

**Working Paper**

Co-Design, Co-production and

Participatory Policy Making -

Insights From the Social Sciences

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# Executive Summary

The Brexit referendum in 2016 and the electorate’s decision for the UK to leave the European Union (EU) has provided the Government with an opportunity of redesigning the governance arrangements of UK agricultural land use for the first time since the country was incorporated into the EU's Common Agricultural Policy (CAP) in 1973. Determined to achieve a 'Green Brexit', the Government has tasked the Department for Food, Environment and Rural Affairs (Defra) and its key delivery partners (including Natural England (NE)) with the design of a new environmental land management system of payments and new agri-environment schemes (hereafter ELMs). ELMs will provide UK farmers and others with annual payments for the production of 'public goods for public money’, which as outlined by the Government’s 25-year environment plan, include enhanced biodiversity, improved soil, water and air quality.

ELMs will replace the current EU CAP system under which claimants are allocated payments based upon the amount of land they own, and the agri-environment schemes (AES) currently in operation will gradually be phase out. The changes now agreed upon have the potential to affect as many as 218 000 agricultural holdings and 70% of UK land – some 17.4 million hectares. It is paramount to get ELMs right, and Defra is committed to achieving this with as many stakeholders as possible - ranging from farmers to food producers to environmental experts and others, across Britain - in every stage of the development process of ELM. Through a process of ‘co-design’, the Government aims to develop an agricultural policy that will benefit British farmers, the environment, consumers, taxpayers and the wider rural community. To test innovative mechanisms of ELMs in practice, ‘Trials and Testing’ projects are currently undertaken. These will be followed by national pilots before the full rollout of the new schemes commences, date depending on political decisions and negotiations.

The design of ELMs also relies on sound knowledge from the natural- and social sciences. The objective of this Working Paper is to support Defra in its endeavour to *co-design* ELMs by analysing the approach of co-design and related participatory approaches in depth, from a social science perspective. Social science evidence shows that policy options and solutions that are developed and implemented in a top-down fashion rarely work. From an instrumental standpoint, applying conventional policy tools such as regulations to complex, wicked, and contested problems tends to be unsuccessful, especially if the people affected are distrustful of governments, experts, or elites. In such circumstances, involving citizens in the co-design and co-delivery of public policy and public services has been found to be beneficial.

 It has become common practice for policymakers to invite citizens to participate in the planning and design of policies and technologies that affect them, e.g. in the areas of public services development (e.g. the health sector), natural resource management (e.g. catchment sensitive farming), science- and technology innovation (e.g. nanotechnology and synthetic biology), and rural development. Co-design is generally considered as a more effective, democratic, and innovative alternative to conventional participatory approaches, such as community engagement, public participation, service design, and policy development. It aims to match public policy better to the needs of citizens and stakeholders, forestall potential future problems, and avoid the common problem of ‘policy interventions being based on flawed assumptions’.[[1]](#footnote-1) This Working Paper draws together evidence and key findings from the social sciences on co-design, co-production and related participatory approaches and discusses their differences, strengths, and weaknesses. It outlines why these approaches are considered to add value to policymaking and explains why they have become increasingly popular in recent decades. The paper also looks at the principles of different participatory approaches and some of the methods they use. It makes policy recommendations, and highlights evidence gaps.

In the UK, the Cox Review (2005, p4)[[2]](#footnote-2) recommended to ‘raise the profile of the UK’s creative capabilities by way of a network of centres of creativity and innovation across the UK, with a national hub in London to spur on creativity in business innovation’. In response, the Design Commission produced a number of reports that promoted the use of design in the public sector (*Design and Public Procurement* (2010)[[3]](#footnote-3) and *Restarting Britain 2: Design and Public Services* (2014)[[4]](#footnote-4)), noting that examples of ‘good design thinking being applied, with positive results, to public or governmental challenges – [were] often involved in reconfiguring public services in places where resources are diminishing, or need is growing, or both’ (2014, p.1). The report suggested ways of making design practice the norm in the public sector so as to respond better to social and public challenges. The Design Commission advocated pushing for stronger design leadership in central government through increasing design capacity and commissioning further capacity across government through training and aggregating good quality information. It recommended that the Cabinet Office took responsibility for developing design capacity across government, specifically trialling a multi-disciplinary design studio method for originating policy. To equip policymakers with design skills, the UK’s first Policy Lab was established in April 2014. It works with policy teams to test how design principles and methods can improve the ‘pace, quality and deliverability of policy in the Civil Service’, as recommended by the Design Council in 2014.

Using co-design and co-production approaches effectively can help strengthen relationships and build trust and mutual understanding between participants. This, in turn, can generate social and cultural capital, prevent disengagement, and increase trust in government. In the context of public policy, it has been found that co-design creates ‘a feeling of involvement and ownership’[[5]](#footnote-5) by generating ‘a shared understanding and shared language between participants and designers’ and by supporting ‘a sense of immersion, dialogue and empathy for the perspective of those who will use and experience the design’.[[6]](#footnote-6) Responsibility and control are devolved to users of services in public services design efforts to differing degrees to make them active partners in designing, shaping and resourcing services rather than treating them just as passive recipients.

 However, effectively and successfully applying co-design in the public sector has also been found to be challenging. It requires adjustments in the civil service cultures of the government departments committed to the approach, and capacity building to allow for new knowledges, structures, and practices to become embedded in government institutions.[[7]](#footnote-7) Partnerships between academic researchers and practitioners can be helpful here to ensure that the wealth of social science- and humanities expertise available is fully utilized.

# Key findings

Co-design is a method for creatively engaging citizens and stakeholders to find solutions to complex problems. If well planned and executed, co-design can:

* help clarify where the focus of the policy should to lie;
* lead to the generation of more innovative ideas;
* ensure that policies and services match the needs of users;
* achieve economic efficiencies by improving responsiveness;
* foster cooperation and trust between different groups and between those groups and government;
* engage the ‘hard to reach’;
* achieve support for change and lead to successful implementation;
* help pre-empt future problems ‘by overcoming the common problem of policy interventions being based on flawed assumptions’.[[8]](#footnote-8)

Social science research into co-design and related participatory approaches spans over half a century and provides a wealth of knowledge for the design of better, more relevant, and more practical ELM schemes. Key findings from the review are summarized in the boxes below.

**Key Finding 1**

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| Planning and carefully designing and executing co-design and co-production processes is essential to their success. |

**Key Finding 2**

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| Embarking on co-design requires policymakers to understand what ‘engagement’ means and how it is successfully done. |

**Key Finding 3**

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| Co-production and co-design processes take different forms of knowledge (practical, experiential, creative, emotional) seriously and value their unique contributions. This means that co-designers need to be aware of scientific knowledge and its social authority, and critical of the treatment of scientific knowledge as a superior form of evidence. |

**Key Finding 4**

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| Designing user-focused, implementable policies requires that:* problems, solutions, interests and organisational resources are carefully aligned;
* stakeholders are involved in joint deliberations that can generate valuable knowledge about the nature and character of the problem and the solutions likely to work on the ground;
* stakeholders are collaborators in the development of innovative policy solutions, which can break policy deadlocks and build joint ownership for the realisation of solutions.[[9]](#footnote-9)
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**Key Finding 5**

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| Effective participation of local stakeholders typically involves a trade-off between the scales at which adaptive management can operate. Involving local stakeholders across wide spatial scales can be time consuming and expensive. |

**Key Finding 6**

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| Scaling up from successful local-scale projects to national policies is a real challenge. Transferability and comparability of results between communities and districts may be problematic, particularly if results are context specific.[[10]](#footnote-10)  |

**Key Finding 7**

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| Risks identified to be associated with using co-design in policy making can be minimised if considered from the outset. |

**Key Finding 8**

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| In unstable contexts characterised by high levels of uncertainty and conflict, adaptive implementation allows for new policy designs and implementation plans to be adjusted to unfolding decisions and events.[[11]](#footnote-11) |

# Recommendations

**Key finding 1:** Planning a co-design process for policy making involves:[[12]](#footnote-12)[[13]](#footnote-13)

**Defining co-design**

* Conceptual clarity is a pre-requisite for successfully operationalising co-design and co-production. Shared definitions of co-design and co-production should be articulated clearly at the outset as the basis for policies, programmes, interventions and services.[[14]](#footnote-14)

**Deciding who should be involved in the co-design process**

* Studies of adaptive resource management show that unless stakeholder identification and selection are explicitly considered from the outset, only the ‘usual suspects’ will get involved: small but vocal groups of stakeholders that are already widely engaged in research and policy debates. To avoid this, a stakeholder analysis should be performed, and a diverse range of stakeholders selected.
* Stakeholders tend to be both self-identified and construed as ‘stakeholders’ by others. Some are associated with formal organizational roles and interests; others are not.
* The ‘problem’ and stakeholder identification are related. Consequently, there can be some circularity in identifying a (preselected) group of stakeholders for an area and asking them to define its problems. Should issues identify stakeholders? What are the most relevant issues? Should stakeholders identify issues? How can we be certain that the right stakeholders have been included? Planning a co-design process means carefully attending to the credibility, legitimacy, and accountability it entails. Studies recommend being inclusive in the diversity of participants, the power accorded to them, and the processes and objectives of co-design.

**Making participation attractive and easy**

* Participation should make a difference. Ambitious, realistic objectives should be negotiated, problem ownership aided, and respect for the time constraints of participants shown (e.g. concerning farmers, flexibility is important. For example, numerous sessions (day or evening) and be run that respect farming routines and calendars. This will enable their involvement). [[15]](#footnote-15)

**Fostering trust among participants**

* Building on existing relationships among participants by using existing networks for communication can be useful. A minimum level of trust is required among participants at the start of the process. Designing parallel processes for high-level policy makers can be useful, as can respecting and critically engaging with the knowledge of all participants – scientific, practical, emotional, and local. Allocating time to build relationships and thinking solutions through will pay off, as will getting all affected parties involved in dialogue early on, when shared goals are developed.

**Providing participants with relevant information and decision-making power**

* Participants should be given actual decision-making power and provided with high-quality, accessible, unbiased background information. Those with national interests and decision-making power need to be involved in national decisions, while local actors need to be empowered to engage with issues at scales relevant to their interests and needs.

**Planning facilitation**

* Effective engagement depends on the management of power dynamics and the ways in which knowledge is valued and constructed. Using a competent independent facilitator able to deal with power imbalances, stimulate active participation of all actors, and assure fair participation and deliberation with equal opportunity to contribute is essential to success. Professional facilitation and mediation can significantly reduce the likelihood of conflict. Where conflict already exists, facilitation can help reduce or resolve it. Poor management of power dynamics can lead to the failure in the delivery of outcomes.

**Promoting the long-term commitment of all participants**

* Successful participation requires long-term commitment from all participants and realistic economic support for the implementation of solutions. The length and frequency of engagement need to be matched to the goals of the process. Remember: changes in deeply held values (that may be at the root of a conflict) are likely to take longer than changes in preferences.

