

Scoping the Application of Multi-Actor Research & Knowledge Exchange Teams (MARKETs) to the Cost-of-Food Crisis in Nottingham

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30 September 2022

Nottingham food project struggling to cope with queues as cost of living crisis soars

"It's either I pay the gas and electric or I get food in."

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Fuel costs leave Beeston food bank users 'unable to cook'

"We are struggling to keep on top of it. If there are local businesses out there that have surplus stock, we would be really grateful for a donation. It's a growing need and people are managing their budgets so they have enough to survive and pop the heating on. Our worry is that demand is increasing and we need to maintain supply which we can't do unless more people or businesses come forward."

Slide from the 'Cost -of-Food Crisis MARKETs Meet-up' on 18 July 2022 at NTU

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Acknowledgments

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Introduction and purpose of the review

As we write this, the UK is navigating a tricky domestic landscape involving Brexit, a soaring cost-of-living crisis and a change in political leadership. What is more, these developments are unfolding against a backdrop of various global insecurities, including climate change, pandemic and conflict. How can local communities harness their resources to both survive and thrive in these uncertain times? The Multi-Actor Research & Knowledge Exchange Teams (MARKETs) project is about developing an innovative model of collaborative governance, comprising four types of local actors which include local government, academia/research, business and civil society. A core principle is to involve and impact citizens in meaningful and tangible ways.

MARKETs takes inspiration from the numerous research and community engagement activities that Nottingham City Council and Nottingham Trent University (NTU)'s academic, research and knowledge exchange staff have been undertaking together. The **aim** is to consolidate these relationships and establish a robust model of local network governance, where information and resources are regularly shared between multiple organisations and sectors in order to facilitate local problem-solving which is at once inclusive, relevant and therefore effective. This idea is also forming at a time when UK society is anticipating major restructuring of local authorities and the higher education sector against the volatile backdrop outlined earlier. At the same time, 'civic universities' (Tozzi 2021) are increasingly seeking solutions to long term societal challenges such as climate change and demographic change. Hence, the time is ripe to explore how localities, such as Nottingham, navigate these landscapes by deliberately taking a more cross-sectoral approach.

Citizens and other stakeholders interact in a 'market square' to exchange, deliberate, develop and test ideas to address a specific challenge. MARKET 'meet-ups' regularly bring together actors from the four sectors to deliberate shared challenges and opportunities for innovative problem solving. The principal outcome of the MARKET meet-up process is the formation of a series of MARKET 'squares,' which focus on agreed specific areas for further research, knowledge exchange and practical policy action. The concept of a 'market square' is inspired by Nottingham city centre's 'Old Market Square,' which carries a reputation for being an open, inclusive and (civically) active space where people from all walks of life can gather and interact.



Photo 1: Nottingham's Old Market Square (Source: [Nottingham Trent University](#))

MARKETs is fundamentally rooted in the concept of the 'quadruple helix' (QH) originally conceptualised by Carayannis and Campbell (2009). The QH is a critique of the 'triple helix,' which conceptualises collaborations in innovation between three key actors—academia/research, industry and government (Leydesdorff and Etzkowitz 1996). QH is an innovation that incorporates citizens as a fourth and central actor in the collaboration (Carayannis and Campbell 2009). A report which details the application of the quadruple helix to improving service delivery in voluntary work and informal care explains the pitfalls of relying on a triple helix (Varmland County Administrative Board 2018, p. 4):

'In the Triple Helix model, citizens/end-users are left to the role of passive recipients, consumers or end- users who assimilate the products and services developed.'

No involvement of citizens might lead to:

- Products and services not used
- Lack of transparency
- Innovators and end-users do not understand each other
- Frustration

- Technical innovation instead of social innovation.'

We consider citizens and their needs to be integral to a MARKETs model focused on tackling the most urgent challenges which plague citizens' everyday lived experience and dampen life-wide opportunities.

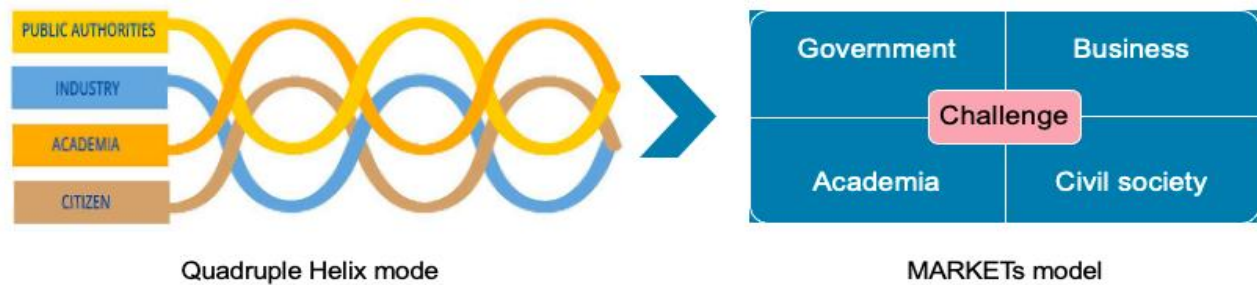


Figure 1: The development of Quadruple Helix based MARKETs model

In May 2022, as part of an innovation grant funded by NTU's Institute of Knowledge Exchange Practice, over a dozen representatives from the Nottingham Trent University and Nottingham City Council came together for a two-hour scoping workshop. The participant mix included specialists in policy, program/project delivery, political strategy and knowledge exchange and representatives from both organisations discussing and deliberating the following questions at each table:

1. Discuss and agree on a challenge faced by Nottingham. Map out the interests and perspectives of the actors in the quadruple helix in relation to the challenge.
2. What are the opportunities and parameters around implementing the MARKETs model in Nottingham?
 - Benefits and challenges of engaging citizens and stakeholders as co-creators?
 - Disconnect between theory and practice?
3. What do we need to learn from the research? / What does our research team need to find out?



Photo 2: Discussions between Nottingham City Council and NTU stakeholders at the scoping workshop on 16 May 2022

The cost-of-living crisis, with a particular emphasis on the cost-of-food crisis, emerged as the most pressing issue across the three ‘double helix’ discussions and during plenary. Therefore, the project team decided that there was still scope—both in terms of timescales and finances—to set up and test an initial MARKETs meet-up focused on this issue. The MARKETs on the cost-of-food crisis was arranged for 18 July 2022 and hosted by NTU. The meet-up’s design was evidence-based, drawing inspiration from the research reviewed in Part 1 of this report and from a supplemental interview with an experienced Principal Investigator of a UK-based QH project. The details of the programme are discussed in Part 2, and a copy of the agenda has been provided in [Appendix 3](#).

Hence, the purpose of this report is twofold:

- To review existing research on the application of the quadruple helix, with particular emphasis on inclusive citizen engagement, in order to inform the design and development of the MARKETs framework;
- To evaluate and reflect on the pilot meet-up’s design and proceedings and make recommendations for the development of the MARKETs model in Nottingham with respect to the test case and other themes.

Our study therefore unfolds in two parts:

- 1) A review of existing and tested practices around the UK to help inform the design and implementation of the MARKETs model to the cost-of-food crisis in Nottingham.
- 2) An evaluation of a pilot MARKETs meet-up on the cost-of-food crisis with feed-forward for design modifications and implications for implementation.

1. Review of existing knowledge and practice

In Part 1, the research team conducted a literature review on the QH approach and examined high profile cases where either the QH was adopted and/or where participatory processes were notably innovative and effective in engaging citizens. In the first section, we briefly review the literature on the underlying principles and purported advantages of a QH approach. Subsequently, we review several cases for their practical value, including the Newcastle City Futures (NCF) projects, Camden Neighbourhood Assembly, projects out of Greater Manchester and other relevant practices. We have mapped these case studies in a matrix in [Appendix 1](#). Ultimately, Part 1 of the study highlights five key practices that could be applied to MARKETs.

1.1 Introduction to the QH model

The fledgling academic literature on the QH model yields little in terms of offering a concrete and tangible blueprint. Miller et al. (2016) argue that research on the quadruple helix is fragmented and lacking in coherent frameworks and conceptualizations that illustrate the dynamic and evolving nature of the model, which tends to be conceptualized at a macro-level. There is also a lack of understanding around effective implementation, including appropriate structures, mechanisms, and processes that ensure effective communication and interactions between stakeholders. Although such macro perspectives have prompted discussions, they fail to provide an in-depth understanding of value creation activities at the micro-level (Cunningham et al. 2017; McAdam and Debackere 2018), which McAdam and Debackere (2018) argue need to be more open and co-creative. In other words, it is important to engage end-user societal stakeholders in the co-creational process.

