

Swedish Biosphere Reserves as Arenas for Implementing the 2030 Agenda

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Swedish Biosphere Reserves as Arenas for Implementing the 2030 Agenda

Analysis and practice

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Preface

In September 2015, the United Nations General Assembly agreed on a global agenda for sustainable development – the 2030 Agenda for Sustainable Development and the Sustainable Development Goals. Unique in its kind, the Agenda is tackling a broad spectrum of development issues crucial to human prosperity. It underlines a clear recognition that social, environmental and economic development needs to be treated in an integrated manner. According to Sweden’s National Delegation for the 2030 Agenda, an extensive transformation of society is needed. It is an issue that spans over all sectors, and strategies and methods for “breaking the silos” need to be developed. Solutions to global challenges are mainly local. Therefore, it is of importance that communities are empowered to contribute to change. The public’s awareness about the issue is a prerequisite for its implementation.

While addressing the Agenda, conflicts of interest may arise between goals and targets. Biosphere reserves are places where such conflicts are addressed, where needs are identified and analysed, where synergies are explored and where communities are included in finding solutions to sustainability challenges. With small means and little formal power the Swedish biosphere reserves have achieved a range of results by connecting local initiatives to national and international strategies, by connecting people and nature, and by stimulating new knowledge development as well as education for sustainable development. The success of the biosphere reserves is based on collaboration, learning and a holistic view on people and nature. Their thorough experience of integrated work with sustainable development in practice in a Swedish context make them interesting as strategic areas to learn from, invest in, and support when implementing the 2030 Agenda and the SDGs in Sweden.

The Swedish Environmental Protection Agency (EPA) has actively supported UNESCO’s Man and the Biosphere (MAB) Programme in Sweden since 2002, and the Swedish Agency for Marine and Water Management since 2016. The EPA also chairs the Swedish MAB committee.

This report is written by Malena Heinrup and Lisen Schultz, Stockholm Resilience Centre. The authors wish to extend a warm thank you to everyone who contributed to the report: the coordinators of the five Swedish biosphere reserves and their co-workers, the Swedish MAB Committee and the Swedish National Commission for UNESCO. The authors are personally responsible for the content of the report. The project was funded by the Swedish Environmental Protection Agency.

Swedish Environmental Protection Agency
Stockholm, February 2017



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1. Summary

The overarching objectives of the report is to a) investigate how UNESCO's Man and the Biosphere (MAB) Programme in Sweden can contribute to the implementation of the 2030 Agenda and the Sustainable Development Goals (SDGs) in Sweden, and b) to identify pathways to strengthen and develop the MAB programme in Sweden on a national level in order to further advance its role in implementing the 2030 Agenda.

To summarize, the biosphere reserves' (BRs) work is based on collaboration, learning and a holistic view on people and nature. The BRs thorough experience of integrated work with sustainable development in practice in a Swedish context make them suitable as strategic areas to learn from, support and invest in when implementing the UN 2030 Agenda and the SDGs in Sweden.

The new global strategy for UNESCO's MAB Programme (2015-2025) with its associated Lima Action Plan (2016-2025) underlines the Programme's instrumental role in the implementation of the 2030 Agenda and the Sustainable Development Goals. This alignment at the international level further supports the potential of the Swedish biosphere reserves to contribute to the national implementation of the Agenda.

The involvements of a broad range of stakeholders in the management of the biosphere reserve contribute with different kinds of knowledge. The BR's strategies, action plans and vision documents are developed independently, but have some common denominators. They *compile, connect and integrate* already existing local, regional, national and international policies, plans and steering documents on the social, ecological and economic dimensions of development *to paint a broader, more holistic picture* of the opportunities and challenges of the area. Themes and issues that the BRs focus on are developed according to the respective BR's local context.

The report gives five examples of integrated sustainable development practices from the Swedish biosphere reserves. Goal 17 of the Agenda, "Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development", permeates all five project examples presented, but each example contributes to a list of the SDGs. However, it is important to note that there are many more examples of contributions to the different SDGs from biosphere reserves activities than the five examples in focus in this report.

Five main functions that the biosphere reserves fulfil in sustainable development are identified. Functions that complement the implementation work already being made by public authorities, NGO's and other actors in the Swedish society.

1. Function as *Platforms for collaboration*. BRs coordinate existing initiatives, actors and/or experiences, bridge and mediate between actors and have a holistic and cross-sectoral approach to sustainable development.

2. *Connect actors: Vertically and horizontally.* BRs stimulate collaboration across administrative or geographic boundaries, across sectors and between different levels of governance.
3. *Integrate the 2030 Agenda goals.* BRs identify synergies between the Sustainable Development Goals and create win-win-win solutions.
4. *Maintain healthy ecosystems.* BRs acknowledge that healthy ecosystems are a prerequisite for human wellbeing and a progressive economic development.
5. *Promote learning and awareness-raising.* BRs develop new and innovative models and methods for governance, support education for sustainable development and connect actors in learning networks.

The report also identifies four main pathways to strengthening and developing the MAB programme in Sweden on a national level in order to further advance its role in implementing the 2030 Agenda in Sweden.

1. *Funding.* To strengthen the individual biosphere reserves and the programme as a whole, to scale up and down examples of sustainability practices and to spread models for sustainable development require more resources for administration and coordination.
2. *Broadening the committee* to better reflect the social, economic and ecological dimensions of sustainable development. Besides from being a part of a network that is at the forefront of advancing sustainable development practices, the engagement also contributes to the member organisations internal goal achievements.
3. *Research.* Science, research and education for sustainable development are central to UNESCO's MAB Programme. A strong, national administration for the MAB programme in Sweden is desirable in order to strengthen those functions. A national "MAB council" could coordinate research in, for and about biosphere reserves and serve as a channel between the research community and the biosphere reserves, connecting researchers and practitioners.
4. *Communication and coordination.* Today, the biosphere reserves and the MAB programme in Sweden as a whole are relatively unknown among the public. Resources are needed to develop a clearer and stronger trademark to lean on when networking and spreading the good examples from the biosphere reserves.

2. Introduction

Since 2005, UNESCO's Man and the Biosphere Programme (MAB) in Sweden, with its five biosphere reserves and two candidate areas, has stimulated sustainable development by combining nature conservation, local entrepreneurship, capacity building and societal development in practice.

With small means and little formal power they have achieved a range of results by identifying synergies between different sectors in the landscape, by connecting local initiatives to national and international strategies and by stimulating research and education for sustainable development.

The biosphere reserves' work is based on collaboration, learning and a holistic view on people and nature. Their thorough experience of integrated work with sustainable development in a Swedish context make them strategically interesting as areas to learn from and invest in when implementing the UN 2030 Agenda and the Sustainable Development Goals in Sweden. In this report, we aim to explore this potential further.

The new global strategy for UNESCO's MAB Programme (2015-2025) with its associated Lima Action Plan (2016-2025) underlines the programme's instrumental role in the implementation of the 2030 Agenda and the Sustainable Development Goals. This alignment at the international level further supports the potential of the Swedish biosphere reserves to contribute to the national implementation of the Agenda.

The Swedish Environmental Protection Agency (EPA) has actively supported the MAB programme in Sweden since 2002, and the Swedish Agency for Marine and Water Management since 2016. EPA also chairs the MAB National Committee. The agencies' purpose is to support the biosphere reserves' work to develop methods and models for sustainable development in a local context, where the ecological, economic and social dimensions are integrated. The idea is that the experiences, tools, methods and models developed in the biosphere reserves can disseminate to the larger society and inspire other local collaborations on the conservation and use of natural resources.

This report was funded by the Swedish EPA and written by the Stockholm Resilience Centre during the autumn of 2016. The Swedish MAB National Committee helped design the aims of the report and provided feedback during the work process.

The report can be seen as a continuation on the Swedish EPA's report "The Process of creating Biosphere Reserves" (2013), which compiled experiences and analysed the implementation processes of achieving biosphere reserve statuses in the five Swedish biosphere reserves. For a thorough read on the Swedish biosphere reserves and their origins, we refer you to that report. Here, we will explore the potential of the MAB programme in Sweden to contribute to the 2030 Agenda, and what would be needed to fulfil this potential. We begin with a summary of the Agenda and the Sustainable Development Goals and their Swedish interpretation, follow with a description of UNESCO's MAB Programme and the MAB programme in Sweden, present five local examples of integrated sustainable development practices (one from each reserve) and end with a discussion of our findings.

2.1. The 2030 Agenda and the Sustainable Development Goals

In September 2015, the United Nations General Assembly agreed on a global agenda for sustainable development – the 2030 Agenda for Sustainable Development¹. Unique in its kind, the Agenda consists of 17 overarching goals tackling a broad spectrum of development issues such as poverty and hunger alleviation, gender equality, climate change, natural resource management and economic progress (Figure 1).



Figure 1. The UN Sustainable Development Goals

This is a move forward from the eight Millennium Goals which mainly focused on poverty alleviation and developing countries. The 2030 Agenda underlines a clear recognition by the member states that social, ecological and economic development cannot be treated separately. Rather, they are interlinked and interdependent dimensions of sustainable development that need to be treated in an integrated manner. Hence, the Agenda is, simultaneously, “(...) a plan of action for people, planet and prosperity” (UN General Assembly 2015, p. 1).

Furthermore, the Agenda puts increased focus on developed countries and their role in reaching the goals. Not only by supporting developing countries with financial and knowledge resources but also by adopting the agenda nationally and streamlining domestic policies to the goals. It also takes into consideration the production and consumption patterns of developed countries and their negative effects on global sustainability.