**Adapting the language, location, and process design to participants’ needs**

* Using accessible language and forms of information adapted to participants is important. How are they accustomed to talk about certain issues? What terms will they easily understand, and which ones will they struggle with? Location also matters: field visits or village hall meetings might be more effective than seminar presentations at universities or government buildings.

**Choosing the most useful design methods**

* Taking the time to fully understand the local context and determine the most appropriate types of participatory approaches and methods to use will pay off and will result in better outcomes. Peer-to-peer exchange can be important. Research shows that co-production is most effective when stakeholders lead sessions and learn from each other. Farmer-to-farmer exchange sessions, for example, could promote collective knowledge sharing and learning and enable farmers to negotiate and gain insights from other’s experiences. Interactive exchange sessions might help in building and strengthening networks.[[16]](#footnote-16)

**Achieving outcomes and impacts**

* Engagement should be matched to the spatial scales at which decisions are taken and conducted at scales relevant to the issues and jurisdictions of the authorities and institutions tackling them.
* Outcomes from engagement are highly scale-dependent and vary space and time. Contextual values, such as preferences for one option or another, may change very quickly, but the extent to which engagement (via deliberation) shapes the values of participants is highly dependent on the length over which engagement occurs. The length and frequency of engagement need to be matched to the goals of the process.
* Policy co-design benefits from establishing collaborations with similar initiatives and from linking the process to ongoing political processes. Media attention can also lead to impact.
* Ecological scales (spatial and temporal) can impact on outcomes and need to be considered, especially in regard to environmental land management. Some ecological processes take a very long-time and affect several generations, while others will impact on a very few people overall. Others might affect a significant number of people but be quick to change.
* Outcomes of the co-design process need to be disseminated to all stakeholders involved in the project, in appropriate formats.[[17]](#footnote-17) They need to be transferable to multiple governance levels and multiple policy domains, each of which might involve several ministries and societal stakeholders.

**Key finding 2:** social science studies of co-design, co-production and other participatory approaches show that

* engagement achieves better results if the co-design process is well- planned and orchestrated;
* engagement can lead to biases in decision-making if poorly designed and facilitated;
* engagement achieves more if it includes people responsible for implementing decisions fully from the outset;
* engagement is more successful if those who plan the co-design process fully understand the local context in which engagement is to be enacted;
* engagement is more successful if appropriate engagement methods are selected;
* engagement cannot be replicated independently of context;
* engagement works better if stakeholders are chosen strategically (based on their relative levels of interest, influence, and benefit) rather than in terms of complete representation;
* engagement involving large numbers of stakeholders in complex decision-making processes can increase an understanding of system complexity among participants and consensus over broad, conceptual points, but make it harder for decision-makers to choose between options;
* successful engagement stipulates learning and enables participants to re-evaluate their underlying assumptions and values. This might lead to changes in attitudes and shifts in positions;
* engagement outcomes are more positive if stakeholder knowledge and values are integrated in the decision-making process, if stakeholders are engaged throughout the project, if the decision-making process is transparent, and if attitudinal change and trust building are fostered;
* engagement is subject to a complex interplay of socio-economic, political and cultural factors. It is shaped by local, regional, national and global contexts, as well as the prevailing political context.

**Key finding 3:** Policy makers need to be aware of the inherently political nature of knowledge and how evidence used in decision-making can change the social order at local and global scales. Public engagement, deliberation, and debate require an openness to different forms of knowledge. As well as scientific evidence, co-design relies on practice-based, local knowledge (rooted in experience). It appreciates and incorporates the values, feelings and insights of the people involved in the co-design processes.

**Key finding 4:** policy implementation failure can be avoided by ensuring that:

* the policy problem is scrutinised from multiple perspectives;
* there are no one-sided or simplistic understandings of the problem;
* goals and strategies are defined and articulated as part of a plausible and empirically sustained change theory;
* the new policy design is innovative enough to break the obstructive trade-offs between different goals and constraints associated with wicked and unruly problems;
* key public and private stakeholders subscribe to the storyline that defines and brands the new policy;
* organisational and technological platforms support the strategic efforts to implement the policy; and
* that the policy is sufficiently open and flexible to allow for subsequent adjustment.[[18]](#footnote-18)

**Key findings 5 & 6:** Research highlights that co-design ‘needs to be firmly rooted in its location, time and people’ so that it can progress ‘organically from rich engagements and deep interactions over time’[[19]](#footnote-19). Research on design-led public sector innovation labs similarly suggests that such labs may be better suited to ‘singular programs, projects or services’ because they struggle with ‘higher level policy change’ (*ibid*).Case studies of participatory adaptive management concur. Scale matters and co-designers need to ask:

* how will the scale, interdependence and complexity of public problems be addressed?
* how will the domains of law and governance be adjusted?
* how will the results of place-specific co-design activities be scaled-up to the national level?
* how will co-designed national policies be tailored to place-specific needs?

**Key finding 7:** risks associated with co-design in policy making processes can be minimised if policymakers plan how they will cope with:

* diminished controlover the project due to other people, departments and organizations being involved;
* increased complexityof the project resulting from the objectives and interests of diverse people, departments or other organizations. This needs to be managed, requiring coordination efforts and time;
* a plurality of actors participating in the design process, which increases the complexity of the process;
* anti-democratic forces where national level interests are involved.[[20]](#footnote-20)

**Key finding 8: i**nstead of ‘programmed implementation’ use ‘adaptive implementation’. Design *and* implementation are intricately linked: ‘agreements and understandings established during the process of co-design, not to mention the co-designed policies themselves, condition the process of adaptive implementation and the co-production of outputs.’[[21]](#footnote-21)

# Co-design for policymaking – evidence gaps

In 2017, the UK Cabinet Office noted that as ‘experts in their own experiences, citizens and stakeholders should be involved in designing services and policies that relate to those experiences’ (Cabinet Office, 2017). However, Blokamp[[22]](#footnote-22) cautions that **‘**It remains unclear […] whether co-design can feasibly leap from designing programmes and services to developing and implementing public policies. Further research and evaluation is needed to strengthen our understanding of what *co-design for policy* entails in practice, as well as if, and how, it achieves any of these benefits for participants, policy makers, and the people they serve’.

The adoption of design practices into policy settings has received a mixed assessment. On the one hand, design methodologies are seen as having the potential to improve public policymaking and implementation success. On the other hand, design’s ‘traditional focus on experiences and serendipitous creativity neglects deep understanding of government systems, and may be at odds with prevailing organisational cultures and practices’.[[23]](#footnote-23) Co-design typically happens with small, site-specific groups, and it is not clear how participation and solutions can be scaled-up into system-wide responses with multiple delivery channels in large organisations.[[24]](#footnote-24) For example, research on public sector innovation labs using design-led approaches has shown that co-design might be better suited to singular programs, projects or services and that design-led approaches struggle with ‘higher level policy change’. Evidence is also scant on ‘whether participation by more people, or deeper participation by a few key people, is more effective’[[25]](#footnote-25)

There have been suggestions that the structure and culture of government is not well suited to the approach of co-design. The main reason for this is that policy officials do not generally respond well to the risks of diminished control and increased complexity, and bureaucratic systems are not designed to be experimental or responsive.[[26]](#footnote-26) Research on participatory urban planning suggests that ‘co-design processes are subject to co-option by neoliberal forces and that participants risk being coerced and given a false sense of agency while legitimising the political agendas of elites.[[27]](#footnote-27)

O’Rafferty and colleagues, funded by the Irish Environmental Protection Agency to examine the design of policy interventions for sustainable behaviour change, found that that ‘further development of the theoretical and practical framework of co-design for policy and public services is required’.[[28]](#footnote-28) They identify the following ‘dilemmas of co-design’ for public policy:

* the gap between co-design research and conventional forms of evidence;
* the legitimacy of co-design activity as perceived by stakeholders and beneficiaries; and
* the embeddedness of the activity within the policy innovation system’.[[29]](#footnote-29)

The lack of documentation and published evaluations of co-design and co-production approaches in public administration and policy limits knowledge sharing and evidence building. One reason for this lack is the considerable confusion that exists over differences in definitions and practices across several disciplinary traditions, including sustainability science, public administration, management studies, and science and technology studies. This has meant that progress in understanding the effectiveness of co-production and co-design ‘has been hampered by conceptual fuzziness and a lack of comparability between existing data’.[[30]](#footnote-30)

Previous attempts to critically evaluate participation have typically been based on qualitative case study approaches or on comparisons of cases in very different contexts. Most studies focus on evaluating the process of participation rather than its outcomes. Even in the area of public health, there are very few evaluations of such approaches or projects, and existing evaluations often point to a lack of hard evidence as to its impact on the quality of research.

Further research is needed to address the shortcomings and successes of processes of more democratic and participatory environmental governance, but also to critically reflect on the links between communities, science, institutions, knowledge, and power. Based on a cross-examination of papers published in a special issue[[31]](#footnote-31) on different streams of research providing novel perspectives on co-design and co-innovation in agriculture, three directions for future research and practice in the field of agricultural design and innovation have been identified:

1. Further opening design and innovation techniques and tools to better account for visual, auditory, tactile and olfactory expressions in evolving designs and what they afford users;
2. Further opening innovation networks in view of creating and stimulating integrative niches that can foster sustainability transitions, which also requires network managers instilling a reflexive stance of network members and broader awareness of power structures attached to organizational, sector and paradigmatic silos in agricultural systems;
3. Further opening the range of innovation actors to include non-human actants to better account for the agency of the material and ecological.

The Working Paper clarifies terminologies and definitions of co-design, co-production and associate participatory approaches; presents an overview of the principles underpinning them; discusses different methods and techniques available to co-producers and co-designers; and presents findings from national and international co-design and co-production case studies. The aim of the Working Paper is to support policymakers and others involved in the co-design of ELMs with through the provision of social science evidence of what has been found to work and what has been found to hinder the success of co-design and co-production approaches in policymaking and other fields.

## Introduction

The UK’s decision to leave the European Union (EU) has opened up an opportunity for the Government to reform Britain’s agricultural policy, including its agri-environmental policy. According to the ‘Health and Harmony’ consultation document published by the Government in 2018, the Government aims to ‘design a more rational, and sensitive agriculture policy which promotes environmental enhancement, supports profitable food production and contributes to a healthier society.’[[32]](#footnote-32) To achieve this, a new environmental land management system of payments and new environmental land management schemes (hereafter ELMs) are being designed by the Department for Food, Environment and Rural Affairs (Defra) and its key delivery partners, including Natural England (NE). ELMs will replace the EU CAP system of payments currently in operation in the UK, under which direct income support payments are paid to farmers and land managers under the Basic Payment System (BPS). BPS amounts depend on how much land farmers own, meaning that the system has disproportionately benefitted large landowners. The CAP has also fallen short on its environmental and conservation goals. It has rewarded farmers financially for adhering to specific environmental management, animal welfare and traceability standards, something known as ‘cross-compliance’. However, the environment under the CAP has deteriorated. The reasons for this are complex, but according to a study published in 2017[[33]](#footnote-33), cross-compliance instruments cannot reverse the larger-scale impacts of other CAP instruments which foster ongoing agricultural intensification, abandonment, and environmental degradation.

