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Basics and good practices of collaborative governance in nutrient pollution handling and nutrients recycling

1st Capacity Building Session
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In collaboration with:



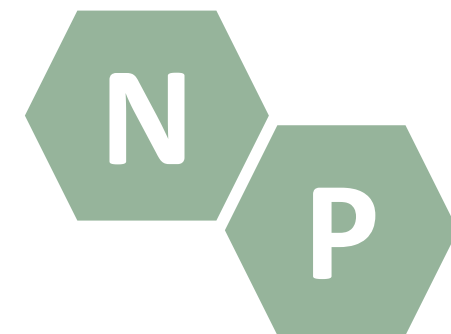
An introduction to collaborative governance and its implications for nutrient management

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Nitrogen and phosphorus: essential nutrients, persistent pollutants

Two elements, one shared issue & two different governance problems



ESSENTIAL

Macronutrients required for plant growth. Modern food production depends on applying them.

LARGELY LOST

Only part of what is applied is taken up by crops.

DAMAGING IN WATER

Excess nutrients drive algal growth, oxygen depletion and loss of aquatic life.



Mobile across media

Moves through water, air and climate systems – leached as nitrate, volatilised as ammonia, emitted as nitrous oxide.

Needs coordination across water, air, agriculture and climate policy.



Accumulates in soil

Binds to soil and sediment and builds up over decades; supplied from finite mined reserves.

Adds a recycling and resource-security dimension.

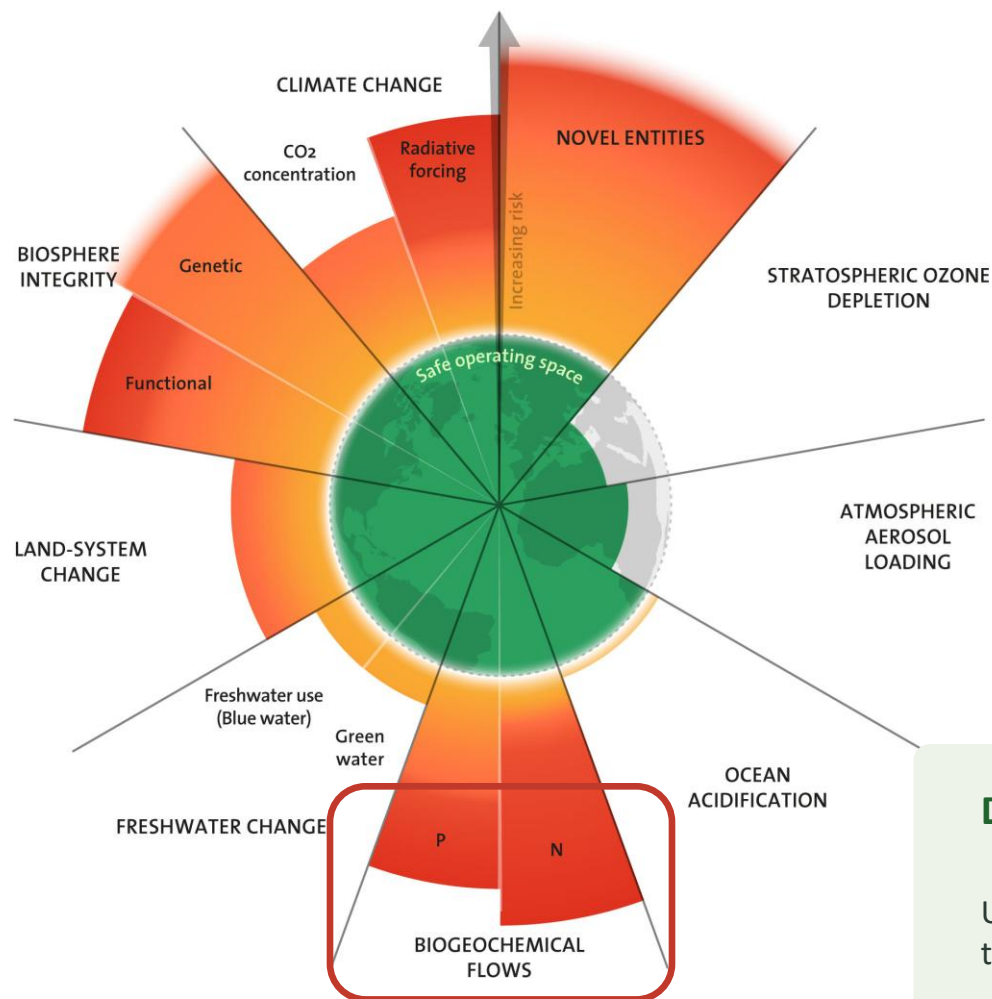
In both cases the losses come from ordinary practice across very many holdings, not from a few identifiable operators.