In absence of a tangible blueprint, we turn to reviewing mainly case studies which have undergone full project cycles and have either implemented some semblance or form of the QH approach or demonstrated cross-sectoral approaches to citizen engagement. We discuss these case studies in terms of their design principles; types of participants; frequency, duration and types of interactions between actors; and the intensity of citizen participation.

1.2 Design principles

The QH approach is comprised of several interlocking principles. The Open Innovation 2.0 (OI2) paradigm, which was championed by the European Commission, is fundamentally rooted in a QH approach where government, industry, academia and civil participants work together to co-create the future and drive structural changes far beyond the scope of what any one organization or person could do alone (Pacheco et al. 2020). Curley (2016) proposed 12 'p' principles for OI2 as shown in Figure 2 below. The principles behind Newcastle Smart City Strategy were collaboration, connectivity, efficiency, openness, and people (Newcastle City Council 2017, p.13). Moreover, the smart city should be problem-led, participatory, people centric, joined-up, open, valuable, outcome-focused, visible, intelligent, and strategic (Urban Foresight, 2022). In addition, the Newcastle City Futures (NCF) strategy report is underpinned by five principles: integrated collaboration, co-created shared value, cultivated innovation ecosystems, unleashed exponential technologies, and extraordinarily rapid adoption (Tewdwr-Jones et al. 2015). Among the above-mentioned principles, scholars have highlighted co-created shared value (McAdam and Debackere 2018; Cunningham et al. 2017), cultivated innovation ecosystems (Carayannis et al. 2017), collaboration and connectivity (Cunningham et al. 2017; McAdam and Debackere 2018; Miller et al. 2016), openness (Miller et al., 2016) and people/human centric (McAdam and Debackere 2018) in their studies. At their core, they represent more open systems and new ways of collaborative problem solving at the community and local level.

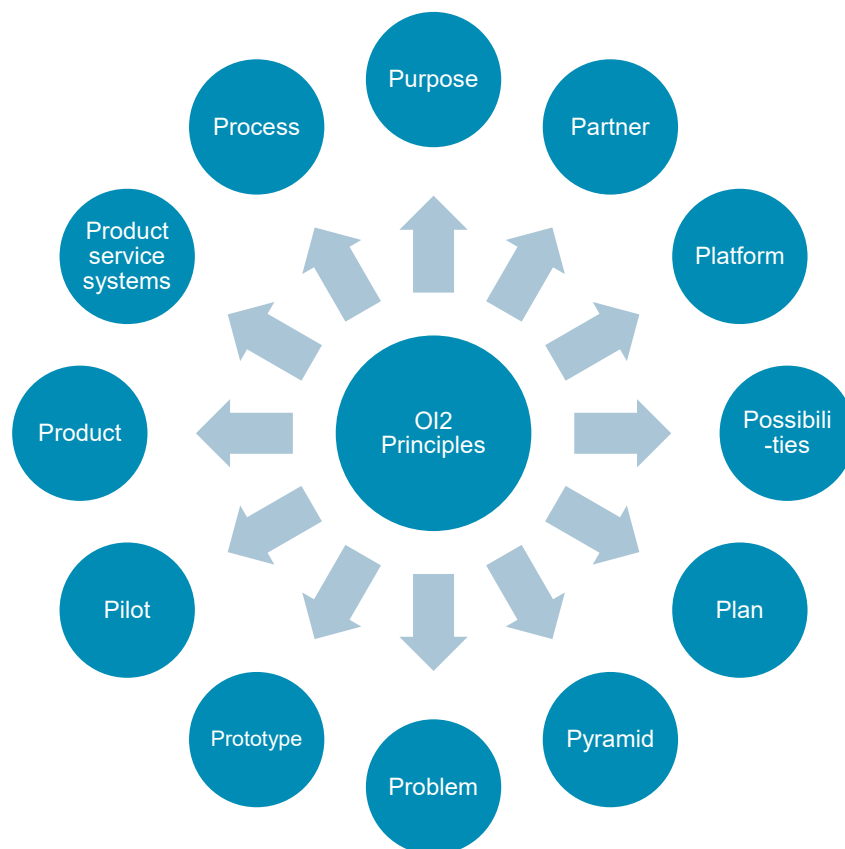


Figure 2: Design principles of OI2

1.3 Types of participants

Although they may vary in their types of participants due to differing needs and aims, QH projects convene and engage a *variety* of strategically selected stakeholders and facilitators. Table 1 displays four Urban Living Partnership (ULP) projects from Newcastle City Futures in terms of their aims and corresponding principal investigators and participants. Hosted by Newcastle University, these ULP projects involved a group of core partners that included local authorities, regional transport bodies, public utility providers, large global technology and engineering companies, regional companies and business associations and local community and voluntary organisations. They also established a team involving a range of academic actors, who served a variety of functions, including director, project manager, policy liaison and researcher, and 10 co-investigators across Newcastle and Northumbria universities. In line with the QH approach, the participants were mostly from the academic, public, private and non-governmental/voluntary sectors (with the exception of the Metro Futures project, which excluded the local authority).

For example, in the case of Future Homes, NFC established a cross-sectoral collaborative, including: a) interested people from voluntary organisations (relating to older people and community energy); b) a Newcastle-based architectural practice; c) a regional registered housing provider; and d) Newcastle University. In the case of Metro Future, NCF also played a key brokerage role that connected Nexus (public) and Open Lab (community) using the living lab method to enable the engagement of multiple stakeholders.

NCF projects and principal investigators	Aims	Participants
Future homes -Rose Gilroy	To build liveable homes for the trial of innovations in inter-generational flexible living, energy systems and digital technologies	Academia: Newcastle University Government: Newcastle City Council Business: Karbon Homes, Ryder Architects, ZCF. Public and voluntary sectors: Elders Council, Quality of Life Partnership, Sustainable Communities Initiative.
Metro Futures -Simon Bowen	To conduct an in-depth, digitally enabled consultation with public co-researchers into the design of	Academia: Newcastle University Business: Nexus Public and voluntary sectors: Public consultation; Newcastle Schools Forum

	new Tyne and Wear Metro train carriages	
Future High Street -Mark Tewdwr-Jones	Newcastle City Futures have teamed up with NE1, Newcastle City Council as well a number of companies to develop a design to transform Northumberland Street.	Academia: Newcastle University, Northumbria University Government: Newcastle City Council; Future Cities Catapult Business: NE1, IBM, Northumbrian Water, Arjuna, NELEP, Faulkner Browns Public and voluntary sectors: Quality of Life Partnership
Gateshead Quayside and Riverside Park -Richard Clay	To exam potential new uses for the park that can be the source of economic and health benefits in the area, whilst also helping to preserve its natural, artistic and industrial heritage.	Academia: Newcastle University Government: Gateshead Council, North East Local Nature Partnership Business: Motivait, Steve Mayes Photography, Robinson Landscape Design Public and voluntary sectors: Ways to Wellness; Baltic

Table 1: NCF projects and key participants

1.4 Frequency, duration, and types of interactions between actors

Frequency and Duration

QH projects vary in the frequency and duration of their pre-determined and structured interactions, but regularity is important. The NCF ULP projects offer insight into how one consortium can operate different models of interaction. The NCF Urban Living Partnership was initially funded for 18 months (from August 2016 to January 2018), with a further extension six-month extension to July 2018. The NCF team was involved in the discussion and/or facilitation of upwards of 50 demonstrator project ideas and carried out multiple projects at the same time. This report reviews the Future Homes and Metro Futures projects as they have the richest data available (Vallace et al., 2020).

Future Homes lasted about one year. From late 2015 till early 2017, the project secured funding from Newcastle City Council, Newcastle University and the UK-based multinational finance company Legal & General. It recruited specialists with a diverse background. Between June and September 2017, four workshops were carried out with tenants and experts to refine the project brief and outline a set of core objectives for the homes. Workshop results became a part of the programme for the Great Exhibition of the North hosted by Newcastle and Gateshead during the summer of 2018. *Metro Future* was a year-long project. It conducted four co-researcher workshops in November 2016 in locations across Tyne and Wear. In 2017, the consolidated results from these

engagement activities were reported to Nexus and fed into the business case submission to the Department of Transport (Tewdwr-Jones et al. 2015; Vallance et al. 2020).

Other multi-sector collaborations involving public engagement have also been built on a program of regularity and prolonged interactions. The Camden Neighbourhood Assembly was conducted in four phases, each lasting three to four weeks. Moreover, in phase four, there were workshops which lasted around two hours (Wastling et al. 2020). The *Transforming Birmingham* involved two workshops over a six-month period. Each workshop ran from 10 am to 4 pm with three thematic sessions and about 18-21 participants. Organisers assessed feedback from the first event and conducted a literature review during the 6 months (University of Birmingham 2017; Lee 2017). Meanwhile, a project called *Have your say* in Bristol has allocated 3 months for workshops and 2 months for analysis (East Bristol 2022).

