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RECEIVED 22 August 2023  
ACCEPTED 15 September 2023  
PUBLISHED 03 October 2023

CITATION  
Dlouhá J, White RM, Petry R, Reeves A and  
Lozano R (2023) Editorial: The role of the  
human dimension in promoting education for  
sustainable development at the regional level.  
*Front. Sustain.* 4:1281269.  
doi: 10.3389/frsus.2023.1281269

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# Editorial: The role of the human dimension in promoting education for sustainable development at the regional level

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## KEYWORDS

higher education institutions (HEI), regional development, Regional Centres of Expertise (RCE), educational paradigms, Sustainable Development Goals (SDG), social capital, transformative education

## Editorial on the Research Topic

[The role of the human dimension in promoting education for sustainable development at the regional level](#)

## Introducing the Research Topic

The Frontiers in Sustainability Research Topic “*The role of the human dimension in promoting education for sustainable development at the regional level*” is comprised of nine articles. This theme was developed in collaboration with editors representing Regional Centres of Expertise (RCEs) on Education for Sustainable Development (ESD) from different regions of the world.

In general, RCEs provide a framework in which regional networks of higher education institutions (HEIs), public, private, and civil society organizations play the role of critical partners in the implementation of sustainable development appropriate to regional contexts. The RCE concept is internationally accepted and has been used since 2003. Currently there are 190 RCEs around the world that strive to bridge formal and non-formal education in their respective regions to create an integrated and contextualized agenda on how learning for sustainable development can be better implemented to achieve more sustainable societies and ecological integrity. The involvement of diverse regional actors within an RCE, and the nature of the learning processes that underpin their activities in practice, serve as a model for how to shape ESD in general. However, the growing network of these regional associations with its potential global impact raises many questions. Not only do RCEs offer a new approach to regional development, driven by the sustainability focus of the RCEs, but they also challenge the traditional role of HEIs in generating the knowledge necessary for development processes.

To answer some of these questions, the papers in this Research Topic discuss the processes of learning in different regional contexts and their transformative effects. These processes have the potential not only to influence the current environmental, social, and economic situation in different regions, but also to bring innovation to the education

system. The papers often focus on the agency of social actors (institutions, networks, and individuals), their shared visions, and their roles and activities carried out in a local/regional context to achieve desirable common goals—the social capital they collectively generate. The research in this Research Topic thus emphasizes the human dimension of these processes, where the exchange of ideas about the future and critical thinking are essential preconditions for change—as opposed to the (often overestimated) focus on technology. An important keyword is innovation: in a safe social environment with supportive relationships, new solutions to persistent problems can emerge, and new perspectives driven by creativity can provide space to ask fundamental questions.

## Educational preconditions for change (at regional level)

Several articles (Kitamura and Ito; Gajparia et al.; van Herten and Perez; Kioupi and Voulvoulis) introduce Education for Sustainable Development (ESD) as an enabler of sustainable development across the environmental, social and economic spheres of human activity. However, it is even more evident that formal education systems operating at the national level struggle to contextualize local challenges relevant to sustainability—and thus the implementation of SD-oriented education programmes may be more appropriate at the regional or local level. These education initiatives are more successful as they often go beyond the classroom to engage with the knowledge and practices of regional or local actors and with regional geographies—and thus localize sustainable development issues within regional contexts.

The principles of this sustainability-engaged education are outlined in the article “Transformation through learning: Education about, for and as sustainability” by Gajparia et al. With regard to sustainable development, it is not enough to learn about the problems (in *education about sustainability* the curriculum works with the content) or even to acquire the ability to solve these problems (*education for sustainability* emphasizes the role of the pedagogical approaches). The authors argue for the need to apply the concept of *education as sustainability*, which directly links intentions and values to practice and behavioral change. These considerations are based on Stephen Sterling’s ecological view of education, which is contrasted with a more traditional mechanistic perspective (Sterling, 2001). In this hierarchy, however, even the concept of *education for sustainability* has only been documented in specific contexts; it has not yet broken through as a dominant paradigm in mainstream education. The authors discuss the possibility of making progress in regionally conceived education, with appropriate curriculum guidance to support student engagement; they provide several examples of programmes that apply this model. As the recent impact of ESD at a regional level remains limited (Sterling, 2021), these programmes should work with existing examples of good practice and involve individual teachers and school leaders in relatively deep innovation. The question is how to apply innovative ESD concepts systemically, which would necessarily require the transformation of the entire education system.