The scale of the problem

Biogeochemical flows: the nitrogen and phosphorus boundary

Among the most exceeded of the nine planetary boundaries

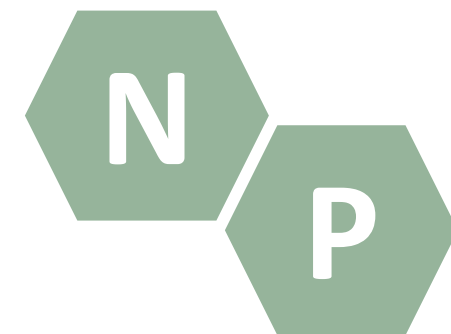
N and P flows are beyond their safe range



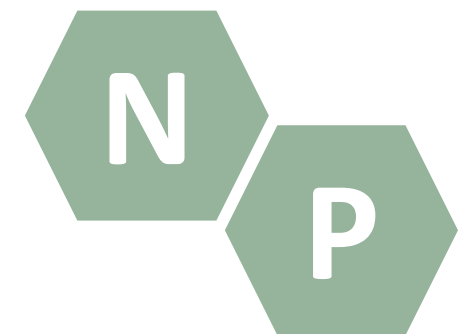
Driven dominantly by food production

Unlike most other boundaries, this one traces back to how we grow food.

Source: Stockholm Resilience Centre



Nutrient pollution is a “wicked problem”



Problem that cannot be definitively formulated or finally solved (based on *Rittel & Webber, 1973*)



No single definition

A water problem, a farming problem or a food-system problem? Each framing points to different measures.



No final solution

The situation can be improved or worsened, but never closed and signed off.



Slow feedback

Effects appear years or decades later, so action and result are hard to connect.



Tied to other problems

Inseparable from food security, climate and rural livelihoods.

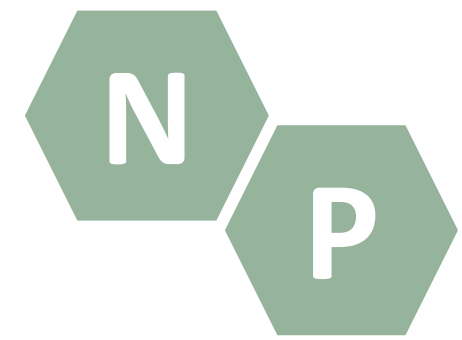
Why this matters

Wicked problems are not merely complicated but contested.

No single authority holds all the information, the resources or the legitimacy to settle them alone.

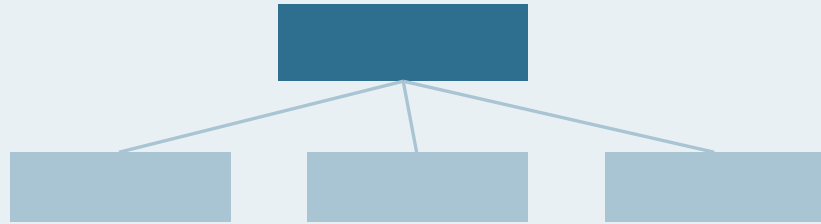
This is the practical case for governance.

From government to governance



Two ways of organising public action

GOVERNMENT

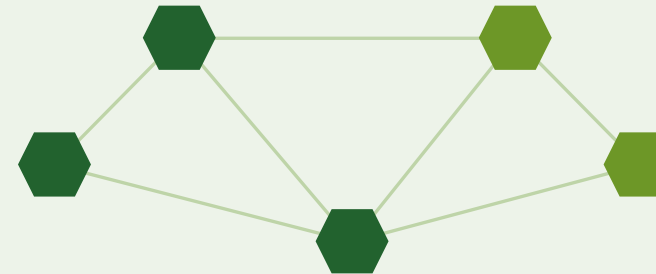


Centralised and vertical

Formal, centralized, and vertical exertion of power and authority.

Effective where the regulated target is limited in number and observable.

GOVERNANCE

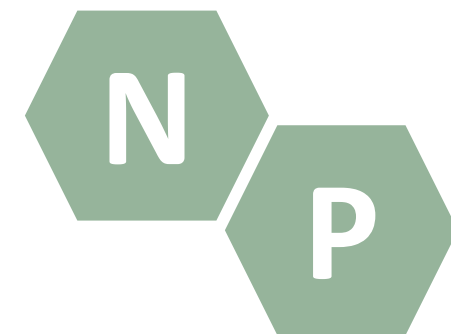


Decentralised and horizontal

Devolution and horizontal decentralisation of power and authority to a wider segment of society.

Public bodies, business, farmers and civil society take decisions and act together, by negotiation rather than instruction.

What makes governance “good”?



Eight characteristics of good governance used by the United Nations (UNESCAP)

Participatory

All affected groups have a voice, directly or through legitimate representatives.

