SELINA

SCIENCE FOR EVIDENCE-BASED AND SUSTAINABLE DECISIONS ABOUT NATURAL CAPITAL

Country Fact Sheet

GERMANY

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Country Fact Sheet: Germany (DE)

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If you feel there are ongoing or upcoming research projects, policy initiatives or legislations, concerning the use of biodiversity, ecosystem condition and ecosystem services knowledge in decisions and policies, missing please contact inge.liekens@vito.be and we update the country fact sheet (until March 2027)

Contents

1 Update on projects concerning biodiversity, ecosystem condition and ecosystem services assessment and accounting since 2022

In Germany, the national research concerning biodiversity and ecosystem services (MAES process in the broad sense) started already around 2010 with "Natural Capital Germany - TEEB-DE". Building on the valuations in this project, recommendations for the development of a first national indicator set for the assessment of ecosystem services (for ca. 20 priority ES), were suggested (Albert et al., 2015) and further developed and agreed upon with experts (e.g. Grunewald et al., 2017).

In the last couple of years, diverse research projects have been executed on the topic of mapping, assessing and accounting for biodiversity, ES and EC. These national and international research projects have different specific research foci, consider diverse spatial scales, and involve different sets of stakeholders. One example of a national project is **Bio-Mo-D** (Appreciating biodiversity - modernising economic accounting in Germany). The project ran until September 2024 and aimed at integrating biodiversity and ecosystem services into economic accounting and reporting at governmental and corporate levels in Germany. By modernizing economic reporting according to the SEEA-EA framework, Bio-Mo-D enhanced the appreciation of biodiversity and ecosystem services among decision-makers and societal actors. The project has promoted interdisciplinary and transdisciplinary forums for stakeholders to exchange information on methods, standards, and policy interfaces for including nature's multiple values. It aimed to positively impact the shift towards more ecological business practices.

A second example is the transdisciplinary project **ValuGaps**, funded by the German Federal Ministry of Education and Research (BMBF), which runs until October 2024. The overarching project goal is to contribute significantly to anchoring the values of biodiversity and Natural Capital in Germany. ValuGaps aims at developing methods to close information gaps, i.e. by dealing with uncertainties, and gathering existing knowledge in such a way that it is ready for practical application by decision-makers.

The German MAES Report (Nature under pressure - Report on the state of ecosystems and their services for society and economy - German **MAES-Report** on Target 2, Action 5 of the EU-Biodiversity Strategy 2020) was published in December 2023. The Report details the state of terrestrial and marine ecosystems, focusing on agricultural and forestry soil conditions, forest monitoring, and ecosystem modelling. It covers ecosystem classification, recent changes, key indicators of ecosystem condition, and provides nationwide assessments and maps of ecosystem services. The report discusses strategies to prevent degradation of natural capital, ways to invest in nature for welfare enhancement, and Germany's global responsibility for ecosystem conservation.

1.1 Federal Statistical Office

In recent years, the Federal Statistical Office of Germany has developed ecosystem accounts to systematically capture and assess the interaction between humans and the environment. Generally, these accounts are based on the UN's SEEA EA framework and cover three main areas: extent, condition, and services of ecosystems. They document the various ecosystem types and their temporal changes. In a first step, the Federal Statistical Office has developed a **National Ecosystem Classification for Germany**, which was first published in 2021. Based on this classification, the Federal Statistical Office has created and published extent (Bellingen et al. 2021) and condition accounts for the diverse ecosystems classified in the National Ecosystem Classification. An **ecosystem atlas** with detailed maps and data has been developed which has the potential to support policy decisions and environmental management. In the future, the Federal Statistical Office will regularly update the extent and condition accounts and develop ecosystem service accounts, as well.

2 Examples of uptake in decision processes, regulations and/or legislation

- One example is the Federal Nature Conservation Act, which is the legal basis for nature and landscape conservation as well as nature/landscape management measures. According to the Federal Nature Conservation Act, various aspects of biodiversity, such as species and habitat protection, must be taken into account in various planning and authorization procedures. This may involve carrying out environmental impact assessments or preparing environmental reports, in which the impacts of projects on biodiversity must be assessed.

- Each federal state in Germany has its own nature conservation laws that complement the federal legislation. These laws often include specific requirements for biodiversity assessments at regional levels.

- The association Kommbio ("**Municipalities for Biodiversity in Germany**"), an alliance of currently 397 cities, communes and districts exchanging information and supporting each other in working for biodiversity on local and regional levels, celebrated her 10th anniversary in 2022.

