CENTRE FOR
REGIONAL STUDIES

SUSTAINABLE TRANSITION TOWARDS A FORESTRY-BASED BIOECONOMY

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Summary

One of the objectives of the project "Transition to bioeconomy, smart specialization and quadruple helix" was to generate further understanding of a fourth helix in regional innovation systems (RIS) using the case of a forestry-based bioeconomy in Värmland, Sweden. The fourth helix could be seen as representatives of civil society, e.g., nongovernmental organizations (NGOs), associations, trade unions, consumers, and users. Consequently, civil society and its representatives' role in RIS are not clearly defined. Thus, important lessons from this project are the importance of identifying representatives of civil society and their possible roles in RIS. Why should NGOs and other associations collaborate with other actors in a RIS and for what purpose? Two perspectives demonstrate the importance of civil society: first, the citizen's perspective is emphasized for its more democratic values and because it includes previously excluded groups in innovation processes; and second, a more growth-oriented perspective is used, where civil society is seen as customers or clients. Between these two perspectives, user-driven innovation can be observed, where representatives or "users" participate in the actual innovation process and thus in the development of new innovations. It is important to identify the various roles played by civil society in a RIS before initiating a process of collaboration. Research shows that a well-developed triple helix system based on close collaboration between academia, firms, industry, and authorities does not necessarily support the development of a quadruple helix system that includes civil society as the fourth helix. Research on participatory planning shows that it is important to clarify the purpose of collaboration early on in the process; otherwise, there is a risk of distrust and lack of collaboration later on in the process. It is also important to be transparent when inviting associations and NGOs, and allow them to participate on their own terms. Thus, in a forestry-based bioeconomy, it is important to include diverse actors with different interests in the forest. Different kinds of uses and users should be considered in relation to for example the sustainable use of ecosystem services in the transition.

Photo: Jan Alexandersson

About the project:

The project "Transition to bio-economy, smart specialization and quadruple helix" was a project financed by the University of Karlstad by the Centre for Research on Region Building (CRS), Region Värmland and Vinnova through the initiative "Paper Province 2.0". The project aimed to deepen the importance and the knowledge of the meaning of civil society such as users, NGOs, and labor unions. The inclusion of civil society as a fourth helix can thus be seen as a widening of earlier regional innovation systems, such as the triple helix, which were traditionally founded on cooperation between academia, authorities, firms, and business, into a quadruple helix system.

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PAPER PROVINCE

Sustainable transition towards a forestry-based economy

Within the smart specialization platform where the European Union directs European regions to develop “smart specialization strategies” (RIS3), the role of civil society has also been identified as important. This can be seen in the expansion of current regional innovation systems (RIS), which primarily rest on a triple helix model building on close collaboration between universities, government, and industry. A widening of the model includes a societal context, i.e., civil society, which creates a quadruple helix model. Research also points to the inclusion of a fifth helix in RIS. However, the fifth helix does not apply to a real actor, but to how the innovation system should be developed in relation to the natural settings of the specific place and environmental aspects, such as climate change, socioecologic transformation, and social ecology.

In the transition to a sustainable society, where a sustainable biobased economy could become important, the role of civil society has been emphasized to a greater extent than earlier. Research especially points to the importance of further developing participatory processes and including civil society in issues regarding climate change and environmental challenges. Participation in these kinds of processes relates to both democratic aspects of participation and the possibility to influence decision-making processes. In addition, the participation of civil society aspects also relates to a larger societal transition towards sustainability, which requires changes in both production systems and in consumer patterns, norms, and values.

What are the possible roles of civil society in regional innovation systems?

As researchers in this project, our task was not to investigate the possible representatives of civil society in the regional innovation system in Värmland. However, the project has resulted in a conceptual overview of possible definitions of civil society in RIS in general. In conclusion, the definitions of civil society as used by the EU and regional authorities differ and are relatively unclear. In the research literature, the definitions of civil society are more democratic and relate to the widening of RIS to include formerly excluded groups. In regional policy the role and importance of civil society is emphasized primarily in the development of innovations. Thus, civil society can be defined (see Figure 1) into more growth- or democracy-oriented agendas. Within the more growth-oriented agenda, civil society is defined and characterized as consumers, clients, and entrepreneurs with a focus on the development of new products and new startups. The democracy-oriented agenda defines civil society as nongovernmental organizations (NGOs), associations, and social movements, and thus defined as an arena outside family, state, academy, firms, and businesses. However, another definition of civil society as users falls in between these two extremes. In contrast to the growth-oriented perspective, this can be seen as more democracy-oriented due to the involvement of users in the actual innovation process. User-driven innovation is often highlighted as a democratization of earlier innovation processes. One example often mentioned is within health care where patients are codesigning new equipment and tools in user-driven processes.