Consensus oriented

Differing interests are mediated towards broad agreement on the common interest.

Accountable

Those who decide answer to those affected by the decision.

Transparent

Decisions and the information behind them are open and accessible.

Responsive

Institutions serve all stakeholders within a reasonable timeframe.

Effective and efficient

Results meet needs while making the best use of available resources.

Equitable and inclusive

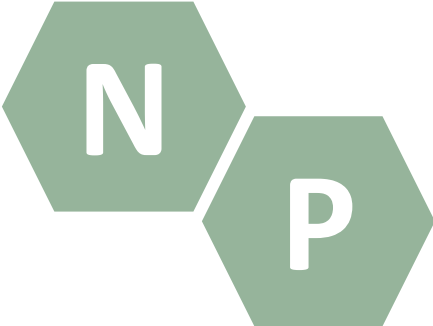
All groups have the opportunity to maintain or improve their wellbeing.

Rule of law

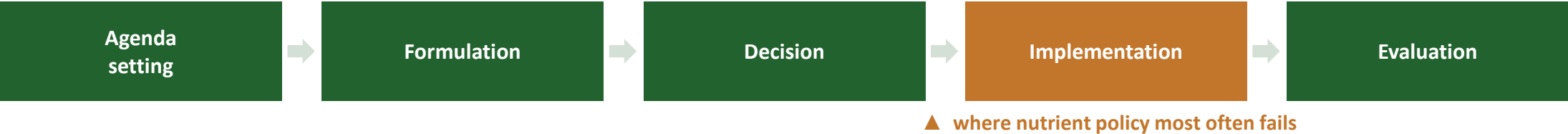
Fair legal frameworks, enforced impartially.

These are not abstractions in nutrient work: participation without accountability produces talking shops, and transparency without inclusiveness entrenches the strongest voice.

Governance and the public policy process



Governance describes who takes part, and how, at each stage

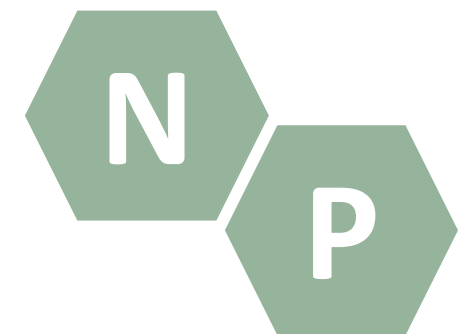


Any policy is judged against four core public values and collaborative arrangements affect each of them differently:

EFFECTIVENESS Does it achieve the intended result? Strengthened: measures are designed by those who must apply them.	EFFICIENCY At what cost in money and effort? Strained: negotiation takes time and administrative resources.	LEGALITY Is it lawful, consistent, equal in treatment? Strained: locally negotiated measures can reduce uniformity.	DEMOCRACY Is it accountable to those affected? Mixed: wider involvement, but participants are not elected.
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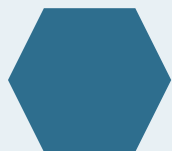
Good policy design is largely a matter of managing these trade-offs consciously, rather than assuming participation improves everything.

Two source types, two regulatory situations



The distinction that shapes the choice of instrument

POINT SOURCES



Wastewater plants, industry

Few, identifiable and measurable at the outlet so permits, limit values and inspection work.

Example: Urban Wastewater Treatment Directive (EU) 2024/3019, extending N and P removal.

DIFFUSE SOURCES



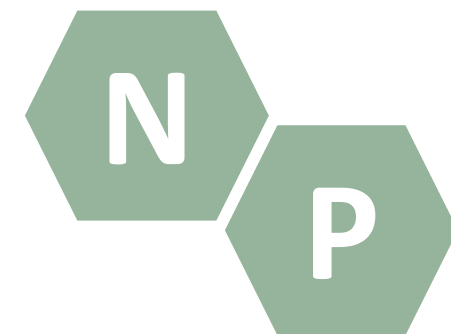
Agricultural land

Many, spread out, weather-dependent and hard to attribute to any single actor.

Regulation exists – the Nitrates Directive – but measurement, enforcement and tailoring remain difficult.

Agriculture is the dominant diffuse source in most European catchments. This is where governance arrangements make the greatest difference.

Three governance arenas relevant to nutrients



Beyond the public sector: where else nutrient decisions are taken

MULTILEVEL

EU institutions, national ministries, river basin authorities, catchment bodies.

KEY FEATURES

Authority dispersed across nested levels; competences allocated by subsidiarity; several levels deciding at once.

CONTRIBUTES

Matches the multi-scale nature of the problem.

LIMITATION

Accountability is diffused between levels, and objectives can conflict, e.g. water rules against agricultural support.

CORPORATE

Fertiliser producers, food processors, retailers, water utilities.

