



GAIA

ECOLOGICAL PERSPECTIVES FOR SCIENCE AND SOCIETY
ÖKOLOGISCHE PERSPEKTIVEN FÜR WISSENSCHAFT UND GESELLSCHAFT



SOCIETAL CHANGE: MAKING ALTERNATIVE PLACES
TRANSDISZIPLINARITÄT UND SOLUTIONISMUS
AGROECOLOGY AND PEACEBUILDING

GAIA is available online at www.ingentaconnect.com/content/oekom/gaia
www.oekom.de | B 54649 | ISSN print 0940-5550, online 2625-5413 | GAIAEA 31/1, 1–64 (2022)

Upscaling research and teaching on the *Sustainable Development Goals* in the arts, humanities, and social sciences

The arts, humanities, and social sciences (AHSS) are critical for achieving the Sustainable Development Goals (SDGs). A major strategic effort is needed to strengthen inter- and transdisciplinary research and teaching focused on the SDGs in the AHSS.

Christoph Kueffer , Caroline Wiedmer



Upscaling research and teaching on the *Sustainable Development Goals* in the arts, humanities, and social sciences |

GAIA 31/1 (2022): 57–59 | **Keywords:** education for sustainable development, ESD, science policy, sustainability, Sustainable Development Goals, SDGs, transdisciplinarity

The *Sustainable Development Goals* (SDGs)¹ are increasingly seen as a key framework for research and teaching (Wuelser et al. 2020). Education for Sustainable Development (ESD) is at the core of SDG 4 and was promoted through the *UN Decade of Education for Sustainable Development* (2005 to 2014) and the follow-up work of the UNESCO², among others. Historically, teaching and research on sustainability have often been institutionalised at natural sciences or interdisciplinary departments – for example, in environmental sciences – while faculties in the arts, humanities, and social sciences (AHSS) have only recently begun to focus their curricula and research programs on the SDGs. Indeed, there is growing interest in inter- and transdisciplinary perspectives on sustainability and environmental issues rooted in the theories, epistemologies, and methodologies of the AHSS; in part facilitated by the expansion of the environmental humanities (Heise et al. 2017, Kueffer et al. 2017, Hall et al. 2015). The EU research program *SHAPE-ID*³ developed methodologies and documents best-practice examples of inter- and transdisciplinary research on complex societal issues rooted in the AHSS; the SDGs are a focal interest of the Swiss Academy of Humanities and Social Sciences⁴, and AHSS

are increasingly seen as a crucial component of transdisciplinary research addressing societal challenges (OECD 2020). Furthermore, for decades it has been a core ambition of GAIA and the Swiss Academic Society for Environmental Research and Ecology (saguf) to strengthen the focus on sustainability and education for sustainable development within the AHSS (Bornemann et al. 2020, Ejderyan et al. 2019)⁵. This article highlights some key policy insights from a recent symposium on how inter- and transdisciplinary research and teaching in line with the SDGs can be fostered within the AHSS to promote societal transformation towards a more sustainable future.

Problem-oriented inter- and transdisciplinary scholarship rooted within the AHSS

In September 2021 Franklin University Switzerland (FUS) launched the Center for Environmental Justice and Sustainable

Futures (CJSF)⁶ to create a platform that fosters research and teaching at the intersections of the AHSS, environmental humanities, environmental sciences, and business and marketing studies. The launch symposium entitled *Re-tooling knowledge: sustainable development goals from the perspective of the environmental humanities* brought together students and academics from the AHSS, economics and management, and the natural sciences from Switzerland and internationally to discuss how the AHSS can help avert ecological disaster.

