Coastal Communities Adapting Together (CCAT)

Engaging communities in environmentally sustainable planning: recommendations for implementing geodesign in local authorities
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Executive Summary

This report presents the main findings of a focus group study exploring the perspectives of local authority staff on implementing geodesign methods, and tools, to engage communities with environmentally-sustainable planning in Fingal, Ireland. The geodesign approach is internationally recognised as beneficial in planning consultations where the spatial decision-making is complex or contentious. It applies systems thinking and the co-creation of planning solutions through deliberation with stakeholders, including the local community. In practice, geodesign creates a space for negotiating differing values, worldviews and perspectives on future development in a local area.

While geodesign methods can use both analog (pen and paper) or digital tools, they are increasingly delivered via online platforms such as Geodesignhub (an Irish developed platform)[1]. This is because digital technologies have the potential to enhance the scale and level of community engagement. Furthermore, citizens and communities have become more familiar with the use of digital communication options now. The widespread uptake and use of digital devices, especially since the social distancing measures due to Covid-19, has normalised the move to digital communications for work, education and citizen engagement, in addition to its existing prominence in entertainment and personal communication. Similarly, local authorities now increasingly use GIS to support the co-creation of spatial data collection. As a result, greater progress on the digitalisation of local authority services is urgently required. As a starting point, digitalisation of local government processes will require i) discussion as to which digital tools to select, and how they should be implemented, as well as ii) staff capacity-building with respect to implementing digital tools for co-creation initiatives. The later point is particularly significant given the need for broader community and stakeholder engagement with environmentally- sustainable planning.

This report addresses these requirements by raising awareness of the use of digital co-creation platforms and geodesign methods in local development, and by exploring local authority perceptions of these digital tools. It also highlights the opportunities and challenges of digitally engaging communities with environmentally-sustainable planning. These are important issues given the role that local authorities are expected to play in relation to building stakeholder and community involvement with climate action both in Ireland, and internationally. Furthermore, while the geodesign method is internationally recognised as producing the transformative change required to address multi-faceted (or 'wicked') problems such as climate change, little is known about how to implement geodesign in local authorities or the views of local planning staff on doing so.

The Climate Change Action Plan 2019-2024 (CCAP) sets ambitious and binding targets for all public sector bodies in Ireland by 2030. This will require substantial reductions in everyday carbon usage as well as adapting to climate impacts such as flooding and coastal erosion. The CCAP also identifies local authorities as key enablers of decarbonisation through spatial and behavioural change. As community-facing organisations, local authorities must work with communities to undertake actions

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[1] https://www.geodesignhub.com/

across the many adaptations needed in transport, infrastructure, water resources, energy efficiency, flood risk management, nature-based solutions, housing as well as heritage and biodiversity protection. This involves negotiating with multiple stakeholders holding different perspectives and worldviews on tackling climate change and engaging them in decision-making about environmentally-sustainable planning. However, the CCAP does not provide suggestions on how public sector bodies are to achieve these reductions, nor does it reference the existing tools or methods, such as geodesign, that can support local authorities in this task.

As a result, this report offers timely insights for local authorities seeking to achieve their climate targets through collaboration with stakeholders and local communities. First, it outlines the benefits of co-creation and geodesign in local development processes and highlights the role of social values in geodesign initiatives from the organisational change literature (McElvaney and Foster, 2014). This literature explains why people embrace or resist change and provides useful insights on how to increase community participation with planning consultations. Next it presents the findings of the focus group discussions with local authority staff grouped into three key themes. Finally, the report builds on the findings to develop recommendations to assist the implementation of geodesign methods and increase the impact of co-creation initiatives in future planning. In doing so, the report also responds to the broader need for research on the digitalisation of local governance processes by shedding light on the structural, cultural and technological opportunities and challenges of implementing digital tools in local development.

Local Authority Views on Implementing Geodesign
1. Contribution to capacity-building at community level

- Communities **engage with the spatial component** of future planning
- Enables a high degree of clarity about local development **-** the collaborative and well-structured geodesign workflow facilitates making decisions by consensus
- **Inclusive** - digital platforms open up the planning process to new demographics that might not traditionally engage in local development consultations
- Provides **a visualisation** of climate risks and potential adaptations
- **Positive working relationships** - geodesign approach focuses stakeholder and community discussion on agreed issues thereby encouraging better working relationships

2. Contribution to capacity-building at organisational level

- **Breaking down silos** - encourages and facilitates inter-departmental collaboration
- **Cost-benefits and efficiencies** - can get the right people to work on difficult issues, quickly and efficiently

3. Challenges of implementing geodesign in local authorities

- **Reputational risks** for local authorities - digital consultations need to run well, to meet community expectations of reliability and maintain trust of the local community. Therefore, local authorities need to mitigate any risks of technology not working, and technical support is essential
- **Political process** - geodesign requires buy-in from policymakers and elected members
- **Social readiness** - geodesign requires community and stakeholder buy-in

Recommendations for Implementing Geodesign in Local Authorities

- To successfully engage new stakeholders and/or communities in co-creation approaches to local development, **pre-participatory activities** that encourage a culture of digital participation in future planning are recommended (see Section 4). **Communities may also need training and/or resources** (either financial or material) to engage in collaborative dialogues and design thinking.