The changing role of universities—as they initiate ESD processes, and consequently enter into dialogue with other actors to provide expertise and motivation for sustainable action in practice—is reflected from different perspectives in this Research Topic. Kitamura and Ito in their article “*Facilitating personal transformation for sustainability: a learning program on the sustainable development goals, combining a card game and a self-reflective questionnaire*” see the personalization of the educational agenda—through adding a step between the development of initial awareness and the acquisition of competencies for subsequent action—as a necessary condition for adapting the education system to its role in sustainable development. This personalization would lead to an understanding of the relationship with a particular issue, in this case the SDGs—and once people have a personalized perception of the SDGs, they are more likely to actively seek information related to their own work or life, even without external help. At this stage, individuals would be able to plan their actions relatively easily. The authors focus on bridging the gap between simple awareness and active interest in practice: they design and implement the learning programme, which uses a combination of a game and a self-reflective questionnaire, applying a future perspective. This is one of the ways to localize the sustainability agenda—so that citizens (community members and local governments) see the SDGs as issues that directly affect them, and are able to translate the relevant policy goals into local contexts.

## Education shaped to address regional challenges

The problems of contemporary society are often embedded in (and fuelled by) the education system—this is an assumption for changing the concept of education, which van Herten and Perez document in their article “*Ecocritical analysis of ‘glocal’ essays on Lived Experiences of Climate Change in higher education.*” The authors see the ecological crisis as a crisis of Western thinking, which is dominated by the objective/subjective dichotomy. It is our education system that shapes this thinking and consequently practice. If climate change education is to be transformative—anticipating a resilient future society—a truly new educational design is needed, based on multidisciplinary and interdisciplinary knowledge.

In order to contribute to the desired change, the authors designed and implemented the university course that follows these considerations. The focus was on lived experiences of climate change, and students were asked to develop essays that linked their immediate, regional experiences to the broader contextual influences of climate change. The learning environment supported them to reflect on this relationship between global and local knowledge, and to be aware of the ontology, epistemology and ethics within the selected cases. The course was multidisciplinary in nature, with the humanities playing an important role—an ecocritical lens was applied. In analyzing these essays, the authors identify different forms of knowledge used by the students: situated knowledge and local knowledge about the residents’ living environment, integrated with scientific knowledge about the consequences of climate change. With an ecocritical

perspective, students are more actively challenged to compare their lived experiences with the complex issue of climate change. This demonstrates that even when working with natural science phenomena, the humanities can increase levels of critique and promote multiple perspectives.

The personal dimension is embedded in ESD—it can shape the personalities and capacities of learners from early childhood to adulthood. This factor is discussed (at the community level) by [Kioupi and Voulvoulis](#) in their article “*Education for sustainable development as the catalyst for local transitions toward the sustainable development goals.*” In order to achieve a common understanding of the SDGs that can be translated into practice, education communities need to localize themselves in relation to the goals that are meaningful to them and that will guide their vision. An analysis of three case studies, from a university, secondary and primary schools in the UK, led to the conclusion that participatory approaches are needed in education to enable ownership of the transformation process and commitment to action. The authors present a range of tools that enable people to connect with their local realities and link with their communities to discuss, (dis)agree and discover shared visions, values, ideas, and experiments. These tools (which include visioning, gap analysis, back-casting, and decision-making) allow all stakeholders to engage, share their views and act; they promote a socially critical orientation of education. Based on these considerations, the authors have developed a systemic but also practical framework for transitions toward the SDGs through ESD. They also conclude that the development of competences to envision sustainability (to decide what is aspirational and desirable), to make decisions and to set action plans for its realization requires a general rethinking of education and a shift from traditionally applied educational techniques.