¹ UN General Assembly (2015). Transforming Our World: The 2030 Agenda for Sustainable Development. United Nations, New York (A/RES/70/1).
<https://sustainabledevelopment.un.org/content/documents/21252030%20Agenda%20for%20Sustainable%20Development%20web.pdf>

Each of the 17 goals holds a number of sub-goals or *targets*. In total, 169 targets are distributed under the 17 goals. Complementary to the targets (“What”) are some means of implementation targets (“How”) for each goal, and a specific goal for means of implementation, number 17.

The agenda is put forward as “supremely ambitious” (UN General Assembly 2015, p. 3), considering the broad scope of the goals, the level of change it aspires to and the relatively short time-span of 15 years in which it is to be achieved.

The 2030 Agenda is intended to guide decisions made by the UN and the member states and is not a jurisdictionally binding document. Will and engagement in the countries are required if the goals are to be met.

2.2. Implementing the Agenda in Sweden

The Swedish government’s ambition is that Sweden should be a leading actor in the implementation of the 2030 Agenda and it has commissioned a national delegation to support and stimulate this work. The delegation will produce an action plan for Sweden to implement the Agenda nationally and to contribute to the implementation globally. It will demonstrate how Sweden works to reach the goals and analyse potential needs and gaps in that work (Ministry of Finance, 2016). The delegation’s work finishes in March 2019.

The partial report from the delegation (The Swedish 2030 Agenda delegation, 2016) emphasizes that Sweden is ranked high in international analyses of nations’ abilities to reach the goals in the Agenda. This is explained by Sweden’s long-term work with sustainable development, in particular with a focus on the environmental dimension, in combination with the fact that the Swedish society is built on a tradition of consensus solutions, trust and strong institutions. Moreover, Sweden is a welfare state with a developed social insurance system, an active civil society and an innovative and successful business sector.

But the delegation also recognizes, that even though Swedish policies and strategies to a large extent connect to the goals in the Agenda, the implementation processes are sectorised and a gathered attempt to integrate the policies and strategies is lacking. For example, the Swedish strategy for sustainable development (which links to several goals in the Agenda) has been implemented and revised sector-wise via the environmental goals, the goals for education, the goals for public health and so forth, and has not been followed-up in an integrated manner.

Again, the Agenda is about *integrating* the different dimensions of sustainable development. The delegation underlines that in order for the Sustainable Development Goals to be met, an extensive transformation of society is needed. The Agenda shall permeate all politics and all activities. It is an issue that spans over all sectors, and therefore strategies and methods for “breaking the silos” need to be developed. Potential conflicts that may arise between goals and targets need to be identified and analysed and synergy effects be found and used.

Moreover, the delegation argues that the solutions to the global challenges are mainly local. Therefore, it is of importance that municipalities and county administrative boards collaborate with the business sector, NGO's and local associations on a local and regional level when implementing the Agenda. Furthermore, the public sector needs to create opportunities for the private and the non-profit sector to contribute to the implementation of the 2030 Agenda.

Finally, the delegation notes that public awareness about the Agenda is a prerequisite for its implementation. Communicating the Agenda is largely a question of education. The civil society plays an important part by offering platforms for lifelong learning. Forums for discussions on the meaning of the Agenda and how each and every one can see their role and how they can contribute are necessary. "The ambition should be that the paradigm shift that the Agenda actually implies – a gathered global vision to create a long term economic, social and environmental sustainable society – should be mirrored in a broad public engagement" (The Swedish 2030 Agenda delegation, 2016, p. 20).

2.3. Calls for a new kind of governance

As illustrated in the previous section, cross-sectoral work, the involvement of a broad range of stakeholders representing different parts of society and education/learning for sustainable development are governance elements that are called for in the 2030 Agenda delegation's partial report.

Adaptive, collaborative management and stakeholder participation where actors are brought together in governance networks are governance features that indeed have become increasingly common in Swedish policies in the recent decades, not least in the Swedish Nature Conservation Policy.

Adaptive governance² is put forward by sustainability scholars as governance that better addresses the complex, cross-scale and interdisciplinary nature of the global challenges illustrated in the 2030 Agenda, and is viewed as a transition from a more hierarchical, centralized management. The idea is that no agency alone has enough understanding of how to deal with challenges arising from social-ecological systems³ and that by involving actors from different administrative and geographical scales, management issues can be addressed more adequately (e.g. Folke et al. 2005; Berkes 2009 and Cumming et al. 2012). It is also seen as a way to anchor and create legitimacy for decisions made and to facilitate implementation (Hahn et al. 2006).

Research shows that components of adaptive governance are encouraged and featured in biosphere reserves and that they therefore are sites in which effectiveness of this kind of governance can be tested and evaluated (Schultz et al. 2011). With their local and

² Adaptive governance refers to flexible and learning-based collaborations and decision-making processes involving both state and non-state actors, often at multiple levels, with the aim to adaptively negotiate and coordinate management of social- ecological systems and ecosystem services across landscapes and seascapes (Schultz, Lisen, et al. 2015, p. 1)

³ System of human-ecosystem interaction.

contextualized practices, biosphere reserves have also contributed to theories on adaptive governance (e.g. Folke et al. 2005, Schultz et al. 2015).

Furthermore, biosphere reserves are presented as potentially interesting models or learning sites for sustainable development (Schultz and Lundholm 2010), as "promising arenas" for innovative integrated approaches that can bridge jurisdictional and disciplinary boundaries (Edge and MacAllister 2009) and as "context-specific experiments" in sustainable development at varying scales (Ishwaran et al. 2008).

To summarize, biosphere reserves are suitable areas to study and invest in when searching for models and examples on *how to* implement the 2030 Agenda in Sweden. After all, one of the main missions of UNESCO's MAB Programme is to contribute to the implementation of the 2030 Agenda through the global dissemination of models of sustainability (see section 4.1.1.).

3. Objectives, methods and demarcation

The overarching objectives of this report are to:

- a) investigate how the MAB programme in Sweden with its five biosphere reserves can contribute to the implementation of the UN 2030 Agenda and the Sustainable Development Goals in Sweden.
- b) identify pathways to strengthen and develop the MAB programme in Sweden on a national level in order to further advance its role in implementing the 2030 Agenda in Sweden.

For objective a, we have sought to identify the unique role and function that biosphere reserves fulfil in sustainable development, and lessons learnt that could be scaled up and applied in other contexts. Our results are based on:

- a shorter literature review on governance for sustainable development, in particular papers with a biosphere reserve focus, presented in section 2.3.
- a summary and synthesis of the five biosphere reserves' respective strategies, action plans and or/visions documents, presented in section 5.1.
- interviews with the coordinators of the biosphere reserves
- the report "The Process of creating Biosphere Reserves" (Swedish Environmental Protection Agency, 2013)

With the interviews, we aimed to put the results from the literature review and the documents' synthesis in a local, concrete and practical context. We asked the coordinators to give an example from their respective site that illustrates the unique role and function of their biosphere reserve.

For objective b, we wanted to produce a foundation of possible pathways for development of the MAB programme in Sweden. The results are intended for the Swedish MAB National Committee as a guiding tool for future development of the programme. The committee was involved in designing this part of the study.

In order to grasp both local and national perspectives on the development of the programme, interviews were made with the members of the MAB National Committee, the five coordinators and a representative from the Swedish National Commission for UNESCO. The interview questions varied slightly between the respondent groups but the main themes focused on how the programme can be strengthened, the MAB National Committee's member organizations' motivations to contribute to the programme and the relation between the member organizations/the National Commission for UNESCO and the MAB programme in Sweden.

In the discussion and analysis chapter, our findings are discussed in the light of the Swedish delegation for the 2030 Agenda's partial report and the adaptive governance theories.

3.1. Demarcations

There are currently five biosphere reserves and two candidate sites in Sweden (see Figure 2). The candidates Vindelälven-Juhtatdahka and Voxnadalen are still in the middle of the application process to UNESCO. The two candidate areas have thus not been included in this study, as we have targeted sites that have been involved in the programme long enough to have gathered experiences working according to their local strategies and action plans and to be able to answer the interview questions of this report.

The focus of this report is to investigate how the MAB programme in Sweden with its five biosphere reserves can contribute to the implementation of the UN 2030 Agenda and the Sustainable Development Goals in Sweden. The task is thus to investigate methods for *how* the goals can be integrated and achieved using existing societal structures, and not primarily to map out *which of the goals* in the Agenda that biosphere reserves contribute to achieving.

4. Background

4.1. The Man and the Biosphere Programme

UNESCO's Man and the Biosphere (MAB) Programme was launched in 1971 with the purpose of establishing a scientific basis for the improvement of the relationship between people and planet. By addressing the challenge of conserving biological and cultural diversity while stimulating economic and social development, the programme has – from its very beginning – taken on an integrated approach to sustainable development.

The programme is implemented in practice in the World Network of Biosphere Reserves. As of March 2016, there are 669 biosphere reserves distributed globally in 120 countries. Biosphere reserves are models for sustainable development; sites where novel approaches to sustainable development can be tested and applied and local solutions to global challenges be explored.

In Sweden, biosphere reserves are managed locally by anchored stakeholders representing a broad range of actors in society (e.g. NGO's, land-owners, public authorities, entrepreneurs). These designated areas include a variety of ecological systems representative of the biogeographic region and of significance for biodiversity. They also include a gradation of human interventions, spanning from rural to urban settings.

UNESCO's MAB Programme underlines that members from all sectors of society, particularly local communities, are to be represented in the local biosphere reserve organization and that they cooperate in the designation of the site and the performance of its functions. With this approach, the programme recognizes and highlights the role of traditional, indigenous and local knowledge in managing for sustainable societies and finding innovative solutions to environmental challenges.

4.1.1. A new global strategy and action plan

The year 2015 was not only the year when the 2030 Agenda and the Sustainable Development Goals were launched. It was also the year when UNESCO's MAB Programme adopted a new strategy, stretching from 2015 to 2025⁴.