KEY FEATURES

Relationships between management, board, shareholders and other stakeholders; sets objectives and monitors performance; sustainability risk now part of it.

CONTRIBUTES

Supply-chain requirements can reach farms that inspection cannot.

LIMITATION

Action is voluntary and bounded by commercial interest.

PROJECT

Funded initiatives: LIFE, Interreg, Horizon Europe etc.

KEY FEATURES

Rules, protocols and structures framing project decisions; defined scope, budget and end date; answers to a sponsor.

CONTRIBUTES

Provides delivery discipline: objectives, milestones, budgets.

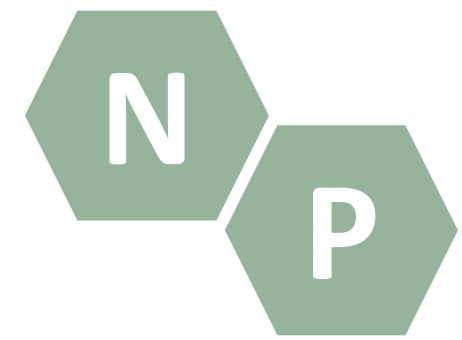
LIMITATION

Time-limited, and reporting runs to the funder; continuity ends with the grant.

None is sufficient alone. Each works better when connected to a standing local body that outlasts any single project or funding cycle.

Sources: Hooghe & Marks (2003), OECD (2004; 2023), Bekker & Steyn (2009), Bekker (2015)

Holistic or origin-based governance?



Two contrasting options for organising nutrient policy (proposed by Morseletto, 2019 for nitrogen)



HOLISTIC

Integrated governance covering all nitrogen-related issues at once, aiming at comprehensive solutions.

Stronger on: effectiveness – wider application, comprehensive results.



ORIGIN-BASED

Targets specific sources of pollution, allowing more focused and quicker responses.

Stronger on: achievability, manageability, responsiveness, coherence, coordination.

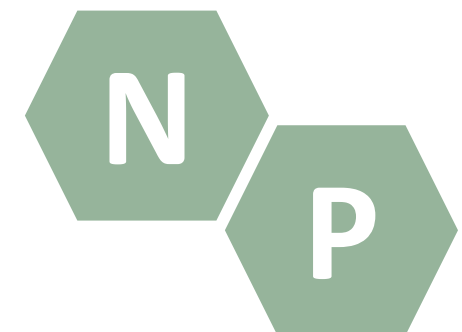
COMPARED ON SEVEN CRITERIA

achievability · manageability · effectiveness · efficiency · responsiveness · coherence · coordination

The two approaches score equally on efficiency under best conditions.

They are not rivals. Origin-based arrangements may be preferable for their specificity and speed – and can later be folded into a holistic system, serving as an intermediate step towards comprehensive governance.

Source: Morseletto, P. (2019)



Degrees of stakeholder involvement

Terms often used interchangeably describe quite different arrangements

Information Stakeholders are told what has been decided.

Consultation Views are invited; the authority still decides.

Coordination Separate organisations align their own plans.

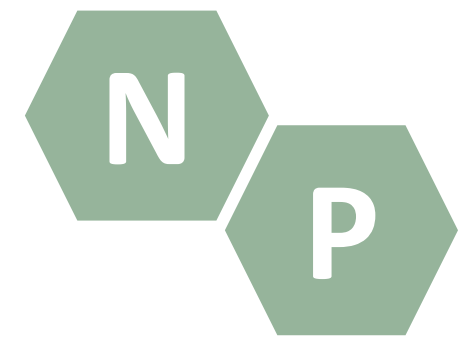
Co-production Actors deliver a measure or service jointly.

Collaborative governance Actors take the decisions together.

The distinguishing question is where decision-making authority lies. Only the last of these transfers any of it.

After Arnstein (1969), Ansell & Gash (2008)

What a working governance model needs



The conclusions of the analyses in NENUPHAR – areas that decide whether it works

1 Legislative environment

Rules and institutions that genuinely support circular nutrient management, and a strategy for the area that stakeholders actually know about.

2 Finance

Grants, soft loans or tax incentives, and a return on the investment within about five years.

3 Communication and networking

Businesses, farmers, authorities, researchers and NGOs interconnected.

4 Knowledge

Accessible training, open data, codes of practice and shared learning between the organisations concerned.

5 A catalyst actor

Someone locally recognised who owns the process, keeps it moving, and can reach the other actors.

6 Visible good practice

Working demonstrations that others can see, visit and copy – the demo-sites themselves.

And the principle running through all of it: set the legal framework at national level, but design the practical implementation locally, for the specific problem, with the people it affects.



Nutrients recycling and
pollution handling



GREENHOOD
Nutrient management strategies for regional ecosystems across Europe



seacure

Thank you for your attention

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