## Regional sustainable development resulting from the efforts of local actors

It is the diversity of interactions between actors and the openness to innovation that allows new ideas to be generated within communities. An important role in catalyzing these SD processes is played by the RCEs—the networks that bring together multiple local actors to implement local and regional sustainability policies. Often based in a university, RCEs see education as a prerequisite for the emergence of sustainability; one of their roles is to share good educational practices with other higher education institutions, schools and other formal, non-formal and informal education organizations. They also promote the engagement of committed individuals and social actors and see the social relations between them as an important driver for activities and joint projects. Social capital is thus a potential trigger for the transition to sustainable development, but this factor is less emphasized in the literature and in practice than technology.

In the European context, participatory processes are promoted at regional level through Local Action Groups (LAGs). These non-governmental organizations use the LEADER method to involve different local actors in the design and implementation of

“community-led local development strategies” (SCLLD), which are specific to the region, its unique resources and opportunities, and can be framed by the “localized” SDGs. In a concrete example from the Czech Republic, where Local Action Groups cover rural areas across the country, the potential of this actor to initiate SDG-related changes at the regional, and therefore national level, has been explored by [Vávra et al.](#) In their article “*Local Action Groups and sustainable development agenda: Case study of regional perspectives from the Czech Republic,*” the authors analyzed the perception of the SDGs by LAG representatives. The responses to the question: “Which SDGs do LAG representatives consider important at the local level, and which ones do they feel empowered to implement?” were quite unexpected. For example, while climate change does not seem to be often considered important and manageable by LAGs, the SDG most emphasized and addressed in practice is SDG 4—Education, which shows its perceived importance in a regional context and the willingness of LAGs to address it.

From this perspective, the landscape of LAGs is further explored by [Dlouhá et al.](#), who focus on the potential and impact of regional actors and their social relationships on regional sustainable development. Stakeholder mapping is therefore used to identify which actors can support sustainability processes and how, where they can have a real impact in practice, and what opportunities and constraints exist for their involvement. The article “*The role of actors in sustainable development processes at the local level—experience from the Czech Republic*” further illustrates how the SDGs are localized and addressed at the regional level, which actors are most important in this respect, and who is currently not involved in addressing sustainable development issues—but could be (under certain circumstances). The authors show the different roles of actors in the transformation toward a new concept of SDG-led regional development ([OECD, 2020](#)). The focus is on the expertise of regionally involved universities, and the role of education in these processes is highlighted—as a multiplier and facilitator of other SDGs. Through education, a desirable shift in the mindset of rural actors can take place; they can take responsibility not only for social wellbeing, but also for the environmental health of rural areas. As these areas are important providers of ecosystem services, they can play a prominent role in global resilience (although this factor is not perceived as a priority by citizens and local governments, at least in the Czech regions).

A “whole-region approach” to sustainable development requires changes in the policies and regulations governing different types of development. As [Petry](#) shows, RCE interventions can transform otherwise routine processes of policy implementation. RCEs have the technical expertise, independence and social legitimacy needed to halt or alter development proposals and, in turn, shape larger development policies. In a case study of the RCE of Saskatchewan (Canada), project approval processes are redirected into spaces for education and learning by all stakeholders, including, in particular, project proponents and government regulators. This is done through strategic letter writing since 2009 (including interventions in government approval processes for specific developments). This approach delivers messages to relevant institutions that fully highlight the unsustainable dimensions of proposed projects or those with high opportunity costs relative to more sustainable forms

of development in areas such as energy, forestry and mining. Successful RCE correspondence identified and framed key issues for decision-makers, offering constructive questions and criticism, further sustainability options and recommendations for action from a long-term citizen perspective. Through their deliberate inclusion in such correspondence, a wider range of regional, state and national governments and other stakeholders are informed about regional development issues evaluated through the lens of relevant SDGs and UN conventions. RCE Saskatchewan has thus been demonstrating its role as an independent, critical, organization with the expertise and credibility to influence regional and national policy.