The overarching aim of the symposium was to understand how problem-oriented, inter- and transdisciplinary research and teaching can be fruitfully adapted by the AHSS to address sustainability issues. Problem-based research means that the

Prof. Dr. Christoph Kueffer | OST Ostschweizer Fachhochschule | Rapperswil | Switzerland | kueffer@env.ethz.ch

Prof. Dr. Caroline Wiedmer | Franklin University Switzerland | Lugano | Switzerland | cwiedmer@fus.edu

saguf: saguf office | Dr. Xenia Junge | University of Basel | Rheinsprung 21 | 4051 Basel | Switzerland | saguf@unibas.ch | www.saguf.ch

© 2022 by the authors; licensee oekom.
This Open Access article is licensed under a Creative Commons Attribution 4.0 International License (CC BY).
<https://doi.org/10.14512/gaia.31.1.14>

- 1 <https://sdgs.un.org/goals>
- 2 <https://en.unesco.org/themes/education-sustainable-development>
- 3 <https://www.shapeid.eu>
- 4 <https://www.sagw.ch/sagw/sagw/themen/sustainable-development-goals>
- 5 <https://www.higher-education-summit-2020.com>
- 6 <https://www.fus.edu/research/cjsf>

research focus is determined by the need to solve a societal problem and not by a specific disciplinary paradigm (Kueffer et al. 2012). This requires the integration of diverse disciplinary perspectives as well as collaborations with experts, stakeholders, and actors from outside academia. Based on such problem-oriented perspectives rooted in the AHSS, we discussed priority research themes and implications for the science-policy interface and for teaching.

Priority themes for SDG-related research

Sustainability science is typically structured along socio-environmental themes such as food or renewable energies (Wuelser et al. 2020). Our discussions at the symposium, however, centred more on aspects of socio-cultural systems, which deserve prioritisation in research and teaching. Amongst others, we discussed the following interrelated priority research themes:

- **Transformation of economic and financial systems** (Wuelser et al. 2020). Economic growth can no longer be equated with social progress; this is due to problems such as uneven redistribution of gains, resulting wealth gaps, lack of participation in decision-making, marginalisation of social groups, and damage to the environment. The transformation of the economic system into a sustainable and nature-based system is closely linked to changes in worldviews, culturally-rooted belief systems, and social and power relationships (Akandil et al. 2021). The implementation of alternative measures of economic prosperity beyond the gross domestic product (GDP) and new economic models such as post-growth, care economy, and nature-based economy must be facilitated.
- **Promoting sustainable consumption and lifestyles.** This theme requires engagement with shared values and visions prevalent in a society (e. g., Wuelser et al. 2020)⁷. Amongst others, we need to study alternative narratives of progress, such as cultures of repair and recycling, and re-assess underlying values of unsustainable consumption.

- **Rethinking our relationships with nature.** The dichotomy between nature and culture, characteristic of prevailing epistemes of modernity, is one of the main reasons for our destructive relationship with nature. We must resurrect and cultivate diverse social, cultural, and emotional relations with nature, and better recognise and foster the rights of nature and non-human beings, whether such ecocentric ethics are rooted in indigenous cultures, religion, or new forms of reasoning in the humanities and social sciences.

- **Moving beyond purely “technical knowledge” to solve problems.** Rather than privileging manipulative problem-solving strategies such as producing, controlling, and planning (Rheinberger 2018), which reinscribe prevailing power hierarchies, we should focus on interdependencies and systemic solutions. Further, a more nuanced understanding of evidence-based problem-solving is required: it is not simply facts that guide actions, but rather their representation, interpretation and framing. We need to be alive to the interplay between representation and perception in forging what we consider to be truth. Innovation alone is not effective; what is decisive is its successful implementation in real-world situations, embedded in social learning processes. This requires an awareness of the symbolic, representational, and narrative dimensions of social contexts.

The role of AHSS-rooted scholarship at the science-policy interface

Rethinking ways of solving problems has implications for how we conceptualise research and teaching (Kueffer et al. 2019). Interdisciplinary collaborations among scholars in the AHSS, natural scientists, and professionals can help identify options and broaden our imaginary spaces

beyond the current paralyses that posits that “there is no alternative” to the use of technology – social innovation is a core pillar in the societal transformation towards sustainability⁸. AHSS scholarship can enrich scientific understanding of complex societal issues by examining context dependencies, elucidating the impact of the past, clarifying what constitutes evidence in different disciplines, and articulating distinctions between epistemic assumptions. More generally, it can foster new forms of representation, mediation and communication, enable reflexivity, and strengthen our sensibilities to the framing of facts. In short, it can add to the interpretive toolbox of the natural sciences for dealing with meaning on all levels.

