



# Community-based sustainability initiatives: the quality of relationships matter?

E. Carmen<sup>1</sup>  · I. Fazey<sup>2</sup> · R. M. Friend<sup>2</sup>

Received: 16 May 2022 / Accepted: 26 February 2024 / Published online: 24 April 2024  
© The Author(s) 2024

## Abstract

The quality of relationships between different actors involved in community-based sustainability initiatives is central to their success. This study examines the role of the qualities of social relationships within 22 different community-based sustainability initiatives each framed round different types of sustainability challenges, from flooding and climate change to community development and youth engagement. Research involved 37 semi structured interviews, combined with visual techniques, to explore the qualities of different relationship from the perspective of actors actively engaged in developing and progressing initiatives with different communities across Scotland. A typology of relationship qualities (tense, pragmatic and supportive qualities) is presented and applied to examine the ways in which relationships shape the benefits that participants identify for these community-based initiatives. The findings show supportive relationship qualities, involving a sense of respect, integrity, honesty and opportunities to test out new ideas, are particularly important in sustainability initiatives, providing a diverse range of benefits. Relationship qualities can also shift over time, either relatively suddenly or incrementally. Some groups of initiative actors worked strategically with relationships, underpinning their relationship-based strategies with relationships with different actors dominated by supportive qualities to actively harness the benefits these types of relationships provide and strengthen the sense of community and shared interest surrounding initiatives. A focus on relationship qualities can therefore provide a more dynamic picture of how community-based initiatives unfold and adapt to increasingly complex challenges. Such an approach places human agency centre-stage, recognising the fundamental importance of shaping social relationships within community-based initiatives.

**Keywords** Relationship qualities · Sustainability · Community initiatives · Social capital · Relationship-building · Human agency

## Introduction

The wide ranging sustainability crises facing this planet are creating significant challenges for people at local levels (Celata et al. 2019). Sustainability challenges vary widely and are highly interconnected with other socio-economic issues. Many people are increasingly, for example, struggling to

make sense of their place in an increasingly volatile world and understand how to work effectively and across the diverse issues involved (Grenni et al. 2020). Working with these challenges at local levels requires action at different scales, including top-down approaches, such as creative and innovative policy and approaches (Scoones et al. 2020) as well as more bottom-up initiatives that can support local actors to realise change (Brondizio et al. 2021) and where more localised approaches can apply local knowledge and tailor action to address context and community-specific issues.

There are many aspects that affect the success of community-based initiatives in terms of their ability to progress towards their desired objectives (Forrest and Wiek 2015), such as the availability of resources and support (Castán Broto et al. 2019) and the capacities of the different actors involved (Carmen et al. 2021). A well established and

---

Handled by J. David Tàbara, Institute of Environmental Science and technology (IEST), Germany.

✉ E. Carmen  
esther.carmen@hutton.ac.uk

<sup>1</sup> Social, Economic and Geography Science, James Hutton Institute, Craigiebuckler, Aberdeen, UK

<sup>2</sup> Department of Environment and Geography, University of York, Heslington, York, UK

important element is the extent to which initiative actors<sup>1</sup> can develop and maintain relationships and thus collaborative endeavours (Johnson et al. 2015). While many studies highlight the importance of networks and relationships (Anderson and Schirmer 2015) and that relationships are often an important factor in driving the development of initiatives (Carmen et al. 2021; De Haan et al. 2020), as yet there has been very limited study of the quality of those relationships and how this then shapes the way in which initiatives unfold.

This study, therefore, aims to understand the different types of relationship qualities of actors working in community-based sustainability initiatives and how relationship qualities influence the different ways such initiatives develop. The work is based on interviews with initiative actors working in 22 diverse local sustainability initiatives from across Scotland. Our work enhances knowledge by providing: (1) a new analytical framework on the qualities of relationships; (2) new understanding of how different qualities of relationships shape initiatives; and (3) new insights into how initiative actors can build more effective relationships and thus how more effective community-based sustainability initiatives can be supported. We first explain the conceptual background to the work followed by the methods. The findings, in terms of the different qualities and how they shaped initiatives, are then explained. Finally, the discussion draws out the wider implications of the work to inform how community-based initiatives can be more effectively supported.