Since the programme was launched, the global context in which it operates has changed considerably. Climate change, urbanization and the loss of ecosystem services⁵ and biological and cultural diversity are issues and challenges that have emerged or intensified drastically over the past 40 years. The programme has developed and adapted its strategies and action plans to better respond to these changes.

Due to its practical approach in building knowledge on practice-based sustainable development, the programme expresses that it aims to be instrumental in supporting the

⁴ UNESCO (2015). The MAB Strategy 2015-2025:
http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/SC/pdf/MAB_Strategy_2015-2025_final_text.pdf

⁵ Ecosystem services are the benefits that people receive from ecosystems, e.g food, timber, fresh water, pollination, water regulation, carbon storage, nutrient cycling, recreation and spiritual values (MA, 2005).

UNESCO Member States to address named global challenges. It has evolved to facilitate the implementation of global sustainability and development agendas, such as the Convention on Biodiversity, the Millennium Development Goals, and now, the 2030 Agenda for Sustainable Development. The new MAB Strategy with its associated Lima Action Plan (2016-2025)⁶ “places strong emphasis” on the 2030 Agenda (UNESCO, 2016, p.2), which is clearly illustrated in the Strategy’s preamble:

“(…) The MAB Programme, through its World Network of Biosphere Reserves and its regional and thematic networks, will strategically address the Sustainable Development Goals through sustainable development actions in biosphere reserves, carried out in partnership with all sectors of society, to ensure well-being of people and their environment” (UNESCO, 2015, p. 3.)”

... and in the introduction to the Lima Action Plan:

”In line with [The MAB Strategy’s] vision and mission statement, the Lima Action Plan places strong emphasis on thriving societies in harmony with the biosphere for the achievement of the Sustainable Development Goals and implementation of the 2030 Agenda for Sustainable Development, both within biosphere reserves and beyond, through the global dissemination of the models of sustainability developed in biosphere reserves (p. 2.).”

The MAB Programme’s role in implementing the 2030 Agenda is also formulated as one of four missions of the programme (Box 1.).

Box 1. Vision and mission of UNESCO’s MAB Programme as described in the new Strategy (*italicization by author*).

Vision and Mission of the MAB Programme

Our vision is a world where people are conscious of their common future and interaction with our planet, and act collectively and responsibly to build thriving societies in harmony within the biosphere.

The MAB Programme and its World Network of Biosphere Reserves (WNBR) serve this vision within and outside biosphere reserves.

Our mission for the period 2015-2025 is to:

- develop and strengthen models for sustainable development in the WNBR;
- communicate the experiences and lessons learned, facilitating the global diffusion and application of these models;
- support evaluation and high-quality management, strategies and policies for sustainable development and planning, as well as accountable and resilient institutions;
- *help Member States and stakeholders to urgently meet the Sustainable Development Goals through experiences from the WNBR, particularly through exploring and testing policies, technologies and innovations for the sustainable management of biodiversity and natural resources and mitigation and adaptation to climate change.*

⁶ UNESCO (2016) The Lima Action Plan 2016-2025:
http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/SC/pdf/Lima_Action_Plan_en_final.pdf

To summarise, it is clear that UNESCO's MAB Programme aims to be instrumental in the implementation of the 2030 Agenda. While the Agenda points out the priorities and the direction of global development, the programme – with decades of experience in integrated sustainable development – can guide the process of *how* the Agenda can be implemented locally and regionally in practice, since its World Network of Biosphere Reserves serve as learning sites and model areas for sustainable development.

5. The MAB programme in Sweden

In this chapter we describe how the MAB programme in Sweden is implemented in practice, in Sweden. We start with a description of the biosphere reserves' origins and practices, based on the report "The Process of creating Biosphere Reserves" (Swedish Environmental Protection Agency, 2013) and on the summary of the respective sites' strategies/action plans/vision documents. To concretize the biosphere reserves' work, we present five examples of local sustainable development practices, one from each biosphere reserve. This first part of the chapter will form the foundation to our discussion of objective a: "investigate how the MAB programme in Sweden with its five biosphere reserves can contribute to the implementation of the UN 2030 Agenda and the Sustainable Development Goals in Sweden" in chapter 6 Discussion and analysis.

The second part of this chapter describes how the MAB programme in Sweden is coordinated and run on a national level, and presents challenges and opportunities for its development. Focus is on objective b; how the programme can be strengthened and developed in order to further contribute to the implementation of the 2030 Agenda in Sweden.

5.1. The Swedish Biosphere Reserves

5.1.1. Origins

As of today, there are five biosphere reserves and two candidate areas in Sweden (see Figure 2). As described in "The Process of Creating Biosphere Reserves" (Swedish Environmental Protection Agency, 2013), the sites originate from local initiatives concerning sustainable development in different forms. They all chose the biosphere reserve concept as a permanent arena on which they can work collaboratively and integrative to find locally suited solutions to sustainability issues. Another motive behind their applications to become a biosphere reserve was to create a continuity in the otherwise very project-oriented context in which the involved actors usually work.

In East Vättern Scarp Landscape, for example, years of conflict between a local biodiversity conservation group, the County Administrative Board, the Swedish Forest Agency, and landowners' organizations, led to the creation of a small, collaborative project group in 1998. The biodiversity conservation group criticised the public authorities for carrying out poor and inadequate inventories of land potentially suited for protection. The land owners, in turn, feared that the identification of valuable areas on their members' land would increase the "risk" of nature reserves and land-use restrictions. In the project group, they could gradually develop a mutual understanding for each other's viewpoints. They went from conflict to cooperation.

After over ten years of collaborating within the frames of the project, the group members searched for a permanent arena for their work. UNESCO Biosphere Reserves with their focus on collaboration and integration of conservation and development seemed like a suiting concept. The process of going from conflict to collaboration is documented in the book "A wonderful Friday" (Olsson 2012).

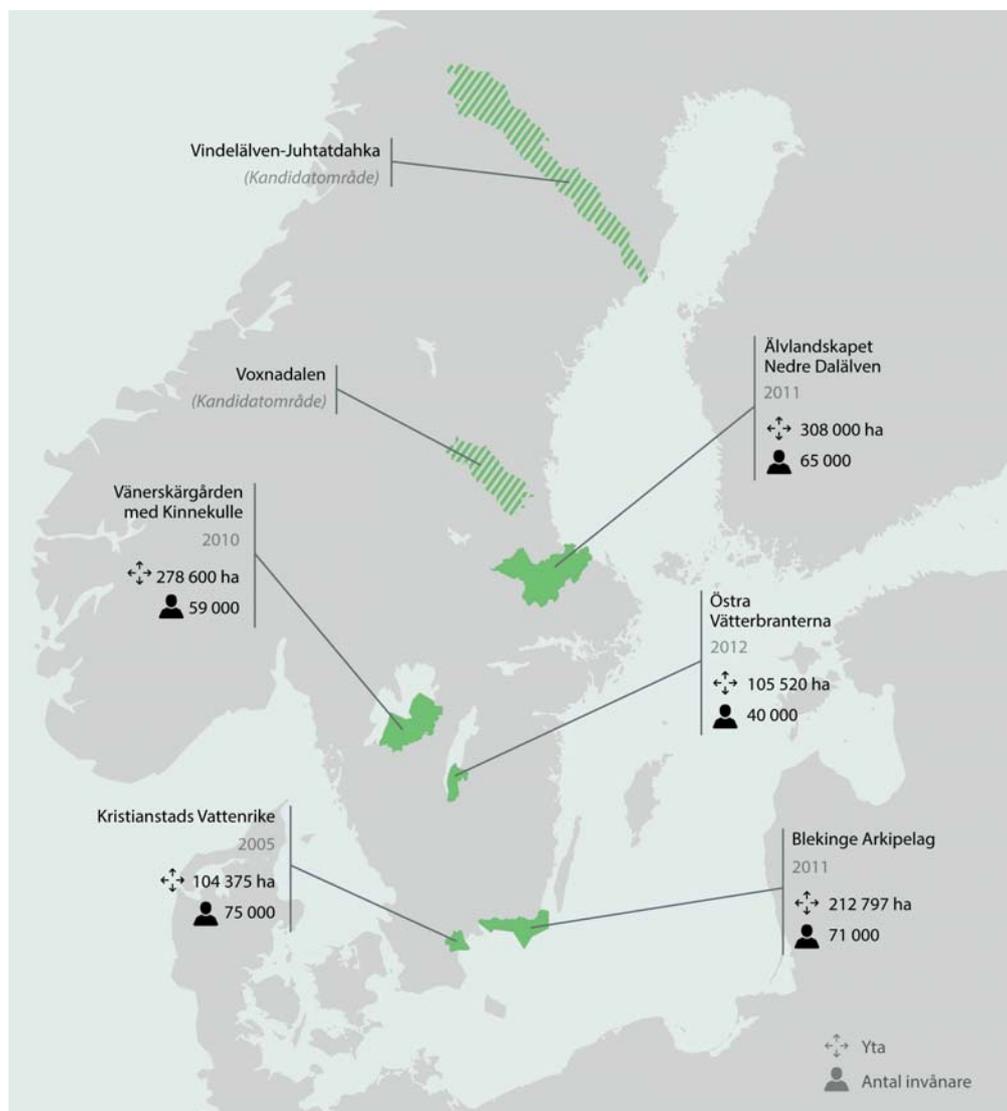


Figure 2. The five Swedish biosphere reserves and the two candidate areas. Information on year of designation, size (ha) and population. Illustration: Jerker Lokrantz/Azote

In Lake Vänern Archipelago, the biosphere reserve initiative largely originates from the LIFE⁷-project “Kinnekulle Plateau Mountain – Restoration and Conservation” that started in 2002 and involved public authorities, landowners and gamekeepers. Blekinge Archipelago benefited from the Swedish EPA’s project “Collaborative Plans for Valuable Coastal and Marine Areas” and in Nedre Dalälven River Landscape already on-going LEADER⁸-work to develop the area benefited the biosphere work.