- While co-creation and geodesign processes can transform community and stakeholder engagement with local development, these design processes are relatively new approaches for local government. As a result, **decisions about what type of planning challenges are best suited to digital co-creation processes must be made**.

- Planners are not trained to facilitate deliberative processes around planning negotiations. This lack of professional experience may be overcome by further training in facilitation skills; however, this may not always be sufficient. As a result, **professional facilitation services are recommended**. **A short demonstration, as provided in the CCAT geodesign training workshops, would help to introduce the fundamentals of geodesign as a process and explore its advantages** in relation to co-creating exercises with local communities.

1. Background

Transformative action at multiple levels is required to address urgent sustainability challenges such as the climate and biodiversity crises. In particular, many of the necessary climate adaptations will require local changes that will greatly impact on everyday lives and existing ways of doing things. As a result, there is a need to involve communities in shaping local development in response to climate change and for innovative participatory processes that open up deliberation across different communities and stakeholders. Community engagement involving the exchange of citizen, practitioner and expert perspectives via dialogue is widely recognised as producing more effective and actionable knowledge needed to address environmental sustainability challenges (Mullally, Revez, Harris et al. 2022; Clark et al. 2016). This view rests on the premise that when citizens have a greater say in future planning for their local environment, it can lead to better decision-making about adaptations to climate impacts. These transdisciplinary methodologies value local knowledge and prioritise research designs that enable stakeholders, researchers and members of the public to work together to produce practical solutions.

The emphasis on community participation in environmental decision-making is also covered under numerous international, national and local policy frameworks. In particular, public consultation and participation is acknowledged as a defining feature of the European Directive on Strategic Environmental Assessment (SEA - 2001/42/EC) processes and it is an essential element to achieve 2030's sustainability objectives. For example, Goals 11 and 16 of the UN Sustainable Development Goals (SDGs) underline the importance of participatory and integrated environmental planning, as well as responsive and inclusive decision-making at all administrative levels.

1.1 Local Authorities and Community Engagement with Climate Action

Given the high levels of awareness and concern about climate change in Ireland[2] communication about climate change will increasingly focus on discussion about climate action and how we respond to climate impacts. For local authorities, this will require engaging communities with local climate adaptations and the need for climate-resilient responses. However, this task will vary according to the specific geographic space. For example, in coastal locations, climate impacts such as sea level rise, coastal erosion and increased frequency of flooding are growing challenges whereas disruptions due to drought and/or heatwaves are likely to be more urgent inland. Consequently, as Moser (2010) notes, engaging communities with future planning in coastal locations poses specific challenges for planners:

> *"They immediately, and sometimes primarily, are concerned with the reactions of coastal residents, developers, and business interests to the prospects of potentially difficult and substantial changes in coastal land use, their property rights, and the potential loss of their homes and establishments. How to engage the public constructively in developing adaptation strategies is a largely unmet challenge for most coastal managers. Similarly, they have not been trained in how to effectively communicate an issue that is ripe with the potential for loss, danger, and social and legal conflict - more so than they already face. Better physical science on sea-level rise alone will not meet these needs".*

Moser highlights the centrality of 'place' in our day-to-day lives, the emotional impacts of spatial change as well as the related need for local authorities to engage communities in sensitive and wide-ranging discussions about climate adaptations and the training to do so. This suggests that there is a unique role for local authorities to play in focussing on the spatial dimensions of climate adaptations as part of community engagement with future planning. Exploring the spatial changes required to adapt to climate impacts can help to connect communities with the causes and consequences of climate change in a constructive manner, so that they can see the relevance of (often disruptive and contentious) climate actions to their daily lives.

Digital tools can help to achieve these community engagement objectives at scale. There is growing interest across government and local government in the potential of digital technologies (and data) to drive transformative change in response to societal and environmental challenges. Digitalisation of public services and online communication is expected to enhance connections between

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[2] For example, see the EPA report: Climate Change in the Irish Mind (2021)

government, communities and individuals[3]. Digitalisation is also expected to introduce new public services which meet the needs of groups which have not been met before as well as to deliver existing public services more effectively. For example, at the local government level, digital tools are expected to facilitate community engagement by increasing opportunities to co-create local solutions with a wider range of communities. However, researchers also note that while digital tools offer many societal benefits, they are not always a replacement for face-to-face processes for deliberative conversations and the deeper insights, reflection and shift of perspective that in-person engagement processes foster (Anderson et al. 2015, McKinley et al. 2021).

1.2 The Role of Co-Creation Processes in Environmental Planning

The approaches to public participation have varied over time with the evolution of different planning theories and paradigms (Khakee, 1998) affecting the overall planning process and outcomes. Arnstein's ladder (Arnstein, 1969) of citizen participation, and more recently the models proposed for digital participation by Kingston (1998) and Carver (2001), argue that the highest levels of participation are achieved when citizens are actively involved in designing possible alternatives and in making decisions (also referred to as co-creation). Consequently, giving citizens greater say in environmentally sustainable development is considered best practice.