## Conceptual background

Whilst many factors are involved in shaping community-based sustainability initiatives across geographical settings (e.g. as set out in the community capitals framework) (e.g. Butler and Current 2021), the potential for social relationships to actively help shape how different initiatives unfold, and thus the importance of relationship building by the diverse actors involved is widely acknowledged (Emery and Bregendahl 2014). The role of social relationships is emphasised across the community sustainability literature as critical for organising collective action to respond to different types of challenges (Dale and Onyx 2010; Adger 2003; Wolfram et al. 2019; Rivera et al. 2019) and encompasses multiple sustainability problem domains, such as climate change (Wang et al. 2021; Wolfram et al. 2019; Pelling et al. 2008; Rivera et al. 2019; Keys et al. 2016), local economic development (Flora et al. 1997) and health (Im and

Rosenberg 2016), as well those targeting specific threats such as the exclusion of young people (Bassani 2007) and flooding (Wickes et al. 2017; Carrico et al. 2019; Flora et al. 1997; Im and Rosenberg 2016).

Predominantly, studies on social relationships and community sustainability action are framed around the concept of social capital. This broadly defines social relationships and networks as a resource that actors can draw on to shape different types of outcomes, facilitated by trust and norms of reciprocity (Field 2008). In this approach, social relationships are often considered as bonding, bridging and linking types of social capital and/or strong or weak ties that delineate in terms of homophily (or sameness) and heterogeneity (or difference) of the type of actors involved (Carmen et al. 2022). There has, therefore, been a strong focus on the types of actors involved within social relationships (e.g. Laycock and Mitchell 2019). There has also been a strong focus on outcomes, such as access to new information (e.g. Islam and Walkerdien 2015) and learning (e.g. Kilpatrick and Falk 2003). The content of relationships is a further dimension of social capital recognised as important, however, there is a strong focus on trust and expectations of reciprocity within social relationships (Torche and Valenzuela 2011; Richey 2007). Furthermore, empirically exploring relationship qualities in terms of trust has been shown to be problematic, particularly in a lack of distinction between trust as a quality of relationships, an outcome and/or in terms of wider socio-political contexts (Putzel 1997; Phillips 2016).

The dominant approach to social relationships within social capital and social network literature has generated numerous critiques. Firstly, overly simplistic approaches have been applied to examine social relationships with a strong focus on structural dimensions of social relationships that struggles to accommodate change within such social relationships (Carmen et al. 2022; Carrico et al. 2019; Rockenbauch and Sakdapolrak 2017). Secondly, direct benefits accruing at the relationship level and wider indirect collective outcomes that may emerge are often conflated (Phillips 2016). Thirdly, (as already stated) more nuanced approaches to relationship qualities is often lacking (Therrien et al. 2019). This has led to calls for process orientated perspectives to better explore how different dimensions of social relationships intersect through time and space (Naughton 2014). Doing so requires disaggregating the different dimensions of social relationships (including the different qualities involved) to then explore how different components of relationships and community sustainability initiatives interconnect. This is important for improving understanding about the role of different relationships qualities in shaping community-based sustainability initiatives and to inform relationship-based practice.

Social relationships are dyadic patterns of interaction that develop between individuals (Ferris et al. 2009). As these

<sup>1</sup> We use the term ‘initiative actors’ in relation to the core group of actors actively involved in developing community-based initiatives within different communities of place.

interactions unfold they create interactive spaces that facilitate exchange and (co)construction of different understandings about phenomena and the interconnections between them (Bernhard 2018). Such interactive spaces vary qualitatively, shifting and evolving over time to guide and inform collective action in different ways (Carmen et al. 2021). Exploring the qualities involved in shaping these interactive spaces is important, therefore, to unpack the role of social relationships within community-based sustainability initiatives and how those involved can develop and work through them to respond to complex challenges. Our aim, therefore, is to build our understanding of relationship qualities and their role for developing community-based sustainability initiatives.