Characteristics of current AES in operation in the UK (including the costs associate with them, the area of land under agreements, and the number of agreements in force) are detailed in a complementary Working Paper produced by the authors for Defra (Tsouvalis and Little, 2019).[[34]](#footnote-34) ELMs are likely to replace current Entry Level Stewardship (ELS) and Countryside Stewardship (CS) approaches with new, innovative mechanisms explored in a ‘Trials and Testing’ programme (2019-2021). These will be further explored in a large-scale pilot before ELMs will be rolled out nationally, date depending on political negotiations and decisions. Based on natural capital principles, ELMs is key to achieving the Government’s objective of ensuring ‘that the benefits the natural environment provides for people and wildlife are properly valued and used to inform decisions on future land management’.[[35]](#footnote-35) They will contribute to achieving the objectives set out in the Government’s 25 Year Environment Plan and its Clean Growth Strategy. Apart from growing crops and rearing livestock, farmers will be supported to continue in their role as stewards of the countryside and as producers of public environmental benefits, commonly referred to as ‘public goods’. Public money will be allocated for multi-annual agreements with land managers and farmers to reward them for producing and delivering clean air; clean and plentiful water; thriving plants and wildlife; reduced risk of harm from environmental hazards such as flooding and drought; using resources from nature more sustainably and efficiently; enhanced beauty, heritage and engagement for the natural environment and mitigating and adapting to climate change.[[36]](#footnote-36)

**Elements of the new schemes as outlined in Defra’s (2018) *Health and Harmony* report (Defra, 2018b)**

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| * *Future Environmental Land Management schemes (ELMs) will offer multi-annual agreements to support the delivery of valuable environmental improvements countrywide*
* *The new ELMs will offer a reduction in prescription and bureaucracy to encourage participation and enable environmental improvements to occur countrywide*
* *Land managers will be incentivised to cooperate to secure environmental improvements at landscape and catchment level*
* *Capital grants could be available to support land managers in adopting sustainable practices and to reduce negative environmental impacts in a transition towards a fuller application of the ‘polluter pays’ principle*
* *New approaches will continue to be trialled to achieve better environmental outcomes and improve value for money*
* *Different payment options will be investigated to enable fair rewards and strong incentives for participation, in return for increased levels of public benefits from improved environmental outcomes*
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The Government intends that ELMs will offer a reduction in prescription and bureaucracy, encourage participation, and enable environmental improvements to occur countrywide.

Approximately 70% of the total UK area is currently under agriculture (some 17.4 million hectares). Some 466,000 people worked in the UK agricultural sector in 2016 and there were around 218,000 agricultural holdings. Taking the broader agri-food sector into account (e.g. the manufacture, distribution and preparation of food in catering establishments), the workforce associated with agriculture exceeded 3.5 million people or 13% of the UK’s total workforce. In 2015, the agri-food sector contributed £109 billion to the UK economy (around 6.6% of the national Gross Value Added [GVA]).[[37]](#footnote-37) The radical agricultural reforms currently underway and the trade deals being struck will shape the future of the sector and the people contributing and dependent on it for their livelihoods for years to come. They will impact on the economy, and more significantly, they will impact on the natural environment on which that economy depends. The new ELMs will determine how nature is valued in Britain’s post-Brexit world, and how those entrusted with looking after it will be rewarded for their efforts.

The Government is committed to involving stakeholders – ranging from farmers to food producers to environmental experts and others, across Britain - in every stage of the development process of ELM. Through ‘co-designing’ ELM, it aims to develop an agricultural policy that will benefit British farmers, the environment, consumers, taxpayers and the wider rural community. This Working Paper contributes to this effort. It is based on a social science literature review of co-design, co-production, and associated participatory approaches that have been used in the public sector and in collaborative environmental management efforts. It’s aim is to support policy makers involved in co-designing ELMs.

 The literature review on which this WP is based was partly funded by Defra under the project ‘Brexit and the Environment: Using social science to redesign Environmental Land Management payments’. It was undertaken by social scientists from the University of Sheffield in 2018. Together with Defra-NE’s joint ‘Social science evidence for improving Environmental Land Management policy outcomes’ project, it forms part of Defra’s Future Farming (post-Brexit) policy development work and supports NE in its development of a Greener Farming Programme. The writing of the WP was funded by the ESRC under a three-year Governance After Brexit Program project (2019-2021) “Agri-environmental governance post-Brexit: Co-production of policy frameworks”. Associated reports that policy makers involved in the co-design of ELM might find useful include Hall (2014[[38]](#footnote-38); 2018[[39]](#footnote-39)), Rose (2018)[[40]](#footnote-40) and Rose *et al* (2018)[[41]](#footnote-41). This WP presents, synthesises and discusses social science data from studies of co-design and associated participatory approaches used in the public sphere and in natural resource management to aid ELM policy development for improved environmental outcomes. A separate WP on farmer participation in agri-environment schemes complements it[[42]](#footnote-42). Where relevant materials overlap, they are included in both papers. A third WP on farm advice, authored by NE (Brockett, B 2019), also forms part of this WP series.

## Methodology

The objective of reviewing co-design and co-production literatures was to elicit sound social science evidence for the co-design of ELM. Data collection methods used for the study were the traditional or narrative literature review and the meta-synthesis. The former entailed collecting data from a body of literature made up of relevant studies and knowledge that address the subject area. As a formal data collection process, this involved gathering information in a targeted, comprehensive way and critically assessing it. The literature review formed the basis of what Sandelowski and Barroso (2007) refer to as a meta-synthesis, where a set of related research questions is addressed for the purpose of integrating results. A meta-synthesis is a non-statistical technique which involves activities such as identifying, recording, analysing, integrating, evaluating and interpreting findings of multiple qualitative research studies and qualitative studies with a quantitative element with the purpose of identifying common core elements and themes and identifying evidence gaps and inconsistencies in a body of knowledge. We selected these methods to provide an overview of best available current knowledge of co-design methods and participatory approaches in order to aid Defra in its development of suitable co-design approaches and principles to ELM scheme design. **Key topics** of the review were:

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| * *Definitions and terminologies of co-design, co-production and related approaches.*
* *Reasons for co-design*
* *Key principles of co-design and participation*
* *Methods used in co-design and co-production*
* *Policy relevant co-design examples*
* *Evidence gaps associated with co-design*
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References to specific papers are provided in footnotes and listed in the bibliography. These are indicative of the range of studies consulted and/or show the most robust/recent examples (‘robust’ here refers to papers that covered a large number of references or provided findings from in-depth empirical work). In total, 40 peer-reviewed articles detailing or analysing theoretical concepts and/or empirical studies and published in main stream journals were analysed for this report. They included case studies from Europe, the USA and Australia. Few of the studies reviewed specifically focused on the co-design of *policy.* The reason for this is that few such studies exist. The papers reviewed – particularly those on co-design - nearly all provide examples of how the approach has been used in the public services provision sector, including the health sector where it has been pioneered. Concerning studies of co-production and related participatory approaches relevant to the objectives of this WP, the focus was on natural resource management, agricultural innovation, and catchment sensitive farming. Due to the importance of developing a practice-based understanding of co-design, findings detailed in ‘grey’ literatures produced by design consultants, NGOs, and public sector employees have also been included in the review (1 conference presentation, 3 reports, and 1 discussion paper). Most of the academic articles reviewed also reviewed and/or evaluated case studies and/or approaches, and in total, well over 120 of these fed into the findings and insights presented in this paper.

## Recognizing the value of user engagement in policy making

Traditions of participatory planning and community design have their roots in urban governance approaches developed in the US in the 1960s. ‘Co-production’ formed a cornerstone of the communitarian movement, where citizens participated in services provision, formed self-help groups, and created social support networks (examples include community groups managing community centres, play areas, and sports facilities). In public policy, early definitions of co-production describe it as joint production, social partnership, and joint governance. The first formal definition of co-production stems from the late 1970s, when Elinor Ostrom held that citizen participation was not only important for the consumption of services, but also for their production. More recently (and similar economic circumstances), interest in citizen participation in decision-making has again risen. Today, however, co-production refers to the involvement of people in the execution of public policy *and* its formulation.

In the UK, interest in the co-production of public services increased at the turn of the millennium. By 2007, experts in the field agreed that policy making was not the exclusive domain of policymakers. Concerning service delivery, for example, policy making should not be the sole responsibility of professional and managerial staff employed by public agencies. Rather, it should be co-produced and co-delivered with users and communities. Co-production is considered as a valuable approach not only during the service delivery phase, but also during the planning, design, commissioning, managing, delivering, monitoring, and evaluation phases of a policy.[[43]](#footnote-43)

Co-production has evolved into a governance paradigm in which collaboration and participation are central to policy making. The approach is hailed to provide ‘a possible solution to the public sector’s decreased legitimacy and dwindling resources by accessing more of society’s resources. In addition, it is seen as part of a drive to reinvigorate voluntary participation and strengthen social cohesion in an increasingly fragmented and individualized society.[[44]](#footnote-44)

The need to integrate *design* in innovation and use it for addressing social and public challenges is now widely accepted in the UK. The term ‘co-design’ is rooted in the participatory design methods that emerged in Sweden over 40 years ago in relation to user involvement in workplace- and software systems design. Its original meaning was to involve end-users in the design of processes and objects that were relevant and useful in the context of their daily working lives. Later, in the agricultural field in the early 1990s, agronomists worldwide begun to criticize top-down innovation processes in which agronomists designed techniques and farmers applied them. They identified ‘an urgent need to renew agriculture's traditional design organization and foster more open, decentralized, contextualized and participatory approaches to design and innovation.’[[45]](#footnote-45)

Aware that top-down design processes ignore the design- and innovation capabilities of farmers and end users, agronomists begun to work closely with ecologists and social scientists to develop new participatory methodologies and methods for bringing empirical and scientific knowledge together and find ways to build on innovative practices developed on farms. With environmental awareness and concerns about the negative impacts of agricultural practices on the rise, the need to involve farmers in solving the problems they had helped create became apparent. Participatory and interdisciplinary methods were developed, and transdisciplinary collaborations formed where farmers not only collaborated with other farmers but also with scientists, social scientists, and a range of public- and private stakeholders to address intractable problems like diffuse pollution and animal- and plant epidemics.

