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Chapter 16

Conclusions



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Abstract This concluding chapter highlights the core messages explored and discussed in the previous 15 chapters of this book and concludes on the relevance of ecosystem services in bridging rural-urban linkages and promoting consequent synergies. Many times the synergies are shown as being absent, other times as potential but in a few cases there is already evidence that synergies are happening. It concludes on the need to establish adequate policy frameworks, business models and governance arrangements to stimulate the recognition of ESS and collaborative arrangements; but also the need to continue promoting the notion of territorial continuity where natural and cultural values and benefits, can flow across and bridge rural and urban territories. These core messages could be explored beyond the European context.

Keywords Ecosystem services · Rural-urban synergies · Connectivity · Policy framework · Business models · Governance arrangements

The structuring idea in this book is the promotion of rural-urban synergies enabled by Ecosystem Services (ESS). Synergies are enabled through rural-urban linkages, but rural-urban linkages alone do not guarantee the creation of synergies. In general, linkages exist whenever there are one-way or two-way relationships. Synergies depend on two-way, reciprocal, relationships or linkages which ensure benefits on both sides.

The literature on ESS reveals multiple ways in which ESS can be studied and analysed, from the physical and chemical or organic mechanisms supporting the service, to the expression in human activities and well-being, often behind value

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chains, with or without a market value. While considering ESS in relation to spatial planning processes that shape human activities and supply development actions, this book is dedicated to a more concrete and unique objective that has not been explored in the literature. That is, namely, to examine the role of ESS in rural-urban linkages and, within these, to identify if and where synergies are, or can be, enabled. As a matter of fact, ESS offers a lens to consider rural-urban linkages, but they do not assure synergies.

This book was built upon the collection of numerous arguments and examples that justify the potential role of ESS in connecting rural and urban realities, and in enabling synergies. This is illustrated by theories, concepts and stories developed in the book's 16 chapters, encompassing a total of authors, representing 8 European countries. Several chapters in this book reveal connectivity between rural and urban territories, namely in the cases of multi-local living (Chap. 9) and in rural-urban relations concerning cultural ESS (Chap. 14), but synergies are absent. In each of these two chapters, the cases reveal a one-way relationship. However, when discussing community partnerships for ESS provision (Chap. 5), payments for ESS (Chap. 6), the governance of nature-based approaches to flood risk management in the Lower Severn catchment (Chap. 10) and food policies (Chap. 13), synergies become quite evident. Without doubt, however, the creation of linkages is a trigger to foster synergies.

As emphasised in the Introduction (Chap. 1), all the chapters shared in this book consolidate learnings from the research developed in the context of the ROBUST European Horizon Research and Innovation project. Over five years, from 2016 to 2021, ESS was one of the five core research topics that framed discussions about enhancing rural-urban links and potential synergies. In parallel, similar discussions took place on new business and labour markets, public infrastructures and social services, sustainable food systems and cultural connections. Having developed this investigation in the context of such a large project as ROBUST brought several benefits. One was the variety of territories that offered evidence on the linkages and potential synergies focused on ESS. Another was the establishment of parallel discussions with other Communities of Practice, particularly concerning sustainable food systems and cultural connections, that complemented and allowed reflections with ESS. Table 3.1 in Chap. 1 shares the research and innovation priorities that assisted the community of practice (CoP) dedicated to ESS in the ROBUST project.

The contributions in this book confirm the complementarity between rural and urban territories, recognizing rural-urban linkages with urban activities depending on assets and inputs available principally in rural lands, and sometimes taken for free (for example, Chap. 9 explores the availability of landscapes for leisure activities). However, most chapters reveal that, while linkages exist, they seem to be imbalanced, with rural lands giving and urban lands taking most benefits. There is still a tendency to see the rural as the exclusive ESS supplier, and the urban as the exclusive ESS consumer, assuming that there is a unidirectional flow, limiting the valuation of proximity services. The rural remains within a subsidiary role in

relation to urban needs. Perhaps this is a consequence of privileging an urban perspective when exploring the benefits behind rural-urban linkages.

Regional and territorial development will require a degree of ESS trade-offs. But often some trade-offs may put some services at risk. For example, production services with an associated market may place regulation services at risk, if these are not protected or promoted. This can happen, for example, with forest management, where the production of wood for pulp and paper may put climate regulation at risk, an ESS offered by other types of less productive forests. The balance of benefits therefore needs to be considered. Payment for ecosystem services (Chap. 6) certainly has a role to play, as does recognition of and respect for (dynamic) rural identities in maintaining cultural ESS. Even though populations are concentrated in cities, that is not a reason to relinquish the policy agenda and associated investments in rural territories.