Types of interactions between actors

Regular interactions per a QH approach or according to participatory democracy practices can involve substantive workshops, open-door events and structures, pop-up events or labs, surveys, visualisation, participatory scenario making and legislative theatre.

The NCF interactions typically featured five characteristics (Bowen et al. 2020):

- a) Experts' early progress was largely attributable to the breadth of experienced individuals from different sectors;
- b) Workshops with tenants and experts;
- c) Private companies offered regular input into the planning and design of the homes at different stages;
- d) 'Pop-up labs' and drop-in sessions in public places where passers-by could contribute their own experiences and respond to co-researcher issues and ideas;
- e) The outcomes from co-researcher workshops were made available on the project website for the public to vote and comment on.

NCF's '*Delphi survey*' method, carried out by NCF, allows participants to show theme importance, theme connections and to identify any missing themes for inclusion in the development of scenarios later in the project (Tewdwr-Jones et al. 2015). Therefore, after initial rounds of survey data analysis, MARKETs researchers could consider asking participants to assess the analysis and offer their feedback on the results.

The Camden Neighbourhood Assembly adopted the *open door and participation approach* which allows a constant influx of participants to join and leave the process as appropriate. It is argued that this open-door approach is both inclusive and flexible, as it offers an opportunity for a more diverse array of participants to give input without the pressure of formally committing to the whole project (Wastling et al. 2020).

The 'Cardboard Citizens' project in Greater Manchester adopted an innovative *legislative theatre* approach to tackle the homelessness issue. The purpose of legislative theatre is to bring the issues that communities face to life by inviting audience members from the impacted community ("spectators") to act out solutions and collaborate with decision makers forming new laws and policies. Cardboard Citizens selected actors who had lived experiences of homelessness and aimed to change society's perception of homeless people. The project had four stages:

- Nearly 3 months of online background training
- 2 months of in-person rehearsals
- A 3-hour theatre event was presented on Zoom for 120 audience members. The show led to deeper conversations among audience members. The audience was then divided into breakout rooms to discuss policy proposals, and breakout room facilitators presented the top three proposals to the decision makers.
- About 15 decision-makers attended a follow-up meeting with the actors and facilitators three weeks after the event. They were asked to brainstorm specific suggestions that could be included in the prevention strategy or actions that could further develop the ideas.

The innovative approach transforms a laborious policy making process into a creative and collaborative one. In addition to engaging the community in the challenge, it also contributes to the policymaking and implementation processes. However, this approach requires a long timeframe to recruit and train those actors (Rubin 2020).

The 'Lancaster' case study (Pollastri et al. 2016) featured *visual writing* and *participatory scenario making* methods. The visual writing involved translating documentation data/research papers into visual forms. Following this approach, we could visualise this report and therefore render it more accessible to the wider public. In the case of participatory scenario making, participants were first involved in 'mapping the sharing city' to find the existing themes and potential connections between them. Secondly, they 'envisi[on] scenarios of sharing cities' to think about what would happen if these solutions were amplified and obstacles were removed. This is similar to NFC's scenario

method, but the Lancaster method is applicable to all actors and can be applicable to a smaller scale workshop (see [Appendix 2](#)). Moreover, we may use sticky notes and flip chart papers to allow participants to visualise their thoughts.

1.5 Citizen participation

The critical QH approaches are grounded in citizen engagement, but their manifestations can encompass different levels and modes of participation, with important implications for project outcomes. An interviewee talking about the NCF projects noted that the general public appreciates having space to participate in wider conversations, debates and deliberations and that constant cycles of these types of communications are imperative to public engagement (interview communication, 5 July 2022). It should be borne in mind that members of the general public will not necessarily wish to be involved in the steering or in the strategic aspects of such projects (interview communication, 5 July 2022). Therefore, a dynamic and flexible approach to citizen engagement seems imperative to developing a viable QH model.

To help conceptualise and visualise the different ways in which citizen participation can manifest as part of a QH project, we borrow insights from Miller et al. (2019)'s Modes of Participation. This 'ladders' model helps to assess and measure the democratic robustness of citizen participatory processes along four dimensions: (a) participant selection in terms of inclusivity and representativeness; (b) the extent to which communication is unidirectional, bidirectional or deliberative; (c) by whom and how decisions are reached, and (d) level of citizen authority in the process(es). In general, the higher a participatory governance process ranks on the upper bands of the ladders (see below), the more inclusive and democratic it is. This democratic quality is characterised by high inclusivity and representation, as well as more collaborative and deliberative methods of communication and decision-making where citizens enjoy co-ownership of the process (Miller et al. 2019). In reality, it is recognized that consultation processes have different stages and, therefore, one stage may rank higher or lower than another in a complex multi-stage process.

The QH Newcastle City Futures (NCF) projects were analysed using the Modes of Participation (Miller et al., 2019). The following diagram demonstrates the myriad levels and avenues of citizen participation involved in the various NCF projects, indicating that there is no one-size-fits-all approach.

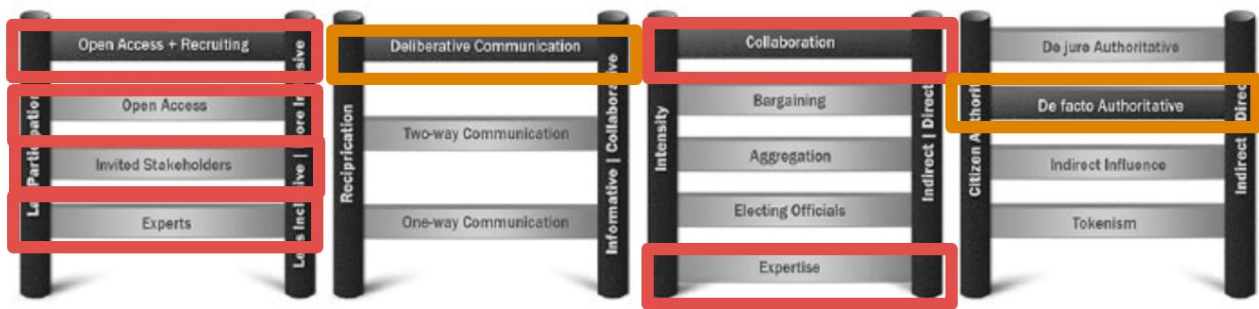


Figure 3: Citizen engagement in the NCF per the Modes of Participation

Participant selection: At the meta level, NFC’s overall participant selection lies in the top ladder of ‘Open Access and Recruiting.’ For instance, the exhibition was open to all members of the public while the Delphi Survey (for an explanation of this method, see Tewdwr-Jones et al. 2015) invited a select group of 74 experts (Tewdwr-Jones et al. 2015; Vallance et al. 2020). At the micro level, *Future Houses* involved the first and second level of inclusivity—that is, ‘Experts and Invited Stakeholders,’ whilst *Metro Future* was based on the first and third levels of inclusivity, ‘Experts and Open Access.’

Communication: There wasn’t enough data regarding communication in sub-projects, but there was a detailed report regarding the first *Newcastle Foresight* stakeholder workshop. The workshop involved ‘Deliberative Communication’ as it was a structured process where together participants identified several key challenges and tried to solve these problems.

Decision making: The *Future Homes* (Newcastle City Futures 2022) and *Metro House* (Metro Futures 2022) projects involved a ‘Collaboration’ mode of decision making between citizens, interest groups, and government focused on a particular problem or issue. The workshops based in both projects showed that invited citizens co-created with the other actors to co-design the product(s)/service(s). The *Metro Future* project also collected public feedback through online platforms and pop-up labs. However, while citizens had the chance to comment on the topics, decision making ultimately rested with the ‘Experts.’

Citizen authority: The two studied projects demonstrate that decision makers were proactively seeking input, ideas and feedback from both specialists and non-specialists and enabling cross-sector collaboration in identifying and solving the issues, therefore, citizens had ‘De facto’ authority within the frame of the projects.

1.6 Important lessons learnt

This section presents a rundown of relevant lessons for developing MARKETs and is based on the QH literature review, an interview with an expert involved in NCF, the project reports and/or published research for NCF, the Camden Neighbourhood Assembly and other QH/participatory projects.

Adaptive and dynamic mindset: OI2 requires a new mindset focused on teams, collaboration, and sharing value and vision. Overall, the NCF has demonstrated the feasibility of OI2 as a flexible and dynamic approach, where universities act as core facilitators. The project leads did not initially focus on policy change. They firstly needed to demonstrate achievement on the ground and decided to focus on projects that were deliberately labelled as ‘pilots.’ If people didn’t like the projects, they could fail. If they worked, then the institutions could take ownership (interview communication, 5 July 2022). It is also imperative that MARKETs facilitators and organisers take all relevant actors into account whilst appreciating that the nature and level of engagement will likely differ by actor type. Furthermore, a project built on a complex QH approach may require multiple sources and pots of funding. For example, the NCF involved fourteen different methods of funding (interview communication, 5 July 2022).

