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Planning for sustainable development and tourism in biosphere reserves: a metagovernance appraisal

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ABSTRACT

Biosphere Reserves can be incubators for innovative approaches that foster sustainable tourism and destination resilience. Yet, research focusing on management and planning at Biospheres Reserves is limited and fragmented. In particular, it fails to address how the overarching Biosphere Reserve programme and the UN-SDGs framing influence Biosphere Reserve at the site level. The aim of this study is to analyse tourism-relevant policies and regulations implemented at Biosphere Reserves and the currently overlooked nexus between the Biosphere Reserve programme and the UN-SDGs. Two Biosphere Reserves sites were chosen for this study: the Archipelago Sea Area Biosphere Reserve in Finland and the Galloway and Southern Ayrshire Biosphere in the United Kingdom. A metagovernance appraisal was adopted to analyse context and processes, governance archetypes, limitations and metagovernance alternatives. The findings indicate that there are different political and institutional governance framings at the two reserves leading to diverging approaches to sustainable tourism. Additionally, sites resort to metagovernance alternatives to address governance shortcomings and foster policy coherency. This study contributes to a greater understanding of governance practices within the context of Biosphere Reserves and provides a timely appraisal of site planning and metagovernance from a public policy and tourism perspectives.

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1. Introduction

UNESCO Biospheres Reserves are 'sites for testing interdisciplinary approaches to understanding and managing changes and interactions between social and ecological systems' (UNESCO, 2023, n.p.). These sites prove to be ideal candidates for the

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implementation of sustainable tourism initiatives for the protection and promotion of cultural heritage, natural heritage and biodiversity (Hall, 2008). As the UNESCO Man and Biosphere (MAB) Strategy 2015–2025 (UNESCO, 2015, p.18) highlights, Biosphere Reserves can act as incubators of ‘innovative approaches that foster the resilience of communities and opportunities for youth through livelihood diversification, green businesses, and social enterprise, including responsible tourism and quality economies’.

The emphasis on sustainable development at Biosphere Reserves can be traced back to the Seville Strategy and Statutory Framework of the World Network of Biosphere Reserves (hereafter, the WNBR) (Ferreira et al., 2020; Ishwaran et al., 2008; Pool-Stanvliet & Coetzer, 2020). Although the role of tourism in Biosphere Reserves has long been recognised (Hall, 1992), its potential to contribute to the development of Biosphere Reserves has recently gained relevance in research and practice (Hopstadius, 2019). According to Gebhard et al. (2007), sustainable tourism at Biosphere Reserves can benefit both environmental conservation and the socio-economic development of local communities. Contrary to strictly regulated protected areas, Biosphere Reserves provide the conditions for harmonizing initiatives around sustainable development, biodiversity protection and system ecology (Job et al., 2017). As Abreu et al. (2022) argue, Biosphere Reserves are home to seemingly pristine sites that can appeal to different tourism niche markets and outdoor recreationists who want an experience that is closer to nature. Nevertheless, current sustainable tourism rationalization, raises questions as to how sustainable tourism discourses are framed and, at times, manipulated to appease industry interests (Fazito et al., 2016), as opposed to the principles of the MAB programme.

However, little attention has been paid to the dissonance between the principles enshrined in international agreements such as the World Heritage Convention and the clashes between tourism development and site preservation under the UN-SDGs and Agenda 2030 (Adie, 2019, 2025; Liuzza & Meskill, 2023). Comparative studies focusing on tourism and sustainable development at Biosphere Reserves from a public policy and governance perspective are scant. Based on their review of the literature on Biosphere Reserves, Ferreira et al. (2020) emphasise the need for better geographic representation as well as more research the institutional changes needed for Reserves to pursue their goals concerning the UN-SDGs. There are also currently no studies looking at the link between Biosphere Reserves and the UN-SDGs in tourism from an argumentative policy analysis perspective. For example, while Job et al. (2017) examines the implementation of the UN-SDGs in Biosphere Reserves from a sustainable tourism perspective, they assume standardized governance modes across all sites. Overall, the current tourism literature fails to address policy framing and the nexus between sustainable tourism development, UNESCO Biosphere Reserves and the UN-SDGs. In comparison, studies from natural sciences and environmental management have highlighted the issues around planning, policy and governance in the context of Biosphere Reserves (Aschenbrand & Michler, 2021; Stoll-Kleemann & O’Riordan, 2017).