The meaning of the term co-design too has broadened and today, design principles play an ever more significant role in the policy making field. In the UK, the Cox Review[[46]](#footnote-46) published in 2005 recommended that the power of public procurement to encourage innovation be utilized, following which the Design Commission produced a number of reports that promoted the use of design in the public sector (see *Design and Public Procurement* (2010);[[47]](#footnote-47) *Restarting Britain: Design and Public Services* (2014)[[48]](#footnote-48)). It provided examples of where good design thinking was applied, with positive results, ‘to public or governmental challenges – often involved in reconfiguring public services in places where resources are diminishing, or need is growing, or both’.[[49]](#footnote-49) The 2014 report suggested ways of making design practice the norm in the public sector so that it could respond to social and public challenges. It also advocated stronger design leadership in central government through increasing design capacity and commissioning further capacity across government through training and aggregating good quality information. The Cabinet Office, the Design Council recommended, should take responsibility for developing design capacity across government, specifically trialling a multi-disciplinary design studio method for originating policy, and for policymakers to be equipped with design skills. This led to the establishment of the UK’s first Policy Lab in April 2014, which assists policy teams in testing how design principles and methods could improve the ‘pace, quality and deliverability of policy in the Civil Service’.[[50]](#footnote-50)

A few years prior to these developments, co-production had become a key theme at EU level, where it was the central theme of the EU Ministries of Public Administration’s 4th European Quality Conference for Public Agencies and the focus of the 5th European Quality Conference in 2008. Subsequently, the OECD begun advocating co-production as part of its agenda of promoting innovative public services.

## 3.1. Benefits of co-design

In many countries, ‘interactive policymaking and public participation are seen as important ways to improve the quality of government plans as well as to involve people in the decision-making process, whereby they can learn to understand both problems and solutions, as this results in greater support for the end result. In such policy trajectories, both content and process are negotiated, as are power and power-relationships.’[[51]](#footnote-51) In the late 1970s, Ostrom noted that ‘Unless the initiators of a policy can galvanise the energy, attention and skills of those affected by it […], the effects of a policy are unlikely to be anything but weak or diffuse.’[[52]](#footnote-52) Faced with ever more complex and intractable problems, policy implementation challenges such as low take-up, poor quality, budget transgressions and the failure to meet stated objectives and achieve desired results are undesirable. It is well known that

“public policies that are based on misunderstandings of the problem, insufficient knowledge of the context for its solution, vague and contradictory goals, a mismatch between means and ends, an incomplete strategy for execution, a weak story line and the lack of political and administrative support are prone to failure because they are ill-conceived.’[[53]](#footnote-53)

Policy experts suggest that improved policy design, connecting policy designers with front-line staff and end-users, and enhancing the flexible choice of policy instruments might provide the solution. Co-design is hailed as holding great promise for policy makers as it can:

* lead to the generation of more innovative ideas;
* ensure policies and services match the needs of users;
* achieve economic efficiencies by improving responsiveness;
* foster cooperation and trust between different groups;
* provide a means to engaging the ‘hard to reach’; and
* achieve support for change

Co-design is often presented as a ‘new or different way to address longstanding social challenges that the public sector is failing to address.’[[54]](#footnote-54) Co-design means designing policies *with* the people for whom policies are designed and who will be affected by them. After all, they are ‘the experts of their future lives […] and the ‘experts of their experience’.[[55]](#footnote-55) Policy co-design is considered both a useful approach to address the long-term challenges faced by society, and the short-term needs of the marketplace.[[56]](#footnote-56) Benefits identified by studies of policy co-design argue that it

* facilitates the joint exploration of policy problems;
* allows relevant and affected policy actors to agree on novel ways of defining the problem;
* spurs a constructive use of scientific knowledge in processes of mutual learning and creative problem-solving;
* enables a careful evaluation of alternative solutions through a joint assessment of potential risks and gains that may draw on an experimental testing of prototypes;
* offers an opportunity for relevant and affected actors to participate in the design of innovative solutions;
* creates a sense of joint commitment to and responsibility for the implementation of innovative policy design; and,
* establishes common ground for creative problem-solving if well-designed and effectively-led.[[57]](#footnote-57)

Similar benefits to those identified in relation to the use of co-design in policymaking are those found to result from collaborative environmental resource management. Here, research shows that engagement can facilitate learning and lead to changes in attitudes and values among participants; acceptance of outcomes can increase; and better-informed decision-making can be made due to a wider range of information inputs and knowledge exchanges taking place. The likelihood that decisions are actually implemented also increases as they are tailored to the needs and priorities of stakeholders.[[58]](#footnote-58)

Evidence gaps (and potential shortcomings) of co-design and co-production approaches relevant to policymaking are discussed in Section 8. Below, in Section 4, definitions and terminologies associate with co-design, co-production and associated participatory approaches and methods are presented.

## Definitions of co-production, co-design and associated participatory approaches

Involving stakeholders in research and policy making can take many forms, ranging from consultation (seeking views on pre-determined issues), to engagement (entering a mutual dialogue where the parties taking part contribute to setting the agenda and the initiator seeks a deeper level of understanding), to devolution (where full decision-making power is transferred to participants). Stakeholder participation is done for very different reasons, and this impacts on how it is undertaken and the results it can hope to achieve (see section 5). The boundaries between different approaches are often blurred, and some authors draw distinctions between them on the basis of the degree of participation and the potential for impact. For example, the *Think Local Act Personal Partnership*’s ‘Ladder or of Participation’ ranges from (least participatory) Coercion, Education, Informing, Consultation, Engagement, Co-design, to Co-production (most participatory). The top two rungs of this ladder are reserved here for *co-design* - where people using services help design them -, and co-production - where people jointly and equally conceive, design and deliver services. Furthermore, all participants are jointly responsible for decision-making. Below, we look at these different approaches further detail.

## 4.1. Co-production

In public policy, other terms used for ‘co-production’ are joint production, social partnership and joint governance. The concept of co-production dates to the late 1970s, when Ostrom and colleagues observed that public services depended as much on unacknowledged knowledge, assets and efforts of service ‘users’ as it did on the expertise of professional providers. Not only did the consumption of public services require citizen participation, so did their production. Gradually, it was also acknowledged that users had an important contribution to make to public policy formulation. In management, co-production is defined as ‘a relationship between a paid employee of an organization and (groups of) individual citizens that requires a direct and active contribution from these citizens to the work of the organization.’[[59]](#footnote-59)

Tony Bovaird, a former UK Civil Service employee and chairman of the Evaluation Partnership set up by the UK government to co-ordinate the evaluation of the Local Government Modernisation Agenda from 2002 – 2008, defines user and community co-production ‘as the provision of services through regular, long-term relationships between professionalized service providers (in any sector) and service users or other members of the community, where all parties make substantial resource contributions.’[[60]](#footnote-60) Bovaird, who led the UK contribution to an EU project on user and community co-production of public services in five European countries, thinks that co-production can take place many decision-making arenas, including planning, commissioning, design, managing, delivering, monitoring, and evaluating. He identifies different **forms of co-production**[[61]](#footnote-61), which, with examples, include:

|  |
| --- |
| **Traditional professional service provision with users** - community consultation on service planning and design issues. Services are delivered by professionals, but the planning and design stages closely involve users and community members. |
| **User codelivery of professionally designed services -** professionals design and plan a service, while users and community members deliver it (e.g. expert patients who are ex-users of a service, health promoting hospitals/clinics). |
| **Full user/professional coproduction­–** users and professionals fully share the task of planning and designing the service, then delivering it (e.g. rural environmental development schemes, neighbourhood watch schemes). |
| **User/community codelivery of services with professionals, without formal planning or design processes -** users and community groups take responsibility for undertaking activities but call on professional service expertise when required (e.g. community resource centres, local associations specializing in leisure activities). |
| **User/community sole delivery of professionally planned services -** users and other community members take responsibility for delivering services planned by professionals (e.g. host families projects caring for elderly or disabled people, Samaritans, community-based recycling programs). |
| **User/community sole delivery of co-planned or codesigned services -** users or other community members deliver services that they partly also plan and design (e.g. rural multi-function service points staffed by volunteers, contract services undertaken by local community groups). |
| **Traditional self-organized community provision -** professional staff have no direct involvement in services, there is traditional self-organized community provision (e.g. children’s playgroups, school breakfast clubs, food co-ops). |

Explicit in these examples is what scholars refer to as ‘top-down’ and ‘bottom-up’ co-production. Top-down co- production refers to instances of co- production that are initiated and steered by authorities (as in ELMs co-design). Bottom-up co-production refers to initiatives like local self-help networks which evolve into structures of strong citizen-government co-operations. Co-production in flood risk governance, for example, is described as a relationship between a governmental or public organization and (groups of) citizens that requires a direct contribution from these citizens to the delivery of a public good or service. Co-production here necessitates that the State and civil society - which encapsulates individuals or households as well as organised groups of individuals – work together through communities or NGOs.[[62]](#footnote-62) Consultation (if intensive and done well) can form part of co-production, but ‘co-production typically goes beyond consultation to include joint actions’. [[63]](#footnote-63)

A very different definition of ‘co-production’ is used in the field of science and technology studies (STS) (advanced by Sheila Jasanoff and colleagues at Harvard University), where it refers to the idea that how we know and represent the world (both nature and society) are inseparable from how we choose to live in it. To put it differently, the knowledge we create about nature and society and the ways in which we create and value this knowledge are inextricably linked to the governance arrangements we institute. Scientific knowledge in particular, which has long been valued as a superior form of knowledge by Western society (constituting the dominant source of ‘evidence’ in policymaking), is closely connected to social order (the laws, regulations, standards and values we live by). The power of thinking about co-production in this way is that it can make us aware of the fact that how we value knowledge impacts on how we live our lives as a society.[[64]](#footnote-64) Co-production so defined has become one of the most important concepts in the theory and practice of knowledge and governance for global sustainability, including ecology and biodiversity conservation.