New curricula

There is an urgent need to better prepare students in the AHSS and the sciences to collaborate with each other through curricula that integrate modules from both the AHSS and the sciences. Better training in the sciences will allow students in the AHSS to evaluate the validity of scientific evidence, while students in the sciences will learn about the socio-cultural dimensions of research designs, and the importance of different forms of representations and interpretive framings in the processes of producing, evaluating, and using knowledge. The Corona crisis has highlighted that we cannot address contemporary challenges without collaboration among the different scientific and scholarly cultures. There is, furthermore, great potential in further developing educational programs focused on an integrative understanding of sustainability that is rooted in the AHSS, especially at the Masters, PhD and postgraduate levels. Examples from the environmental humanities⁹, education for sustainable development¹⁰, political ecology¹¹, human ecology¹², territorial design¹³ and pedagogies based on

7 www.sagw.ch/sagw/sagw/themen/sustainable-development-goals/nachhaltiger-konsum

8 www.sagw.ch/sagw/aktuell/blog/details/news/bulletin-1-19-soziale-innovation

9 www.kth.se/philhist/historia/ehl, <https://www.carsoncenter.uni-muenchen.de/index.html>, www.unifr.ch/env/de

10 <https://tdlab.usys.ethz.ch>, <https://festival.learning-planet.org>

11 www.unil.ch/masterdurabilite/home.html

12 <https://coh-europe.de/index.php/de-de>

13 <https://mas.lus.arch.ethz.ch>

the concepts of the anthropocene¹⁴ and transdisciplinarity¹⁵, among others, demonstrate how to develop such AHSS-rooted teaching programs with relevance to the *SDGs* (Bornemann et al. 2020, O’Gorman et al. 2019, Kueffer et al. 2017). Existing programs often engage with problems specific to the cultural context and history of a place. In South Africa, for instance, scholars push for university transformation and the decolonialisation of the curriculum, while in Oceania there are struggles for indigenous rights, and in the US and Canada there is an emphasis on environmental justice sensitive to First Nation struggles, race, gender, and class (O’Gorman et al. 2019). It will be important for academics in Swiss institutions to work with NGOs, policy-makers, and actors in the field to develop programs specific to local socio-cultural issues, such as attitudes towards migration, addressing gender equity, and linking these social issues to efforts to improve environmental justice and restore ecological qualities of urban, rural, and wild landscapes. An explicit focus on pressing societal issues which grow from, or are adapted to, the Swiss cultural context will also help AHSS curricula be understood as relevant by prospective students and decision-makers.

Finally, there is a need on the part of universities to train change agents in all disciplines in the skills of negotiating contested societal issues that characterise pluralistic societies. Such experts, trained in reflexivity and cultural diversity, can nurture critical thinking and cultures of responsibility, empowerment, and agency (Kueffer et al. 2019, Bornemann et al. 2020). One example of an innovative program for experimental and action-oriented teaching is the masters in Arts and Politics at the Sciences Po¹⁶. It is positioned at the crossroads of politics, social sciences and the arts, and in this confluence re-thinks not only the disciplinary structures of universities, but of the disciplines themselves. As Bruno Latour, one of the creators of the

program, put it in 2010: “This school is not about science, nor arts, nor politics [...] We will not join science, art and politics together but rather dissemble them first and, unfamiliar and renewed, take them up again afterwards”¹⁷. Such an approach also liberates teaching from the lecture hall to move it into real-world contexts where students and researchers can engage with the actual problems. The CJSF at Franklin University Switzerland is currently developing such an experiential, transdisciplinary, real-world graduate curriculum with a focus on sustainability in the context of cities that concentrates on food, ecology, justice, storytelling, and heritage, and that enables students to bridge the gap between knowledge and action.