The following study seeks to fill this gap by analysing tourism-relevant policies and regulations implemented at Biosphere Reserves while addressing the currently

overlooked nexus between the MAB and the UN-SDGs. Two Biosphere Reserves sites were chosen for this study: the Archipelago Sea Area Biosphere Reserve (hereafter, ASABR) in Finland and the Galloway and Southern Ayrshire Biosphere (hereafter, GSAB) in the United Kingdom. A metagovernance appraisal is applied to analyse the regulatory mechanisms and the multiscalar policy framing that combines hierarchical, network and market archetypes of governance (Meuleman, 2020). This study contributes to a greater understanding of institutional determinants and governance processes within the context of Biosphere Reserves. Additionally, it provides a timely comparative appraisal of site planning and governance from a tourism public policy perspective.

2. Literature

2.1. Sustainability and tourism in Biosphere Reserves

Sustainable development in the context of Biosphere Reserves gained relevance following the World Congress on Biosphere Reserves held in Seville in 1995 (Hopstadius, 2019; Job et al., 2017; Van Cuong et al., 2017). The Seville strategy acknowledged the importance of 'economic and human development' (UNESCO, 1996, p. 16) as part of the key functions of Biosphere Reserves, in combination with ecosystem conservation, research and environmental education (Pool-Stanvliet & Coetzer, 2020). According to the Seville strategy, the Reserves were meant to showcase successful approaches to sustainable development and conservation (UNESCO, 1996, p. 16). The emphasis on sustainable tourism development has since gained increasing recognition in Biosphere Reserves, especially as a means to foster local participation and bottom-up development initiatives in remote regions (Córdoba Azcárate, 2010; Fazito et al., 2016; Habibah et al., 2013; Olson, 2012). Sustainable tourism development in Biosphere Reserves is perceived as complementary to ecological, landscape conservation and cultural priorities of communities, and it is viewed as a flywheel for the pursuit of the ambitious UNESCO sustainability agenda (Hopstadius, 2019; Van Cuong et al., 2017).

Biosphere Reserves, especially those designated after the release of the 1995 Seville strategy, represent 'a novel approach to conservation and sustainable development that human-beings are attempting to achieve' (Van Cuong et al., 2017, p. 16). In principle, sustainable development is a quintessential condition for the sites to be part of the WNBR (Price et al., 2010). However, the effectiveness of the WNBR in fostering sustainable development initiatives in Reserves is not yet visible (Van Cuong et al., 2017). To date, win-win initiatives that positively impact both development and conservation are the exception, with trade-offs prioritizing development gains at the expense of environmental protection being the norm (Ferreira et al., 2020; Fletcher, 2012). With regards to tourism development initiatives, Hill et al. (2016) suggests that the shift towards market-oriented governance modes presents a challenge to small and indigenous community efforts to pursue a balance between sustainable economic development and conservation.

However, tourism in sustainable development discourses around Biosphere Reserves is far from straightforward. On the one hand, there is evidence and increasing concern

as to whether sustainable tourism might expose Reserves to further biodiversity loss and species endangerment (Belicia & Islam, 2018; Mach et al., 2023). On the other hand, the promotion of tourism in Reserves is expected to not only be beneficial to socio-economically disadvantaged regions but to also boost community and tourist support for conservation and the development of good management practices (Brenner & Job, 2006; Hoppstadius, 2019). Focusing on ecotourism development projects in Biosphere Reserves, Olson (2012) observed that these initiatives, while ostensibly focused on the creation of new economic opportunities based on site conservation and protection, ultimately promote a neoliberal, capitalist ideology, 'even if this is not an explicit goal' (ibid., p. 218). In practice, ecotourism development discourses are context-dependent and can vary depending on the type of project and the complex social and ecological factors that influence stakeholders (Fazito et al., 2016; Olson, 2012; Olson & Gerritsen, 2011).

2.2. Governance in Biosphere Reserves

Governance is regarded as a key factor for Biosphere Reserves (Van Cuong et al., 2017) and for the alignment of the tourism sector with broader sustainable development goals and international policy frameworks, but the implementation of sustainable development initiatives is highly context dependent. For example, in the context of Southern Africa, Spenceley (2008) suggests that planning, policy and tourism management are important in nature-based tourism initiatives in Biosphere Reserves. However, UNESCO Biosphere Reserve listing is merely used as way to enhance visibility and funding for existing protected areas, as was observed across sites in Central Europe (Schliep & Stoll-Kleemann, 2010). Findings from El Vizcaino Biosphere Reserve in Mexico show that there are complementary socio-economic and governance steering modes at play (e.g. big business interests and misgovernment) that can limit the potential contribution of tourism development to local communities (Hill et al., 2016). In contrast, evidence from the Espinhaço Range Biosphere Reserve in Brazil shows that tourism development initiatives can be hampered in favour of other interests and resource use within the Reserve (e.g. mining) (Fazito et al., 2016).