## 4.2. Co-design

‘Co-design’ refers to a distinct set of principles and practices (further discussed in sections 5 and 6 respectively) developed for the better understanding and tackling of complex, intractable problems. The ‘co’ in co-design highlights the collaborative nature of the design process. Co-design necessitates the active involvement of a diverse range of participants in exploring, developing, and experimenting with or testing responses to shared challenges and concerns. It is a creative approach that *both* generates *and* tests novel solutions to public problems and fosters innovation.[[65]](#footnote-65) The approach of ‘co-design’ has its origins in the private sector innovation industry, where it is associated with the industrial design discipline and the Scandinavian tradition of participatory design of work products and processes. As in the case of ‘co-production’, ‘co-design’ today has a much broader meaning. For example, the international ‘Codesigning 2000’ conference defined it as a

‘design process in which the designer’s role is shared among the different actors that take part in the process. In co-designing, notwithstanding their (or the lack of) background in design, people interested in or affected by a specific situation participate in the design process and contribute to its decision-making activities. Therefore, co-design entails the designer’s reduced power exercise and management possibilities in the design process, while it increases participants’ influence and transformative ability as to the process. It is this redistribution of power that has fostered the association of co-design with democratising.’[[66]](#footnote-66)

In relation to the field of public services design, it has been suggested that the concept of co-design is best understood as an *interactive learning environment* in which both providers and users learn how to better design and deliver public services. Co-design is a creative process that provides better solutions to problems than top-down approaches can. It incorporates the experience of users and their communities into the planning or arrangement of the public services required and enables state actors to better understand how public services need to be designed to be of the greatest benefit to users. Co-design mirrors traditional notions of direct citizen participation and ‘may be prospective (i.e. future-oriented) or concurrent (i.e. concerned with what presently exists or occurs).’[[67]](#footnote-67)

## 4.3. Participatory design

Participatory design (PD) also originated in the 1970s as a *politically motivated* approach to involving industrial workers in the design of their work environments. PD applications nowadays are extremely varied, ranging from the design of door handles with the elderly to health informatics to humanitarian technology development (referred to as humanitarian design; a sub-set of international development). [[68]](#footnote-68) Various institutional frames (meso- and macro level) inform PD processes and, conversely, PD processes inform various institutional frames .[[69]](#footnote-69) In other words, the impacts of PD activities extend far beyond the ‘local’: they require legislation-checks, policy-checks, fund-raising, partnership-forming, reporting and assessments in relation to all parties involved.

## 4.4. Co-commissioning

Co-commissioning refers to activities in the public services sector aimed at strategically identifying and prioritizing ‘what needs to be delivered, to whom, and to achieve what outcomes.’[[70]](#footnote-70) Co-commissioning of services is jointly undertaken by state and lay actors. It is generally prospective, i.e. oriented towards the future, and concerned with activities that often take place at a later date. Terms such as ‘co-prioritization’ and ‘co-financing’ are sometimes used either as synonyms for co-commissioning, or to demarcate specific activities within co-commissioning.[[71]](#footnote-71)

## 4.5. Co-delivery

Co-delivery refers to joint activities between state- and lay actors aimed at providing public services and/or to improve the provision of public services directly. Co-delivery is aligned with the traditional view of co-production and is sometimes considered intrinsic to the provision of certain services (e.g. health care and education). It centres on *quality and efficiency improvements* and is concurrent in that it focuses on presently provided services.[[72]](#footnote-72)

## 4.6. Infrastructuring

Infrastructuring is a notion developed by Björgvinsson *et al* (2010).[[73]](#footnote-73) It refers to the development of relations and resources through PD and co-design that foster the *possibility for change and self-sustainability*. Star and Ruhleder[[74]](#footnote-74) interpret infrastructuring as the relational and invisible aspects of information infrastructure. Within the *co-design* field, infrastructuring is often used to highlight the importance of tentative, flexible and open design work where adaptation and appropriation are seen as crucial elements. Within the *co-production* field, it implies a long-term attempt to rework existing relationships among citizens by exploring potential alignments between their different interests and objectives. Infrastructuring can be useful in identifying possible weaknesses in the existing logics and structures of the public sector. When infrastructures are developed, breakdowns have been found to occur at three levels:

1) in relation to practical aspects;

2) across specific contexts;

3) in relation to different worldviews and values.[[75]](#footnote-75)

## 4.7. Institutioning

Institutioning[[76]](#footnote-76) draws attention to the ways in which institutions play an active role in framing PD and co-design processes. This makes them important actors in effecting change. ‘Framing’ here is not merely understood as something that occurs only at legislative and policy levels, but also as something that is deeply rooted in how we think about and know the world (i.e. at an epistemological level). Institutioningis the process of expressing *how co-design processes depend on various institutional frames*. It draws attention to the *institutional character of PD* *and* *co-design processes* emphasising that:

* they cannot be understood exclusively as projects on a micro-level but are dependent on and informed by institutions at meso- and macro-levels;
* they have the capacity to effect direct and indirect institutional change;
* their institutional dependencies and potentials are multi-scalar and multi-directional; and
* although they operate primarily on a micro-level, they generate many direct and indirect effects on meso- and macro-level institutional frames through relations that are consolidative, challenging, and/or formative.

Institutioningquestions how public and private institutions explicitly or implicitly ‘participate’ in PD and co-design processes and how this impacts on them. Participation here potentially includes not only persons or groups, but also local and regional organisations or institutions and even national and transnational organisations and institutions. Those involved in institutioningdo not simply engage withinstitutions as externals but are part ofinstitutional framing processes in their capacity as researcher – both as pawns and players. Realizing institutioning’s transformative power depends on how PD and co-design processes are able to navigate, situate, and position themselves (as consolidative, challenging, and/or formative) in relation to the range of frames (policy frames, institutional action frames and metacultural frames) that shape institutions (at micro-, meso- and macro-levels).

Similar approaches to co-production and co-design identifies by Blokamp[[77]](#footnote-77) include:

## 4.8. Social design

Armstrong *et al* (2014)[[78]](#footnote-78) define the term ‘social design’ as: ‘concept and activities enacted within participatory approaches to researching, generating, and realising new ways to make change happen towards *collective and social ends*, rather than predominantly commercial objectives.’ Social design is conceived of as a process that occurs more or less in *contrast* to commercial, market-driven, design processes. There seems to be ‘a consensus that co-design or participatory design**,** depending on which tradition researchers acknowledge, is part and parcel of social design.[[79]](#footnote-79)

## 4.9. Social innovation

Social innovation refers to the ‘creation of long-lasting outcomes that aim to address societal needs by fundamentally *changing the relationships, positions and rules* between the involved stakeholders, through an open process of participation, exchange and collaboration with relevant stakeholders, including end-users, thereby crossing organizational boundaries and jurisdictions.’[[80]](#footnote-80)

## 4.10. Human-centred design

Human-centred design is a contextualized, design-led methodology that incorporates end-users’ needs and ideals in design and *minimally* involves them in design processes. This distinguishes it from co-design. However, because emphasis is placed on the views and experiences of users, the process can be described as ‘user-centred’ or ‘human-centred’ design process.

## 4.11. Open innovation

Open innovation comes from the field of management studies and is used in the corporate industrial- and technology sectors to *tackle the negative consequences of top-down innovation*. It emphasizes that knowledge comes from both within and outside of organizations, and that it moves inbound and outbound through various networks and forms of collaboration including alliances, communities, consortia, ecosystems, and platforms. Open design and open innovation are *commonly used approaches in agricultural contexts*. They tend to be transdisciplinary in nature and blur the boundaries between scientists, agricultural system stakeholders, agronomists, farmers, and other actors in the agriculture sector and design.[[81]](#footnote-81) *Open innovation incorporates participatory design, collaborative design, co-design, and co-innovation* in spite of their differences. Whereas co-design involves heterogeneous stakeholders collectively and encourages them to explore solutions to a common problem, generally seeking to build and maintain a shared conception of the design problem to foster collaboration, co-innovation *promotes the collaboration between researchers and stakeholders beyond an initial design phase* to realize combined technological and institutional innovation in farming systems, sectors, territories and value chains.[[82]](#footnote-82)

## 4.12. Interactive planning

Interactive planning is concerned with complex, uncertain problems. It involves different actors with different backgrounds, values and interests and can be described as *a participatory policy formation process* where government interacts with societal stakeholders.[[83]](#footnote-83)

## 4.13. Community engagement

Community engagement demands that the values, concerns and visions of communities are proactively sought and taken seriously during decision making processes. Community design differs from co-design in that it *does not necessarily use a design-led process, lead to innovation, or involve creative methods*.

## 4.14. Participatory democracy

Participatory democracy is a *process of collective decision making*. It combines elements from both direct and representative democracy. Citizens have the power to decide on policy proposals and politicians assume the role of policy implementers. Participatory democracy refers to individual participation by citizens in political decisions and policies that have an impact on their lives, directly rather than through elected representatives. It values self-rule and self-determination and *differs from co-design in the sense that it does not necessarily involve a design-led process or creative methods*.

## 4.15. Deliberative democracy

 ‘Deliberation’ is central to deliberative democracy and there is a strong emphasis in this approach on *rational dialogue and practical reasoning*. Deliberative democracy assumes the unconstrained exchange of arguments and reasoned discussion between rational actors. It differs from co-design in that it *undervalues**design thinking, creativity and abductive forms of reasoning*.

There is potential for *considerable overlap* between the approaches described above. One of the challenges of evaluating and comparing the outputs and impacts of co-production and co-design approaches identified is that clear definitions of what practitioners of co-design and co-production are referring to when using these approaches are lacking. Hence it has been suggested that ‘shared definition of co-design that is appropriate for governmental contexts is needed to advance practice and research in this domain. *An appropriate definition of co-design as a methodology for policy making would recognise it as a design-led process, involving creative and participatory principles and tools to engage different kinds of people and knowledge in public problem solving*.[[84]](#footnote-84)

 In the next section, principles of co-production, co-design and participatory approaches are outlined.

## Principles of co-production, co-design and participatory approaches

 Why are participatory approaches like co-production and co-design considered as beneficial to knowledge- and decision making? Fiorino (1990)[[85]](#footnote-85), who analysed this question, identified three *rationales* for using participatory approaches: normative, instrumental, and substantive.

**Normative**

* participation is a public good, it is ‘the right thing to do’;
* citizens have a right to influence decisions that affect their lives;
* citizen participation empowers, leads to equity and social justice;
* engagement is of intrinsic value;
* research serves the public interest;
* shared expertise is fairer and more ethical;
* participation can be transformative and nourish the renewal of democracy;
* participation leads to mutual and continual learning.

**Instrumental**

* participation constitutes a better way to achieve certain ends;
* research is utilized in more effective ways and achieves impact;
* the legitimacy of governing institutions is increased, leading to better implementation and conflict reduction;
* practice based research questions are better identified and outcomes are relevant to the implementation setting;
* innovative research designs and feasible ways to collect data can be identified.

**Substantive**

* participation leads to better results, in both the quality of the research and the decisions made (e.g. through helping researchers and policy-makers develop a more holistic understanding of a context, an issue, and/or a solution;
* research is more relevant because new knowledge is created collaboratively.

Understanding *why* participatory approaches are employed is important, because it affects *how* they are used in practice: ‘each rationale supports very different philosophical approaches to expertise and knowledge, as well as different kinds of encounter between lay people and those conventionally considered experts […]. Such different rationales also set up, for different participatory initiatives, different expectations amongst organisers and participants.[[86]](#footnote-86)

Research has shown that

* All forms of participation are both shaped by and actively construct people’s judgements, opinions and feelings. These in turn impact on the concerns addressed, and on the models of participation adopted;
* All forms of participation are by definition exclusive, lead to exclusions, are always partial, and framed in particular ways;
* Collectives of participation can be subject to powerful framing effects, especially in institutionally orchestrated processeswhere the concerns are often pre-defined by incumbent interests (e.g. ELMs);
* Different stakeholder groups can open up or close down different possibilities for systems to change.[[87]](#footnote-87)

Scholars recommend that those involved in participatory activities critically consider:

* sites of institutional decision making;
* sites of everyday practice (local and contextual factors);
* sites of protest and activism;
* design and facilitation of the participatory activity;
* the impacts of participation on publics, and how they are made and re-made in processes of participatory change;
* normative underpinnings of different participatory and co-design approaches;
* actor-dynamics (e.g. who decides who is allowed to participate?);
* politics implicated in the changes proposed; and
* the motives of the participants involved.

