



Federal Agency for  
Nature Conservation

# The Role of Biodiversity and Mindful Consumption for Sustainable Food Systems

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# Content



## Linkages: Biodiversity – Consumption & Production – Sustainable Food Systems

- (1) Provide selected findings and thoughts on the **context**
- (2) Depict findings from BfN's **research and development work on sustainable production and consumption** (with a focus on biodiversity)
- (3) Reflect on the **role of academia** in the transition process towards sustainable food systems



# Some Related Findings



## Human well-being depends on nature

- Over half of the global GDP is moderately or highly dependent on nature and its services (**World Economic Forum 2020**)
- Nature is our key ally in combating climate change (**IPCC 2022**)

### IPBES 2019

- Biodiversity is a prerequisite of **human health and well-being**
- **75 % of terrestrial ecosystems** are significantly altered by human activities
- Land degradation has **reduced productivity of 23 %** of the global land surface
- Main **drivers** of biodiversity loss are:
  - Change in land and sea use
  - Climate change
  - Pollution
  - Invasive alien species

-> **Linkage: Food Systems – Biodiversity**



*“Agricultural expansion is the most widespread form of land-use change ...” (IPBES 2019)*

# Sustainable Consumption & Production (incl. Food)...



## Growing concern and recognition internationally, e.g

- SDG 12
- Convention on Biological Diversity – Global Biodiversity Framework
  - Target 16: Ensure that people are encouraged and enabled to **make responsible choices** and have access to relevant **information** and alternatives, taking into account cultural preferences, to reduce by at least half the **waste** and, where relevant the **overconsumption**, of food and other materials.
- **UN One planet network** (UN 10 Year Framework of Programmes on Sustainable Consumption and Production) – Six Programmes
- **UN Environment Assembly 4** (2019) – Resolution on “Pathways to Achieve Sustainable Consumption and Production”
- **EU** - Farm to Fork Strategy, Biodiversity Strategy 2030





# Sustainable Consumption & Production (incl. Food)...



## Some reflections, questions

1. What shapes the food system – the role of **supply** (production) and **demand** (consumption)?
2. We have to put more emphasis on maintaining **biodiversity** (also soil biodiversity), avoid tipping point -> irreversible degradation
3. How to balance **smallholder production versus agroindustry** (2009 – International Assessment of Agricultural Knowledge, Science and Technology for Development – **Agriculture at a Crossroads**)
4. How to balance **intensification versus extensification** (nature conservation)
5. Need for **innovations** – support from academia



# BfN Work (2017-2019): A Study on Sustainable Consumption, Biodiversity and Ecosystem Services



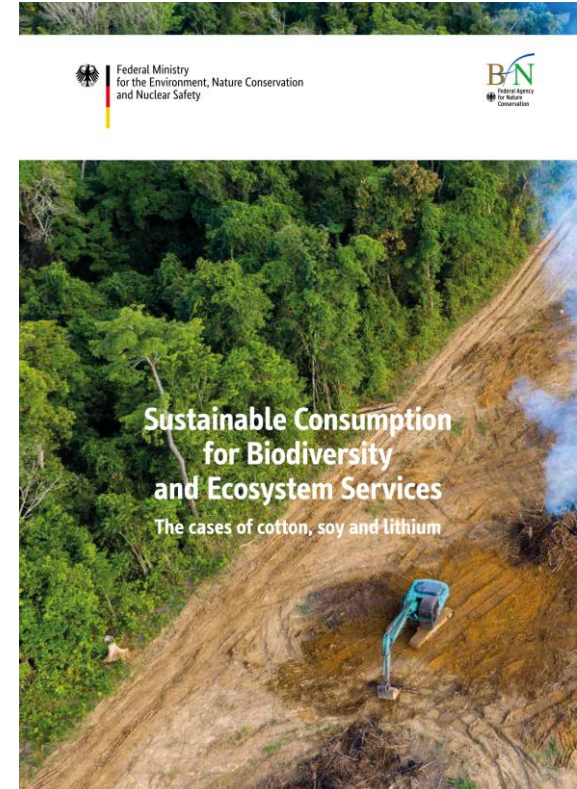
## How consumption drives the global loss of biodiversity and ecosystem services?