Previous research on sustainable tourism development and Biosphere Reserve governance has mainly focused on land zoning (Pool-Stanvliet & Coetzer, 2020). According to Van Cuong et al. (2017), zoning is the key spatial planning mechanism to help 'achieve the goals of sustainability by harmonising interactions between people and the environment across the landscape' (ibid., p. 9). Zoning can be implemented alongside local supply chain schemes to set a standard for the production and purchase of locally and sustainably produced goods (Kraus et al., 2014). Zoning regulations for Biosphere Reserves can reinforce conservation and protection of already listed natural World Heritage sites (Job et al., 2017). Van Cuong et al. (2017) stress on the integration of Biosphere Reserve principles within zoning as a *sine qua no* condition to funnel resources for the implementation of sustainable site management practices and promote participative forms of collaboration and governance. This echoes Job et al. (2017, p. 18) recommendation for strict land zoning at Biosphere Reserves 'for the successful integration of conservation and development and, as such, a necessary step towards improving natural resource protection and societal equity'.

2.3. Archetypes and failures in Biosphere Reserves governance

As per the Seville Strategy, listed Biosphere Reserves are required to submit a periodic review every 10 years (Ishwaran et al., 2008; UNESCO, 1996; Van Cuong et al., 2017). The Strategy also delineates the functions of the WNBR regarding the support provided to individual Reserves as well as the ‘understanding, communication and co-operation at regional and international levels’ (UNESCO, 1996, p. 16). While tourism is not explicitly mentioned, it permeates through the various components of the Biosphere Reserve governance system, from the global to the local (vertical governance) as well as across planning and policy levels (horizontal governance) (Hall, 2007, 2008; Mach et al., 2023).

All reserves are required to develop management plans that ‘follow the same global philosophy and always act through zoning the protected areas’ (Córdoba Azcárate, 2010, p. 103). The periodic reporting, however, is the only global instrument available to assist the WNBR in providing guidance to reserve managers (Ferreira et al., 2020; Reed & Egunyu, 2013). On paper, the periodic review and the WNBR are expected ‘to contribute to wider goals to safeguard the special characteristics of sites which may be regarded as *global common goods*’ (Price et al., 2010, p. 550, emphasis in the original). In practice, the WNBR monitoring is limited to assessing zoning regulations and overlooks governance and management practices (Reed & Egunyu, 2013; Van Cuong et al., 2017). Additionally, Reserves under the WNBR scheme are not spatially exclusive, with several sites overlapping with other designations and entities, such as the World Heritage List or the Global Geopark Network (Price et al., 2010).

Currently, site level Biosphere Reserve governance follows the community-based conservation archetype, which is the most commonly used steering mode for the integration of conservation management with local knowledge and resources (Fletcher, 2012). However, modes of governance where community initiatives are defined by market forces can result in decision-making power shifting away from the local level (Hall, 2008; Hill et al., 2016). Furthermore, the IUCN raised concerns over the noticeable drops in protection and management performance at natural sites and Reserves as well as the role that tourism plays as an anthropogenic stressor (Osipova et al., 2017).

Market-oriented mechanisms at Biosphere Reserves can weaken conservation measures and exacerbate power asymmetries between stakeholders across scales (Fletcher, 2012; Hill et al., 2016; Lamers et al., 2014). This highlights the development of structural and agency-driven issues, which Jessop (2011) refers to as governance failures. As Lamers et al. (2014, p. 475) warn, the proliferation of market-based approaches ‘such as those of the tourism industry, will eventually prevail over conservation and development interests’. Similarly, solutions that feature market and community archetypes wherein international NGOs assist communities with funding, skill development and access to international tourism markets (Lamers et al., 2014) can create power asymmetries and, potentially, governance failures. Community-based ecotourism approaches designed to integrate conservation and development have fallen short in providing examples of genuine community-driven steering modes (Fletcher, 2012; Ishwaran et al., 2008). Arguably, this occurs in contexts where state and market forces implement top-down governance processes that disincentivise local pro-conservation tourism initiatives to favour external private interests (Hill et al., 2016).

Governance limits and failures can be traced back to the erosion of those same institutions that are meant 'to influence policy and politics so as to generate simultaneous benefits for people, biodiversity, ecology and economies of biosphere land- and seascapes' (Ishwaran et al., 2008, p. 127). Arguably, the establishment of conservation tourism enterprises in Biosphere Reserve can overcome issues around transparency, community contractual power and ownership (Lamers et al., 2014). Yet, these alternative steering modes require strong institutional and political legitimacy for long-term and sound governance effects (Lamers et al., 2014) to ensure both the will of the communities and the well-being of target species and conservation (Mach et al., 2023). A solution is for 'user and policy communities [to] align their aims and desired outcomes, as well as coordinate their mechanisms of governance' (Mach et al., 2023, p. 1469), thus creating a lasting and reinforcing circle in line with the Biosphere Reserve principles (Job et al., 2017). Within such a regime, tourism industry interests can be reframed to align with global level initiatives for greater wildlife equity.