Central to this discussion is the historical debate on the divide between rural and urban areas. Continuity in the territory is not adequately perceived, and the notion of divide persists. Some argue this divide enables the safeguarding of natural values in rural areas and stimulates concentrated investment in urban areas. Others see the rural-urban as opposing sides of the same territory that require some form of harmonisation. Economic considerations support key arguments in this debate, based on the price of land and the level of investment, which is much higher in urban areas. In addition, the political polarisation of agro-ecology, as explored in Chap. 11, on land sharing and land sparing, may be also influencing this dividing paradigm. The chapter reflects recent policy and technical arguments that environmentally justify the introduction of (potentially synergistic) circular farming. Nevertheless, many Europeans value and prescribe, as part of their identity and sense of place, a solidly rural arena for food production.

The policy context for dealing with ESS and its role in spatial planning, and in enabling rural-urban synergies, is also a crucial point to be noted in these conclusions. In Chap. 15 we have reviewed eight European policies that were selected as being able to create a policy context for ESS in rural-urban linkages, and which hold the potential to enable synergies. This complements a policy analysis conducted in Chap. 4 relation to spatial planning and ESS. The existing policy framework appears to be insufficient to support the promotion of ESS in spatial planning, particularly in relation to the role of ESS in contributing to rural-urban linkages and synergies. From the analysis conducted, policies lack the necessary supporting and implementation tools, notably in terms of their integrated action. Further research is needed to properly understand to what extent both vertical and horizontal integration could be improved. We also conclude that policies which are predominantly nature-focused or ecologically driven, such as the Biodiversity Strategy 2030, are less effective for promoting ESS in spatial planning than predominantly territorial and/or socio-ecological functional policies, such as the Farm to Fork strategy 2030. The latter are more likely to encourage or relate to synergies (for example via inter-territorial, rural-urban supply chains).

There is an urgent need to consider ESS in a policy context, especially in terms of what is missing and what needs to be changed. For example, farmers need to be

more involved through participation, education and targeted incentives, in the conversation on farming related policies, which are critical in relation to provision and regulation services. Discussion needs to focus on the need for policy tools (for example exemptions and taxes) that better stimulate actions towards the promotion of ESS in spatial planning and, in particular, that enable rural-urban synergies. It is important to associate ESS not only with public expenditure efficiency, but especially to its role and potential in creating sustainable lifestyles within transition processes towards improved well-being. There is still a major gap in valuing ESS, including, but not exclusively, through payment for services. ESS that are not visible, such as the formation of soil or the regulation of climate, fail to be acknowledged and valued, especially if benefits are not immediately evident to the general public.

In concluding this chapter, we share some of the findings and learnings that the CoP ESS achieved as collective outcomes in the ROBUST project and which we consider relevant in closing this book. One first lesson helps to illuminate the lack of policy context – researchers in ROBUST concluded that rural-urban relations are fuzzy, while the notion of synergies is intriguing and subject to interpretation. It may help if ESS scientific findings are accessible to formal, legal planning procedures. Another lesson is that methodological development of ESS mapping must integrate multiple knowledge bases. The attempt to use mapping, as shown in Chap. 3, emerged from a combination and consolidation between expert and traditional knowledge - supply and demand of ESS need to be made explicit using a multiscale approach. To that end, bundling of ESS is important in two ways: (1) recognising patterns of association of ESS can avoid double-counting and improves the management of synergies and trade-offs; and (2) a specific ecosystem which provides multiple services for the same territory is a good indicator of its value given its multifunctionality. Identifying bundles of services can aid the connection to multi-functional land-use but needs to be further investigated.

A consensus is emerging that continuity in a territory must be ensured, with a constant rural-urban flow, with circular approaches rather than linear linkages. Rural-urban should be seen as a proxy for the dualism guiding land take decisions in spatial planning, and discussions about developed land and not-yet-developed land, regardless of the areas in question being defined as rural or urban. Green infrastructure is another way to understand ESS continuity (as shown in Chap. 8), vertically, in terms of its multi-levels of governance and horizontally by reaching out, simultaneously, to rural and urban territories (as in the case of river catchments).

More research and financial tools are needed to understand the optimal composition of blended (state-private) payments for bundled ESS delivery. A vital aspect of this is ensuring that longer-term management of ESS is secured within spatial development. Chapter 12 discusses business models that valorise high cultural and natural values, including enhancing the supply of ESS. Exploring the potential of rural-urban contracts of reciprocity to enhance ESS is also necessary. Chapter 5 provides an example of how community partnerships can establish new governance arrangements that may enhance and promote ESS. The role of communities in taking care/preserving ESS should therefore be explored further.

Finally, there is a need to ensure governance systems that link rural and urban territories, based on a model of collaboration, working together across different actor groupings, to build rural-urban synergies. New governance arrangements and models of organization are required to make inclusive decisions about ESS priorities and conflicts. It is important to recognize the interconnection between urban and rural land managers. Rural land managers must be represented in spatial planning decision-making bodies, or, at the very least, consulted at the outset of any intended interventions which demand land use change. In any case, governance arrangements should be encouraged to favour cross-sectoral relationships.

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