Creating space for interaction, trust building and inspiration: Since the fourth helix was introduced by Carayannis and Campbell (2009), a recent trend in the QH literature is to explore human-centered micro-processes driving quadruple helix development. A study by Kriz et al. (2018) has shown that these interactive and trust-building processes facilitate the development of power bases and lead to the helices overlapping. The NCF projects ultimately created a space for actors to interact and get to know each other in ways that were uncommon and new. Organisers had to be quick on their feet to devise methods that would allow for a level playing field between actors (interview communication, 5 July 2022). A key method is to deploy visualisation as a common language between all actor types. The idea is to ‘get rid of government and academic speak’ and to create methods that inspire people (interview communication, 5 July 2022).

Inclusive but targeted citizen engagement: The NCF projects relied on a variety of avenues for engaging different demographic groups. Project organisers often leveraged opportunities to engage the public via social media by sharing old images of the city and raising questions to get people talking about ‘place.’ They also developed relationship with the local newspapers and generated content for the ‘nostalgia’ section. The communities showed great appetite for talking about the

'unbuilt' and alternative futures (interview communication, 5 July 2022). Furthermore, in order to engage the typically lesser reached groups, NCF regularly organised a series of public events with around 196 organisations which emphasised the connection between pasts and futures. Many events were held for young people, children and youth groups as well (interview communication, 5 July 2022).

Determining leadership structures and the brokering role: Universities are well placed to play important brokering roles because of their community and governmental networks as well as capacity for knowledge and value creation. Cunningham et al. (2017) posit that principal investigators (PI)—or researchers leading on complex research and innovation projects—play important brokering roles as part of a QH approach because they bridge diverse knowledge and create common value. However, PIs may encounter difficulties with knowledge transfer activities. Therefore, as Cunningham et al. (2017) explains:

'For PIs to create value, they need to undertake boundary work ['boundaries' here refers to 'mental fences'] that helps their role become better integrated with other actors in the quadruple helix. When roles become more integrated in place, time and role nature, boundary crossing and interactions with other quadruple helix actors is more seamless and value creation therefore more likely. Specifically, when PI are more integrated in the quadruple helix, their involvement in potentially productive and value creating interactions will be enhanced as they can contribute in multiple work environments and settings as well as across multiple stages (flexibility) of the research and innovation process' (Cunningham et al. 2017, p. 139).

Taking these insights into account, the MARKETs organisers will need to consider how PIs can navigate the integration process and tackle managerial challenges.

Meanwhile, in the not unlikely event that MARKETs will initially rely on a consortium of community leaders (including from the universities and local government), organisers will need to consider how any interim governance structures are arranged and designed. Here, NCF and Greater Manchester may offer relevant insights. The Newcastle City Futures *Foresight* project evolved from a visualisation and engagement platform, into a policy development platform and, more recently, into a research initiation platform within the university (Tewdwr-Jones et al. 2015). NCF was not funded beyond the ULP, but the institutions that were initially nervous about the QH project embraced it because of the perceived benefits. The City Council set up a 'directorate of city futures,' and the university created a Pro-VC position around public engagement (interview communication, 5 July 2022). MARKETs organisers could consider setting up a platform similar to the City Futures

Development Group (CFDG) in order to provide the necessary environment, including people and resources, for co-creation.

The 10GM joint venture was created to support the voluntary, community and social enterprise (VCSE) sector in Greater Manchester in order to improve economic, social, and environmental wellbeing. The organization works as a trusted intermediary, facilitator, catalyst or connector who builds deep connections with grassroots communities and networks with businesses and non-profit organizations. A recent example of the organization's work is setting up a GM VCSE leadership group, where various sector leaders share information and opportunities, operate transparently, and work together to solve social problems like homelessness. In light of this, are there any coordination networks or platforms in the Nottingham area that can help facilitate deliberations about the cost-of-food crisis by integrating all relevant information and resources? Can the MARKET's quadruple helix model help build such a platform that not only integrates information and resources, but also involves sectoral leaders who can offer the most relevant case studies, expertise, and advice for people (who have recently faced a Cost-of-Food crisis) in need? Moreover, as the NCF interviewee noted, there is no point in replicating the types of activities that civil society organisations lead on; rather, the focus should be on working *with* them (interview communication, 5 July 2022).

2. Evaluation of a pilot MARKETs meet-up on the cost-of-food crisis

2.1 Evaluation of the meet-up format

Following the scoping workshop in May 2022, the project team and Nottingham City Council proceeded to plan and design a pilot meet-up for 18 July which was focused on the cost-of-food crisis. This represented an implementation, reporting and evaluation phase. The MARKETs helped facilitate the meet-up and invited participants from all four strands of the quadruple helix in order to maximize inclusivity and diversity of viewpoints. There were 16 participants, who included relevant representatives from Nottingham City Council (local government), Nottingham Trent University (research/academia), civil society organisations (food banks and other third sector actors) and social enterprises (business) – although there was an under-representation of businesses relative to the other three sectors. Participants were divided into four MARKET 'squares' with four members each—more or less representing at least three out of the four sectors. Each square or break-out group was facilitated by a member of the project team.

The meet-up’s design was evidence-based, drawing inspiration from the research reviewed in Part 1 of this report and from a supplemental interview with an experienced Principal Investigator of a UK-based QH project. The programme borrowed methods from the Newcastle City Futures and Camden Neighbourhood Assembly projects because it was decided that they best suited the purposes, timescales and nascent stage of project development. This two-hour pilot included a brief introduction to MARKETs, followed by three interactive break-out sessions per MARKET square. The break-outs involved an icebreaker, completing a ‘Challenge Matrix,’ which was adapted from the Camden Neighbourhood Assembly (Wastling et al., 2020, p.38.) and populating a Padlet board with the most urgent priorities and relevant actors to involve. The purpose of this format was to help facilitate introductions, early relationship building and knowledge exchange between actors. A copy of the agenda has been provided in [Appendix 3](#). The meeting was originally planned to take place at NTU’s city campus but, due to an extreme weather advisory, the project team decided to move the event onto Microsoft Teams.

Challenge Matrix

MARKET actors	Discussion questions	
	What changes need to be made to the existing solutions and services to tackle the cost-of-food crisis?	What new approaches do we need? Are there any particular resources needed?
Civil society / citizenry		
Local government		
University / academia		
Business		
Shared		

Figure 4: Slide from the pilot meet-up on 18 July depicting the ‘Challenge Matrix’

We collected the following data during the pilot in order to inform an evaluation of the workshop’s design and the feasibility of developing MARKETs in Nottingham:

- Direct observation of the workshop proceedings and participants’ input for the purposes of identifying good practice and opportunities to help facilitate relationship building among actors;

- Questionnaire-based survey to gather feedback from participants on the MARKETs model principles, the implementation during the initial meeting and prospects for its future development.

Participants' feedback

At the end of the MARKETs pilot meeting, a survey was shared with the participants. There were ten responses, which are mapped out in [Appendix 4](#).

Based on the survey, the Quadruple Helix model is not particularly well known by most of the participants, who nevertheless recognize the model's potential. Participants found the meet-up very engaging and useful as it brought diverse actors together to network and share information and ideas. Participants also expressed their enthusiasm for working together on this issue and offered concrete ideas for applying the model to other potential areas, such as health, social care and well-being, fuel poverty, CN28, climate change and UNICEF Child Friendly City. The absence of the business sector did not go unnoticed, as participants fed back on the usefulness of this sector for these QH processes.

Participants highlighted the following expectations for future outcomes:

- Follow-up meetings should be initiated in order not to lose momentum and for actual solutions to be reached and delivered;
- Platform for actors to communicate, share and network, and for better coordination of work and resources;
- More actors should be included in the meeting to broaden perspective and project impact.
- The cost-of-living crisis is not a short-term but long-term reality and hence a sustainable partnership between actors should be considered;
- Project objectives should be evidence-based, realistic and equitably accessible, and the institution taking the project lead should be clearly communicated;
- Build a model of good practice that is adoptable by anyone and becomes a reference point.

Participants also noted that a face-to-face format is preferred because it would create more opportunities for interaction and discussion beyond each MARKET square. Finally, more attention could be given to preparing a brief bio of each participant.