- In addition, Germany also has a National Strategy on Biological Diversity, complying with the global Convention on Biological Diversity, which aims to conserve and restore the diversity of landscapes, plants and animals on the territory of Germany. The strategy is highly ambitious and includes concrete measures and targets for integrating biodiversity concerns into various policy areas, including agriculture, urban planning, energy and transport. The process of developing the new National Strategy on Biological Diversity is currently underway.

2.1 Potential facilitating factors/ leverage points

- Directives such as the EU Biodiversity Strategy and targets set by the European Union provide policy windows and a legal framework for Germany to align its national legislation and policies with broader European conservation and restoration goals.

- The availability of scientific research and expertise on biodiversity and ecosystem services likely provide evidence-based arguments for policy-makers to integrate these considerations into legislation and policy frameworks.

- A National Ecosystem Assessment (NEA-DE) has been discussed already a decade ago (Albert et al. 2014), but never initiated. Such an assessment could provide the knowledge base and trigger further policy and societal support (Albert et al. 2017).

- Public awareness and support for environmental conservation likely create a favourable political climate for policymakers to prioritize biodiversity and ecosystem services in legislation and policies.

3 Perceived barriers and needs to enhance uptake

3.1 Barriers

Certain industries or other stakeholders such as citizens may have been resistant to regulations or policies that impose additional costs or restrictions on their activities in the name of biodiversity, conservation, or ecosystem services preservation. More precisely, balancing biodiversity conservation with economic development interests has posed challenges, especially in sectors such as agriculture or energy, where there can be serious conflicts between conservation goals and economic interests.

Also, the complexity and uncertainty surrounding ecosystem services assessments and valuation may have made it challenging to integrate these considerations into policy frameworks in a standardized and consistent manner. Usually, decision-makers seem hesitant to deal with the large number of assessments methods but prefer to have one standardized approach at hand how to assess ecosystem condition and services. Ideally, many policymakers are looking for an all-in-one solution/indicator suitable for every purpose (e.g. the 1.5°C indicator as the ultimate goal to treat all aspects of climate change). Furthermore, potentially the coordination among different government departments and sectors, as well as between the different legislative levels of the German government (federal, state, and local), may have posed challenges in implementing integrated approaches to biodiversity conservation and ecosystem services management.

3.2 Needs

The potential facilitating factors, which have been defined above, should be strengthened in order to facilitate the uptake. The following actions might also support the uptake of biodiversity and ecosystem information in policy- and decision-making:

- Improving data availability, quality and standards. Efforts must be made to improve data collection and monitoring to enable informed decision-making. This can be achieved through investment in monitoring programs, technological innovation, and capacity building. Furthermore, it would be useful to indicate and consistently use uncertainty measures and to communicate them together with respective assessment results.
- The involvement of environmental organisations, local communities, and other stakeholders is crucial to ensure that biodiversity and ecosystem concerns are heard and considered throughout all stages of the policy-making processes. Raising the awareness of various social classes and stakeholder groups may increase the acceptance and support the faster implementation of needed measures.
- Helpful to have a collection of good/best practice examples, pioneers, and frontrunners as role models.
- Most importantly, policy incentives and instruments need to be created to facilitate the uptake in private decision-making. Incentives should be created to promote sustainable practices and measures to protect biodiversity and ecosystems. This can be done through the development and implementation of laws, guidelines, financial incentives, and other policy instruments.

4 On the way to transformative change

The overall conclusion of the IPBES global assessment (IPBES 2019) was that Goals for conserving and sustainably using nature and achieving sustainability cannot be met by current trajectories, and goals for 2030 and beyond, may only be achieved through transformative changes across economic, social, political and technological factors.

Transformative or transformational change refers to "a fundamental, system-wide reorganization across technological, economic and social factors, including paradigms, goals and values" (IPBES, 2019). Simply said, doing things really differently, rather than doing less or optimising the system.

A means to enhance uptake is bringing people of the quadruple helix together and exchange information and learn from each other. Another mean is to establish projects that can show that it works and lead to possible pathways of transformative change.

4.1 Community of practice

In January 2024, on the initiative of SELINA in collaboration with the projects BioMoD, ValuGaps, and the Innovation Network Ecosystem Services Germany ESP-DE, a Community of Practice was launched by means of a first workshop on "Transformation through cooperation: What makes knowledge transfer from ecosystem services, natural capital, and biodiversity research a success?". Nearly 30 participants from science, policy, NGOs, and businesses gathered in Hannover to foster collaboration and streamline efforts in utilizing ecosystem services and biodiversity research in Germany. They discussed coordination strategies, identified synergy opportunities, and laid the groundwork for the Community of Practice in Germany. Future CoP-DE thematic meetings are planned to take place once per year.