## Materials and methods

### Approach

This research applied an inductive research strategy. It involved an interpretivist epistemology that allowed for the subjective nature of social relationships (Moses and Knutsen 2012) in combination with a modified version of grounded theory (Urquhart 2013; Charmaz 2008) to help avoid influence of preconceived theoretical ideas and underlying assumptions during data collection and analysis (Strauss and Corbin 1994). Reflexivity was also key for surfacing and examining diverse possible interpretations from the data within the analytical process (MacBeth 2001). Data collection and analysis was, therefore, an iterative process (see Fig. 1).

### Community-based sustainability initiatives

In this study, we adopt a wide definition of sustainability as being “*the long-term viability of a community, set of social institutions, or societal practice*” (Bevir 2007). In this view, sustainability includes intergenerational ethics (Groves 2019) and is viewed as a process of continual evolution, social learning and adaptation in response to changing perceptions of what is needed and wider changes (Voss et al. 2007). As such, we take the view of sustainability to be more than simply as an end goal (Salas-Zapata and Ortiz-Muñoz 2019). The focus of the study was then on community-based sustainability initiatives, which involve a wide range of efforts promoted locally, to enhance the social, economic, and environmental wellbeing and mitigate the various effects of societal patterns or the impacts of issues like climate change.

Community-based sustainability initiatives are defined as place-based, voluntary, collective endeavours led by actors (initiative actors) from within communities who, as a group,

seek to tackle local challenges to benefit the wider community (Celata et al. 2019; Igalla et al. 2019; Brondizio et al. 2021). These community-based initiative actors take the lead as primary decision makers and initiators of activities (Igalla et al. 2019). Such initiatives differ in the type and complexity of local sustainability challenges they seek to tackle, from a focus on a specific problem domain (e.g. responding to flooding, supporting local businesses or youth skills development) or adopting a more holistic approach with a foci on multiple problem domains (e.g. food, waste, energy within environmental sustainability initiatives). They also differ in the number of projects they choose to undertake and the type of funding for building their capacity and for progressing towards their desired goals.

The study was undertaken in Scotland where many different community sustainability initiatives are underway. Initiatives were selected based on the following criteria: 1. Initiative foci (to include initiatives focusing on a range of challenges spanning initiatives not limited to a single sustainability dimension) 2. Geographic location (to include initiatives located in different places across Scotland); 3. Context (to include initiatives located in rural and urban settings); 4. Different funding sources (to include initiatives more or less enabled by government funding); 5. Initiative size (to include initiatives tackling single and multiple projects); 6. Initiatives being driven forward by at least 3 community-based actors (defined as ‘initiative actors’); and 7. Initiatives that have been underway for a 1 year or more. Three entry points were used to gain access; 1. A Scotland wide community climate change (trans-local) network; 2. A Scotland wide programme of community resilience groups; and 3. The researchers’ network. From this, a referral strategy was applied to identified and access further initiatives. This led to the inclusion of 22 different community sustainability initiatives (see Table 1).

### Data collection and analysis

Data collection involved semi-structured in-depth interviews combined with visual methods (Pain 2012). 37 individuals were interviewed. Interviewees were invited to participate based on their active involvement within a selected initiative. Interviewees’ formal role varied with the scope and size of initiatives and included board members, managers overseeing specific projects or activities, coordinators driving forward projects and members involved in planning and implementation (see Table 2).