The literature identifies the following principles to underly specific participatory approaches.

## 5.1. Principles of co-production

Co-production

* requires the formation of a relationship between the employees of an organization and (groups of) individual citizens;
* requires direct and active inputs from these citizens to the work of the organization;
* requires thinking about the fact that the professional of the organization is paid, whereas the citizen generally is not;
* involves collaboration between multiple stakeholders;
* is motivated by constructivism (the view that we make the world we live in, imaginatively and materially);
* is subject to power-relations and social and political negotiations;
* requires integrating scientific knowledge with other forms of knowing and doing things (which makes it a political project);
* entails collective effort and collective performance;
* involves cooperation, coercion, and resistance;
* involves power sharing;[[88]](#footnote-88) [[89]](#footnote-89)
* requires sustained engagement and stakeholder involvement from start to finish.[[90]](#footnote-90)

## 5.2. Principles of co-design

Co-design

* fosters citizen participation and citizen empowerment;
* values the expertise of lived experience;
* challenges the privileged position of external experts and scientific expertise in policy advisory systems;
* brings formal evidence together with local knowledge and other forms of knowledge;
* involves people affected by an issue as active participantsin the design process;
* requires a wide input into the problem definition and the development of solutions;
* offers citizens and stakeholders more than the opportunity to provide feedback after a policy or plan has been formulated by specialist professionals;
* acknowledges that policy problems cannot be solved through open, rational, and cognitive discussion alone;[[91]](#footnote-91)
* helps people achieve autonomy to solve their own problems in their working situations.[[92]](#footnote-92)

Lessons learnt from an early stage of the co-design process to develop research on deliberate practices for transformative change included:

1. Ensuring that co-design processes are themselves carefully designed
2. Encouraging the emergence of new ways of thinking about ‘the’ problem
3. Balancing risks for participants involved and enhancing opportunities for intellectual risk taking
4. Facilitating personal transformation as a way to stimulate and encourage further creativity
5. Carefully and constructively aligning criteria or incentives through which a project or future proposal will be judged to the goals of the co-design.[[93]](#footnote-93)

Knowledge management in co-design is important. The goals of the design process need to be clear and the types of knowledge and modes of knowledge production needed to achieve the goals addressed.

In more complex and open fields, such as socio-ecological transitions or natural resource management, where boundaries of problems tend to be blurred and where there are no clear hierarchical relations between participants - the question of *who* should take part in the co-design process needs to be addressed.

*More open, decentralized, contextualized and participatory approaches to design and innovation in the agricultural field have been found to require a blurring of the boundaries between scientists and agricultural system stakeholders, between agronomists and farmers, and between actors in the agriculture sector and those designing in other sectors*.[[94]](#footnote-94)

## 5.3. Questions for co-designers

1. How can early stage co-design balance the need for pragmatic and time driven outcomes (e.g. a concrete focus vs. openness & time for exploration)?
2. At what stage should a broader constituency of stakeholders be involved to increase the collaborative nature of the research design?
3. Who is engaged or excluded by current co-design practices? What are the political and social implications of excluding them?
4. What might the possible negative effects of participation be?[[95]](#footnote-95)
5. How can those involved in the early stages of co-design be clear about whether they are observing patterns of change or being involved in shaping that change?
6. Who is the transformation for?
7. Who decides what needs to be transformed?
8. What are the broader ethical issues that might emerge in the process?
9. In what ways (or not) will science and policymaking need to change for co-design to be effective?
10. What mechanisms, incentives, and kinds of support (e.g. facilitation) will be needed to co-design effectively?[[96]](#footnote-96)
11. How can conflicts be constructively dealt with and used to overcome contradictions?[[97]](#footnote-97)

## 5.4. Time and Place

Research shows that time and place are of great significance in co-design. ‘Co-design can be managed as a process in which several people with different competencies and perspectives co-design something at the same time and in the same place, or alternatively, as a process in which different designers have a part to play but at different times and in different places. What is more, both cases may apply at different stages in the same co-design process […]’.[[98]](#footnote-98) Collaborative governance and policy innovation takes time, as does the building of trust.

## 5.5. Trust

When ‘participating actors have developed sufficient trust in one another, they will stop using scientific results as political weapons and begin to craft and circulate new ideas and disruptive solutions that are further improved through critical scrutiny, cross-fertilisation and integration.’[[99]](#footnote-99) Empathy (giving and receiving), has also been found to benefit co-design processes as it fosters ‘experimentation and shared experiential learning.’[[100]](#footnote-100)

## 5.6. Managing differences/taking participants seriously

Any form of collaborative working can be considered as a shared effort to establish a common ground for public problem-solving. Collaboration requires the constructive management of differences, leaving room for dissent and grievance: ‘collaboration aims to harness difference without eliminating it’.[[101]](#footnote-101) Successful co-design processes value the views and opinions of all participants. They acknowledge that their participation in the collaborative policymaking effort makes a difference; that it will ‘actually produce results and influence important decisions that affect their lives’.[[102]](#footnote-102)

## 5.7. The challenge of working collaboratively

Challenges of working collaboratively include:

* a lack of traditions for participation and dialogue;
* negative experiences with collaborative engagement in the past;
* an unequal distribution of power;
* the fear of ‘all talk, but no action’;[[103]](#footnote-103)
* a high degree of ideological polarisation;
* the presence of deep-seated moral, political or ethnic conflicts;
* extensive distrust among stakeholders.[[104]](#footnote-104)

## Methods and approaches of co-production, co-design and participation

To co-design, careful consideration needs to be given to what kind of methods and approaches are appropriate to the co-design process, what they can help to achieve, and how they are used correctly.[[105]](#footnote-105) Depending on the phase a participatory process is in, different methods and approaches might need to be used. For example, in relation to co-production, three inter-related and sometimes overlapping phases have been identified: 1) co-design (e.g. joint goal/problem framing, research design); 2) co-development (e.g. scientific integration, knowledge development, research methods operationalization); and 3) co-dissemination of findings for generating impact from the activity.[[106]](#footnote-106) *Prior to deciding what methods and approaches to use, policymakers should think carefully about the types and levels of engagement they seek.*

## 6.1. Types and levels of engagement

* Pretty (1995)[[107]](#footnote-107) describes a continuum of increasing stakeholder involvement, from passive dissemination of information, to active engagement.
* Hurlbert and Gupta (2015)[[108]](#footnote-108) conceptualize this continuum as a ‘split ladder’ of participation, recognizing that low levels of participation may be acceptable or even desirable in contexts where little disagreement exists, and decisions can be made easily without reference to stakeholders.
* Collins and Ison (2009)[[109]](#footnote-109) suggest jumping ‘off the ladder’ to focus more on social learning among multiple actors.
* Rowe and Frewer (2000)[[110]](#footnote-110) classify stakeholder engagement according to the direction of communication between parties. They define information dissemination to passive recipients as ‘communication’, gathering information from participants as ‘consultation’, and ‘participation’ as a two-way communication and learning process between all participants and process organizers.
* Fung (2006)[[111]](#footnote-111) distinguished three dimensions of participation: (1) who participates (ranked from more restrictive to more inclusive approaches); (2) how participants communicate with one another and make decisions (ranked from more to less intense); and (3) how process outcomes are linked with policy or public action (grouped from least to most authority).

Finally, Reed *et al* (2018)[[112]](#footnote-112) distinguish between four types of stakeholder and public engagement:

**1. *Top-down one-way communication and/or consultation*:** engagement is initiated and led from the top-down by an organization with decision-making power. Publics and stakeholders are consulted, but decision-making power is retained, and decisions are simply communicated to them. Consultation is not generally considered as a form of participation and is most suited where a decision has already been taken and cannot be changed but needs to be communicated to those affected.

**2. *Top-down deliberation and/or co-production***: engagement is initiated and led from the top-down by an organization with decision-making power. Publics and stakeholders are engaged in two-way discussions about decisions. This enables the decision-making body to better understand and explore suggestions with stakeholders prior to making a final decision. A more co-productive approach would typically include deliberation, where the decision (and how it should be implemented) would be jointly developed and owned by both the agency and stakeholders/publics. Despite this, it would still be the responsibility of the organization to implement the decision.

**3. *Bottom-up one-way communication and/or consultation***: engagement is initiated and led by stakeholders and/or publics, who communicate with decision-making bodies, often via grassroots networks and social media, to persuade them to open their decision-making process to scrutiny and engagement. Alternatively, stakeholders/ publics gain enough power - typically through mass mobilization of public opinion or stakeholder groups - to overrule previous top-down decisions. Those leading the process may consult with stakeholders/publics to better understand and represent their views and demonstrate buy-in and support, and so increase their capacity to influence decision-makers or overturn decisions.

**4. *Bottom-up deliberation and/or co-production***: engagement is initiated and led by stakeholders and/or publics who engage in a two-way discussion about the decision with other relevant publics and stakeholders to make a decision. The decision may be made and implemented by a single or a small group of stakeholders/publics based on knowledge gained through deliberation, or the decision may be coproduced, owned, and implemented by the whole group.

## 6.2. Methods and Approaches

## *6.2.1. Co-design*

In 2017, the UK Cabinet Office noted that ‘Co-design can work at any point in policy design, however it is most commonly used at the beginning of a policy to help understand where a policy needs to focus.’[[113]](#footnote-113) One of the best known models of co-design is the **‘**Double Diamond’**,** developed by the UK Design Council (2007). It is based on research with 11 international companies and aims to visually represent common phases in the co-design process. Most design-based models share features such as the *iterative stages of divergence and convergence (going wide then getting focused*), within a series of phases starting with ‘discovery’ or ‘inspiration’, leading to ‘design’ or ‘ideation’, and followed by ‘delivery’ or ‘implementation’.

Effective *communications media*, including mapping and other visualisation tools are recognised in the participatory planning literature as essential tools for facilitating citizen participation. The threemain co-design techniques are *telling, enacting, and making*. Using them can provide rich evidence of ‘real rather than assumed behaviours’[[114]](#footnote-114) Methods such as *diaries, collages, card sorts, model building, and various forms of mapping and roleplaying* are used to help reveal *knowledge that is nonverbal, holistic, non-linear, emotional, or intuitive*. *Prototyping* (further discussed below) constitutes an important co-design stage. It provides a quick, low-cost way of testing an idea or an aspect of an idea by creating an early sample or model of it and eliciting rapid feedback. Prototyping can be seen as a ‘design experiment’ that can ‘provide an evidence base about “what works” in the early stages of the development of an intervention’; it can also ‘provide a staging post for a broader and more generalisable test in the future.’[[115]](#footnote-115) A *skilled facilitator* is needed to aid the co-design process by choosing the most appropriate tools to enable people to communicate and engage with each other.