## Role of the RCEs—Localizing sustainable development

Regional development processes—those based on local resources, including human, social and natural capital—can be initiated and supported through education and lifelong learning. The RCE model puts this idea into practice—providing a mechanism for local actors to engage with the global Sustainable Development Goals in the context of their own communities and networks of cooperation, using education as a tool to implement sustainable development. During the United Nations Decade of Education for Sustainable Development (UN DESD), the concept of RCEs spread as the network grew and the innovations around multi-stakeholder partnership in ESD began to inspire university faculties, local school administrators and local government policy makers who wanted to accelerate action on sustainable development in their own cities and regions. The RCEs are therefore usually seen as a model for transforming higher education in general from hierarchical and competitive to interdependent and collaborative, in response to the challenges of sustainable development.

While research tends to focus on the organizational structure of RCEs—with much of the UN DESD focusing on *how* partners work together (for example, what governance and coordination structures enabled HEIs to work effectively with partners)—less attention is paid to the activities *on which* they work together. In contrast, [Vaughter et al.](#) examine the issues on which RCEs focus: the authors provide an overview and analysis of activities undertaken by RCEs around the world during the Global Action Programme (GAP) on ESD, which ran from 2015 to 2019. Most of the ESD projects reported by RCEs during the GAP are related to curriculum development, as educators often face a lack of resources for capacity building on sustainable development in their region. It is also noted that in the regional context, where the social environment is shaped by different actors involved in cooperation and mutual learning, the specific social relations of these actors consequently modify the characteristics of this learning. This gives rise to the concept of 'transformative education', with specific educational goals and pedagogical approaches. Here, education takes on a new role as an important factor in the transformation toward sustainability, and consequently undergoes profound changes itself.

## Overall goal of this Research Topic

The RCE model represents a scientific movement in which the identity of the “scientist” has been deliberately expanded to include local and regional sustainability experts. These experts can facilitate the collaboration of traditional actors involved in teaching, research and community work (whether in schools, technical institutes, colleges, or universities) so that they, together with ordinary citizens, can turn their regions into living laboratories for sustainability actions. Within the global learning space opened by the UN University and the UN system in 2005 as a global network of RCEs, local actors can learn from each other and adapt successful learning experiences from one region to another.

To document these roles of RCE, [White et al.](#) explore what is meant by local context and the influences it can have on the way education is delivered. The authors show how historical, cultural and landscape factors can influence how people in a region envision and move toward a sustainable future. In Scotland, cultural aspects such as democratic intellect, universal access to education, connections with nature and place, and Patrick Geddes' concepts of “think globally, act locally,” “place-work-people,” and “heart-hand-head” have influenced the concept of education for sustainable development and how people are implementing it today. Contextual factors are modifying the strategy of the RCE and the way it implements ESD in the region; and the authors call for the introduction of an additional sustainability competency focusing on connections with nature and place.

The paper also reflects on a decade of activity in RCE Scotland. A Delphi survey and a dialogue-based, consultative approach led to broad buy-in and the adoption of a cross-sectoral approach to “learning for sustainability” across formal, informal and non-formal sectors; across early years, school, college, university, community, and private sectors; and across thematic areas such as climate change, biodiversity, land tenure, food, sharing economy, and more. Analysis of individual initiatives shows how a small secretariat, an elected steering group and chair, member-based working groups and project funding have enabled five ambitious strategic objectives to be implemented. Part of the success and longevity is attributed to attention to culture, context and collaboration.

RCEs are developing a new form of scholarship that is appropriately grounded in the local context. They translate a theoretically informed vision of regional sustainable development into practice, and see social capital as the main driver of this transformation. Throughout this Research Topic, authors have often reflected on the role of actors (institutions, networks, and individuals) in developing collaborative relationships to achieve desired progress in specific regional/local contexts. However, the authors also identify a number of challenges that remain in the localization of the sustainable development agenda. It is impossible to achieve transformation while working within the existing system, and it can seem paradoxical to balance transformative and traditional activities. Many host universities still do not see collaboration with local partners as an essential part of their research and teaching mission. As a result, it is still difficult to secure resources for individual RCEs and RCE networks, while the emerging model of sustainable, multi-stakeholder universities requires more than just financial support. An in-depth discussion

of this emerging institutional model (led by the authors in this Research Topic) may draw attention to its progressive, forward-looking nature.