Conclusions

Major strategic efforts are needed to strengthen inter- and transdisciplinary research and pedagogic approaches focused on the *SDGs* across the AHSS. Instead of only asking how ongoing research can be associated with the *SDGs*, those engaged in research, curricular design and funding programs should ask how our academic competencies can be brought together in new ways in inter- and transdisciplinary teams to address the interdependencies of multiple *SDGs*. For instance, the inter-related topics of societal transformation towards sustainability, nature-based and care economies, sustainable consumption, and societal problem-solving in pluralistic societies need to be approached through integrative and hands-on research and pedagogy. To enable this, large-scale research programs and competence centres rooted in the AHSS must be promoted (such as *National Research Programs* or *National Centres of Competence for Research* in Switzerland) while funding agencies of knowledge transfer and innovation should consider social innovations and social entrepreneurship as important as technical innovations and more traditional busi-

ness models (in Switzerland, e.g. through Innosuisse – the Swiss Innovation Agency¹⁸). Young academics engaged in such transdisciplinary study of *SDGs* should be rewarded with career security within the established disciplines and faculties. At the same time, we need to reconceptualise curricula not only to be inter- and transdisciplinary, but also to be place- and issue-based and guided not so much by the precepts of individual disciplines as by the goal of using the best possible combination of disciplinary tools to solve the problems at hand.

References

- Akandil, C., S. A. Ismail, C. Kueffer. 2021. No green deal without a nature-based economy. *GAIA* 30/4: 281–283. <https://doi.org/10.14512/gaia.30.4.13>.
- Bornemann, B. et al. 2020. *Sustainability-oriented transformative learning and teaching in higher education: Eight propositions on challenges and approaches*. Basel: saguf.
- Ejderyan, O. et al. 2019. How social sciences and humanities can contribute to transformative science. *GAIA* 28/2: 160–162. <https://doi.org/10.14512/gaia.28.2.15>.
- Hall, M. et al. 2015. Seeing the environment through the humanities. A new window on grand societal challenges. *GAIA* 24/2: 134–136. <https://doi.org/10.14512/gaia.24.2.14>.
- Heise, U. K., J. Christensen, M. Niemann (Eds.). 2017. *The Routledge companion to the environmental humanities*. London: Routledge. <https://doi.org/10.4324/9781315766355>.
- Kueffer, C. et al. 2012. Enabling effective problem-oriented research for sustainable development. *Ecology and Society* 17/4: 8. <https://doi.org/10.5751/ES-05045-170408>.
- Kueffer, C., F. Schneider, U. Wiesmann. 2019. Addressing sustainability challenges with a broader concept of systems, target, and transformation knowledge. *GAIA* 28/4: 386–388. <https://doi.org/10.14512/gaia.28.4.12>.
- Kueffer, C., K. Thelen Lässer, M. Hall. 2017. *Applying the environmental humanities: Ten steps for action and implementation*. Zurich/Bern: saguf/SAGW.
- OECD. 2020. *Addressing societal challenges using transdisciplinary research*. OECD Science, Technology and Industry Policy Papers 88. Paris: OECD Publishing. <https://doi.org/10.1787/0ca0ca45-en>.
- O’Gorman, E. et al. 2019. Teaching the environmental humanities: International perspectives and practices. *Environmental Humanities* 11/2: 427–460. <https://doi.org/10.1215/22011919-7754545>.
- Rheinberger, H.-J. 2018. *Experimentalität: Hans-Jörg Rheinberger im Gespräch über Labor, Atelier und Archiv*. Berlin: Kadmos.
- Wuelser, G. et al. 2020. *Priority themes for Swiss sustainability research*. Swiss Academies Reports 15(5). <https://doi.org/10.5281/zenodo.4337939>.

14 www.anthropocene-curriculum.org

15 <https://transdisciplinarity.ch/en/kompetenzaufbau/tdmooc>

16 www.sciencespo.fr/public/en/academics/master-arts-politics.html

17 www.betonsalon.net/spip.php?article218, accessed January 7, 2022.

18 www.innosuisse.ch/inno/en/home.html