### ■ A Finding:

- *Taking the example of **Germany**: The cultivation of the 8 major imported agricultural goods require an additional **13 % of Germany's surface area***

### ■ Key impacts of cultivation and extraction (mining) are:

- Loss of habitats through land conversion
- Loss of scarce water resources
- Pollution of water and soils



<https://www.tinyurl.com/BfN-sustainable-consumption>

# Study: How is consumption linked to nature degradation?



## Example: The case of soy

Taking the example of **Germany**:

- The **annual soy demand in Germany is 5.8 million tonnes** (imports mainly from Brazil and US)
- 80 % of German import for soy are fed to **livestock**
- In Brazil alone, German soy imports are linked with more than **2 million ha of arable land**(= half the size of Switzerland)
- Large-scale soy production is **extremely chemical input intensive** and harmful for biodiversity, water and soils



## Some Measures

- Reduce meat consumption to healthy levels, through e.g. information campaigns
- Increase market share of sustainably produced soy
- Increase share of diverse local protein sources



## Study results -> Necessary Action:

### How can we reduce the impacts of consumption on nature?

- Put **biodiversity and ecosystem services on the agenda**
- Increase **transparency along supply-chains** and **assess impacts**
- Avoid **waste**, promote **sufficiency** and reduce **resource demand**
- **Source** raw materials sustainably
- Adhere to **sustainability standards** that include ambitious criteria for biodiversity conservation
- **Raise consumer awareness**, using credible communication tools and eco-labels -> **avoid greenwashing**
- Cooperate and engage in **coalitions** promoting nature-friendly practices

*(Kliem et al 2019, López et al. 2022)*



# BfN Work (2020-2022): Communication for Sustainable Consumption & Production -



## Establishment of an international Working Group and Development of a Tool Kit for Communication

### Communication - Tool Kit



**Link to the toolkit:**  
[www.oneplanetnetwork.org/  
programmes/consumer-information-  
scp/biodiversity](http://www.oneplanetnetwork.org/programmes/consumer-information-scp/biodiversity)

### Recent publication



FEBRUARY 4, 2022

#### Policy brief: integrating biodiversity into sustainable production and consumption activities – the way forward for businesses

How can businesses promote sustainable production and consumption to protect biodiversity? This policy brief highlights key business activities and priority sectors



[READ MORE](#)

# Boosting the Role of Academia in Transition to Sustainable Food Systems



## In general the following is important:

- Multi-stakeholder **Cooperation, Liaison & Networking** (from the global to the local level)
- **Science-Policy-Implementation Interface** (data & information, strategies, policies, technical and institutional innovations)
- **Intersectoral** collaboration
- Funding

## Research:

- Methods/Approach: Inter- and transdisciplinary (natural science, social science (economics), communication science – linkages)
- Identifying and prioritizing the most pertinent research questions

**Education (Teaching):** Integrate sustainable food systems into curricula

## Outreach:

- Science-Policy-Implementation interface
- Communication and Networking (Example: RTRS – production higher than demand – communication issue)



## Recap - what did we touch upon....

1. Increasing food insecurity – with **environmental degradation** being a major factor
2. Growing recognition of the **need for a sustainable food system** – with more action taking place today
3. **Interrelations between food system components** – (production – value chains – consumption) need to be wisely utilized
4. Strong **impact of consumption on biodiversity beyond borders**
5. **Information and communication** are crucial
6. **Academia** has an important role to play



## BfN Projects on sustainable consumption

### 2017-2019: Sustainable consumption for biodiversity and ecosystem services - The cases of cotton, soy and lithium

- Research and development project supported by BfN with funds from BMUV
- Implemented by IÖW and Ifeu institute
- Project report available here: <https://www.tinyurl.com/BfN-sustainable-consumption>

### 2020-2022: Together for nature-compatible consumption - with information, communication and international cooperation

- Research and development project supported by BfN with funds from BMUV
- Implemented by Adelphi and Öko-Institut, in close cooperation with the Consumer Information Programme of the One Planet Network
- Main outcomes: Establishment of the Working Group on Biodiversity Communication and publication of the One Planet Network's Biodiversity Communication Toolkit  
[www.oneplanetnetwork.org/programmes/consumer-information-scp/biodiversity](http://www.oneplanetnetwork.org/programmes/consumer-information-scp/biodiversity)

## List of references



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- IPCC (2022): Sixth Assessment Report: Climate Change 2022. <https://www.ipcc.ch/assessment-report/ar6/>
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# Thank you for your attention!

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