4.2 Seeds of transformative change

23 projects were nominated as seed in the online survey. Below some of them are mentioned:

- **Public welfare bonus** (Public money for public services - further development of a model for rewarding the environmental services of agriculture in agricultural policy) encourage farmers to adopt practices that promote environmental sustainability by providing incentives for these practices.

- **Model district in Freiburg Vauban**

  - Implementation of a socio-ecological urban district:

    - providing high-quality building plots within city limits to counteract migration to the outskirts.

    - promoting dense, space-saving construction, low-energy building techniques, public green spaces, and efficient public transportation

    - car-free living with a specific traffic concept within the neighbourhood and alternative mobility options

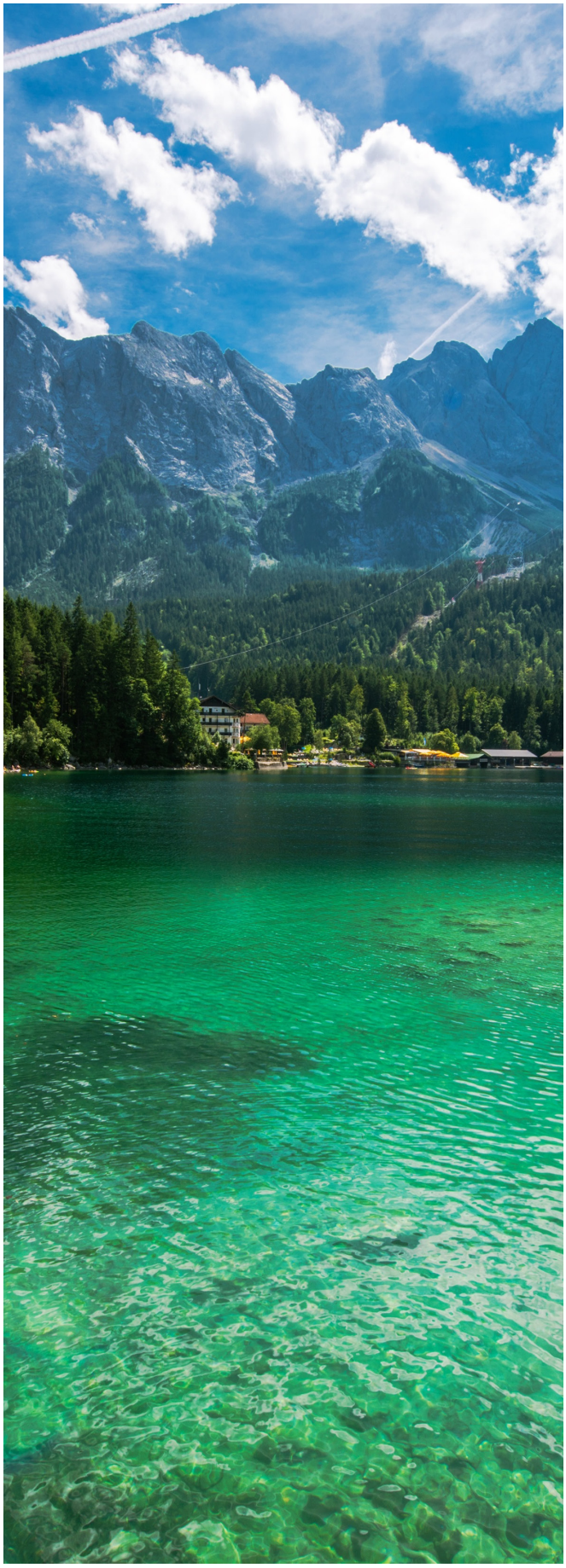
    - establishing a central marketplace and a neighbourhood centre

- **Ecovillage „Sieben-Linden“** in Saxony-Anhalt, building a sustainable village with 300 residents:

  - Local treasures (A campaign by the Consumer Association of North Rhine-Westphalia that provides information about climate-friendly food and offers recipes for a seasonal diet with regional foods)

  - FREI DAY (engl. Free Day, a learning format for pupils in which they are given the opportunity to develop their own sustainable projects)

  - Cyclebude - Professional and sustainable cargo bike courier service in Rostock



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