The scoping workshop on 16 May 2022, which exclusively involved specialists from NTU and Nottingham City Council, also generated feedback and feed-forward, including with respect to:

- Ensuring inclusive, meaningful and enduring citizen engagement in MARKETs (not just through civil society orgs), which includes considering whom to involve and how;
- Setting clear expectations around stakeholder roles, input and ownership;
- Importance of bottom-up processes, co-production and mixed methods of data collection and engagement;
- Academia / universities and businesses playing brokering roles;
- Academia/universities playing a role as reviewers and source of funding and staffing;
- Opportunities for local government to draw on university expertise, resources and talent in a context of severe financial shortfalls;
- Effective facilitation of citizen participation (managing friction, language barriers and personalization of community problems);
- Addressing gap in communications to citizens;
- Managing communications around need to balance stakeholder representation vs. inclusivity.

2.2 Ideas generated from the meet-up deliberations

During the workshop, each break-out group was asked to take solutions discussed during the challenge matrix exercise and to post them onto a Padlet.com board. The purpose of this exercise was to allow information and ideas to be shared across all four break-out groups. The research team then mapped out the key themes which emerged from this Padlet exercise and which should form the basis for further meet-ups and collective decision-making.

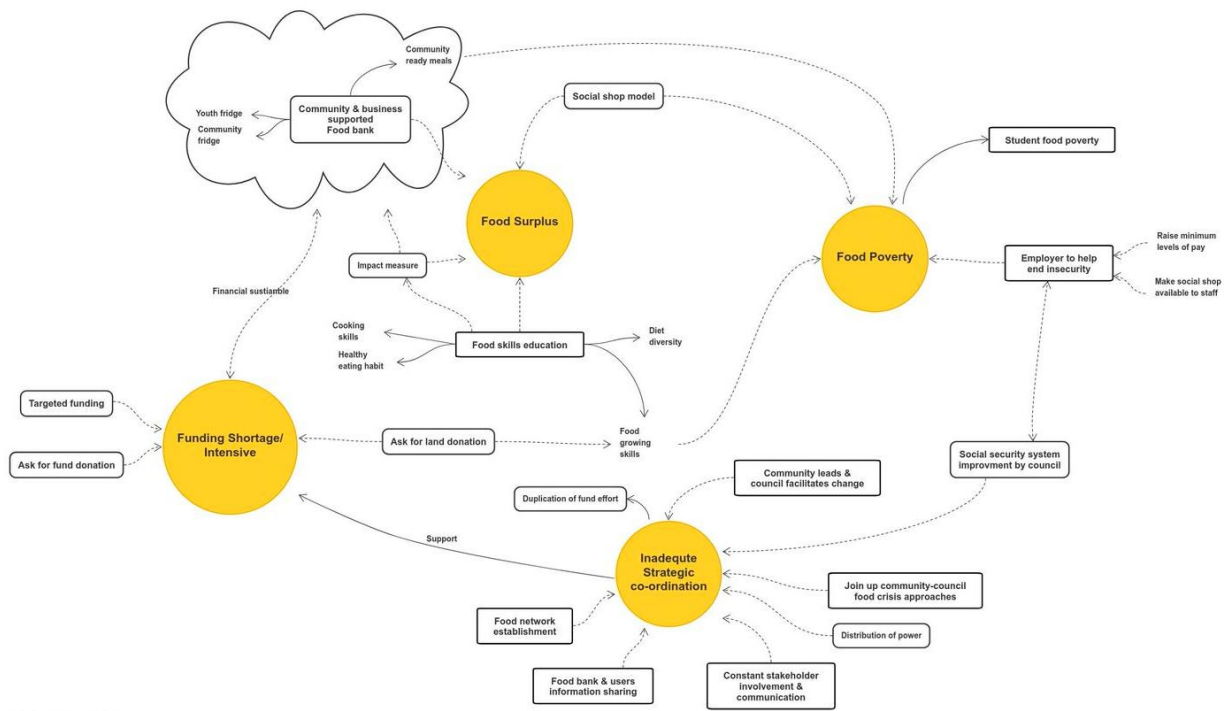


Figure 5: Map of priorities to tackle the cost-of-food crisis

Mind map key

Circles = key themes

Rectangles = secondary or sub themes

Solid lines = existing and current solutions/actions

Dotted lines = proposed solutions/actions suggested at the meet-up

Double-headed arrow = relationship between two ideas

The above mind map highlights four key aspects (displayed in the yellow circles) to addressing the cost-of-food crisis in Nottingham: the food surplus, food poverty, strategic coordination and funding shortages. Regarding the ‘food surplus’ problem, there are several existing cross-sectoral actions and solutions already in place. For example, community organisations and local businesses are joining together to tackle the food surplus through various food share schemes, such as the community fridge. Some businesses have developed an innovative social shop model in which local businesses donate near-expired foods to a community social supermarket. Citizens can purchase affordable food with a membership, e.g., 3.5 pounds for a basket of food. This initiative to actively reduce food waste is driven by businesses like Co-op as part of their corporate social responsibility policy. Overall, the suggestion was made that this social shop model could be beneficial to roll out in other areas of the city. Workshop participants also suggested that businesses should work with educational institutions to provide additional services to help

customers develop healthy eating habits, develop more diverse diets and improve their cooking and food-growing skills. To increase their awareness of their impact on the cost-food-crisis, businesses could also be trained to use technology to measure food waste, basket of goods costs and demographics.

Several existing and proposed ideas were discussed with respect to the 'food poverty' theme, including:

- training in food growing;
- 'community ready meals;'
- promoting the use of allotments to grow fresh food;
- students, who are at risk of poverty, purchasing 'community ready meals' to conserve energy for cooking and obtaining free food from the 'youth fridge.'

It was also suggested that employers help those with low pay and on casual contracts to improve their security of living. Furthermore, the council needs to improve the social security system in order to reduce feelings of insecurity among employees.

With regard to the theme of 'inadequate strategic coordination,' it was agreed that community leaders should be enabled to facilitate responses to the crisis. There may be considerable overlap between different projects and initiatives which causes resource waste. Resources, information, and approaches should be strategically coordinated to maximize efficient and effective outcomes. One proposal is to establish a network for stakeholders to communicate, share, and coordinate. The network could also provide helpful information and advice for those whose needs are acute.

The 'funding shortage' was a very important theme. With the fast growth in the membership of social food shops and food banks, it is crucial to acquire external funding. However, grant applications can be competitive and project leader cannot always ensure the sustainability of projects. Another suggestion was to encourage large landowners to donate their land for food production and people to voluntarily give up money or funds they no longer need (e.g., tax refunds).

2.3 Follow-up workshop and proposed next steps

Following the pilot meet-up, the project team convened to reflect on the feedback and the discussion notes. In recognition of the strong appetite to develop the collaboration alongside the need to discuss important questions regarding ownership, working methods and impact, the team agreed to arrange a second meet-up called 'The Cost-of-Food Crisis and Beyond' for 30

September 2022 (hereafter referred to as the ‘follow-up workshop’). This event involved both the meet-up participants from July 2022 and, for strategic input, specialists who attended the scoping workshop on 16 May 2022. The team agreed that—based on the feedback and discussions from both events—the workshop will need to focus on:

- Presenting this report, including the evaluation of feedback and discussions, evidence-based practice and transferrable lessons;
- Facilitating an agreement on:
 - An initial methods of coordination and interaction for the collaboration (e.g., setting up a regular forum for information exchange), which includes deliberations on the university’s brokering role, engaging businesses as well as opportunities for involving citizens more directly;
 - One priority from the challenge matrix and mapping exercise which partners are confident they can begin to collectively pursue in the short-term and which is deemed likely to meet citizens’ needs in a tangible way.

23 participants were involved in this follow-up meeting. They were divided into two groups (A and B) and were tasked with drafting a one-page proposal in answer to one of the following questions:

A) What is our working method for MARKETs?

B) What is one priority from the Cost-of-Food meet-up which we can pursue now?

Each group was asked to draft a set of SMART¹ goals or priorities in order to encourage feasible targets. Group A’s proposal was the establishment of an *oversight board* which would be housed at NTU—comprising *inter alia* members of academic, employability, community engagement and knowledge exchange staff—as well as external stakeholders from local government, civil society and the business sector. The board would oversee governance, outreach, promotion and the coordination of resources. It was suggested that the oversight board could be set up by January. In the immediate term, it would focus on community listening, engaging businesses and instituting methods of public (resident) engagement that would leverage existing community groups, outreach workers and existing social environments (such as community centres) where harder to reach groups tend to gather. The listening could be channelled through existing partnerships and

¹ **S**pecific, **M**easurable, **A**chievable, **R**ealistic and **T**imebound

connections with community and business ventures, including the Citizens' Panel, Ignite Nottingham, local libraries, Nottingham BID, NTU's Dryden Enterprise Centre) and the Cultural Quarter.