2.4. Theoretical framework: metagoverning Biosphere Reserves

This study examines the *macro-to-meso* policy coherence within the MAB Programme, the WNNBR, and the UN-SDGs, complemented by an argumentative policy analysis of site-level tourism planning and policy practices (see Santos-Lacueva & Velasco González, 2018). Adopting a metagovernance perspective, the analysis identifies criticalities in both horizontal and vertical governance, spotlighting limits, failures, and potential responses. Previous research has often focused either on site-specific management challenges, such as overtourism in cultural heritage sites (Kordej-De Villa & Šulc, 2021), or on sustainable tourism development in World Natural Heritage Sites and Biosphere Reserves, often overlooking their alignment with the UN-SDGs (Buckley, 2018). Drawing on Lamers et al. (2014) and Mach et al. (2023), this study advances a *meso-to-micro* analysis of governance in Biosphere Reserves, particularly addressing supply-side failures and proposing metagovernance solutions while considering overlapping zoning and designations (Schaaf & Rodrigues, 2016).

Thus, the research employs a dual analytical approach: a *macro-to-meso* analysis that assesses policy coherence across governance tiers, and a *meso-to-micro* analysis that traces the translation of these policies into site-level tourism planning and management practices. This multi-level perspective, guided by metagovernance, not only highlights structural coordination challenges but also explores the adaptive capacities required to harmonize global sustainability objectives with localized tourism realities.

Figure 1 provides an overview of the policy framework at the heart of this study. The framework acknowledges the top-down function of the MAB Programme in guiding the Biosphere Reserves listed in the WNNBR (Pool-Stanvliet & Coetzer, 2020). To date, the 738 Biosphere Reserves across 134 countries are directed by the founding Statutory Framework of the WNNBR and the Lima Action Plan, with the latter focusing on the contribution of the MAB Programme to the UN-SDGs (Pool-Stanvliet & Coetzer, 2020). Figure 1 stresses the use of Biosphere Reserves and the MAB Programme as international cooperation tools and highlights the structure of the WNNBR (Ishwaran et al., 2008). At the same time, it recognises the current global governance regime and the positive role that it has played in the increase of successful cases of reserve

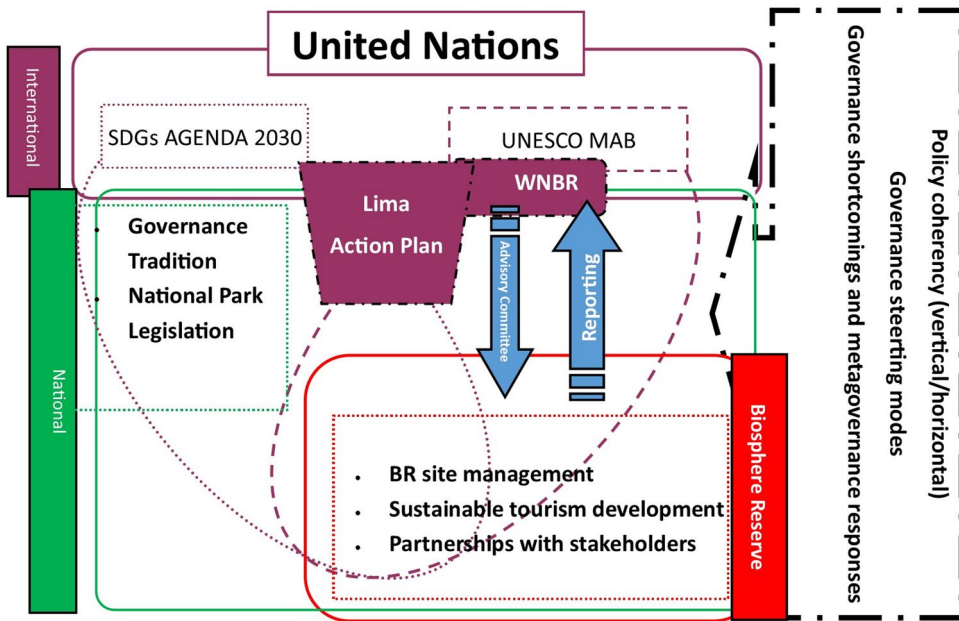


Figure 1. The governance of MAB and the SDGs for Biosphere Reserves.

management, especially across sites listed after 1995 (Van Cuong et al., 2017). Many tourism development practices at Biosphere Reserves are far from being equitable and highlight the need for critical and argumentative policy analysis to illustrate the socially and politically constructed contradictions between tourism, development, sustainability, ecological vulnerability and biodiversity protection.

