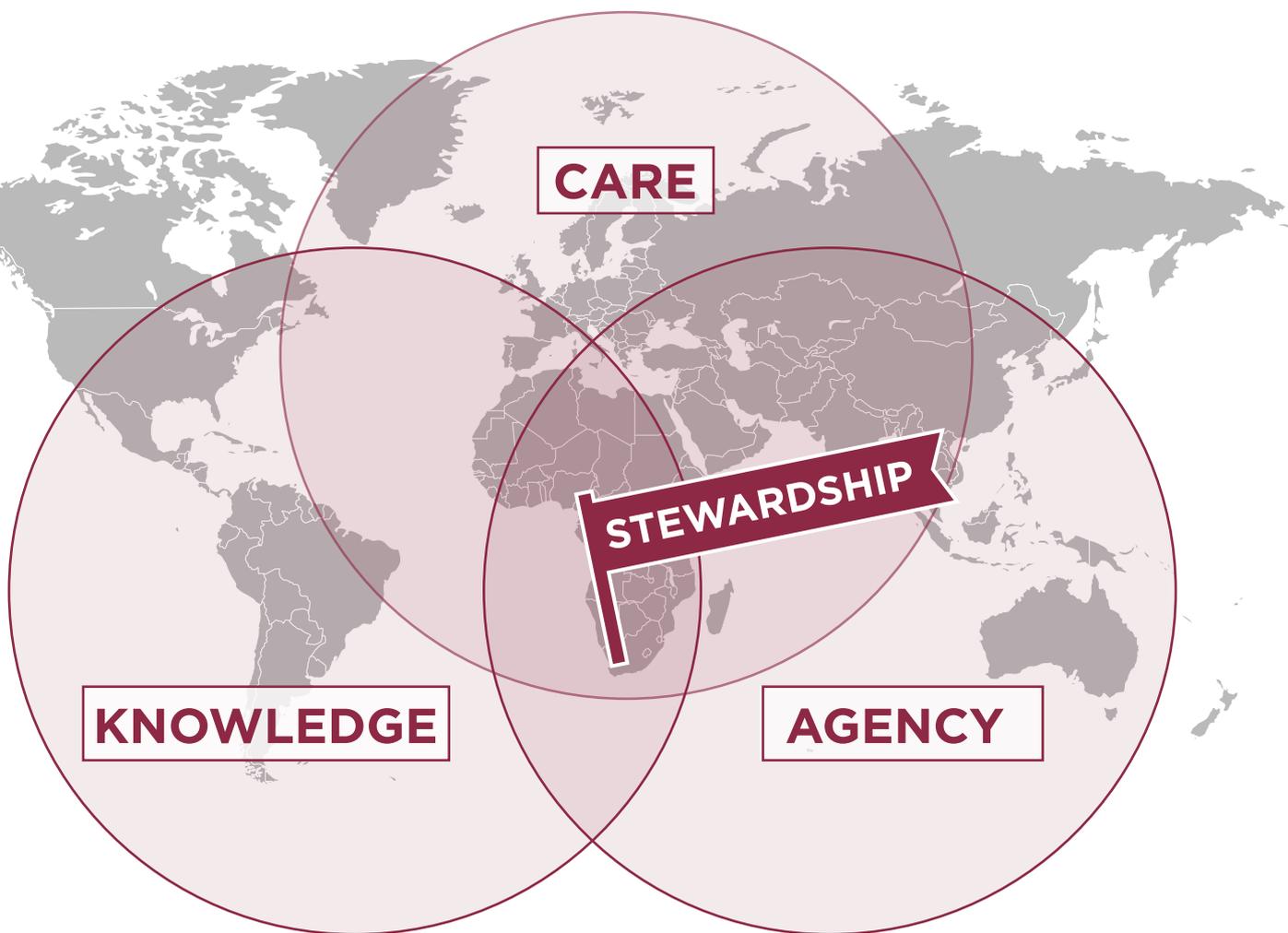
Human actions have affected the earth's climate and environment in ways that threaten the ecosystem services on which human well being depends. This has necessitated a dramatic change in human relationships both with each other and with the planet's life support system. The notion of stewardship embodies this change calling for the active shaping of human-nature interactions and pathways of change for the benefit of ecosystems and society.

Stewardship considers new ways of understanding, reconnecting to and caring for the biosphere.

Stewardship emphasizes the need for management and governance approaches which recognize that humans are embedded within the landscapes that they try to govern.

Stewardship prioritizes participatory, cross-scale management approaches rooted in shared values.

Stewards can act at different scales, from local-scale landscape (or ecosystem) stewardship to broad-scale biosphere (or planetary) stewardship.