Within the public sector, co-creation is understood as 'creating new solutions, with people, not for them' (Bason, 2010). Rather than inviting the public to comment on predetermined development plans, communities and stakeholders work with local authorities to deliberate and negotiate in decision-making about local development. In so doing, co-creation processes facilitate the democratisation of planning, address questions about the legitimacy and transparency of planning decisions and increase social acceptability of often controversial or contested issues. This hierarchy-flattening involves changing the balance of power and a significant degree of trust and transparency between communities, stakeholders and government officials.

Co-creation initiatives can be designed as data-driven or value-driven processes. In the first case, the local authority produces data with residents and co-creation taps into communities as resources. The communities provide much needed, real-time data about a range of local planning issues (e.g.) water, flooding; conditions of roads (see Appendix A for examples). Data-driven co-creation focuses on the use of digital co-creation platforms to quantitatively improve local governance by facilitating real-time data collection, categorisation and redistribution of information. Value-driven co-creation aims to identify community aspirations around future planning with a focus on identifying what citizens and stakeholders view as desirable development for their community or place and understanding what they value (see Section 4).

A value-driven understanding of co-creation enables communities and stakeholders to have a greater role in conceptualising the problems and implementing change. This approach concentrates on giving voice to the community, identifying common goods, and increases possibilities for social inclusion and diversity in the planning process. For example, planning consultations incorporating value-driven co-creation place greater emphasis on the social justice aspects of future development

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[3] Connecting Government 2030: A Digital and ICT Strategy for Ireland's Public Service; Harnessing Digital - the Digital Ireland Framework

and this is more likely to engage younger demographics as it is consistent with their social values and aspirations more generally. However, this also challenges existing power relations in development consultations. Value-drive approaches require planning experts and local authority staff to listen and engage with the local community as equals rather than sharing a predetermined plan and then seeking feedback.

Overall, co-creation processes have the potential to improve decision-making by making it more transparent and thereby facilitate new, democratic approaches to local development. They empower communities to act as agents of change and can assist in building the adaptive capacity needed for social transformations in response to growing environmental challenges. This results from the potential of geodesign to combine data and value-driven co-creation. Data, either in the form of GIS or analog mapping can act as the base layer, or foundations underlying the co-created ideas, and act as prompts for evaluation and negotiation in the workshops.

Ultimately, the growing use of co-creation processes in local development contributes to the democratisation of future planning, thereby increasing the transparency and legitimacy of future planning (see Appendix A for international examples of community co-creation in planning initiatives).

1.3 Conceptualising Geodesign for Community Engagement with Local Development

This section outlines the conceptual basis for geodesign in future planning providing background information and a framework for the CCAT training workshop. The term geodesign refers to an emergent planning approach that involves the co-creation of design solutions for multi-stakeholder and multi-system spatial decision situations where there may be conflicting perspectives. It provides methods and tools for communities and local authorities to co-create ideas and strategies through negotiation. Steinitz's Geodesign Framework (2012) proposes a unique way of structuring the design process that facilitates stakeholder participation and collaboration. While it is in line with the main approaches in the field of design theories, this framework relies on a set of six interrelated models, and a variety of support digital technologies, to help interdisciplinary design teams collaborate (Figure 1).

The first three models involve data and map preparation with the aim of understanding the geographical study area, its problems, constraints and opportunities for change. Relevant data are collected (*representation model*) and analysed (*process model*) to identify the main processes involved in geographic change. Values and priorities are then assigned to this information based on the cultural knowledge of the actors involved (*evaluation model*). The last three models of the Geodesign Framework, which normally take place in form of a two-day intensive and collaborative planning workshop, focus on the development of design alternatives (*change model*), their assessment against initial conditions (*impact model*) to identify potential impacts on the territory, and the achievement of consensus on an agreed change design through negotiation (*decision model*). These models are not a linear progression and often involve several iterative feedback loops between the different actors.

Steinitz's framework can overcome a number of limitations of traditional public consultation approaches. This is because communities and stakeholders are encouraged to get involved at the