The proposed framework also recognizes the mechanism of periodic reporting by Biosphere Reserves to the UNESCO MAB Programme (bottom-up) and its ability to foster adaptive learning and management within the WNBR (Van Cuong et al., 2017). The latter is designed to function as the main source of information for the sharing of best practice across the network and to reinforce good governance principles, which then permeate informal and formal site structures *via* thematic networks (Ishwaran et al., 2008; Van Cuong et al., 2017). Nonetheless, there can be instances, as in the case of tourism development projects, where vertical integration is not enough to ensure sound sustainability solutions (Hill et al., 2016). Rather than merely presenting shortcomings, the proposed framework posits the centrality of multi-scalar environmental governance (Brenner & Job, 2012; Job et al., 2017) and the revised role of the WNBR and the MAB Programme.

Questions also arise as to the challenge in balancing economic development, environmental conservation, and cultural preservation of Biospheres Reserves. Buckley (2018) points to the necessity of looking at the relationship between World Heritage sites and tourism from a global and macro perspective that includes the study of legal and political mechanisms. Yet, as Hall (2008, p. 136) observed, 'tourism policy and planning is clearly impacted by a far wider range of policy areas than just tourism, especially within the context of multi-layered governance when decisions at an international level with respect to an area, such as 'heritage' or 'environment', affect

'tourism' at the local or firm level'. Particularly with the UN-SDGs, there is a need for 'a holistic view ... to keep in mind the importance of the whole and the interdependence of its parts, both horizontally and vertically' (Meuleman, 2020, p. 278). According to Meuleman (2020, p. 194), 'metagovernance can be used to analyse, design and manage the governance frameworks that should help implementing the related Goals.'

3. Methodology and analysis

This study focuses on two Biosphere Reserves: the ASABR in Finland and the GSAB in the United Kingdom. These sites were selected as they exhibit diverse ecosystems, administrative boundaries and national-level environmental governance regimes for Biosphere Reserves within a specific macro-region (i.e. Europe) (see Table 1 for details). They have also been listed for over ten years, meaning that they have reported to the UNESCO MAB and the WNBR at least once. Aspects like document accessibility, awareness of respective national governance regimes and reforms over the years (Lundén et al., 2025; Price, 2019), and native language skills were also considered in the selection of the two Reserves. The inclusion of sites inscribed right before and after the launch of the Seville Strategy, moreover, allows for a comparative appraisal of sustainable development approaches at the two Reserves.

Documents from the UNESCO MAB Programme, the WNBR, the respective National Committees and from the selected sites were collected as well as complementary documents from the UN-SDGs Programme and relevant Destination Management Organizations (DMOs) in order to analyse the pursuit of sustainable tourism development and the UN-SDGs in the two Biosphere Reserves. For the purposes of this study, the aforementioned documents are referred to as policy outputs, the end process of episodes of governance (Dredge & Jenkins, 2012; Healey, 2006) and as a temporal reference to reflect and evaluate activities in Biosphere Reserves (Berkes, 2010; Reed & Egunyu, 2013). This study features a qualitative content analysis featuring three rounds of coding (Table 2). The first round of coding features policy and planning dimensions drawn from Ferreira

Table 1. Key features of selected Biosphere Reserves.

	Archipelago Sea Area Biosphere Reserve (Finland)	Galloway Southern Ayrshire Biosphere (United Kingdom)
Year of inscription	1994	2012
Area (ha)	540,000	526,800
Residents	3,650	95,000
Thematic Network	World Network of Island and Coastal Biosphere Reserves	EuroMAB
Presence of other sites	Archipelago National Park	Galloway Forest Park Broughton House & Garden* Threave Garden & Nature Reserve* Rockcliffe*
Borders	Finland and Åland Islands (sea)	Scotland and Northern Ireland (sea)
Ecosystem features	Terrestrial and marine habitat Sea area is a remnant of the <i>Svecofennides</i>	Heathland and mires with some patterned bogs Roosts for geese and swans from the Arctic
Socioeconomic features	Fishing and hunting activities	Farming and sheep husbandry
Visitors (year)	72,590 (2019)	900,000 (2019)

*Sites run by the National Trust of Scotland.

Table 2. Rounds of coding for document analysis.