⁷ The LIFE programme is the EU’s funding instrument for the environment and climate action (European Commission, 2016a)

⁸ LEADER. “Links between the rural economy and development actions”. An initiative financed by EU structural funds, designed to help rural actors consider the long-term potential of their local region (European Commission, 2016b).

The process of establishing Kristianstads Vattenrike had been on-going long before the idea to form a biosphere reserve took form. In the late 1980's the nature values of the wetlands were deteriorating and the public viewed the wetlands as swampy and inhospitable. But under the leadership of key individuals who managed to build a robust social network of engaged actors from different sectors of society and develop gathered visions and goals, the public's perceptions changed. The wetlands came to be perceived as a landscape of richness, and could consequently be conserved and restored.

After being designated, the five biosphere reserves have organized themselves in different ways. Three are run non-profit organisations, one is a municipal office and one is a part of an interest association and a development company. However, they all strive towards common goals and work in similar ways.

5.1.2. Practices

Although the Swedish biosphere reserves' strategies, action plans and vision documents have been developed independently, through different processes relevant to the local context of the reserves, the common denominators for these plans illustrate some of the unique functions of biosphere reserves. They *compile, connect and integrate* already existing local, regional, national and international policies, plans and steering documents on the social, ecological and economic dimensions of development *to paint a broader, more holistic picture* of the opportunities and challenges of the area. As pointed out by the Swedish Delegation for the 2030 Agenda, integrating the dimensions of sustainable development is a prerequisite in order for the 2030 Agenda goals to be met.

Common for the Swedish biosphere reserve organizations is that they aim to inspire their member organizations/responsible authorities to use this integrated sustainability approach as a guide for future development of the areas. Where experience, resources, mandate and knowledge are lacking, the biosphere reserve organizations themselves can initiate, develop and initially lead a project. Ultimately, though, they want to catalyse sustainability work within existing structures.

The involvement of a broad range of stakeholders in the management of the reserve is clearly stressed in the Statutory Framework of the World Network of Biosphere Reserves (UNESCO, 1996). These stakeholders should represent different management perspectives and contribute with different kinds of knowledge to the process. Often, this actor diversity is operationalized in the local biosphere reserve organization. Each biosphere reserve has a specific constellation of actors, but they typically involve, for example, public authorities from different levels of government, land-owners, farmer/forester associations, tourist entrepreneurs, local heritage associations, outdoor recreation groups, nature conservationists, the manufacturing industry and representatives from schools/universities and other learning-institutions.

FOCUS AREAS AND THEMES

Naturally, the themes and issues that the biosphere reserves focus on vary depending on the local context. The nature types, opportunities and challenges vary between the sites. It is in

the focus/thematic areas that the different dimensions of sustainable development become integrated and eventually applied in practice in projects. In other words, this is where synergies between the goals in the 2030 Agenda are made.

All of the sites are engaged in restoring and conserving valuable ecosystems for the production of ecosystem services, developing the areas natural, social and economic values, by, for example, stimulating local entrepreneurship, and supporting research and local sustainability initiatives by providing networks and building bridges between sectors and actors. Typical focus areas where these dimensions become integrated include projects on local food production, climate and renewable energy, outdoors' s recreation and green rehabilitation, and sustainable tourism. Another theme is to make nature more accessible to people by adapting nature trails to wheelchairs and baby strollers and by offering information on several languages. East Vättern Scarp Landscape has arranged “language walks” in the nature for newcomers to Sweden as a way to stimulate integration.

The notion that healthy ecosystems are a prerequisite for human wellbeing and a progressive economic development forms the basis of the biosphere reserves' vision documents and strategies and is at the very heart of UNESCO' s MAB Programme and of the 2030 Agenda. The sites aim to spread this view. Therefore, learning/education for sustainable development is a reoccurring theme within the biosphere reserves.

All of the biosphere reserves train “biosphere ambassadors” - interested private persons, state officials and other engaged individuals - who learn about environmental issues, sustainable development, the respective sites' ecological, social and economic values and challenges and the programme. The certified ambassadors can then represent the biosphere reserve at events and meetings, spread knowledge about the site, and catalyse sustainability work in clubs, work places or organizations. Kristianstads Vattenrike has a summer camp for children where they learn about the biosphere and Lake Vänern Archipelago even educates “Mini-ambassadors”- children who get to learn about sustainability in a playful way.

5.2. Five local cases on sustainable development practices

In this section, we want to concretize and contextualize the biosphere reserves' work on sustainable development. We present five examples of integrated sustainable development practices put forward in the interviews with the coordinators of the biosphere reserves. The interview material has been complemented with written descriptions of the named projects/activities, when available

As mentioned in the methods and demarcations chapter, the focus of this report is on the *functions needed* to implement the 2030 Agenda in Sweden and not primarily on the specific goals that the sites contribute to achieving. Still, we have marked the examples with a selection of the Sustainable Development Goals (SDGs) that the projects/activities contribute to, to give a general visual picture on how the sites work with several goals simultaneously. However, it is important to note that there are many more examples of

contributions to the different SDGs from biosphere reserves activities than the five examples in focus in this report.

Goal 17, “Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development”, and especially the Systemic issues-targets (17.14, 17.17, Figure 3), with their focus on the means of implementation, are of particular relevance in this report. This goal permeates all five project examples presented below.



Figure 3. Goal 17 - targets 17.14: “Enhance policy coherence for sustainable development” and 17.17: “Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships” are of particular interest in this report.

5.2.1. Nedre Dalälven River Landscape (Älvlandskapet Nedre Dalälven) - The floodplain meadows



Figure 4. The floodplain meadows-example contributes to a range of goals⁹ in the 2030 Agenda, for example SDG targets 6.6 “By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes” and 11.4 “Strengthen efforts to protect and safeguard the world’s cultural and natural heritage”.

The river Dalälven flows through the biosphere reserve. The transition zone from the open water of the river to the forest has historically been characterized by regularly flooded meadows used for haying and grazing. The river together with the meadows made them an invaluable resource for the local dwellers and created conditions for high biodiversity. Today, the traditional use of the floodplain meadows has halted and the formerly open landscape is either overgrown or about to become overgrown, which ultimately has led to a loss of biodiversity and ecosystem services, such as water regulation, the production of fodder and recreational values.

⁹ For example, SDG targets 2.3, 2.4, 6.6, 6b, 8.3, 11.4, 13.1, 13.3, 15.1, 15.3 and 15.5.

Activities aiming to restore the meadows' ecosystem services had already been initiated in the biosphere reserve but a “uniting power” that could bring projects and actors together and coordinate them was missing. The County Administrative Board had carried out ecological inventories identifying which land areas could be suitable for restoration and major land-owners were searching for farmers with animals that could graze the meadows. With this in mind, the biosphere organization applied for, and was granted, LEADER-project funding for a three- year project and hired a project leader. The purpose of the project was to coordinate and establish contacts between the different activities and actors to realise the potential synergies of ecosystem services gained from restoring the meadows. In other words, the project aimed to integrate several of the SDGs (see Figure 4).



Figure 5. Nedre Dalälven River Landscape. The formerly overgrown floodplain meadows in Nordmyran, Tärnsjö, have been restored thanks to haying. Grazing cattle also help keeping the meadows open. Photographer: Cecilia Wallinder.

The project managed to establish collaborations between the County Administrative Board, landowners and young entrepreneurs with grazing animals. It also made visible the economic, social and ecological values that are connected to actively managed floodplain meadows, such as an increase in biological diversity, an open landscape attractive for tourists and local dwellers, cultural history, a decrease in mosquitoes, local entrepreneurship and so forth. Moreover, the project helped to increase the general awareness of the multiple benefits of the floodplain meadows.

As a direct result 170 ha land has been restored and is again actively grazed (Figure 5) and long-term management agreements have been secured. Although the project was finished in 2015, the network established during the project lives on. For example, the largest

landowner in the area works together with entrepreneurs that hold grazing animals. They have continued collaboration and have prepared and fenced more land for grazing.

5.2.2. Lake Vänern Archipelago (Vänerskärgården med Kinnekulle) - Sustainable tourism



Figure 6. Examples of SDGs¹⁰ that the Sustainable tourism project contributes to. For example, target 8.9: “By 2030, devise and implement policies to promote sustainable tourism that creates jobs and promotes local culture and products”, target 11a: “Support positive economic, social and environmental links between urban, peri-urban and rural areas by strengthening national and regional development planning, and 12b: “Develop and implement tools to monitor sustainable development impacts for sustainable tourism that creates jobs and promotes local culture and products”.

In Lake Vänern Archipelago Biosphere Reserve, the province’s decision to increase tourism evoked a question: Given that this is an area designated by UNESCO as a model for sustainable development, are there possibilities for being a “sustainable tourist” in the biosphere reserve?

To answer this question, the biosphere reserve applied a cross-sectoral way of thinking. They identified stakeholders involved in tourism development, both beneficiaries (private enterprises) and those in public sector who are responsible for strategic development of the tourism infrastructure and who have the power and the resources to make systematic changes on a strategic level. Together they discussed the question raised and developed a common vision where everyone could identify their individual role. The biosphere reserve office calls it a “potluck”-concept, where the involved actors all contribute to the bigger picture.

This initiative was the starting point of a continuous strategic sustainable tourism development with a holistic approach, which has raised more than 1million Euro in project funding to this day.

The result of the initiative can be seen in different types of infrastructure, such as more than 200 km trails for hiking, biking (see Figure 7), and horseback riding, trained local guides, maps, and a web-based portal guiding visitors to choose sustainable experiences, contributing to several of the SDGs (Figure 6). A network for green ecotourism entrepreneurs was established. The network continuously improves its sustainability profile by, for example, packaging and marketing sustainable tourism activities.