very beginning of the decision-making process, including identification of the problem as well as implementation or acceptance of the proposed solutions. Overall, both geodesign and co-creation
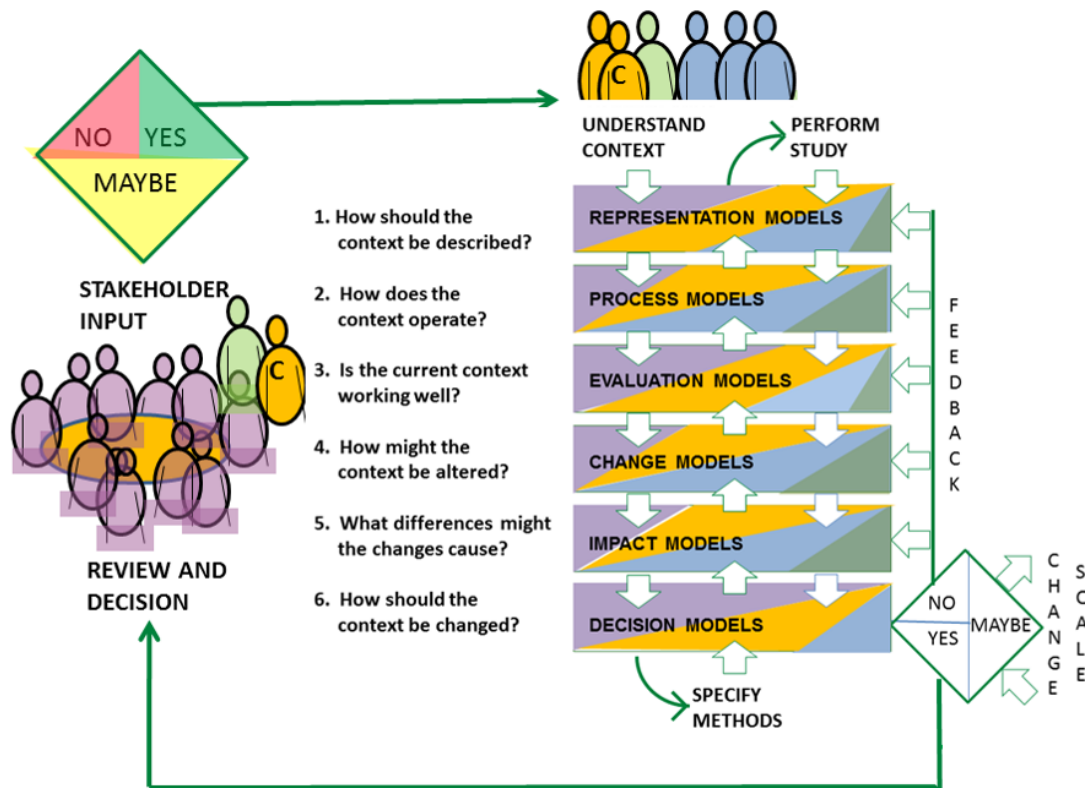

Figure 1. The Six Steps of the Geodesign Framework (Steinitz, 2020)[4]

initiatives prioritise the need for participants to find the process meaningful and this is best achieved when the objective of the geodesign co-creation initiative is defined during the process itself. Geodesign practitioners maintain that this approach can increase participant understanding of the issues, reduce conflict, enhance change visualisation, expand awareness of options and change impacts, and shorten the time required for decision-making (McElvaney and Foster 2014).

Several in-person and online geodesign workshops to prepare local area development plans have been completed with coastal communities in Ireland [5] in the last decade. Multiple digital tools already exist that support the implementation of the geodesign process and have already been tested in different geographical and cultural contexts. However, co-creative technologies can also be low-tech as in the case study of the Tagus river estuary, Lisbon, Portugal (see Appendix A). A preliminary collection of international best practice in geodesign for coastal climate adaptation is collated in Appendix B.

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[4]Steinitz, Carl. 2020. "On Landscape Architecture Education and Professional Practice and Their Future Challenges" Land 9, no. 7: 228. https://doi.org/10.3390/land9070228

[5] Further details of Irish geodesign consultations available here

1.4 The Role of Values in Social Change Processes

While co-creation approaches can facilitate more democratic participation in future planning and thereby encourage community support for change, ensuring broad participation remains problematic and local authorities are particularly concerned with overcoming potential resistance to environmentally-sustainable development. Some of the challenges when involving communities in land-based planning and local climate adaptations include: ensuring adequate community representation; building confidence in the co-creation process; overcoming resistance to proposed changes; and recognising and integrating community values in the design solutions. Communities also vary in terms of education, time and motivation to participate in local development.

The research on human behaviour and geodesign provides useful explanations for why people embrace or resist change which is highly relevant to discussions about community participation with climate adaptations and/or the digitalisation of local government processes such as future planning. McElvaney and Foster (2014) have identified Seven Core Principles of Human Change (see Table 1 below) which can be used to help guide practitioners when considering how to increase participation in planning consultations, and to build support for transformative solutions.

Based on these principles, McElvaney and Foster argue that communities and stakeholders will resist change if they don't believe that it is worth upsetting the status quo. Similarly, people support change when they trust the process used to propose it and perceive value in the outcome. Their research highlights the importance of understanding community and stakeholder values around local development and environmental challenges.

Table 1. Seven Core Principles of Human Change (McElvaney and Foster, 2014)

1	Most people resist change if they don't believe it is necessary or worth upsetting the status quo
2	Since change is inevitable, the most successful human systems are those built to adapt to change
3	Most cultures do not change easily, especially those that have been in place for a long time
4	Since change potentially threatens the stability of the whole system, change is often perceived of as dangerous
5	Potential changes can be perceived as a threat to a person's sense of self
6	People tend to resist change when they don't understand the process used to reach the conclusion
7	People resist change that is imposed upon them but will support change they have helped to design, or that they believe sufficiently takes their needs into consideration

Values are concepts that help to capture what individuals and groups view as 'good' or 'bad' and therefore consider desirable or not. Most significantly, people disagree about their values. Planners and change makers should be aware that ideas that are compatible with deeply held community values, beliefs and past experiences are more likely to be adopted at a faster rate than those which are perceived as less compatible (Rogers 1995). In other words, communities and stakeholders are motivated by cultural factors, in addition to facts or scientific information. McElvaney and Foster therefore recommend that exercises aimed at understanding community and stakeholder aspirations and expectations around future planning development, as well as involving influential community leaders early in the geodesign process, are required to increase community and stakeholder support for change.