Rounds	1 st round	2 nd round	3 rd round
	<p>Context</p> <ul style="list-style-type: none"> • Organizations • Inter-organization relationships • Legislation and land tenure <p>Processes</p> <ul style="list-style-type: none"> • Management Plan • Coordination of activities inside the BR • Multi-lateral policy to monitor environmental, social, cultural and economic impacts 	<p>Archetypes</p> <ul style="list-style-type: none"> • Hierarchy-Network • Network-Market • Market-Hierarchy • Market-Community <p>Steering modes</p> <ul style="list-style-type: none"> • Top-down • Bottom-up • Community-driven • Market-driven • Bureaucratic/Technocratic 	<p>Challenges and Reasons for failure</p> <ul style="list-style-type: none"> • Ineffectiveness • Bureaucratization • Red tape • Extra-territorial events <p>Metagovernance response</p> <ul style="list-style-type: none"> • Awareness of meta-control and meta-coordination • Promotion of policy coherence, e.g. • Policy coordination • Integration • Alignment (to SDGs) • Compatibility • Reconciliation • Empowerment of stakeholders

Adapted from: Adie and Amore (2020), Amore and Hall (2016), Jessop (2011), Ferreira et al. (2020), Hall (2011), Meuleman (2008, 2018) and Spenceley (2008).

et al. (2020) and Spenceley (2008) to evaluate Biosphere Reserves management effectiveness and essential features in sustainable tourism development in Reserves. The second round, instead, builds from the works of Meuleman (2008) and Amore and Hall (2016) on metagovernance steering modes in public policy and tourism planning. Finally, the third coding refines the extracts in light of the recent advancements in metagovernance and the UN-SDGs (Meuleman, 2020) and tourism (Amore, 2025; Hall et al., 2023).

4. Findings and discussion

Since their inscription, both the ASABR and the GSAB have been confronting widespread ecological challenges. The ASABR's fragile ecosystem faces eutrophication from toxic cyanobacteria growth, marine biodiversity loss due to human activity, and terrestrial biodiversity decline caused by reduced animal grazing. The area home to the GSAB has also been experiencing biodiversity loss as well as a decrease in woodland and significant degradation of peatland, which eventually led to a revision and stronger reinforcement of the existing Natural Heritage Management Plan.

4.1. Context and processes

The ASABR and the GSAB are characterized by the same land zoning principles in adherence with the Seville Strategy. In both cases, the core zone is a national park (see Table 1), but land management and ownership within the buffer and transition zones varies. For example, in the ASABR, the buffer zone is predominantly privately owned, whereas the transition zone is where most of the local population resides (ASABR., 2016). In comparison, in the GSAB, Galloway Forest Park (i.e. public land) encompasses both the core and buffer zones, while the majority of the transition

zone is privately owned. However, there are areas within the transition zone that fall under the Reserve's Natural Heritage Management Plan, which was introduced in 2018 to expand the protection of High Focus Habitats beyond the core and buffer zones (GSAB., 2018). The degree of and control over development and conservation at the two Reserves also differs depending on the zoning and variations in the respective national and regional Protected Area legislations. The core zone of the ASABR falls under the Finnish national legislation that covers national park management. Similarly, the core zone of the GSAB includes sites with special nature conservation designations for scientific research and conservation, and the buffer zone area, as it includes Galloway Forest Park, is subject to the regulations of Forestry and Land Scotland.

The roles and spheres of action of regional and local authorities within the two Reserves also differ. In the ASABR, the municipalities of Kimitoön and Pargas coordinate with the ELY-Centre, which is primarily responsible for the coordination and financing of the Reserve by mandate of the Finnish Ministry of the Environment. The collaboration between these entities is formalised through cooperation agreements and the activities are overseen by a Steering Group that also includes the Universities of Åbo Akademi and Turku and Metsähallitus, with the latter responsible for natural and cultural preservation and nature-based tourism promotion in the Reserve. The GSAB, instead, is managed by an *ad hoc* partnership established following the listing of the Reserve in 2013, with a Biosphere Partnership Board that includes appointed members from the public, private, community and the third sector (GSAB., 2016). Unlike the ASABR, the GSAB is a registered Scottish charity with the authority to buy land based on regional legislation (GSAB., 2016).

The land tenure differences and the multiplicity of management structures at each of the Reserves results in complex governance systems, with varying levels of community inclusion. This is unsurprising as previous research has questioned how best to foster community-led initiatives across Reserves while functioning within a top-down system at the international level (Schultz et al., 2011). In the ASABR, the governance structure has been characterized by a shift 'from the regional government, closer to the municipalities, the local community and to archipelago inhabitants' (ASABR., 2016, p. 106). Conversely, the governance of the GSAB has had a community approach since its establishment, with the Biosphere Partnership comprised of local business, community and organisational representatives.