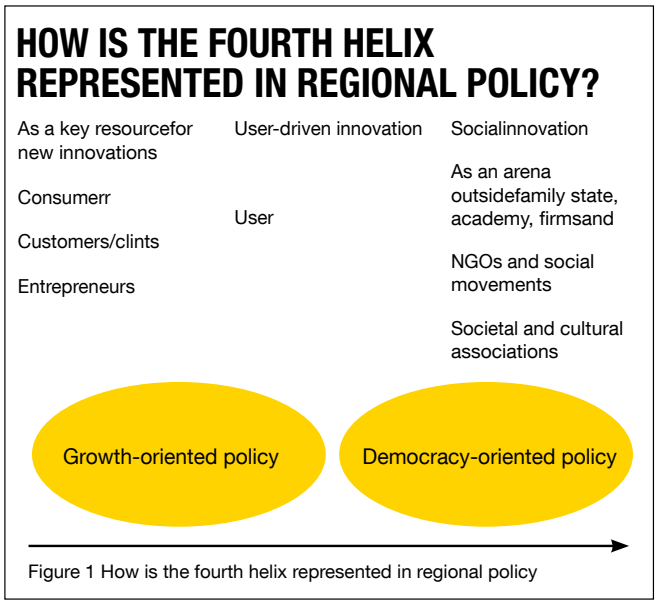

Figure 1 How is the fourth helix represented in regional policy

Civil society has not held any prominent roles in the Värmland RIS, neither as consumers, users, nor NGOs. Therefore, Värmland still mainly bases its innovation system on a triple helix model. In a study of 16 regions and municipalities, McGregor et al. (2010) has shown that there is no correlation between a well-developed triple helix innovation system and the transformation to a quadruple helix innovation system. Instead, a system building on a close triple helix collaboration can consist of rigid structures, which are difficult to change. The foundation for a well-developed quadruple helix system could be related to close collaboration between civil society and the actors driving innovation in the society, which is normally observed as a strong relationship between civil society and local or regional authorities. However, because of its focus on developing a sustainable forestry-based bioeconomy, Värmland could be seen as a role model when developing a RIS further into a quintuple helix system. A transition to a forestry-based bioeconomy suggests that concern is taken for the environment and the natural settings of Värmland, where the forest is one of the main assets. Thus, the transition towards a sustainable society or a forestry-based bioeconomy should take place in interaction, co-development, and concern for the regional environment and natural settings of Värmland. The transition to a forestry-based bioeconomy can also be a driver for challenge-driven innovation within the transformation towards a sustainable society.

Workshop

The project “Transition to bio-economy, smart specialization and quadruple helix” arranged a workshop called “Sustainable transition towards a forestry-based economy.” Participants were actors from the academy, authorities, firms, industry, and civil society in Värmland. One of the main purposes of the workshop was to learn about common policy concepts in the transformation to a forestry-based bioeconomy, used within the Research and Innovation Strategy for Smart Specialisation 2015–2020 in Värmland and the VINNVÄXT initiative Paper Province 2.0.

Photo: Anders Åslund

Before the workshop was held, interviews were conducted with civil society representatives. The interviews showed that interviewees had a problem with the notion of bioeconomy. Several of the interviewees expressed that they experienced difficulties understanding the concept, which could lead led to a lack of involvement from the general public. Instead, some of the interviewees wanted to use the forest as a common concept that may unite a wider group of actors within the region with different interests in the bioeconomy. During the workshop, participants discussed the importance of building on emotional and aesthetic values related to the forest to create a larger public involvement in the issues at stake. Others did not see the bioeconomy as an appropriate term when considering a transformation to a sustainable society; instead, they saw circular economy as a better concept that could be easier for the public to relate to and understand. The social, ecological and economic aspects of sustainable development are also in conflict. One way of overcoming these conflicts could be to use conflict management and communicate the value of different ecosystem services to and with different actors in society.