Stewardship considers new ways of understanding, reconnecting to and caring for the biosphere (the global ecological system integrating all living beings and their relationships). Stewardship emerges from the care, knowledge and agency of individuals, communities, organizations and governments.

STEWARDSHIP TOWARDS SUSTAINABILITY IN COMPLEX SYSTEMS

A stewardship perspective proposes that the best way of navigating the complex interactions between people and their environment, and the often-unpredictable and unsustainable outcomes of these interactions, is to support interventions that reinforce and clarify humanity's connectedness to the biosphere. Every person on this planet is an invested stakeholder in the biosphere, and interventions towards more sustainable ways of living need to recognize the diverse norms, beliefs, incentives and value systems that lead people, communities, organizations and governments to act as stewards.

STEWARDSHIP EMERGES FROM:

- **Care, creativity and values:** feelings of attachment and responsibility that underpin stewardship;
- **Knowledge and know-how:** basic information and deeper understanding about the resource, landscape or social-ecological system that is being stewarded; and
- **Agency, power and resources:** abilities and capacities to engage in stewardship action.

Many individuals, local communities, organizations, and governments around the world are undertaking and promoting stewardship actions, spanning local to global efforts in both rural and urban contexts. Actions range from implementing biodiversity stewardship programs, planting trees, creating community gardens, limiting harvests and reducing harmful activities or pollution, to restoring degraded areas, creating protected areas and purchasing more sustainable products. While many of the challenges faced today are global in nature (such as climate change, for example), a critical component of addressing these challenges is engaging in local environmental stewardship actions and local initiatives so as to focus on local expertise, knowledge and people's connections to their environment in order to foster change.

CASE STUDY: LANDSCAPE STEWARDS AT A WORLD HERITAGE SITE

The Baviaanskloof region in South Africa is home to a 270,000 hectare mega reserve with World Heritage status due to its high biodiversity.

The region is suffering from increased flood and drought events, arising from a combination of climate change and poor historic land management (which led to overgrazing, wetland degradation and

erosion). In the privately owned western part of the Baviaanskloof, more than 9,000 hectares of land is considered degraded. An NGO in the region is working with the government and local farmers to enable transformations to more sustainable farming practices. These farmers have become landscape stewards, overcoming initial conflicts between farming and soil conservation and participating in a large-scale land rehabilitation program.



Farmers in the biodiverse Baviaanskloof region of South Africa have transitioned from goat farming, which resulted in vegetation overuse and soil erosion, to more sustainable agricultural practices, thereby becoming landscape stewards and enabling the restoration of degraded hillslopes. Photo source: Andrew Zylstra & The Living Lands Database (<https://livinglands.co.za/where-we-work-3/the-baviaanskloof/>)

STEWARDSHIP FOR SUSTAINABLE DEVELOPMENT

As social and economic systems are both embedded in and dependent on ecological systems, there is a need for a biosphere-based approach to development, with global policies and practices that support interlinked social-ecological sustainability.

Transformation towards biosphere-focused development requires individuals, communities, regions and nations to adopt stewardship practices that support the ethical and responsible interactions of humans with the planet's life support system. Increasing knowledge of how development influences the biosphere comes with increasing power and responsibility to change our relationship with the biosphere, calling for transformation in our agricultural, energy and transport systems, resource use and waste management. The Sustainable Development Goals are one example of the widespread recognition that development needs to adopt a stewardship perspective.



Photo by Jessica Cockburn

FURTHER READING

Chapin, F. S. et al. Ecosystem stewardship: sustainability strategies for a rapidly changing planet. *Trends Ecol. Evol.* 25, 241–249 (2010).

Enqvist, J. P. et al. *Stewardship as a boundary object for sustainability research: Linking care, knowledge and agency.* *Landsc. Urban Plan.* 179, 17–37 (2018).

Folke, C. et al. *Reconnecting to the Biosphere.* *Ambio* 40, 719–738 (2011).

Preiser, R., Pereira, L. M. & Biggs, R. *Navigating alternative framings of human-environment interactions: Variations on the theme of 'Finding Nemo'.* *Anthropocene* 20, 83–87 (2017).

Bennett, N. J. et al. *Environmental Stewardship: A Conceptual Review and Analytical Framework.* *Environ. Manage.* 61, 597–614 (2018).

Cockburn, J., Cundill, G. & Shackleton, S. *Building collaborative stewardship practice in South African landscapes.* (2018).
doi:10.1177/0022146512469014

Cockburn, J., Cundill, G., Shackleton, S. & Rouget, M. *Towards place-based research to support social-ecological stewardship.* *Sustainability* 10, (2018).

Steffen, W. et al. *The anthropocene: From global change to planetary stewardship.* *Ambio* 40, 739–761 (2011).

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