Looking at the tourism-relevant policy processes, the documented policies and planning systems indicate that the two Reserves foresee a coordinated approach to sustainable development, although the successful implementation of this varies between the two. In the case of the ASABR, tourism activities vary depending on their location within the Reserve, with Metsähallitus monitoring and measuring tourism impacts within the core zone and the Steering Group defining tourism-related initiatives in the buffer and transition zones (ASABR., 2016). In the GSAB, the charitable organisation responsible for the Reserve has a greater involvement with the development and promotion of sustainable tourism practices (i.e. tours) (GSAB., 2016, 2024). As the findings suggest, tourism development within the Reserves seeks to go beyond tourism-centric perspectives through small-scale local initiatives that acknowledge the centrality of environmental protection (Bianchi, 2018; Saarinen, 2013).

4.2. Archetypes and steering modes

Previous studies noted the challenges with vertical integration between the WNBR and the Reserves within the network (Van Cuong et al., 2017). The findings from this study suggest different engagement approaches between the ASABR, the GSAB and other Biosphere Reserves. The ASABR sporadically refers to the dedicated thematic network within the WNBR (i.e. the World Network of Island and Coastal Biosphere Reserves) to facilitate research and knowledge exchange on the sustainable management of islands and coastal zones, with an emphasis on shared global challenges. The GSAB, instead, have recently invited representatives from the EuroMAB network to meet with relevant local stakeholders and members of the Biosphere Partnership to exchange best practices in sustainable development.

At both ASABR and GSAB Reserves, the governance systems exhibit traits of hierarchical, networked and market governance steering modes, the latter of which is particularly relevant for tourism and agricultural development (Meuleman, 2008). This is observed in the promotion of artisanal food and sheep grazing at the ASABR as well as other activities such as the renting of historic premises like the old fishing village in Brännskär, a well-known tourist destination today, serving sailing visitors (ASABR., 2016). Similarly, the GSAB has adopted market-style approaches, including the Biosphere Certification Mark for those tourism and hospitality services that align with the Reserve's commitment to the promotion of sustainable business operations (GSAB., 2022).

Governance steering modes at both Reserves are far from perfect and bear the marks of public sector reforms in Finland and the United Kingdom. Looking at the ASABR, the reforms following the 2008 Global Financial Crisis had impacts on the management and allocation of resources for the Reserve (ASABR., 2016). Since then, the resources for the ASABR have been subject to austerity reforms affecting public funding, organizational operativity and management guidelines. Focusing on the GSAB, the establishment of the Reserve took place at a time when austerity measures were significantly impacting the operativity of existing entities across Scotland (Onyango et al., 2019). From the beginning, therefore, the GSAB had to deliver on expected environmental protection and site governance tasks amid organizational trimming and defunding.

A final aspect to consider concerns the influence of governance traditions at the national and regional level in Finland and the United Kingdom and how these, in turn, interpret and reframe the global Biosphere Reserves governance framework. In the case of the ASABR, Finland's governance approach emphasizes state oversight and public accountability over market-driven solutions (Lundén et al., 2025). This centralised, state-led model contrasts with the private and third-sector governance typical of the Anglo-Saxon governance system. Conversely, in the case of the GSAB, although there is local representation built into the management structure of the Reserve, actual decision-making processes frequently lack adequate consultation and consideration of local communities. These governance issues underpin previous observations on the uneasiness with market-driven approaches and conservation in Biosphere Reserves (Fletcher, 2012). It should however be noted that, in both Finland and the United Kingdom, there are similar legal principles granting freedom of

access to natural areas for recreational purposes, regardless of the type of land ownership.

Thus, it can be stated that, from a horizontal governance perspective, the permeability of the MAB Programme on governance steering modes and policy trajectories is limited and secondary to the governance traditions of the state. The vertical governance clashes observed in this study echo those of Adie and Amore (2020) in their study of transboundary World Heritage governance.

4.3. Governance challenges and metagovernance

In the case of the ASABR, the disappearance of vernacular knowledge combined with changing agricultural practices are impacting the local ecosystem. Additionally, socio-economic changes, due to a combination of local depopulation and a rise in second homeownership, suggest that the current approach to Reserve management requires stronger institutional formats and organizations to effectively address underlying structural issues. In the case of the GSAB, population shifts are also visible, with a growing retiree community but a rapidly shrinking pool of working age individuals. As a result, traditional agricultural landscape and associated local culture are at risk of disappearing (GSAB., 2022). Other governance challenges for the GSAB concern commercial afforestation, agricultural intensification and wind turbine developments. These developments are discordant with the traditional land use of the area and fail to address the current challenges of climate and nature emergencies that the GSAB is seeking to prioritise.