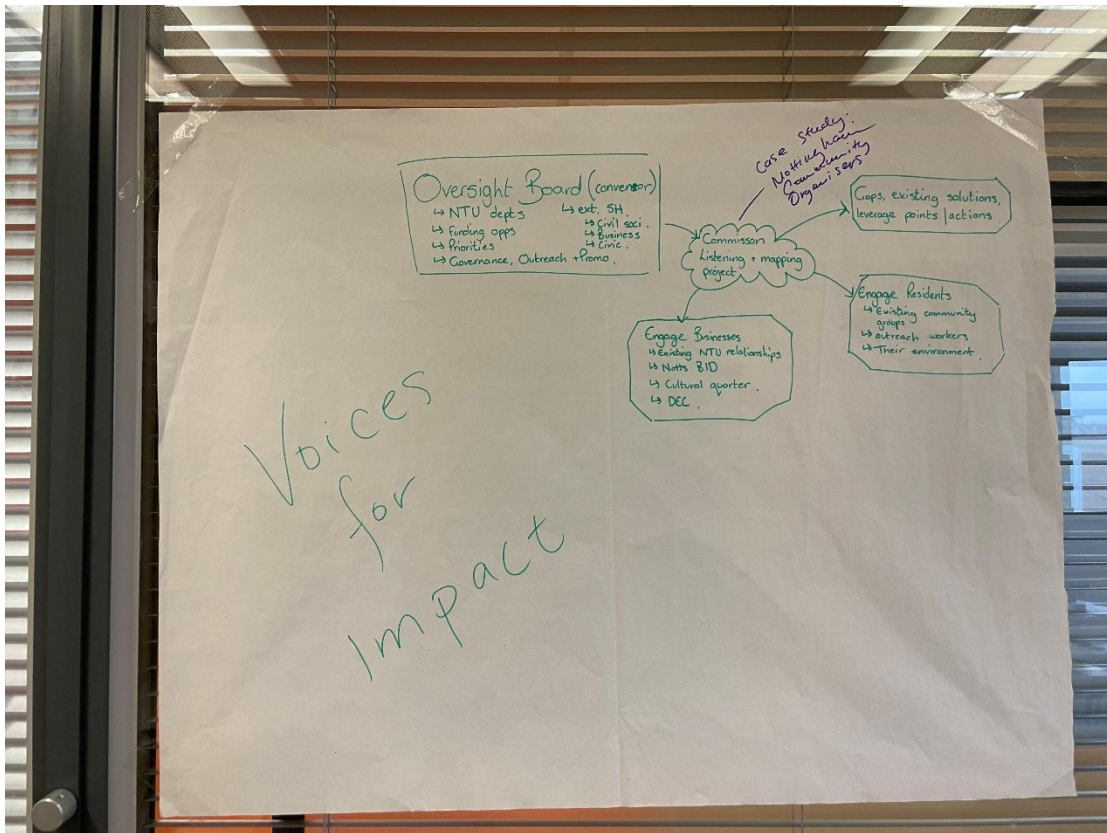


Photo 3: The proposal drafted by Group A at the follow-up workshop on 30 September 2022

Group B meanwhile proposed the 'Nottingham Food MARKET'—a dedicated taskforce for social supermarkets to create networks for food distribution. The core ideas include involving stakeholders from all wards, enlisting private partners to provide surplus food, working with local producers and organisations to keep the food local (and reduce demand on imported food), to procure in the short-term funding to buy low-cost subsidized food that can be distributed at a low cost and to enlist paid help to help with the coordination of the taskforce. One outcome generated from the Group B discussions was a list of interested stakeholders who wish to be involved in establishing the taskforce.

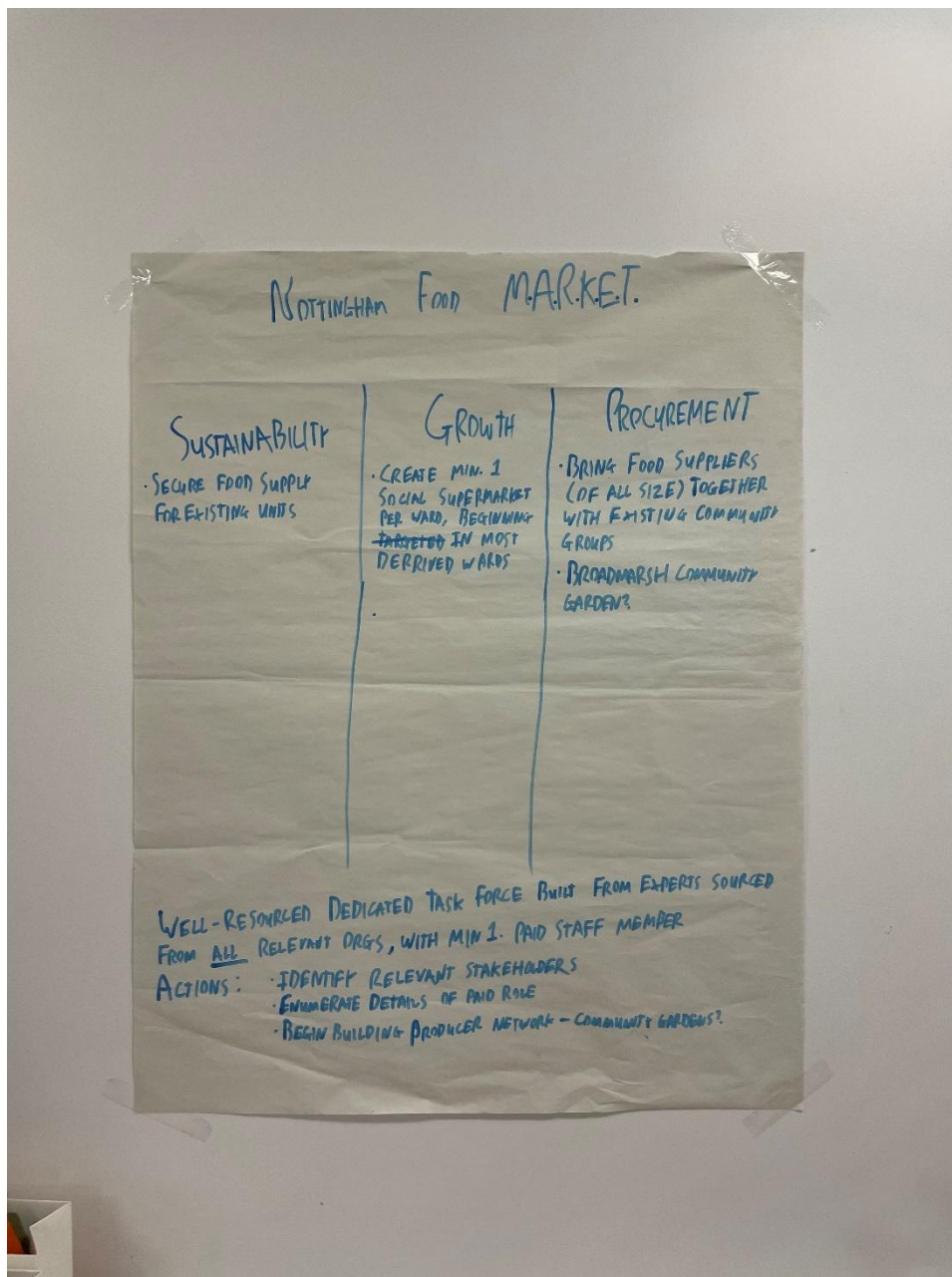


Photo 4: The proposal drafted by Group B at the follow-up workshop on 30 September 2022

NTU's IKEP and Nottingham City Council have already expressed interest in finding ways to support the abovementioned proposals. Additional longer-term questions which the project team and university will need to consider include sources of funding and staff support for MARKETs, different methods for meaningfully engaging undergraduate and postgraduate students in the model's development and implementation, the active recruitment of Nottinghamshire County Council and other relevant local authorities in the Nottingham region and solidifying the narrative of the model's role in the university's 'enriching society' strategic priority as well as the civic agreement between NTU and Nottingham Trent University.

References and further reading

Bowen, S., Wright, P., Wilson, A., Dow, A., Bartindale, T. and Anderson, R., 2020, April. Metro Futures: Experience-Centred Co-Design at Scale. In *Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems* (pp. 1-13).

East Bristol Liveable Neighbourhood, 2022. *Have your say* [online]. Available at: <https://eastbristolliveableneighbourhoods.commonplace.is/> [Accessed 12 June 2022].

Carayannis, E.G. and Campbell, D.F., 2009. 'Mode 3' and 'Quadruple Helix': toward a 21st century fractal innovation ecosystem. *International journal of technology management*, 46 (3-4), pp. 201-234.