## *6.2.2. Experience Based Co-design (Healthcare)*

A popular co-design method used in healthcare is that of Experience-Based Co-Design (EBCD). It has been used in several countries and in at least 57 projects as well as in a variety of settings. EBCD originates from the design science and draws on the idea that products and services could be improved by involving end-users in their design. EBCD brings together insights from design science, organizational learning and patient engagement. It is a *user-centred approach* that has been transferred into the healthcare context. Using a range of qualitative methods, EBCD seeks to capture and understand how people actually experience a process or service in healthcare.[[116]](#footnote-116)

A full version of EBCD includes *eight stages*: (1) gathering hospital staff experiences through clinical observations, (2) filmed in-depth narrative- based inter- views with patients or families, (3) editing the interviews in a 30-minute trigger film, (4) staff feedback event to review themes from staff interviews to identify priorities for improving services, (5) patient feedback event to view the edited film and to identify priorities for improving services, (6) joint event bringing staff, patients or families together to share their experiences of a service and identify their shared priorities for improvement, prompted by an edited 30-minute trigger film (7) co-design groups of staff, patients or families working on implementing improvements relating to identified priorities, and (8) an evaluation/celebration event. Patients remain actively involved throughout the entire improvement process, including the implementation stage.

Many public services design method and techniques were developed in the context of *commerce*. However, they have been further developed in dialogue with PD and its historical political commitment to involving workers in design processes. Among them are *interviewing or doing field studies of users, creating personas, visually mapping customer journeys, making and reviewing mock-ups of future services, devices or artefacts, organising cycles of feedback and iteration, and stakeholder engagement.* Many of them have been adapted to engage citizens in the achievement of policy targets and for public servants and front-line staff who are involved in developing or implementing policy or who have expertise in an issue. New methods, tools, and techniques are continually invented or reinvented. ‘The participatory prototyping cycle of making, telling, and enacting is a way to organize and activate the dozens of old and new tools for bringing people into the design development process’.[[117]](#footnote-117)

## *6.2.3. Prototyping and its usefulness for policy making*

Prototyping is a provisional and exploratory method. *Within product design*, prototypes are artefacts that resemble the final product; i.e. working models. *Prototyping mediates existing knowledge and anticipates possible futures*. A prototype is on the one hand ‘original, provisional and anticipatory, but at the same time aspiring to be a replicable ideal. The potential for prototyping in policy-making therefore depends on whether policy-making is understood as creative, contingent and emergent or rational, linear and reproducible.’[[118]](#footnote-118)

*Within public policy-making*, prototyping can be a *flexible practice* in the policy cycle. It can close the gap between policy intent and policy delivery. Prototyping *fosters organisational learning* by anticipating responses to public policy issues. It achieves this through model building or the creation of provisional solutions, which can them be assessed for their delivery, acceptability and legitimacy. Prototyping *brings together different actors involved in a policy making issue*, all of whom have distinct expertise, perspectives and knowledge. It can help those involved in prototyping understand how future policies might play out, foregrounding their experiences of a policy intervention via a material engagement with devices, objects and sites of action. In that way, prototyping makes ‘the practical and political implications of a policy graspable and meaningful.’[[119]](#footnote-119)

In short, prototyping *can be used to elicit, explore and establish requirements; to probe uncertain or complex contexts where an analytical approach cannot reveal the solution; to understand existing user experiences; and to support idea generation*. In the later stages of a design process, prototypes can be used to: ‘test, validate and improve ideas by allowing for ‘micro-failures’; to evaluate function, structure and behaviour; to assess performance, hardware, ergonomics and organisational fit; or to assess designs before committing to organisational changes. Prototypes can help communicate an idea or proposed solution or stimulate discussion and debate and engage stakeholders.’[[120]](#footnote-120)

These uses make prototyping compatible with the typical policy development phases of *agenda setting, policy design and implementation*. It can be used in all of these phases. It can generate insights about issues from different perspectives; expose problem structures; engage a broad constituency in generating and evaluating options and their consequences; and explore future directions. In government contexts, prototyping’s emphasis on ‘making’ and ‘materialising’ can support and extend traditional consultation activities and enable them to be more generative. It can also support public servants in engaging with the wider policy ecosystem which includes users, citizens, beneficiaries, experts, and those involved in delivering a policy solution such as service providers, businesses or front-line staff.

Can multiple, iterative cycles of prototyping match the intensities and rhythms associated with policy processes and politics? Some think that it is quicker to provide a minister with a short written brief than to prototype a concept. Although rapid prototyping might provide compelling proof of a concept, ‘it may overpromise or actively mislead as to the deliverability of an idea in a complex environment, understating the degree of social ‘infrastructuring’ required.’[[121]](#footnote-121) However, although prototyping ‘is not [yet] a legitimate evidence-producing activity’, it is thought to *hold great potential* for policymakers wishing to embark on co-design.[[122]](#footnote-122)

## *6.2.4. Collaborative policy making*

Collaborative policymaking requires the establishment of *forums* for knowledge sharing, sustained dialogue and mutual learning that enable the *formation of networks* between interdependent public and private actors. These forums need to:

* enable politicians to work together across levels and party lines while focusing on the development of new and better policy solutions;
* foster interaction between politicians and a broad range of executive civil servants, policy experts from relevant agencies and downstream actors involved in policy implementation;
* involve private stakeholders and target users in co-initiation, co-design and/or co-implementation of public policy;
* encourage joint deliberation between those actors that can contribute to understanding and defining the problem, advance creative problem solving, and/or facilitate adaptive implementation;
* provide external input through joint excursions, independent expert reports and comparative studies of solutions in other countries and jurisdictions that can challenge the taken-for-granted-knowledge and stimulate experimentation;
* enable members of the governing parties to play a leading role as sponsors and champions of collaborative policymaking in order to enhance the government’s ownership over collaborative policy designs and create political support for adaptive implementation of those policy designs[[123]](#footnote-123)

## *6.2.5. Collaborative policy implementation*

Collaboration can also facilitate the *adaptive implementation* of new policies:

1. with frontline staff and their representatives, who can help public leaders responsible for policy implementation better understand local conditions and how they vary from place to place and between agencies;
2. with frontline staff, who can help identify needs in terms of skills, competences and resources and encourage organisational learning and continued experimentation that will improve the production and delivery of new services;
3. with local stakeholders, who can generate political support and supportive actions from relevant stakeholders and solicit constructive feedback on proposed policy solutions;
4. with relevant and affected people, who can help detect problems early and enable swift and jointly agreed responses to new conditions on the ground by shortcutting traditional lines of command;
5. with client and user groups (beyond user satisfaction surveys and complaint services), who can spur on co-production of public services and the co-creation of new and better solutions.[[124]](#footnote-124)

## *6.2.6. Adaptive management*

Adaptive management provides an alternative way of looking at design processes. It emphasizes the *adaptive and uncertain nature of complex change processes and can be used to describe action in these processes*. Adaptive management in the area of natural resource management was first proposed by Holling (1978)[[125]](#footnote-125) and later Walters (1986)[[126]](#footnote-126). It emphasises ‘learning by doing and undertaking actions and policies as experiments’ and generally involves ‘monitoring and assessing conditions interspersed with components of: scoping or assessing opportunities, designing policy options or experiments, implementing or taking action, and evaluating and adjusting. Defined by the National Research Council (2004)[[127]](#footnote-127)as ‘flexible decision making that can be adjusted in the face of uncertainties as outcomes from management actions and other events become better understood’, adaptive management highlights the need *for adjusting the change process to the impacts* of what has already been done. Consequently, it ‘blurs the deliberate and orientated nature of the process that was key in the project-based management approach, all the while encouraging research agronomists to analyse iterations in order to cope with the irreducible uncertainties of such processes’.[[128]](#footnote-128)

The adaptive management approach treats knowledge about ecosystems as both *uncertain and pluralistic*. It recognizes that, to create more sustainable management strategies, stakeholders must collaborate and establish new relationships to enhance *multidirectional information flows, foster social learning, and develop flexible collaborative ways of managing environments.* ‘Adaptive management processes start with the identification of both problems and desired goal(s) and require the development of appropriate policy. Next come the implementation of policy and monitoring of results, after which the problem and goals are re-visited, and the cycle starts again’.[[129]](#footnote-129)

**Examples of questions asked in planning the design process by 39 agroecology projects:**[[130]](#footnote-130)

**1- “Who” ➔ Who participates? Who designs?**

1.1. Who is considered to be the designer?

1.2. Who participates?

1.3. Who formulates the demand?

1.4. Is the demand discussed?

**2- “What” ➔ What is the object of design?**

2.1. The design object: is it a technology, a place to facilitate exchange, a new workplace, a new design practice?

2.2. Unpredicted outputs of design: what transformation are targeted in the real world?

2.3. Is the object of design discussed?

**3- “Where and When” ➔ Space and time dimension**

3.1. Where does co-design take place? (in one or several places?)

3.2. Is co-design considered as an ending process/an unending process?

3.3. Is co-design considered as an iterative process/a disjointed process?

**4- “How” ➔ Design implementation in terms of knowledge management**

4.1. What knowledge is considered useful knowledge for the co-design process?

4.2. What place is given to prototype/models/predictive tools?

4.3. What place is given to experiential knowledge/practical knowledge/sensitive

 knowledge?

4.4. Is learning an expected effect of design? (Action oriented design)

4.5. What is the role of consensus?

4.6. Is space given to unexpected findings/controversies/debate?

**How to co-design: lessons from a co-design process involving carefully selected partners, two iterations of pre-workshop surveys, a three-day workshop with 25 researchers and practitioners from 11 countries, and a large public event for wider dissemination (KNET project)**[[131]](#footnote-131)

* **Carefully design the co-design process** (here, this entailed a theory of change based on pedagogy and learning and the provision of process-oriented activities as well as the facilitation of space to innovate).
* **Assess costs and risks associated with co-design** (e.g. financial costs of participation such as accommodation, travel, and in-kind contributions of labour, but also costs and risks associated with letting go of intellectual legacy/ perspective to enable a more collaborative process to occur).
* **Consider how to raise participants’ awareness of, and capabilities for, enabling transformation** (here, participants managed to create important new network connections, identify research opportunities, and became aware of how to characterize, study and prioritize various practices as potentially influential).
* **Create an environment for people in which participants can reflect and think more deeply about the purpose co-design.** Engage with their deeper emotions, values and implications for their work.
* **Facilitate personal transformations** as a way to stimulate and encourage further creativity.
* **Leave the problem definition open**. This allows for the emergence of more generic research questions that focus on understanding the nature and role of deliberate practices for facilitating significant personal, community and systems change. This leads to greater emphasis on choosing the right kinds of methods to accelerate learning about how to promote and enable change.
* **Carefully and constructively align criteria or incentives** through which a project or future proposal will be judged to goals of the co-design, including both instrumental objectives and those associated with creativity and imagination.