Semi-structured interviews were selected to explore the different types of relationships, their features, and their role within initiatives from the perspective of diverse actors who are actively engaged in building initiatives and pursuing outcomes within their communities. A topic guide was

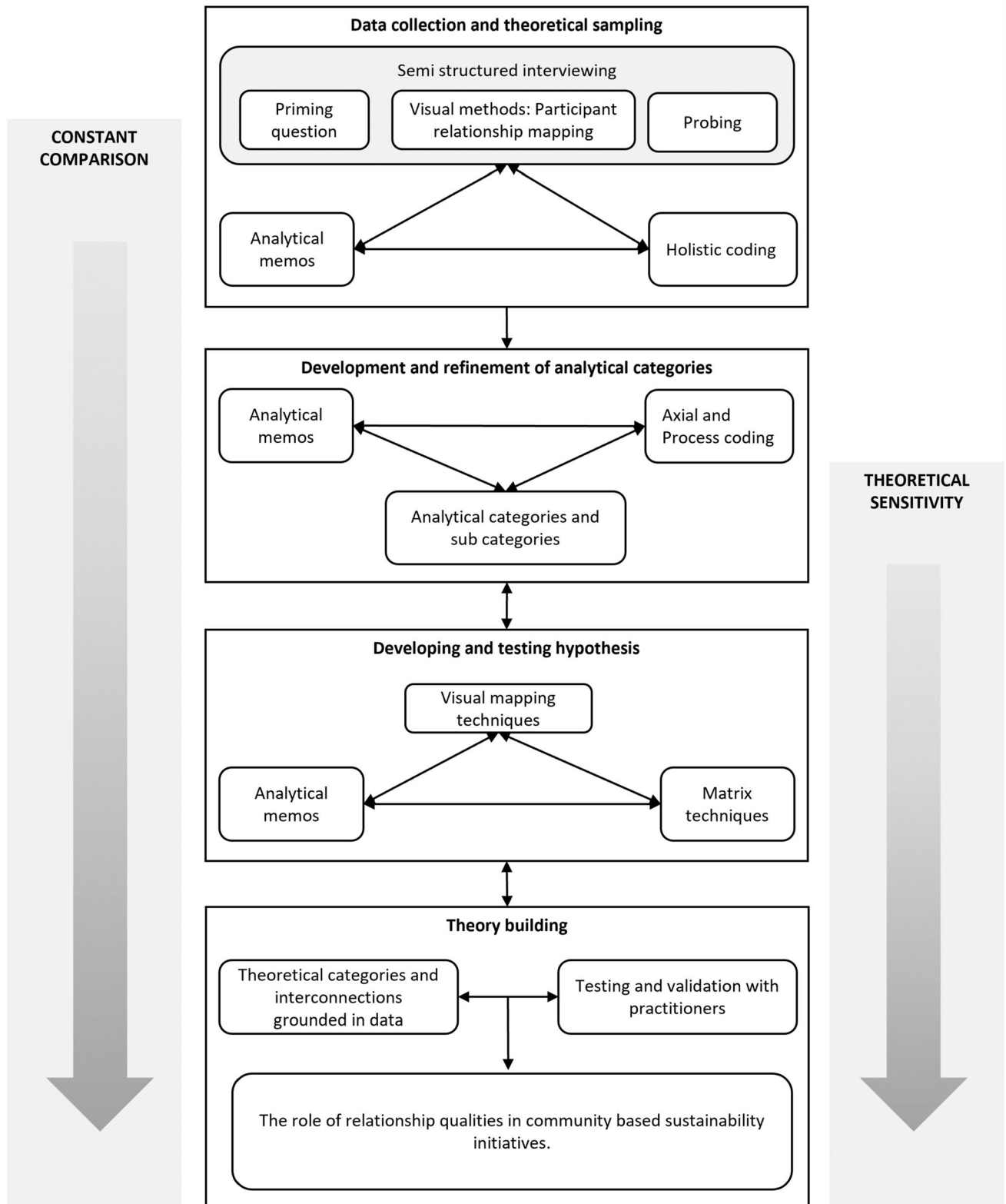


Fig. 1 Inductive research approach (drawing on aspects of grounded theory): moving from descriptive accounts to theoretical understandings