Curley, M., 2016. Twelve principles for open innovation 2.0. *Nature*, 533 (7603), pp. 314-316.

Leydesdorff, L. and Etzkowitz, H., 1996. Emergence of a Triple Helix of university—industry—government relations. *Science and public policy*, 23 (5), pp. 279-286.

Metro Futures: digital train design for inclusive society [online]. Available at: <http://www.newcastlecityfutures.org/projects/future-homes/> [Accessed 22 August 2022].

Miller, S.A., Hildreth, R.W. and Stewart, L.M., 2019. The modes of participation: A revised frame for identifying and analysing participatory budgeting practices. *Administration & Society*, 51 (8), pp.1254-1281.

Newcastle City Council, 2017. *Smart City Strategy 2017 – 2021* [online]. Available at: https://www.newcastle.nsw.gov.au/getmedia/392db4be-d418-48d8-a593-7a17a4b482bb/2752_Smart-City-Strategy-FINAL-WEB.aspx [Accessed 12 June 2022].

Newcastle City Futures, 2022. *Future Homes: Future Housing for an Ageing Society* [online]. Available at: <http://www.newcastlecityfutures.org/projects/future-homes/> [Accessed 22 August 2022].

Pacheco, V., Araújo, N. and Rocha, L., 2020. *Open Innovation: from OI to OI2* [online]. WERI-World Economic Research Institute. Available at: <https://wp.econworld.org/uploads/2020/WP2020001.pdf> [Accessed 12 June 2022].

Pollastri, S., Cooper, R., Dunn, N.S. and Boyko, C.T., 2016. Visual conversations on urban futures: participatory methods to design scenarios of liveable cities. In: Lloyd, P. & Bohemia, E., eds. *Proceedings of Design Research Society Conference*. Brighton, 2016, pp. 1677-1695.

Rubin, K., 2020. *Using Theatre to Make Policies: Legislative Theatre in Manchester* [online]. Available at: <https://www.peoplepowered.org/news-content/legislative-theatre-manchester> [Accessed 22 August 2022].

Tewdwr-Jones, M., Goddard, J. and Cowie, P., 2015. *Newcastle City Futures 2065: Anchoring universities in urban regions through city foresight*. Newcastle: Newcastle Institute for Social Renewal, Newcastle University. Available at: <http://www.newcastlecityfutures.org/wp-content/uploads/2016/11/NewcastleCityFutures2065Report.pdf> [Accessed 12 June 2022].

Tozzi, A., 2021. The role of a “Civic University” in the frame of the Quadruple Helix approach to development: the paradigm of MED-QUAD project. *Renewable Energy and Sustainable Development*, 7 (1), pp. 1-4.

University of Birmingham, 2017. *Assessing the future of whole energy systems: priorities for decarbonisation, resilience and efficiency* [online]. Available at: <https://www.birmingham.ac.uk/Documents/college-eps/energy/events/transforming-birmingham-first-workshop-summary-260617.pdf> [Accessed on 22 August 2022].

Urban Foresight, 2022. *Mapping Newcastle’s System of System* [online]. Available at: <https://urbanforesight.org/latest/setting-the-benchmark-for-smart-cities/> [Accessed 12 June 2022].

Vallance, P., Tewdwr-Jones, M. and Kempton, L., 2020. Building collaborative platforms for urban innovation: Newcastle City Futures as a quadruple helix intermediary. *European Urban and Regional Studies*, 27 (4), pp. 325-341.

Varmland County Administrative Board, 2018. *A quadruple helix guide for innovations – In For Care: informal care and voluntary assistance: innovation in service delivery in the North Sea Region*. Interreg North Sea Region. Available at: <https://northsearegion.eu/media/11651/a-quadruple-helix-guide-for-innovations.pdf> [Accessed 9 May 2022].

Wastling, T., O'Brien, E., Evans, A., and Hui, K., 2020. *Camden Neighbourhood Assembly. Project write up and toolkit* [online]. Available at: <https://www.camden.gov.uk/documents/20142/1195356/Camden+HWB+Neighbourhood+Assembl>

[y+-+Write-up+and+toolkit+-+Jan2020.pdf/043e0fc0-9038-1f7d-03aa-4e4bf8eb1e8?t=1580814897704](#) [Accessed 12 June 2022].

Zemandl, E., Tolson, D., Collins, M., 2021. *Draft Report: A Review of Citizen Consultation and Engagement in Nottingham City Council and Reflections for Future Practice* (September 2021).

Appendix

Appendix 1: Case study mapping matrix

RESEARCH TOPICS	NEWCASTLE CITY FUTURES	CAMDEN	JAM & JUSTICE
DESIGN PRINCIPLES	<ul style="list-style-type: none"> • 12 principles for Open Innovation 2.0 (OI2) Curley (2012) • 5 principles in Newcastle Smart City strategy 2017-2021 • 10 principles in Newcastle’s System of Systems 	N/A	Co-production
TYPE OF PARTICIPANTS	The participants were mostly from the following sectors Academic, Public, Private, Community/non-profit/not for profit (voluntary). Two of ULP projects showed the collaboration between Academic, Public, and Business (community/not-for profit) but did not include the involvement of the local authority	The council, Local residents, key healthcare workers/experts, local citizens, and the neighbourhood assembly	<ul style="list-style-type: none"> • 15 recruited Co-researchers called Action Research Collective (ARC) • An experienced Researcher • A delivery group was pulled together and led by Shared Future CIC • A Reference Group

<p>FREQUENCY, DURATION AND TYPES OF INTERACTIONS BETWEEN ACTORS</p>	<ul style="list-style-type: none"> • Frequency and duration <ul style="list-style-type: none"> - The ULP pilot is from August 2016 to July 2018 - Future Homes is from 2015 to 2018. They conducted four workshops between June and September 2017 - Metro Future is from Nov 2016 to Nov 2017. Four workshops happened in Nov 2016 • Interactions <ul style="list-style-type: none"> - Research group meeting, multi-actor workshops, co-researcher workshops, pop-up labs, public online votes and comments. 	<ul style="list-style-type: none"> • The duration was 4 phases, each lasting 3 – 4 weeks. In phase 4, there were workshops which lasted around two hours • The open door and join method • Face2face interaction • Council visits community and built trust, e.g., street outreach, visiting local groups 	<ul style="list-style-type: none"> • 6 inquiry sessions from September to October 2018. Each of the sessions lasted some two and a half hours. • A diverse group of participants was encouraged to think and talk about well-being and health services for the elderly in their own homes • Several experts (called “commentators”) were invited to come and speak at some of the sessions
<p>WHO IS FACILITATING</p>	<ul style="list-style-type: none"> • NFC facilitated councils to achieve its goal by establishing a wider cross-sectoral group formed to take the project forward • NCF also played a key brokerage role that connected Nexus (public) and Open Lab (community) using living lab method to enable multiple stakeholders’ engagement 	<ul style="list-style-type: none"> • Camden council Health and Wellbeing boards • Partner Steering Group • FutureGov 	<p>An experienced Researcher (Susanne Martikke) was brought in by Shared Future CIC & ARC members to facilitate and document the process</p>