As for the integration with the UN-SDGs and tourism (Amore, 2025), the interventions observed at the Reserves vary. At the ASABR, market governance interventions have been developed to support local entities and communities in the promotion of cultural and natural resources in the Reserve. Sustainable tourism is primarily framed as a tool to fight depopulation and preserve the vitality of the archipelago through employment opportunities. This metagovernance approach blends market and hierarchical steering modes 'to stimulate and enable societal actors' (Meuleman, 2020: p. 119) in pursuing economic independency and sufficiency. In comparison, at the GSAB, the metagovernance approach by the managing authority combines network and market steering modes to foster carbon literacy and promote sustainable production and consumption, with initiatives like the Biosphere Certification Mark and the inclusion of the Reserve on Scotland's UNESCO Trails (GSAB., 2022).

The vertical integration with the Lima Action Plan is not explicitly mentioned in the material retrieved from the two Reserves. This can be explained, in part, by examining the rationale of the Strategic Action Area A.1, which devolves the responsibility for the implementation of the SDGs to national authorities and the Biosphere Reserves. With regard to the promotion and implementation of sustainable development initiatives, the Lima Action Plan follows the principle of vertical subsidiarity and horizontal integration at the site level. Thus, sustainable tourism development initiatives adhering to the SDGs are the responsibility of individual Biosphere Reserves, with the participation of businesses as external partners outside the reach of the MAB Programme and the WNBR. This mirrors the recommendations for metagovernance policy coherency and the SDGs (Meuleman, 2018) and governance practices

for sustainable local tourism development at World Heritage sites (Adie, 2019; Adie & Amore, 2020).

One current challenge for the ASABR concerns the very limited operative budget allocated to the Reserve Office. This restricts its ability to act on and control all but the very early stages of projects, which eventually need to be handed over to other entities to implement (ASABR., 2016). Another governance challenge is the limited visibility of the Reserve in broader planning documents, including national and regional sustainable tourism strategies (ASABR., 2016). Similarly to what has been observed with other Finnish park authorities (Lundén et al., 2025), the ASABR opted to focus the limited available resources on only minor site-level projects (i.e. grazing sheep, artisanal food, and school visits), leaving main planning and management control to the member organizations that are part of the Steering Group. Funding also represented a challenge for the GSAB during the first two years of operation. However, this was eventually addressed through partnership agreements with local authority partners and funding from the South of Scotland Enterprise (SOSE) (GSAB., 2022). The success in achieving operational continuity by the GSAB represents an important milestone for Scotland, where, in the early 2000s, two sites were withdrawn from the MAB (Price, 2002). Overall, while both Reserves appear to have been structured with the best of intentions in terms of sustainable development and conservation, their current governance and metagovernance systems are constrained in the successful implementation of these initiatives due to on the ground practicalities.

5. Conclusions

While tourism has increasingly been recognised as an important element of Biosphere Reserves and their economic valorisation (Job et al., 2017), the two cases here illustrate the risks associated with this approach. More specifically, the Finnish case illustrates the double-edged sword of marketable tourism landscapes. Notably, although tourism is being pushed as a means to deal with population decline in the Reserve by stimulating economic opportunities, the local population continues to decline while second homeownership booms. These rapid population changes impact local culture and traditional industries, notably agriculture, and the emphasis on a market-oriented activity as a depopulation solution may in fact create an environment wherein conservation is eventually downplayed due to an overemphasis on anthropogenic issues (Fazito et al., 2016; Lamers et al., 2014). Furthermore, the underlying emphasis on sustainable tourism development, particularly at the GSAB, is clearly still driven by a growth-oriented mindset, which poses a risk to the balance between conservation and sustainable tourism, in line with previous research (Hill et al., 2016).

Overall, the Reserves featured in this study have sought to create systems that centre sustainable development and conservation. However, the emphasis on market-driven governance to address sustainable development, has resulted in structural and institutional shortcomings, such as lack of funding. The latter represents a systematic challenge observed also in regions outside Europe (e.g. United States, see Thomsen et al., 2021). With regards to sustainable tourism development, the 10-year reporting turnaround to the WNBR is too long compared to the practice we see with public policy and tourism organisations (usually 3 to 5 years). As such,

tourism-related issues are not featured in the reporting to the WNBR, with regulatory and planning oversight reported to respective national and regional level entities.

It should be noted that this study has several limitations. Both cases are located in wealthy European nations with established participatory governance practices and a more consolidated socio-political tradition of environmental protection in comparison with other regions. Future research should include a greater geographical breadth of cases across a variety of development levels as well as those with diverse governance systems. Future research should also include primary data collection to assess the perspectives of the relevant stakeholders within the Reserves as to the perceived functionality of the current governance systems, with a particular emphasis on decision-making processes. Furthermore, and echoing Ferreira et al. (2020), there is also a need for future research to engage more with transboundary Reserves, particularly given the complexity inherent in governing transnational properties.

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