1.5 CCAT Geodesign Training Workshops with Local Authority Staff

The Coastal Communities Adapting Together (CCAT) was a €1.3m Ireland-Wales INTERREG project[6] involving six partners and led by the School of Landscape Architecture, University College Dublin. The project explored the use of digital technologies, including geodesign, with the aim of increasing knowledge of climate change adaptation amongst businesses and communities in the Irish Sea region.

The CCAT research team developed and delivered online workshops in November 2020 and October 2021. These geodesign training workshops were designed to introduce Fingal County Council staff and associated practitioners to the key features of the geodesign approach and of the online collaborative software Geodesignhub. This web-based platform was specifically designed to use the geodesign framework to enable dynamic, interactive and collaborative design for future planning challenges.

The training workshop focused on design interventions and management actions for Rogerstown Park. Mixed groups of stakeholders (local authority staff, engineering consultants, residents, Fingal Coastal Liaison Group) were invited to focus on the challenges and preferred solutions for individual territorial systems (e.g., open spaces, active transport, nature-based solutions - more details on the systems, maps and design objectives can be found here). The stakeholders then entered a process of combining and negotiating outcomes for these systems. This process required participants to consider the perspectives of other stakeholders in the decision-making about local development, through role-playing and public presentations.

While the broad benefits of involving local knowledge alongside expert and practitioner knowledge(s) are known, local authority views on the impact of such processes, and insights on how to implement co-creation in practice, are also needed. Local authority staff perceptions are an important starting point for understanding the effectiveness of co-creation processes as these approaches are highly dependent on the attitudes of the initiators.

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[6] Further details and outcomes of the CCAT project here

2. Methodology

This report explores stakeholder perceptions of geodesign and co-creation processes through focus group discussions with Fingal County Council staff members who participated in the CCAT geodesign training workshops. Two online focus group discussions were held on 25th March 2021 and 15th November 2021. The overall objectives of the focus group discussion were to:

- shed light on the opportunities and challenges of using geodesign and co-creation initiatives to engage communities with environmentally sustainable planning

- understand how local authorities can employ geodesign to increase and broaden community and stakeholder engagement with local climate action

- bring participants of the CCAT geodesign training workshops together to discuss their experience of using the technology and provide feedback on the design and delivery of the CCAT geodesign workshop

The purpose of the focus group discussion and the central questions were included in the online invitation. Both sessions employed the same interview schedule (see Appendix C). The focus group discussions lasted approx. 1 hour and included 8 participants in total. Five planning practitioners and related technical staff including a GIS specialist, a transportation engineer and a landscape architect (1 – female, 4 – male) joined the first session and three environmental engineering staff (3 - male) attended the second session. As a result, the report findings are based on a pilot study and further research is needed to provide a comprehensive picture of local authority views. However, the research insights offer useful starting points for assessing the merits of geodesign and the recommendations offer helpful advice to facilitate the implementation of future geodesign initiatives.

3. Local Authority Views on Implementing Geodesign

The focus group discussions explored local authority staff views of geodesign as an inclusive and transparent process for deliberation and negotiation in environmental planning. This section summarises the participant responses and groups the findings under the following three themes:

1. Contribution to Capacity-Building at Community Level
2. Contribution to Capacity-Building at Organisational Level
3. Challenges of Implementing Geodesign in Local Authorities

These themes represent unique considerations for local authority assessment of geodesign and digital co-creation initiatives.

3.1 Contribution to Capacity-Building at Community Level

Engaging communities with future planning

Participants reported that geodesign **could really encourage young people and communities who might not traditionally engage with local planning to do so** and highlighted **the community-building benefits of the geodesign approach.** They also felt that co-creation processes provide an opportunity for people to feel more part of the planning process.

> *"just by doing the projects together then it allows you to kind of develop a much more normal or more positive working relationship."* (participant quote)

Benefits of geodesign approach compared to traditional approaches

Participants noted the following advantages:

- the spatial aspect ensures a high degree of clarity about local development
- it can achieve a level of consensus about planning decisions 'more quickly than might usually be found'
- digital platforms can help change local perceptions about engaging with the planning process
- It opens up future planning to a wider range of views from the early stages of the process

They also highlighted that current approaches such as public meetings, consultation portals and emails can be adversarial, whereas, using geodesign

> *"can challenge people to be reasonable in their expectations rather than holding preconceived assumptions"* (participant quote)

> *"they feel as if they're part of formulating the plan or engaging with it at an earlier stage rather than just being seen."* (participant quote)

Communication about climate change and the need for climate adaptations

Two discussions emerged when asked how geodesign could improve local authority communications about climate change and the need for climate adaptations. Firstly, participants felt the public were largely unaware of climate change or the local impacts and adaptations required. However, by focusing on maps, geodesign provides a helpful visualisation of local climate impacts. Participants agreed that the **focus on visual data could also help improve communication about many climate adaptations** such as transportation changes or identifying areas for new commuter routes.