¹⁰ For example, SDG targets 8.9, 9.1, 11.7 and 11a, 12b and 13.2

The method of “potluck” has since been successfully applied to other sectors, such as the fishing industry, social entrepreneurship, education for sustainable development, increased influence of inhabitants in spatial planning, and much more.



Figure 7. More than 200 km trails for hiking biking and horseback riding are offered as part of a sustainable tourism experience. Photografer: Nils Axelsson/Skaraborgsbild.

5.2.3. East Vättern Scarp Landscape (Östra Vätterbranterna) – Broadleaf success



Figure 8. The Broadleaf success project contributes to, for example, SDG targets 13.3: “Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning” and 15.5: “Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species”¹¹

Lövsuccé, ”Broadleaf success”, is a project lead by the County Administrative Board in Jönköping in collaboration with the Swedish Forestry Board, the Federation of Swedish Farmers, the largest forest-owner association in Sweden (Södra), the Swedish University of Agricultural Sciences and the biosphere reserve organization, with financial support from

¹¹ For example, SDG targets 4.7, 12.2, 13.1, 13.2 and 13.3 and 15.1, 15.2 and 15.5

the WWF. The objective of the project, which takes place 2015-2016, is to break the monoculture of the landscape by creating segments of green infrastructure consisting of broad leaf trees in different stages of succession. Hence, the project name Lövsuccé - Broadleaf Success.

The total broadleaf cover in the biosphere reserve today is analysed, and future scenarios are made. Forest owners are informed about management methods that benefit broadleaf production, and are motivated to invest in broadleaf or mixed forests. Opportunities for economic compensation for forest owners who invest in broadleaf trees (if it turns out that the financial outcome is less than investing in coniferous trees) are also investigated.

The biosphere organization believes that the collaborative way this project is implemented and framed is a result of a 20-year long journey from conflict to collaboration between nature conservationists, land owners and public authorities. The conflict concerned conservation versus production in forest stands in the biosphere reserve. The biodiversity conservation group criticised the public authorities for carrying out poor and inadequate inventories of land potentially suited for protection. The land owners, in turn, feared that the identification of valuable areas on their land would increase the “risk” of nature reserves and land-use restrictions.



Figure 9. Excursion with the project Lövsuccé (Broadleaf success) in East Vättern Scarp Landscape Biosphere Reserve. Photographer: Ola Jennersten

In 1998, after years of deep conflict, a collaborative project group with representatives from the different interest groups was established. Within the project group, they could gradually develop a mutual understanding for each other’s viewpoints. This collaborative

process resulted in the biosphere reserve designation, and paved the way for the Broadleaf Success project. According to the biosphere reserve organization, collaboration and cooperation in projects where stakeholders might have different interests is more of a given today than before. Today, the interest organizations are represented on the biosphere reserve board, and in the steering group of the Broadleaf Success project.

The public authorities in the area have a new, more inclusive and transparent approach to farmers and forest owners and a broader perspective on nature conservation. The concerned authorities collaborate across sectors, and are represented on the biosphere reserve board. This was not the case 20 years ago. The biosphere reserve's collaborative processes have helped the public authorities to run their projects in a more inclusive and smooth manner, resulting in increased legitimacy and win-win solutions. Both production (the forest owners' livelihood) and biodiversity conservation (indispensable for the production of ecosystems services), are taken into consideration in this project which contributes to several of the 2030 Agenda SDGs (Figure 8). Figure 9 illustrates one of the project excursions.

5.2.4. Blekinge Archipelago (Blekinge Arkipelag) – The Archipelago route



Figure 10. A selection of SDGs¹² that the Archipelago route-project contributes to. For example, target 8.3: "Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services" and target 14.2: "By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans".

In 2015, the biosphere reserve office in Blekinge Archipelago initiated and operated a pilot-study to identify opportunities for developing the outdoors tourism in the area, focusing on the coast and archipelago as a whole. The pilot-study revealed many opportunities for development but a coordinating function, linking and gathering actors and initiatives, was missing.

As a consequence, Blekinge Archipelago applied for, and was granted, funding for a three-year project with the purpose of marketing Blekinge as an outdoors tourist destination. The Swedish Agency for Economic and Regional Growth believes that the tourist industry has a great growth potential and finances the project together with EU LEADER-funds and the biosphere reserve office. The biosphere reserve office will hire a project leader and realize the project but the regional authority, which has the economic muscles and liquidity, is the

¹² For example, SDG targets 8.3 and 8.9, 9.1, 11.4, 11.7 and 11a, 12.2 and 14.2.

formal owner/responsible authority of the project. A steering group is established, with representatives from the municipalities, the County Administrative Board, the biosphere reserve organization and the regional authority. The reference group includes local organizations and entrepreneurs, and project groups for each of the planned routes (hiking, biking etc.) have already been formed, also engaging the local community and local businesses.

By coordinating existing routes, by filling the gaps with new routes and by marketing the destination under the brand Arkipelagrutten (The Archipelago route), the project aims to increase the attractiveness of the whole destination. Maps, an app and information points along the routes will be produced.



Figure 11. Blekinge Archipelago. Public transport in the biosphere reserve. Photographer: Mattias Holmquist.

Today, there are routes and public transport connecting parts of the area but there are gaps that need to be filled in order to develop cohesive Archipelago routes. The existing routes are not packaged or marketed together which can make them less accessible or attractive to tourists.

To optimize the possibilities for different kinds of outdoors experiences, investments will be made into developing routes for hiking, biking, sailing and public transport in the archipelago. Horseback riding and recreational fishing are also part of the concept. Further, the project aims to develop the local businesses along the routes. By facilitating collaboration between entrepreneurs, packages for the tourist market can be produced.

Another essential goal of the project is to produce a policy for sustainable tourism and to enhance and strengthen the local businesses' internal work with sustainability. In other words, this project will contribute to the achievement of several of the SDGs (see Figure 10). Figure 11 shows a boat for public transport in Blekinge Archipelago.

5.2.5. Kristianstads Vattenrike – The cranes



Figure 12. Four of the SDGs that the crane-example contributes to achieving¹³. For example, target 2.4 “By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality” and 12.8 “By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature”

In late March/early April every year, Kristianstads Vattenrike is visited by thousands of cranes that stop to have a break on their long journey from southern Europe to their breeding locations in northern Sweden. The cranes rest in the floodplain meadows in the Pulken Nature Reserve. The meadows were restored by the municipality 30 years ago. Today, grazing cattle keep the meadows open, supporting a range of rare plants and animals. However, the cranes' time of arrival coincides with the spring sowing of barley and wheat in the area, which is very fortunate for the cranes as they crave that kind of food.

The farmers, however, are not as fortunate as the cranes. The resting birds can easily destroy large parts of the newly sown arable. At the same time, the cranes interest and attract large numbers of bird watchers and the public. Keeping the floodplain meadows open and grazed is important to conserve the crane, which is a red-listed species.

To identify solutions to the problem, the “Crane group” was created in 1997. The Federation of Swedish Farmers, the County Administrative Board, the Municipality and ornithologists are represented in the group.

Together they came up with an innovative win-win-win-solution. When the cranes start gathering in the area, the ornithologists set out to count them. If they estimate that there will be many cranes at the time for the spring sowing, the cranes are fed with barley from Kristianstads Lagerhusförening on an abandoned field next to the outdoors museum by the floodplain meadows in Pulken (see Figure 13). The cranes can feed in peace and quiet, protected from predators at night by the water, the spring sowing is spared and the bird watchers and the interested public can enjoy the cranes at the outdoors museum. The time of the cranes' arrival has become a positive event with an estimated 15 000 visitors during

¹³ For example, SDG targets 2.4, 6.6, 11.3 and 11.7 and 12.8.

the crane period. Local organizations volunteer to count the cranes, guide visitors and sell snacks and the media covers the happening. This initiative contributes to the achievement of several of the SDG's in the 2030 Agenda (Figure 12).



Figure 13. Cranes fed to avoid damage to newly sown fields nearby. The visitor centre and outdoor museum at Pulken is visible in the background. Photographer: Webbkamera Vattenriket

5.3. The Swedish MAB Committee and the biosphere council

In this chapter, we give a description of how the MAB programme in Sweden is organized on a national level. We present the MAB National Committee and the motives behind the committee's member organizations' engagement in the programme. We also describe the benefits of the individual biosphere reserves to be a part of national network, a summary based on the interviews with the coordinators.

5.3.1. Organisation

In Sweden, the programme is run and coordinated by a national committee, appointed by the Swedish National Commission for UNESCO, and a biosphere council. The committee has a decision making and financing function and sets the direction for the programme's development. The Swedish EPA hosts and chairs the committee which also gathers representatives from the research funding body FORMAS, the transdisciplinary research centre for sustainability science Stockholm Resilience Centre, the Swedish Forest Agency and the National MAB Coordinator, also representing the biosphere council. The

committee gathers approximately four to five times per year and functions as a node in the national and international MAB network, facilitating networking and collaborations. Moreover, the committee is responsible for reviewing biosphere reserve applications, candidatures and periodic reviews.

The Swedish National Commission for UNESCO approves the proposed biosphere reserve applications from the MAB National Committee, which after a decision by the Swedish Government to apply, are sent to the MAB International Co-ordinating Council for final approval.

The biosphere council is the programmes' executive organ. It consists of the coordinators of the five biosphere reserves, the two candidates, and the National MAB Coordinator. The councils' main functions are to contribute with stability and continuity to the programme and to support and facilitate projects in the biosphere reserves and the biosphere reserve candidates.

Naturally, communication, networking and the exchange of experiences are central to the MAB programme in Sweden. National meetings, conferences and workshops are arranged on an annual basis, often in the biosphere reserves themselves or in a candidate area.