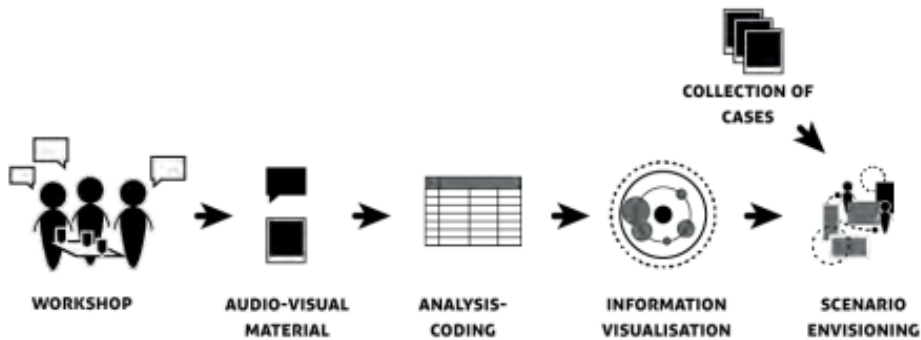
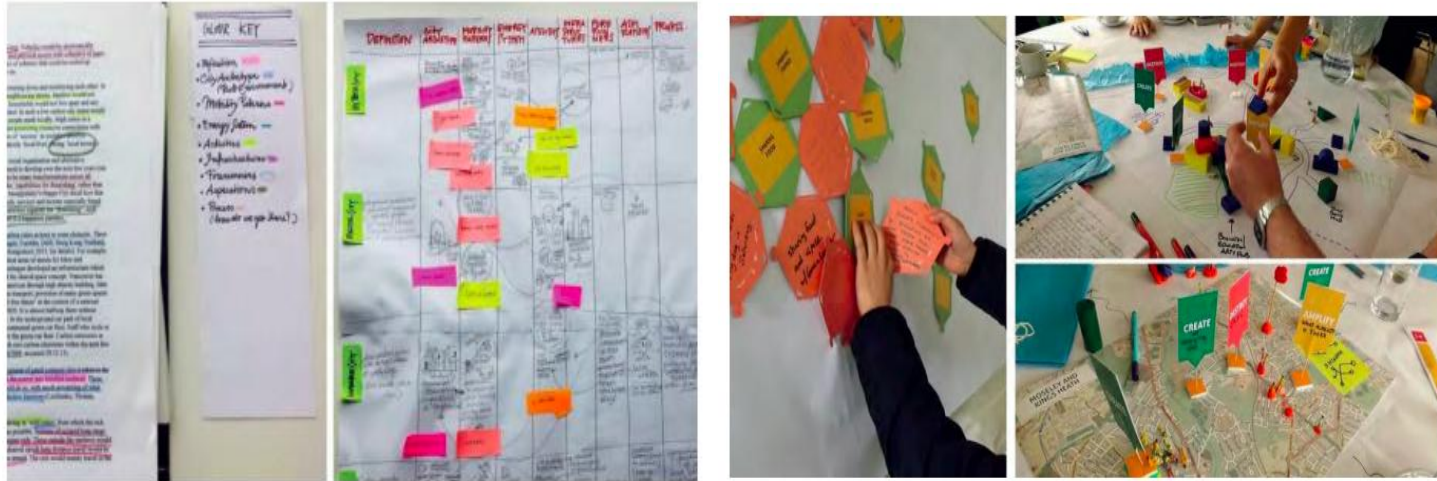
<p>CITIZEN PARTICIPATION</p>	<ul style="list-style-type: none"> • Participant selection: Macro level- Open Access and Recruiting. Micro level- Future Houses indicated the first and second level of inclusivity-Experts and Invited Stakeholders, whilst Metro Future showed the first and third levels of inclusivity-Experts and Open Access • Communication: Deliberative Communication • Decision-making: collaboration and/or expertise mode of decision making • Authority: <i>de facto</i> authority 	<ul style="list-style-type: none"> • Participant selection: Open Access + recruiting • Communication: two-way communication • Decision-making: both a collaborative and expertise mode of decision making • Authority: <i>de facto</i> authority 	<p>The Academia were in charge of the research project and codesigned most of the projects under JAM and Justice, with the full participation of the local government and the business.</p>
<p>WHAT IS THE ROLE OF OTHER QUADRUPLE HELIX ACTORS?</p>	<p>Other actors played a role in each NFC projects contributing to it through collaboration and co-creation</p>	<ul style="list-style-type: none"> • The Camden council Health and Wellbeing boards developed the project • Local government was utilised in providing expertise • There is a lack of influence from actors such as universities and local educational institutions 	<p>N/A</p>

LESSONS LEARNED

- The NFC case study testified the feasibility of QH and the OI2 is more compatible with the model where universities act as the core facilitator. It is important that we considered every actor group, but it is possible that actors may have different contribution or importance in the same project
- Consider other projects' workshop design: Lancaster liveable cities, Birmingham liveable city, Bristol Liveable city, and Future of Rochdale
- Methods for engagement: visual writing, participatory scenario making through workshops, Delphi survey
- Need to build trust and include experts
- push back the start of workshops to have a solid recruitment foundation
- run a couple of stakeholder meetings that could inform ideas and understand the project
- Semi-structured design that gave people the freedom to be responsive.
- Multiple entry point for people to join and leave.
- Blend expertise to make participation meaningful by valuing people's contributions.
- Connecting with formal policy and decision-making process

Appendix 2: Interactive methods used in the Lancaster case study

- Visual writing (left), participatory scenario making (right), and visualisation process (bottom)



Appendix 3: Programme for MARKETs Pilot on Cost-of-Food (18 July 2022)



Pilot: Cost-of-food Crisis Meet-up

Multi-Actor Research & Knowledge Exchange Teams (MARKETs)

An NTU - NCC Collaboration on Public Engagement

Monday, 18 July 2022 (11:00 – 13:00, MS Teams)

Programme	
11:00	Welcome, grab a cuppa and get comfortable
11:05	Introduction and short presentation: <ul style="list-style-type: none">• What do we hope to achieve with this meet-up?• What is a 'MARKET?'• What <i>is</i> the cost-of-food crisis?

11:15	Icebreaker: <i>What were you doing in 2019 before the pandemic?</i> <i>Please share something you do differently now.</i>
11:25	Activity 1: Challenge Matrix
11:55	Activity 2: Mapping Priorities <ul style="list-style-type: none"> • What is the most urgent action(s)? • Who needs to be involved, and how?
12:25	Plenary: We invite each MARKET square (break-out group) to report back and summarize their discussions about the matrix challenge and priorities mapping (5 minutes each).
12:45	Wrap-up activity: <ul style="list-style-type: none"> • I used to think . . . • But now I think. . .
12:55	Next steps and participant survey/feedback

Appendix 4: Table of results from feedback survey

<p>What is your level of knowledge / experience with the quadruple helix? (Please, select all that apply).</p>	<ul style="list-style-type: none"> • Little Knowledge • Previous organisational participation in quadruple helix collaborations
<p>What did you find most useful about today's meeting?</p>	<ul style="list-style-type: none"> • Looking at successful outcomes, • Curious to know how many organisations/individuals will come up with solutions, • Bringing together different players, • The urgency of the conversation, • Networking and Sharing amazing ideas/information between local government and civil society, • Productive breakout sessions, • Absence of business representatives, • Information of the food projects • Hearing views form other sectors – esp. community sector •
<p>What did you find most useful about today's meeting about applying the</p>	<ul style="list-style-type: none"> • Organised discussion • Bringing diverse actors together • Good turnout

<p>quadruple helix model to the cost-of-food crisis in Nottingham?</p>	<ul style="list-style-type: none"> • A lot of enthusiasm to developing a local plan to tackle the Cost-of-Living crisis • All actors working together and sharing information/ideas. Shared aims, values, and knowledge • Interested in seeing how to use Helix approach to develop all the ideas raised • Need to work collaboratively because no one sector has all the answers/resources to address the challenge
<p>What did you find least useful about today's meeting about applying the quadruple helix model to the cost-of-food crisis in Nottingham?</p>	<ul style="list-style-type: none"> • Nothing • Great meeting • All useful • Rare to get diverse actors in meeting of this nature but the Quadruple Helix model made this possible • Would have been good to get a business perspective • Lack of resources / strategic levers to make impact

<p>How can the meeting design be improved?</p>	<ul style="list-style-type: none"> • Face to face meeting would have given the opportunity for everyone to talk and not just in breakout rooms • In person rather than online • Same format but more time for discussion • Getting to know a bit of the background of participants • Brief bio of each participant and their why
<p>What do you hope will come of this collaboration in the longer term? What conditions are necessary for this collaboration to work well from your point of view?</p>	<ul style="list-style-type: none"> • Come up and deliver actual solutions • Communication and sharing of opportunities among actors • More partners included • Actions are taken forward • Follow up meetings to avoid losing momentum • Not a short-term crisis but a long term reality. • Equity of access to everyone should be the objective. • Objectives should be evidenced-based, realistic, and realisable • Need to continue and deepen this collaboration to identify specific actions to collectively get behind

	<ul style="list-style-type: none"> • Sustainable partnership between the four actors. • Clear communication of who takes the lead on the project • Better work coordination for better use of resources • Build models of good practice that could be adopted by anyone • Collaboration require trust among actors/partners, therefore need for time to develop effective network of partners
<p>Do you see any prospects for applying this quadruple helix model to other areas in Nottingham? If yes, then please elaborate on potential areas for collaboration. If no, please elaborate on why not.</p>	<ul style="list-style-type: none"> • There's a lot of potentials here • Health • Social care and wellbeing • Wider cost of living crisis including fuel poverty • Fuel poverty • Climate change • CN28 • Unicef Child Friendly City •

<p>If you are familiar with the quadruple helix model, please list examples of useful case studies which you have found informative and/or you believe can help inform the implementation of such a model in Nottingham.</p>	<ul style="list-style-type: none"> • FOSAC
<p>If there is any other information that you think would be useful to share with the research team, please leave it here.</p>	<ul style="list-style-type: none"> • Information on food bank use by wards is available, if needed • Contact details of people who would be willing to support/help could be forwarded • Representation from public health and faith-based groups would be helpful • Would be good to see MARKETS in use