> *"you can use this technology to actually show… what's going to happen or what has happened because we didn't do anything in the past."* (participant quote)

Secondly, they felt that geodesign could be used to raise awareness and ambition on climate change. For example, participants highlighted geodesign's potential to generate evaluation

maps that can then be used to prompt action to drive community based ambition on decarbonisation:

> *"I could see an opportunity for some groups like the local enterprise office, getting businesses together and identifying what climate adaptation actions they're up-fronting for their businesses, as part of their economic activity. And map that, have a quantification, and actually challenge the council to do likewise. So, ... some of the big farming enterprises could say well, this is our enterprise, these are the actual aspects, elements we're doing on this, you know polygon here, and that equates to X amount of decarbonisation".* (participant quote)

> *"[Heat maps could] give people an idea of where the energy is being used, where it's needed"* (participant quote)

3.2 Contribution to Capacity-Building at Organisational Level

Breaking down silos

The discussions highlighted that geodesign held significant potential for 'breaking down silos' within local authorities. Participants identified that geodesign could produce significant capacity-building by facilitating co-creation across different local authority departments.

> *"it might be applied in-between departments in the council, in terms of understanding constraints and opportunities"* (participant quote)

Cost benefits and efficiencies

Participants also noted the cost-benefits of geodesign, highlighting that as it brings clarity to difficult planning challenges, it can be used internally, across departments, as well as for community engagement, and can resolve intractable planning decisions in an efficient and timely manner.

> *"you would have, sort of a quick fix approach, in terms of getting the right people to interact in an organised way in relation to maybe a difficult or intractable issue."* (participant quote)

Training and supports needed for geodesign

The discussion also highlighted the organisational capacity-building needed to run a planning consultation using geodesign. Participants explained that there is an onus on the local authority to run well-organised planning consultations and any risk of technical failure would have to be managed. As a result, technical back-up and facilitation skills were considered essential.

> *"I think there's a fair bit of training required for this, because the real risk I suppose when you do online consultation and if you're facilitating that meeting, and then you get stuck. Something goes wrong, you don't know how to actually get yourself out of that, it would be nothing worse for a public consultation meeting."* (participant quote)

3.3 Challenges of Implementing Geodesign

The discussions revealed two important challenges related to implementing geodesign:

The Political Process

While much attention is understandably focussed on understanding opportunities and barriers to stakeholder and community engagement with co-creation processes, it is also important to consider **how policymakers and elected representatives will respond** to geodesign. This is particularly relevant as co-creation processes disrupt existing approaches to local development and there is likely to be caution in relation to its use for controversial future planning challenges. In addition, they highlighted the need to consider how **the politics of co-creation in the planning process** would work. It was noted that giving the public a direct input to local development planning could be regarded as under-cutting the political process and this would need buy-in from politicians and elected members (in addition to community and stakeholder engagement).

> *"Everything the county council does... happens within a political frame, and I think that a dialogue, with politicians and elected members, as to how this can work [is needed] … So, a role for the democratic process in relation to this is very important... that there is political, and leadership, buy-in to its use"* (participant quote)

Reputational Risk

While beneficial, new technologies and ways of undertaking established practices also carry risks. The potential for technological or procedural failure is particularly challenging for the local government sector, as **public trust in the planning process is hard won and easily lost**. As a result, there is concern about potential negative impacts for local authorities. The issue of reputational risk is real and highlights the need to understand perceived risks for external government organisations, stakeholders and communities. Identifying and understanding organisational and/or cultural barriers to innovations in local planning represents another important unknown which would benefit from further research.

> *"I do think having technical support during those consultation events [is required]. Just in case something goes completely pear-shaped. Because I have seen that before with community consultation and the technology wasn't working, a laptop didn't work or whatever it might be."* (participant quote)

Social readiness

Overall, local authority participants had little knowledge of the additional resources or information that communities might need in order to meaningfully participate in the technical, spatial and deliberative aspects of geodesign initiatives. However,…

> *"My local village did something similar…. They got the whole community behind it. They came up with a master plan for the area and now they have won an international award. It was unbelievable for them; it was the best thing ever. So, you can achieve this kind of stuff, but you have to get buy-in from the community."* (participant quote)

3.4 Design and Delivery of CCAT Geodesign Training Workshops for Local Authorities

The participants discussed several ideas for improving training exercises with local authority and highlighted the need to

- simplify the process of logging-in to Geodesignbub[7]
- provide preparatory information on the spatial problem and local issues in a visual format

> *"Even a briefing showing the maps that they're going to be looking at and an outline narrative on what's hoped to be achieved through the work. There's a little bit of risk in doing that, in that people bring more pre-conceptions to it, but I think on balance it would be good particularly for people who aren't used to say dealing with maps and dealing with graphic interface kind of thing."* (participant quote)

4. Geodesign, Future Planning and Community Engagement

The focus groups also highlighted two significant issues related to the implementation of and expectations about geodesign which merit further elaboration.