## Examples of co-production, co-design and participatory approaches

There are many examples of co-production, co-design and participatory approaches in the literature. Below are a few.

**EUROPE**

**United Kingdom**

In the UK, healthcare co-design experiments have shown that applying a participatory design approach to improve the patient experience, specifically by reducing patient waiting time in Emergency Departments, has increased efficiency across the health system.[[132]](#footnote-132)

 Initiatives underway in the UK and Ireland that seek to co-produce knowledge with farmers and advisers include:

* the Beef Technology Adoption Programme in Ireland;
* the Monitor Farm programme in Scotland;
* the Agricultural and Horticultural Development Board’s Monitor Farms and knowledge exchange network;
* ‘Innovative Farmers’ (supported by many partners);
* Pasture for Life’s ‘Innovative Practitioners’ project which supports farmer-led innovation.

**Belgium - Flanders**

De Krom (2017) studied three projects of *regionalized agri-environment schemes*. They were located in peri-urbanized areas with high, competing, pressures on landscape demands. He found that project co-design which involved *all* concerned stakeholders was highly beneficial. Project personnel initially focussed on securing the participation of farmers only because farmer cooperation was seen as vital to ensure the viability of the agri-environmental projects. However, other stakeholders were unhappy to be confronted with fixed rather than negotiable arrangements which failed to meet their ecological interests and values. This could have been prevented by facilitating more *socially inclusive designs* of regionalised AES, in which project-personnel, farmers and other regional stakeholders would have *jointly negotiated which agri-environmental measures to implement*. As de Krom observes:

‘socially inclusive negotiation may help to forestall that farmers fall back on their routine ‘productivist’ landscape preferences when co-designing and implementing AES, by enabling them to recognise the cultural competences related to achieving other stakeholders’ agri-environmental demands in the first place’.

Furthermore, de Krom observes that other regional land users may – legitimately - contest governance arrangements that focus on farmers as ‘landscape producers’ only and be reluctant to appreciate farmers’ participation in these arrangements. In these cases, addressing not only farmers but also other regional land owners as potential ‘land-scape producers’ could prove to be more socially robust, and more pertinent to secure farmers’ long-term environmental commitments by forestalling a policy-oriented contestation of these commitments. In conclusion, de Krom recommends that there is a ‘need to not only facilitate appropriate flows of information between farmers and other stakeholders when designing regionalised AES, but also throughout the implementation process.’[[133]](#footnote-133)

**Netherlands - Drentsche Aa area**

 Characterized by great variety in terms of functions and landscapes, a large variety of actors have a stake in nature and landscape policy in this area. A longitudinal study of a participation process in the Drentsche Aa area showed that the ambition of Dutch nature conservation policymakers to involve multiple stakeholders in nature policy processes resulted in different patterns of citizen involvement. One group of citizens appeared who wanted to be involved as stakeholders but found that they had different objectives to those of the decision makers. Even though they were allowed to express their views in meetings, it was clear that these would not be considered by the policymakers:

‘Roughly speaking, citizens who did agree upon the proposals were included, whereas those who did not agree were excluded from the participatory process. As a consequence, the process ended up just reproducing the government’s dominant discourse. […] This case supports the idea that, on the one hand, the government, in spite of their participation initiatives, retain their power to decide what to do.’[[134]](#footnote-134) (p138)

The authors of this study note that many governments supported programmes exist in which representatives of farmer organizations and other stakeholders are brought together to develop policies and scenarios for the future. However, increasing numbers of initiatives can also be found where farmers get together with other actors in the countryside that share similar problems or ideals with the explicit aim of *avoiding the involvement of governments.* They ‘no longer want to be dependent on the continuously changing rules and restrictions that they encounter when they, for instance, try to apply for a subsidy. Instead, they experiment and invest together, in collective windmill parks, in collective meadow ownership to meet the need for up-scaling, or in new co-operations for the production of biogas as an alternative energy source.’[[135]](#footnote-135)

**France – Case Study 1 - Decentralized, multi-stakeholder agricultural governance**

An in-depth, three-month qualitative study of two French regions (Languedoc Roussillon and Centre) was conducted between 2012 and 2013 to investigate the effects of the new, decentralized, and multi-stakeholder governance of AES implementation (2007-2013). Key responsibilities had been delegated to regional level governments and newly established multi-stakeholder committees. The study involved 46 in-depth interviews with key stakeholders in both case study areas and focused on how the presence of regional and local political entities and environmentalist organizations affects (or not) both the *content of AES and the traditional corporatist style of agricultural policy making.* Findings from the two case suggest that the assumption that including non-agricultural stakeholders in agri-environmental policymaking automatically leads to better environmental outcomes *needs to be revised* because:

* it gives non-agricultural stakeholders influence and political leverage they do not have. ‘Faced with highly organized and specialized agricultural actors, environmentalist groups and local authorities arrive in agricultural politics with relatively few resources and limited legitimacy and expertise on farming issues. […] they ‘are trying to position themselves strategically in the agricultural policy field; […] pursuing their own political agenda in which greener AESs are not necessarily a priority, even in the case of environmentalist groups.’
* ultimate decision-making power remains with agricultural administrations, which do not hesitate, if needed, to bypass the positions of their environmental counterparts to privilege farmers’ interests.
* agricultural organizations manage to convince other stakeholders of the merits of their politico-economic frame. Many environmental actors and local authorities endorse the farming groups’ rationale, which is that the economic sustainability of the farming community across the territory needs to be the political priority of agri-environmental schemes, even if this has negative effects on the environment.
* the ‘implicit goal fostered by several stakeholders is to channel funds into disadvantaged rural areas or into less subsidized agricultural production.[[136]](#footnote-136)

**France - Case study 2: Implementing the EU Waterframework Directive**

More than 1000 priority catchments for water management have been identified in France, most of them in crop-growing areas. In these catchments, regional and local authorities are legally required to develop a sequential methodology to delimit the area, conduct a multi-pressure land diagnosis, and develop action plans to encourage the development of environmentally friendly farming practices. A catchment study was undertaken of an area of 1700 ha of agricultural land with 58 farms, 25 of which accounted for about 80 % of the agricultural land. An adaptive management approach was used to study participation in the catchment.[[137]](#footnote-137) The study showed that:

* although invention took place at the beginning of the design process, it did not stop there. Even after the implementation of the first design solutions, invention continued: new questions were raised, and new ideas emerged;
* while one stream of research focused on ways of improving creativity in design or to limit design fixation, another focused on ways of organizing design processes from invention to the implementation of design solutions. The case study called for a new balance to be established between design activities in agricultural research so that they focus more on design as a process, such as ‘step-by-step design’;
* The design process unfolded over time by articulating a design goal and an adjustment to the actual situation. It was this constant reference point to the design goal that allowed the farmers, facilitator and researchers to reopen debates about nitrogen fertilization, acknowledging that some farmers would not be able to reach the design goal (low soil mineral nitrogen in the autumn) without rethinking their fertilization practices. Constantly referring to the design goal is thus critical to keeping a project's level of ambition high;
* the design of agricultural systems is a process both of project management and of adaptive management: a balance has to be found between the design goal and the adjustment to the actual situation.[[138]](#footnote-138)

**Spain and Portugal**

A comparative analysis of 11 case studies from Spain and Portugal of process design using quantitative methods to study impacts of process design on the selection of sustainable land management options showed that:[[139]](#footnote-139)

* legitimate representation of stakeholders, including opinion leaders and decision implementors, significantly increased the likelihood of learning among participants; development of mutual gains and sustainable solutions that addressed socioeconomic and environmental concerns; and attaining the goals specified at the start of the process;
* where those who initiated the process controlled participant selection, mutual gains and win-win solutions were less likely; the process was less likely to reach its originally stated goals; conflict resolution was less likely; participants were less likely to learn from each other; and the process was less likely to foster trust between nonstate actors and researchers;
* processes preceded by a stakeholder analysis were significantly more likely to lead to information gain and learning among participants and enhanced trust among different stakeholders who did not represent the government (‘nonstate actors’), between nonstate actors and the governmental institution responsible for the decision-making process, and between nonstate actors and researchers;
* professionally facilitated processes that included structured methods for eliciting and aggregating information from participants, e.g., sorting and prioritization methods, were more likely to lead to information gain and learning among participants; win-win solutions; conflict resolution; and enhanced trust among nonstate actors: between nonstate actors and the governmental institution responsible for the decision-making process, and between nonstate actors and researchers;
* In processes where nonstate actors received relevant information as part of the process and were able to have a significant influence on decision making within the process there was a significant likelihood that participants would gain information and learn from each other; win-win solutions would be reached; and the original goals of the process would be achieved;
* if information exchange occurred through face-to-face contact between participants, there was also a significantly greater likelihood that the process would lead to sustainable solutions; conflict resolution; increased trust among nonstate actors and between nonstate actors and researchers;
* in processes where all participants could freely make statements and participate in discussions and decision making, the process led to win-win and sustainable solutions that were deemed to be socially equitable; achieved original goals; contributed toward conflict resolution; facilitated learning between participants; and increase trust among all participant groups**;**
* participatory processes that were initiated with the goal of empowering stakeholders were highly likely to achieve their stated goals, while processes initiated to achieve specific environmental outcomes or that had an underlying rationale of providing democratic legitimacy to decisions were associated with beneficial social outcomes, in particular, increased trust among participants;
* participatory processes initiated and/or facilitated by government bodies were less likely to lead to information gain, learning by participants, flexible solutions that could adapt to new knowledge, or to contribute toward trust between nonstate actors and researchers. However, in these processes or those where government bodies were present as participants, the decisions that emerged were more likely to be accepted by the government and by those who had to implement them on the ground, and decisions were more likely to be implemented.

**Australia**

The Australian Centre for Social Innovation (TACSI 2017) developed paper prototypes to explore policy options to improve life for older Australians in private rental accommodation. Visual representations of twelve contrasting current and desired clauses in residential tenancy law were designed, including images depicting increased security of tenure or increased ability for personal expression in the home. The aim of the exercise was to rapidly elicit feedback from citizens and stakeholders. Scenarios were also developed that were based on ‘lived experience’ using toy figurines, sticky notes, and other props, to walk through the implications of policy changes. These *prototypes* functioned as ‘learning devices’ and illustrated the *use of prototyping in policy design to: materialise interactions in complex systems; imagine alternative futures; and bring together different types of participants and forms of knowledge, especially to anticipate responses to policy issues and designs*.[[140]](#footnote-140)

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