Workshop participants representing different associations and NGOs also identified other important aspects and perspectives. The association *Skogskvinnorna* (Association of Forest Women in Värmland) noted that the local forestry knowledge is an important aspect of participation in policy processes. One of the goals of the association is to inform and spread knowledge about forests and forestry. Another main goal is to work in favor of equality in the forest industry, which was traditionally a male-dominated industry where women had been given little or no room. The association mainly works to empower women within the forest industry in Värmland. Interviews showed that being a female forest owner has traditionally been problematic. It was easier to send men to important meetings regarding the ownership of the forest. The association *Cirkulära Värmland* (Circular Värmland) highlighted the importance of seeing the bioeconomy as a part of a circular system, where a circular economy would be more appropriate when discussing a larger societal transformation towards sustainability. *Civic Karlstad* is a resource platform for nonprofit organizations working in favor of enhancing their role in society. The *Naturskyddsföreningen* (Swedish Society for Nature Conservation) underlined possible conflicts in the involvement of civil society in policy processes. However, the role of civil society could be seen as supporting the triple helix system. Simultaneously, it is important to remember that one of the main driving forces for NGOs, associations, and civil movements is to work with social and environmental sustainability. Thus, one of the advantages of the involvement of civil society in RIS could be a positive development of social and environmental sustainability work.

Interviews with different stakeholders also demonstrated the different philosophies used in civil society, which sometimes contrasts with policies, policymakers, firms, and businesses. There is also a risk that some groups may be excluded despite the broader stakeholder involvement in the RIS, which may lead to specific groups and/or individuals having more influence than others do. Consequently, it is important for the regional leadership to take responsibility for the possible development of a quadruple helix innovation system. However and as earlier mentioned, research shows that a well-functioning triple helix as in the case of Värmland could hinder rather than favor the development of a quadruple helix system.

Civil society currently does not perceive themselves as participants in the RIS. Simultaneously, representatives of civil society saw themselves as being important in initiating a process of collaboration with other actors in the innovation system. This could be another method for civil society to influence decision-making processes. Furthermore, it was also seen as important to consider the possible ways for actors to participate and collaborate in the current triple helix system and a fourth helix in relation to the kind of activities, but also when and where these activities are held. Civil society engagement is based on voluntary work, which means that the majority of the associations with professional members were unable to participate in activities during daytime. In addition, the methods of engagement have also changed. The interviews and research show that activism within civil society has changed. Today many volunteers participate and work through networks, which make civil movements, associations, and NGOs less formalized than earlier.

Conclusions

The preconditions of developing a quintuple helix system could be seen as relatively high because of the focus on the development of a sustainable forestry-based bioeconomy in Värmland. However, one of Värmland's main challenges is to involve the fourth helix in the innovation system and focus on the social and environmental aspects of sustainability, and not only on economic sustainability.

In relation to the role of civil society in the development of a sustainable forestry-based bioeconomy, the role of civil society must be defined, and from there develop a possible innovation system focusing on the regional transformation to a sustainable bioeconomy. Will the focus be on technological innovations within the industry or and larger systemic change where challenge-driven innovations are in focus to be able to transform the whole society into becoming more sustainable?

Suggested reading

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Centre for Research on Region Building

The Centre for Research on Region Building, CRS, at Karlstad University is an interdisciplinary environment for research on societal change processes in a regional perspective. The researchers and doctoral students linked to the centre represent at least eight disciplines: political science, human geography, history, sociology, social work, environmental studies, biology, and risk and environmental studies. The research projects involve understanding and comparing change processes in time and space and how these can be controlled in the age of regionalization and globalization. How, for instance, do new forms of organization and governance in the regional arena develop and what are the impacts on democracy? How are living environments and opportunities for work and livelihood on the global market affected? How can actors on the regional level together with actors on other levels contribute to the adaptation to a more sustainable development? The interdisciplinary perspective, combined with the ambition to develop the knowledge required to advance social structuring and planning, also means that the methodological development of inter- and transdisciplinary research is a crucial part of our activities, which comprise research, doctoral studies and research dissemination.

One of the foundational principles of the Centre is the importance of research collaboration between researchers of various academic backgrounds and at different stages in their careers. Active groups of researchers, normally including senior researchers and doctoral students, are thematically organized. Research is also pursued in cooperation with other researchers and environments at Karlstad University as well as with other higher education institutions in Sweden and abroad.

Centre for Research on Region Building was inaugurated on April 1, 2015. It has its roots in the former Forum on Region Building, the Graduate School in Region Building, and the research conducted at Cerut, Centre for Research on Regional Development

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