The MAB programme in Sweden has received excellent reports from the MAB ICC on its biosphere reserve nominations and periodic reviews. It has contributed to UNESCO's MAB Programme through high standards on its applications and periodic reviews. It has also shown good models for integrating humans and nature, conservation and production. Serving as a model in the World Network of Biosphere Reserves is a reminder of the interconnection between the scales on which UNESCO's MAB Programme operates; the local and the global scale interact to strengthen the programme as a whole, both locally and globally.

5.3.2. Benefits of contributing to the MAB programme in Sweden

The MAB programme in Sweden is strongly supported by the organisations represented in the committee and by the Swedish National Commission for UNESCO. Also, the Ministry of the Environment and Energy has expressed its support for the programme. The large organisations, spanning over several sectors, add legitimacy and credibility to the programme.

Learning is emphasised by all respondents as a motivating factor behind their engagement in the programme; learning from local actors in the biosphere reserves, from the other members in the committee and from UNESCO's MAB Programme as a whole. Work in the committee not only strengthens the MAB programme in Sweden. It also contributes to the member organizations' internal goal achievement. Public authorities, such as the Swedish EPA and the Swedish Forest Agency, search for models for how to integrate the different dimensions of sustainable development in their work and the programme provides concrete examples of how this can be done, through e.g. increased participation in decision making processes, collaboration and the combination of conservation of natural resources with production.

The Forest Agency, for instance, strives towards applying a landscape perspective and to integrate forestry questions and production with social and other values. In other words, they aim to broaden their work, taking into consideration additional ecosystem services and, consequently, additional sectors. They view biosphere reserves as “landscape laboratories”, that the agency can learn from and where methods on using this approach can be tested.

For the Swedish EPA, the MAB programme in Sweden with its biosphere reserves is a “flagship project” that they are very proud of. Guidelines, common with the Marine and Water Authority, states the purpose as to support the biosphere reserves’ work to develop methods and models for sustainable development in a local context, where the ecological, economic and social dimensions are integrated. Again, these models are in line with how the agency aims to work. The idea is that the experiences, tools, methods and models developed in the biosphere reserves can disseminate to the larger society and inspire other local collaborations on the conservation and use of natural resources.

The MAB approach is also well in line with FORMAS’ work on sustainability, environmental issues and rural development. Being a part of the MAB National Committee is expressed as a way to advance that work through learning, strategic collaborations and intelligence.

For the Stockholm Resilience Centre, a key motive for engaging in the committee’s work is to access a network of highly skilled, innovative sustainability practitioners and learning sites to learn from, study and support through research. The SRC’s research and theories on adaptive governance and adaptive co-management have been inspired by practical, local knowledge in biosphere reserves, drawing on their longstanding experiences of collaborative and integrative approaches to sustainability.

To sum up, being a part the MAB National Committee and the MAB programme in Sweden offers the member organisations a contact network of practitioners who advance sustainable development in the landscape and, consequently, learning opportunities on sustainable development practices. The engagement in the committee also contributes to reaching the organisations’ internal goals. Moreover, there is a possibility of learning within the committee between the member organisations. The member organisations can also contribute the programme by sharing organisational experience, for example on funding for regional development.

5.3.3. Benefits of belonging to the network

For the individual biosphere reserves, being connected in a network through MAB programme in Sweden has a special meaning. The coordinators of the sites underline that it is beneficial to be a part of a bigger context and that the programme serves as a supporting, “uniting force”. Moreover, being a UNESCO Biosphere Reserve is a quality brand which adds value and credibility to the sites and their activities.

The annual meetings in the Swedish MAB Network are particularly appreciated, according to the coordinators. They are described as arenas where the coordinators and other representatives from the biosphere reserves can meet colleagues working with the same

issues but in different contexts. They share similar challenges and can exchange experiences and learn from each other. For example, the chairpersons of the sites that are organized as non-profit associations have started a group of their own for knowledge and experience-exchange.

The coordinators also emphasise that the national network is a source of inspiration. Successful initiatives have spread across the network, such as the training of biosphere ambassadors, described in section 5.1.2. – an activity now found in all five biosphere reserves.

Attending the national and international MAB meetings is put forward as important in order to understand that the individual biosphere reserves are a part of a bigger, national network and that the MAB programme in Sweden, in turn, is a part of an even bigger international network.

To summarize, the MAB programme in Sweden is supported by its large member organizations that span over several sectors, adding legitimacy and credibility to the programme. The engagement, in turn, offers the organizations learning possibilities and contributes to internal goal achievement. The individual biosphere reserves appreciate being connected to each other in the national (and international) network, where they can find support and inspiration and exchange ideas and experiences.

We have shown how the MAB programme in Sweden works with sustainability practices in local contexts. In the next section, we identify some of the challenges and opportunities for the programme to advance its role in implementing the 2030 Agenda in Sweden.

5.4. Ways forward

This forward-looking part of the report focuses on objective b:

”...identify pathways to strengthening and developing the MAB programme in Sweden on a national level in order to further advancing its role in implementing the 2030 Agenda in Sweden“

and is intended for the Swedish MAB National Committee as a guiding tool for future development of the MAB programme in Sweden.

The results are based on the interviews with the committee members, the biosphere reserve coordinators and the representative for the National Commission for UNESCO.

Four main categories of challenges and opportunities were identified in the interview material: funding, broadening of the committee, research and communication and coordination. The categories are interrelated and all “functions” need to be developed in order to strengthen the programme as a whole.

5.4.1. Funding

One of the strengths of the MAB programme in Sweden is the cross-sectoral work, but when it comes to funding, the downside is that the main responsibility and funding for administration and coordination can fall between the cracks.

Today, the programme is “undersized” and “underfinanced”, according to the respondents. For example, the coordinator of the programme only works 50%. Networking and coordinating Sweden’s activities in the international MAB network is also included in those 50%.

The same issues are found at the local biosphere reserve level. Apart from Kristianstads Vattenrike, whose biosphere work is integrated in the municipality’s organisation, the sites rely on project funding to a large extent, while continuous financial resources for core activities and administration (other than for the coordinators) is lacking.

In order for the programme to reach its full potential, more resources for national coordination are needed. Strengthening the individual biosphere reserves and the programme as a whole, scaling up and down examples of sustainability practices and spreading models for sustainable development requires administration and coordination. The basic support necessary is relatively small considering the potential effects of such an investment. Basic funding for administration and coordination could enable possibilities to search for further funding and to connect different financing tools.

Respondents in the committee suggest that the member organizations could look at the possibilities of giving financial support, but external resources are also needed.

5.4.2. Broadening the committee

The respondents wish to broaden the committee and to increase the number of responsible authorities so that it better reflects the different sectors of society and the three dimensions of sustainable development illustrated in the 2030 Agenda - the ecological, economic and social. Moreover, non-government organizations could also be included, as could representatives from the business sector.

That way, the potential for the committee to truly serve as a cross-sectoral arena for the implementation of the 2030 Agenda would be strengthened.

In addition to broadening the committee, it was also suggested that the program seek to establish more dialogues on a national level and initiate strategic collaborations with fora and organizations that touch upon similar issues as the programme.

5.4.3. Research

Science, research and education for sustainable development are central to UNESCO’s MAB Programme. A strong, national administration for the programme is desirable in order to strengthen those functions. A national “MAB council” could coordinate research in and about biosphere reserves and serve as a channel between the research community and the biosphere reserves, connecting researchers and practitioners. Employees at the

council would have knowledge on what is on the national and international sustainability research agenda. Such an administrative council function could also enable a research project spanning across many biosphere reserves, coordinated on a national level, as suggested in one of the interviews.

Further, the programme is a scientific UNESCO programme. The National Commission for UNESCO wants to underline that fact by establishing better and more collaboration with the local universities in the biosphere reserves. All Swedish biosphere reserves have a university within or in very close proximity to their borders.

5.4.4. Communication and coordination

Today, the biosphere reserves and the MAB programme in Sweden as a whole are relatively unknown among the public. The respondents express both a national and a local need for a clearer and stronger trademark to lean on when networking and spreading the good examples from the biosphere reserves. For example, the program lacks a thorough communication strategy, a common graphic profile, a common logo/symbol for the biosphere reserves in Sweden and road signs on the borders of the biosphere reserves that could increase the public's recognition of the programme. Yearly common activities, such as celebrating the international biosphere reserve day in all Swedish biosphere reserves could result in national attention from the media.

Several interviewees expressed a will and a need to highlight that the programme is a UNESCO programme, so as not to forget the global dimension of the work. Developing a communication strategy together with the Swedish National Commission for UNESCO was suggested as a way to underline that connection.

The National Commission explained that the relationship between them and the MAB programme in Sweden has developed considerably during the last three years, partly because the programme has reached a critical number of biosphere reserves and candidate areas to serve as a solid programme, rather than as individual reserves. Financial support for events, co-written debate articles and the incorporation of the UNESCO-logo into the biosphere reserves' logos are ways in which the relationship between the commission and the MAB programme in Sweden has developed.

The National Commission wants to contribute to strengthening the programme and to make it more well-known so that it gets the attention it deserves. Providing contacts with for example the UNESCO secretariat in Paris and other organisations on a higher level of governance are ways in which the commission can contribute. Looking forward, the National Commission made clear that it wants to renew, deepen and further develop the connections to and the support for the programme.

One of the functions of the programme is to spread the good models and examples of how the biosphere reserves work with sustainable development in practice. But in order to do this, more administrative and coordinative resources are required. There is need to compile and spread the good examples from the sites to contribute to the implementation of the 2030 Agenda in Sweden.

Sustainable development is a concept which is inheritably big and complex. The individual biosphere reserves have organized their work around focus/thematic areas. This approach could also be applied on a national level, making it easier to “sell” the biosphere concept by focusing on a few profile questions.