As discussed in the introduction, motivating broad community support for environmental sustainability and mobilising widespread engagement with future planning are important goals for local authorities, given their remit on climate action targets. However, these goals are often challenging to achieve due to the often-disruptive nature of climate adaptations for local communities. In these cases, as noted by McElvaney and Foster (*2014*), understanding and incorporating community values in relation to proposed spatial change is essential to motivate engagement with local planning. This research on the role of values in societal change processes offers two useful insights when thinking about engaging communities in local development planning and/or using digital technologies for community engagement more broadly. In particular, it draws attention to the limitations of digital technologies as a one-size fits-all-tool for motivating widespread community engagement in future planning and highlights the continued need to consider the social dimensions of change processes.

4.1 The Role of Citizens in Geodesign and Co-Creation Initiatives

The focus group discussions highlighted that local authority planners primarily concentrated on the data-driven aspects of co-creation when asked about the benefits of geodesign. In general, they focussed on how communities and stakeholders can participate in citizen science or crowdsourcing initiatives where the purpose of the engagement is determined by the local authority's needs. However, this data-driven approach to co-creation draws on a consultation model of participation

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[7]As discussed, Geodesignhub is the commercial platform developed in Ireland that hosts digital geodesign workshops, but the geodesign process itself is distinct from Geodesignhub and is a methodology that can be used by anyone anywhere, once they understand the process.

whereby the experts frame the problem. While this approach can improve local government by facilitating real-time data collection, categorisation and redistribution of information, as discussed earlier, co-creation processes are more than technical exercises involving the extraction of data and information from citizens. Value-driven approaches, such as geodesign, recognise the need for communities and citizens to take an equal role in determining the objectives of the co-creation initiative from the outset. These approaches encourage thinking and discussion about common goods, and how to increase social inclusion and diversity in the planning process, as a first step to engaging communities in local development (see Appendix A for examples of value-driven co-creation initiatives).

4.2 The Role of Pre-Participatory Spaces

While there was general agreement on the training and support that local authorities require to implement geodesign, the focus groups revealed that planning staff were less aware of the preparations that might be needed for communities to take a step-change in their involvement with the planning process or with the local authority. However, there is a learning curve to stakeholder and community participation in planning processes, as well as to engagement with adaptations required to tackle climate change. As a result, communities and stakeholders are unlikely to just show up and tune in. Rather, communities are likely to need additional supports as well as an increased focus on relationship management. The need to consider and provide community support in order to engage with co-creation activities is particularly relevant in cases where i) the area is primarily composed of new residents, (i.e.) there is limited social cohesion, ii) there are marginalised or disadvantaged communities or iii) the area is primarily composed of younger demographics who may not be familiar with planning processes.

Transforming future planning to tackle climate impacts and meet targets set out in the CAP requires a paradigmatic shift from narratives of 'social acceptance' in which citizens are viewed as objects of change processes, to 'empowered communities' where citizens are agents of change who play a role in identifying local priorities. However, such shifts are challenging, for planners and communities and these deeper forms of engagement require the development of cultures of participation in planning (Verlinghieri 2020). Therefore, pre-participatory spaces to facilitate deliberation and negotiation about future environmentally sustainable development are needed. These experimental spaces can help foster a participatory culture by facilitating the knowledge exchange required for communities to realise and articulate their own vision of the future. They should also help to foster the relational networks and new forms of social connection required for different groups to draw on the different types of knowledge and expertise which are central to local climate adaptations. This requires awareness of the material resources and the uneven power relations involved in such knowledge exchanges. At the material level, this involves addressing the financial and human resources, such as time and voluntary labour, that are required to participate. Communities may need support with access to digital devices, broadband access or technical knowledge as well as assistance with childcare and other family-friendly approaches. These spaces must also address the challenges communities face when engaging with more powerful actors and the challenges for planners and policymakers when existing practices are disrupted. For example, planners may require training to

open up to different worldviews[8], and, in return for their input, communities need to be able to see a tangible benefit to participating in co-creation processes. The implementation of change is really important if communities are to build trust in these processes.

Additional strategies to foster community engagement include incorporating community influencers, and audience segmentation strategies. McElvaney and Foster (2014) recommend identifying and involving influential community leaders early in the co-creation process. They posit that these leaders will then communicate the value of the co-creation process to their communities. As a result, co-creation processes also require that the organisers invest time, patience, and sensitivity. However, the benefits, in terms of the potential to i) facilitate a step-change in community engagement with climate action and ii) innovate and democratise local planning consultation, could make this commitment worthwhile.

There is increasing awareness that climate change communication will require audience segmentation and targeted messages (Hine et al. 2014). In other words, one-size-fits-all communication strategies are not advisable for climate change engagement initiatives. Furthermore, an EPA research study found that while there were high levels of concern about climate change, there were also many obstacles to increased and sustained engagement with climate action in Ireland (McNally, 2020). According to this research, participants cited they lacked time due to challenging work/life balance and demanding family commitments. Understanding the social and cultural barriers to engaging in digital participatory processes across different socio-demographic communities would also provide valuable insights for increasing engagement. For example, it might be more productive to include family-friendly activities alongside participatory initiatives. However, it is also important to have balanced expectations with respect to achieving critical mass for environmental initiatives via a single communications or engagement approach. Overall, meaningful engagement requires empathy- and trust-building and creative and innovative methods for awareness-raising and facilitating participation in local development should be considered (see Appendix A).