## Recommendations

The experience of the Regional Centres of Expertise network can make a significant contribution to transforming education. Looking for societal impact through transformative actions, RCEs can bring about desired changes in the following ways:

- Cross-sectoral and holistic dialogue—RCEs promote multi-stakeholder collaboration, dialogue 'across' academic boundaries, and debate between sectors and across regionally relevant activities, enabling systems thinking.
- RCEs can help promote a “sustainable university,” supporting an emerging model of higher education institutions that are more responsive to real-world local and global problems, engage with the community, demonstrate leadership in operational sustainability, and innovate in ways of producing, sharing and applying knowledge.
- Involvement in the education of these actors—HEIs can act as an authority that can innovate pedagogical approaches to facilitate the development of sustainability competencies in staff, students and partners, exchange knowledge and build sustainability awareness in the region. For example, higher education institutions often bring innovative issues and approaches to local schools. In this respect, it is important that RCEs maintain the HEI tradition of critical thinking, but also support experiential learning, recognizing models of strong sustainability and the importance of individual self-awareness, wellbeing and connection with nature.
- RCEs can also identify and pursue new Research Topics due to their strong position in collaborating with local, regional and national academic and non-academic partners and their capacity for transdisciplinary research.
- RCEs can play a strong role in engaging different actors around the SDGs, promoting critical debate, translating these goals for different audiences, and facilitating support, evaluation and reflection on their implementation.
- RCEs can advocate for regional, national and international sustainable development policies and provide expert advice, drawing on the expertise within the RCE and the wider RCE network.
- RCEs can provide education and/or training to fill gaps in regional policies and practice in relation to sustainable development, such as specialized teacher training in ESD and continuing professional development in the private, public and third sectors, including higher education.
- The RCE network can facilitate theoretical discussions, sharing of experiences and practical suggestions across regions and nations, thereby facilitating efforts to deepen and strengthen ESD; to respect and integrate indigenous, local and scientific knowledge; to support new forms of intercultural education; and to decolonize the curriculum.

RCEs provide other actors in their regions—including educational organizations such as universities—with the ideas, community engagement strategies and collaborative opportunities to help their respective regions thrive. The Global RCE Network—coordinated by the United Nations University and operating worldwide (on all inhabited continents) to support education for sustainable development at the regional level—has recently applied this model in 190 RCEs worldwide. This network shares core principles and goals, is committed to regional and global wellbeing, and supports the 17 UN Sustainable Development Goals (SDGs). The individual RCEs also engage constructively and critically with the principles of the SDGs and the ways in which they manifest themselves in practice.

During 20 years of its existence, this concept has been tested in very different contexts around the world, and the experiences have been described in numerous case studies (cf. [Vaughter and Pham, 2020](#); [Vaughter et al., 2023](#)). However, RCEs are still an experiment in applying globally generated sustainability principles and goals at the regional and local level. While the successes (in terms of SDG implementation) are well documented, the programmes and activities that face difficulties due to lack of national or local support and other reasons are less focused on by researchers. If these barriers are properly understood and addressed, it is likely that a transformation of higher education and lifelong learning institutions will follow, along with a change in the dominant model of knowledge exchange. The articles in this Research Topic seek a holistic understanding of paradigm shifts in education and regional development, and the role of actors with a common interest in the sustainable transformation of their region in these processes.

## Author contributions

JD: Conceptualization, Writing—original draft, Writing—review and editing. RW: Writing—review and editing. RP: Writing—review and editing. AR: Writing—review and editing. RL: Writing—review and editing.

## Funding

This Research Topic was supported by the Technology Agency of the Czech Republic, the project TL02000012 Sustainable Development on Regional Level—Combination of Theory and Practice; and also from the Charles University Cooperatio (COOP) programme.

## Acknowledgments

We would like to express our gratitude to the authors, editors, and reviewers contributing to the Research Topic. Acknowledgment of our work by the Regional Centres of Expertise network was an important success factor.

## Conflict of interest

RL is the director of Organisational Sustainability Ltd. (United Kingdom).

The remaining authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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