The biosphere reserves and candidate areas meet and network at the programme’s annual meetings. Considering that the coordinators and other representatives only meet a few times per year, there is often not time to deepen thoughts and collaborations during the meetings. It was suggested by several interviewees that the collaboration between the sites could increase through *thematic networks* and meetings within those networks. A recent initiative is a network on sustainable tourism in the biosphere reserves.

6. Discussion and analysis

The guiding question of this report was: “How can the MAB programme in Sweden contribute to the implementation of the UN 2030 Agenda and the Sustainable Development Goals in Sweden?”

To answer this question, we have focused on identifying the unique functions of the programme and the biosphere reserve organizations, drawing on 1, the coordinators own descriptions of their organization’s role and function, and 2, an analysis of the five examples in chapter 5.2. and 5.3., the background information on the programme, specifically focusing on the MAB programme in Sweden and the local strategies, action plans and related documents. We found that the programme provides five unique functions relevant to the implementation of the 2030 Agenda: Biosphere reserves serve as platforms for collaboration; they connect actors vertically and horizontally, integrate the 2030 Agenda goals, maintain healthy ecosystems, and promote learning and awareness raising.

Biosphere reserve work builds on structures already in place and thus complements the work already being made by public authorities, NGO’s and other actors. The biosphere reserves form a gathering and coordinative force in the transformation to sustainability, rather than being just another interest group. In particular, they contribute to the “means of implementation”- goal of the 2030 Agenda since they “Enhance policy coherence for sustainable development” (target 17.14) and “Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships” (target 17.17).

Ideally, the five functions that we have identified and that we expand on below can be seen as models when working integrated with sustainable development in regional and local contexts. We argue that these models and lessons learnt can be scaled up and/or applied in other contexts in Sweden when implementing the 2030 Agenda. Moreover, they represent governance functions that are called for in the partial report of the Swedish Delegation for the 2030 Agenda - essential functions needed in order to achieve the Sustainable Development Goals.

In the following sections, we present the five functions in relation to the partial report from the Swedish delegation for the 2030 Agenda, and to the theories on adaptive governance.

6.1. Serving as platforms for collaboration

By gathering and coordinating existing initiatives, actors and/or experiences, the biosphere reserves serve as platforms, or arenas, for collaboration. Other words used by the coordinators and described in the adaptive governance literature are “arenas for collaboration” and “umbrella organizations” gathering different actors/initiatives. The broad representation of sectors/actors and interests in the biosphere reserve organizations and in their projects illustrate this feature.

With small means, they aim to inspire change processes *within* existing organizations and to break sectorized work by connecting and mediating between actors, both horizontally and

vertically. While other actors focus on their piece of the puzzle, the biosphere reserve organizations' function is to have a holistic and cross-sectoral approach, and to bridge, connect and mediate between actors.

In the Lake Vänern Archipelago example of sustainable tourism, the biosphere reserve office gathered public and private actors that agreed on a common vision for sustainable tourism in the biosphere reserve. The biosphere reserve office initiated the project but it built on already existing structures and a change process towards sustainability *within* the existing organizations was started.

In the Nedre Dalälven River Landscape case of the restoration of the floodplain meadows, there were already local initiatives in place, but a “gathering force”, or platform, was missing. The biosphere organization could take on the role of connecting the concerned actors (land-owners, cattle keepers, the public authorities) and coordinating their activities.

In the pre-study for the Archipelago Route in Blekinge Archipelago, initiated by the biosphere reserve office, the many opportunities for developing the outdoors tourism were shown. But again, a coordinating function linking actors and initiatives was missing. The large project following the pre-study aims to establish networks between local entrepreneurs, package experiences for the tourist market, link the coast and the islands with new routes and by marketing existing routes under the same umbrella. In other words, serving as a “gathering force” or platform.

In their partial report, the Swedish delegation for the 2030 Agenda, underline that the potential conflicts that may arise between goals and targets need to be identified and analysed and synergy effects be found and used. The platforms for collaboration offered by the biosphere organisations can function as neutral arenas where conflicts can be resolved and trust building take place. This is illustrated in the East Vättern Scarp Landscape example where the long journey from an escalating conflict to collaboration between interest groups prepared the ground for the setup of the Broadleaf success-project. Mutual understanding developed during the process, and today the interest groups (the public authorities, farmers'- and landowners' associations, biodiversity conservationists) are all represented on the biosphere reserve board. That they are also involved in the Broadleaf success-project might not come as a surprise.

A similar function can be seen in Kristianstads Vattenrike's crane group. The potential conflicts between the conservation of the crane (a red listed species), the farmers' spring sowing and the ornithologists' and the public's great interest in the cranes were solved in the group and an innovative win-win-win solution was created.

6.2. Connecting actors – vertically and horizontally

The Swedish Delegation for the 2030 Agenda argues that the solutions to the global challenges are mainly local and that it is of importance that municipalities, county administrative boards etc. collaborate with the business sector, NGO's and local association on a local and regional level when implementing the Agenda.

Serving as platforms for collaboration, the biosphere reserves offer opportunities for such collaboration across administrative or geographic boundaries, across sectors and between different levels of governance. In all five examples, representatives from different levels in society are represented. From land-owners, entrepreneurs, foresters and ornithologists to municipalities and county administrative boards.

In Blekinge Archipelago, Nedre Dalälven River Landscape and Lake Vänern Archipelago, which all stretch across several municipalities, the municipalities are represented on the respective boards.

In order to develop the tourism business in a sustainable manner and to increase the attractiveness of a larger region, which were the cases with Lake Vänern Archipelago and Blekinge Archipelago, collaboration across geographical boundaries was necessary to reach the goals.

The delegation also underlines that in order for the Sustainable Development Goals to be met, the Agenda needs to permeate all politics and all activities. It is an issue that spans over all sectors, and therefore strategies and methods for cross-sector work need to be developed.

Research shows that biosphere reserve organizations with their actor diversity can fill such a *bridging* function in governance (Olsson et al. 2007, Schultz et al. 2007). First, by "breaking the silos" of the often sectorized decision making processes and by combining different sources of knowledge (scientific knowledge, local ecological knowledge...) and second, by linking governance levels both vertically (i.e. landowners, Municipality, County Administrative Board) and horizontally (for example encouraging neighbouring landowners or municipalities to communicate and collaborate).

6.3. “For people, planet and prosperity” - Integrating the 2030 Agenda goals

The 2030 Agenda is about *integrating* the different dimensions of sustainable development. Synergies between the goals in the Agenda need to be found and used.

The five project examples from the biosphere reserves all contribute to several of the SDG's simultaneously. Environmental, economic and social development aspects including income for tourist entrepreneurs, farmers and local businesses, conservation of biodiversity and threatened species, opportunities for recreation and health improvement, cultural heritage and so forth are all considered. In the case of the East Vättern Scarp Landscape, the prerequisite to manage for more biodiverse forests with broadleaf tree species is engaging land-owners and foresters who can make a living even if management methods are changed. The biosphere organizations have learnt from the conflicts in the past and have found ways to work in an integrated way with economic and ecological issues.

The biosphere reserves actively talk about creating “win-win-win”-solutions, and to turn potential issues and problems into solutions through collaboration. “Good for nature, good for humans” is the slogan of Kristianstads Vattenrike. In other words, the sites create synergies between the goals in the 2030 Agenda.

Hence, when the stakeholders with different interests in the biosphere reserves are offered a neutral platform where issues and potential solutions can be discussed, it is also likely that the solutions integrate ecological, social and economic aspects of sustainable development.

This notion is supported in the literature. In the case of biosphere reserves, the participation of a diverse set of actors with different interests seems to add a broader perspective on sustainable development, where nature conservation, for example, becomes a part of and not apart from development (Schultz et al. 2011). This is an essential aspect when implementing the 2030 Agenda and when integrating the different dimensions of sustainable development.

6.4. Maintaining healthy ecosystems

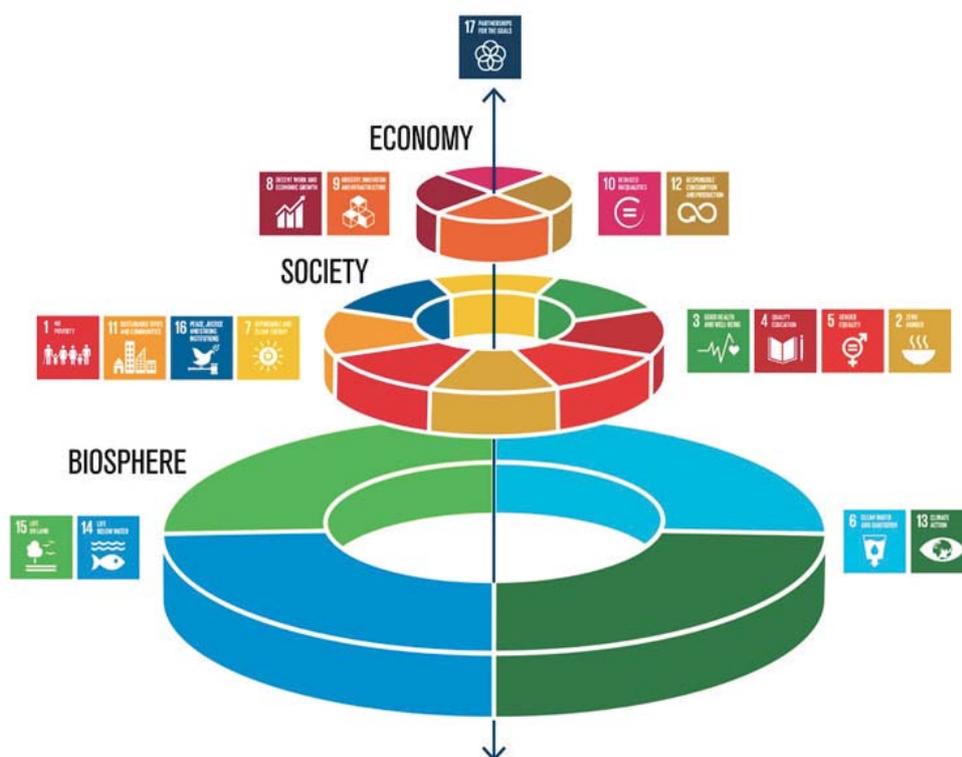


Figure 14. In this illustration, the SDG's have been arranged to show how healthy ecosystems are a prerequisite for human wellbeing and economic development. Source: J. Lokrantz/Azote in Rockström & Sukdev 2016 and Folke et al. 2016.