5. Recommendations

The focus group findings indicate that local authority staff recognised many of the opportunities and challenges of applying co-creation approaches in the planning process. In particular, they were aware of the use of geodesign to increase local knowledge of climate change, build community and stakeholder engagement with climate actions, and innovate local planning consultations. However, there was less awareness of the benefits of creating a sense of ownership of solutions and the social readiness or the preparations communities might need to fully engage with geodesign approaches.

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[8] Worldviews are systems of beliefs about the world that shape a person's way of understanding, experiencing and responding to the world.

Building on the key findings, the report makes the following recommendations to assist the implementation of geodesign methods and increase the impact of co-creation initiatives in planning.

- **Social readiness** - Communities need to be motivated to participate in planning consultations and have the skills to engage in design thinking. Co-creation in local development involves a learning curve. Therefore, to successfully engage new stakeholders and/or communities in co-creation approaches to local development, **pre-participatory activities** that facilitate inclusivity and fairness, and encourage a culture of digital participation in future planning are recommended. **Communities may also need training and/or resources** (either financial or material) to engage in collaborative dialogues and design thinking.

- There is significant potential to innovate community and stakeholder engagement with local development, particularly in relation to climate actions, such as responding to coastal climate impacts. However, this will require **greater understanding of policy-maker views** of co-creation processes such as geodesign.

- Ensuring the right stakeholders engage and motivating wide community engagement is challenging and time-consuming. While co-creation and geodesign processes can transform community and stakeholder engagement with local development, these design processes are relatively new approaches for local government. As a result, **decisions about what type of planning challenges are best suited to digital co-creation processes must be made**. Relatedly (as indicated above), greater understanding of stakeholder barriers and/or resistance to digital participation in planning is required.

- Planners are not trained to facilitate deliberative processes around planning negotiations. This lack of professional experience may be overcome by further training in facilitation skills; however, this may not always be sufficient. As a result, **professional facilitation services are recommended. Similarly, other spatial professionals (e.g., architects, urban designers and landscape architects) could be included as facilitators**. **A short demonstration, as provided in the CCAT training workshops, would help to introduce the fundamentals of geodesign as a process and explore its advantages** in relation to co-creation with local communities for planning staff.

5.1 Suggestions for Further Research

The insights identified in this pilot study confirm that there is significant potential to innovate community and stakeholder participation in local development, particularly in relation to increasing and broadening engagement with climate action. However, as noted across the CCAT project[9], community uptake of online initiatives can be challenging and large-scale engagement with digital tools is not a foregone conclusion. As a result, in order to successfully engage new stakeholders

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[9] CCAT Final Evaluation Report by Dr Cormac Walsh

and/or communities in co-creation approaches to local development, it may be necessary to first build a culture of (digital) participation in future planning. Given this context, there is a need for greater understanding of policymaker and local authority views of co-creation processes such as geodesign. Similarly, communities need to be motivated to participate in planning consultations and have the skills to engage in design thinking as well as increasing their environmental and climate literacy.

The following suggestions for further research address these gaps in knowledge, by focussing on the sociological and cultural dimensions of the digitalisation of local governance processes concerned with future planning.

i) policy-maker attitudes and perceptions of co-creation processes
There is a need to understand perceived risks and/or barriers to participation for government organisations as well as local councillors and stakeholders. In particular, research on the institutional mindsets or cultural factors that might need to be addressed in order to motivate participation would be very useful as a prerequisite to future geodesign initiatives.

ii) community perceptions of local planning and their environmental values
Empirical data on what motivates citizens to participate in local planning initiatives are also necessary. There is a need to understand whether communities are ready for change and in what ways they need assistance or support to get involved in transformative change processes. In relation to climate actions, surveys on environmental values and community views on engaging with future planning would help to target communication messages and identify possible cultural barriers to, or low trust in, (digital) participatory initiatives. This is important as digital participatory technologies don't replace in-person social interaction. They don't enable the empathy- and trust-building which must take place at the start of participatory processes. This is particularly relevant in cases where communities or stakeholders have not developed ties to each other or the local authority and where the issues are controversial or contentious (as is often the case with local development).

In addition to providing insights on possible community/stakeholder barriers to engaging in co-creation initiatives, further research could also provide a means to building more meaningful relationships with stakeholders and communities. In particular, stakeholder analysis research (e.g. Reed et al. 2020) draws attention to the impact of research and sheds light on the benefits of engagement for different stakeholders. These research insights could help improve dialogue and encourage wider participation in the transformative changes required to tackle climate change.

iii) local authority attitudes and perceptions of planning process innovations
Identifying and understanding the organisational and/or cultural barriers to innovations in the planning process such as digitalisation and co-creation represent another important unknown which would benefit from further research.

Appendices

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