The Swedish biosphere reserves acknowledge that healthy ecosystems are a prerequisite for human wellbeing and a progressive economic development, as illustrated in Figure 14. This notion is not only at the very heart of UNESCO's MAB Programme, but is also recognized in the 2030 Agenda.

For example, the action plan of Kristianstads Vattenrike (Kristianstads Vattenrike, 2016) explains that "In different projects, the Biosphere Office helps animals and plants to live

on, while humans are given the opportunity to use nature's services without destroying them (p. 2).", and Blekinge Archipelago presents "...an action plan with the purpose of conserving the reserves' high cultural and nature values while promoting a progressive local business development (Axelsson et al. 2011, p. 10)." The vision of East Vättern Scarp Landscape states that "We are all dependent on healthy ecosystems. Socio-cultural and economic sustainability complements the ecological and together the three dimensions form an indivisible whole" (Östra Vätterbranterna, 2015, p. 15).

The five examples show projects built upon objectives of conserving and developing ecosystems so they can continue to provide ecosystem services, essential for human well-being. In Nedre Dalälven River Landscape, focus is on the restoration and conservation of the floodplain meadows, in the East Vättern Scarp Landscape the broadleaf trees, and in Kristianstads Vattenrike the cranes. Blekinge Archipelago's and Lake Vänern Archipelago's projects are similar in that the sustainable outdoors tourism they aim at developing is based on local nature and culture assets. Hiking, biking and boating routes and the local businesses built up around them require healthy and inviting ecosystems to attract the target groups.

UNESCO's MAB Programme sees humans as part of, not apart from nature. This view is reflected in the realization that human practices such as haying and letting cattle graze the floodplain meadows, the feeding of cranes and the investment in broad leaf trees, are often essential to produce desired ecosystem services.

6.5. Promoting learning and awareness-raising

In order for the SDGs to be met, an extensive transformation of society is needed, according to Sweden's National Delegation for the 2030 Agenda. This transformation is a learning process, where new and innovative models and methods for governance need to be developed.

The biosphere reserves' journeys towards the UNESCO designation and their collaborative approaches are learning and trust-building processes in themselves, where such new governance methods are developed and tested. Indeed, the underlying idea with UNESCO Biosphere Reserves is to develop, strengthen, test and spread models for sustainable development.

The involved actors can exchange, and "co-create" knowledge about their biosphere reserve and develop a common vision for the area. For example, the development of the biosphere reserves' local action plans/vision documents/strategies, described in section 4.1.2, can "create mandate for them to work for sustainable development of the area (Axelsson et al. 2011, p. 11). Learning is also the motivating factor behind the MAB National Committee members' engagement in the programme. They mean that the learning possibilities offered in the committee contribute to the achievement of their internal goals on sustainable development.

In the East Vättern Scarp Landscape, the journey from conflict to collaboration has been – and still is - a learning process. In Kristianstads Vattenrike, the change of perception of the

wetlands from “swampy” to a landscape of richness was also, to a large extent, a matter of knowledge. Lake Vänern Archipelago’s set-up of targeting systems actors on the one hand and user groups on the other, turned out to be a successful concept that they apply in other projects and situations.

The notion of biosphere reserves as learning sites is supported in the literature. There, biosphere reserve organisations are put forward as potential platforms for mutual and collective learning (Ishwaran et al. 2008; Schultz and Lundholm 2010) through knowledge exchange between stakeholders with different perspectives, by coordinating and supporting the generation of new knowledge and by framing and targeting knowledge to target groups such as students, public authorities and land owners (Schultz and Lundholm 2010).

The public’s awareness about sustainable development and the Agenda is a prerequisite for its implementation, underlines the Sweden’s National Delegation for the 2030 Agenda. Communicating the Agenda is largely a question of education and learning and education for sustainable development is a central theme in UNESCO’s MAB Programme and in the biosphere reserves. The biosphere reserves are at the forefront of using and spreading new knowledge and new concepts from the sustainability literature. Concepts such as adaptive governance, resilience and ecosystem services are frequently used, not only in the internal documents, but also in the external communication. All Swedish biosphere reserves also train biosphere ambassadors. Moreover, they function as catalysers and mediators and aim to inspire existing organizations to work according to the biosphere reserve model. Therefore, running and “owning” projects themselves are often not the main goals for biosphere reserves. Rather, they want to inspire work according to the biosphere model in existing structures.

Not only do the biosphere reserves spread new knowledge. With their local and contextualized sustainable development practices, they attract researchers and have contributed to and inspired theories on governance for sustainable development (e.g. Folke et al. 2005; Ishwaran et al. 2008; Edge and MacAllister 2009; Schultz et al. 2015).

In the report “The Process of creating Biosphere Reserves”, the authors conclude that “Common to all Biosphere initiatives is that they contribute to people beginning to see their surroundings through new eyes, which in the long term gives the opportunity to generate new life force and location identity” (Swedish Environmental Protection Agency, 2013, p. 59).

7. Conclusions - Ways Forward

The MAB programme in Sweden has over ten years of experience in integrated sustainable development practices. In this report, we have investigated how the MAB programme in Sweden with its five biosphere reserves can contribute to the implementation of the UN 2030 Agenda and the Sustainable Development Goals in Sweden. We have identified five main functions that the biosphere reserves fulfil in sustainable development, functions that complement the implementation work already being made by public authorities, NGO's and other actors in the Swedish society.

We have found that biosphere reserves:

- 1, *Function as Platforms for collaboration.* They gather and coordinate existing initiatives, actors and/or experiences, bridge and mediate between actors and have a holistic and cross-sectoral approach to sustainable development.
- 2, *Connect actors: Vertically and horizontally.* They stimulate collaboration across administrative or geographic boundaries, across sectors and between different levels of governance.
- 3, *Integrate the 2030 Agenda goals.* They identify synergies between the Sustainable Development Goals and create win-win-win solutions.
- 4, *Maintain healthy ecosystems.* They acknowledge that healthy ecosystems are a prerequisite for human wellbeing and a progressive economic development.
- 5, *Promote learning and awareness-raising.* They develop new and innovative models and methods for governance, support education for sustainable development and connect actors in learning networks.

The global challenges illustrated in the 2030 Agenda are complex, cross-scale and interdisciplinary. Innovative models and methods for governance that integrate the social, economic and ecological dimension of sustainability and provide cross-scale and interdisciplinary solutions are called for by the Swedish delegation for the 2030 Agenda. Considering the five functions identified in this report, we suggest that the Swedish biosphere reserves provide such models. These are models that could be scaled up and applied in other context.

In the report, we have also identified four main pathways to strengthening and developing the MAB programme in Sweden on a national level in order to further advance its role in implementing the 2030 Agenda in Sweden (See chapter 5.4.).

- 1, *Funding.* To strengthen the individual biosphere reserves and the programme as a whole, to scale up and down examples of sustainability practices and to spread models for sustainable development require more resources for administration and coordination. The basic support necessary is however relatively small considering the potential effects of such an investment.

2, *Broadening the committee.* There are plans to broaden the MAB National Committee so that it better reflects the social, economic and environmental dimensions of sustainable development. The benefits of engaging in the committee were illustrated in chapter 5.3. Besides from being a part of a network that is at the forefront of advancing sustainable development practices, the engagement also contributes to the member organisations internal goal achievements.

3, *Research.* Science, research and education for sustainable development are central to UNESCO's MAB Programme. A strong, national administration for the MAB programme in Sweden is desirable in order to strengthen those functions. A national "MAB council" could coordinate research in, for and about biosphere reserves and serve as a channel between the research community and the biosphere reserves, connecting researchers and practitioners.

4, *Communication and coordination.* Today, the biosphere reserves and the MAB programme in Sweden as a whole are relatively unknown among the public. Resources are needed to develop a clearer and stronger trademark to lean on when networking and spreading the good examples from the biosphere reserves.

To summarize, the biosphere reserves' work is based on collaboration, learning and a holistic view on people and nature. Their thorough experience of integrated work with sustainable development in practice in a Swedish context make them suitable as strategic areas to learn from, support and invest in when implementing the UN 2030 Agenda and the SDGs in Sweden.

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Suggested further reading

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Swedish Biosphere Reserves as Arenas for Implementing the 2030 Agenda

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This report investigates how the MAB Programme in Sweden, with its five biosphere reserves, can contribute to the implementation in Sweden of the United Nations 2030 Agenda for Sustainable Development.

Five main functions the biosphere reserves fulfil in sustainable development are identified:

Platforms for collaboration

Connecting actors - Vertically and horizontally

Integrating the 2030 Agenda goals

Maintaining healthy ecosystems

Promoting learning and awareness-raising

Functions that complement the implementation work by public authorities, NGO's and other actors.

The biosphere reserves' (BRs) work is based on collaboration, learning and a holistic view on people and nature. The BRs thorough experience of integrated work with sustainable development in practice in a Swedish context make them suitable as strategic areas to learn from, support and invest in when implementing the UN 2030 Agenda and the SDGs in Sweden.

The report also propose pathways to strengthen and develop the MAB Programme in Sweden on a national level in order to further advance its role in implementing the 2030 Agenda in Sweden.