**Table 1** The different initiatives included in this study

Community sustainability challenge (initiative foci)	Initiative identifier	Number of projects within initiative	Type of funding sources
Responding to extreme weather events	Initiative 1	Single	Local government (small scale)
	Initiative 2	Multiple	Unfunded
	Initiative 3	Single	Local government (small scale)
	Initiative 4	Multiple	Local government (small scale) and external funding
	Initiative 5	Single	Local government (small scale)
Enhancing environmental sustainability (including climate change)	Initiative 6	Multiple	Multiple external (small scale)
	Initiative 7	Multiple	Multiple external and national government (large scale)
	Initiative 8	Multiple	Multiple external (small scale)
	Initiative 9	Single	External (large scale)
	Initiative 10	Multiple	Multiple external and national government (large scale)
	Initiative 11	Single	None
	Initiative 12	Single	National government
Community development <i>and</i> environmental sustainability (including climate change)	Initiative 13	Multiple	None
	Initiative 14	Single	National Government
	Initiative 15	Multiple	Multiple external and national government (large scale)
	Initiative 16	Multiple	Multiple national government funding (large scale)
	Initiative 17	Single	National government
	Initiative 18	Multiple	Multiple external (small scale)
Community development	Initiative 19	Multiple	External (large scale)
	Initiative 20	Single	None
Tackling specific local social or economic challenges	Initiative 21	Multiple	Multiple external (large and small scale)
	Initiative 22	Single	External (small scale)

developed, and a priming question sent to interviewees a day in advance to direct their attention away from trying to convey all the actors linked to their initiative towards identifying a few (i.e. no more than 6) key relationships to explore in depth during the interview. Visual methods entailed interviews being asked at the start of each interview to map the key relationships they wished to discuss. This was incorporated into interviews for two reasons. First, recognising that initiative actors would be keen to focus on the diversity of actors they have relationship with, developing relationship maps provided them a defined amount of time in the interview (in total usually limited to 1 h) to address this. This then enabled the focus of the interview to quickly move beyond more structural descriptions of relationships to explore underlying aspects that may be more difficult to articulate. Second, the relationship maps helped structure the subsequent interview and probing to explore the qualitative features of different relationships and their role in initiatives. Visual methods were therefore employed to help make best use of and structure the (often limited) time initiative actors were able to provide. Probing questions were used to

better explore a diversity of relationship types (i.e. not just relationships perceived as positive) and the feature and performative aspects of relationships (why relationships are perceived in different ways/what the actors involved do to bring about different types of relationships). Informed consent was obtained, and interviews were audio recorded. These methods led to data that included descriptive narratives of examples of different types of relationships within initiatives and their role. Data relating to internal relationships within the core group was not included in the subsequent analysis.

The interview data were transcribed verbatim and organised with the relationship maps using NVIVO software and then coded. The analysis involved three stages (see Fig. 2). The first stage (key components involved in the role of relationships for community-based sustainability initiatives) involved the development and refinement of analytical categories and subcategories using holistic and axial coding and analytical memos. The second stage of analysis (the role of relationship qualities in initiatives) entailed process coding (i.e. based on the specific examples of relationship qualities provided by interviewees), visual mapping and matrix

**Table 2** Interviewees and their formal role within the community initiatives

Initiative identifier	Interviewee type of involvement in initiative	Gender	Interviewee identifier
Initiative 1	Coordinator	Female	1Ca
	Coordinator	Male	1Cb
Initiative 2	Coordinator	Male	2C
Initiative 3	Coordinator	Male	3Ca
	Coordinator	Male	3Cb
Initiative 4	Coordinator	Female	4C
	Member	Female	4M
Initiative 5	Coordinator	Male	5C
Initiative 6	Coordinator	Female	6Ca
	Coordinator	Female	6Cb
Initiative 7	Board member	Male	7B
	Coordinator	Female	7C
Initiative 8	Coordinator	Male	8C
Initiative 9	Coordinator	Male	9C
Initiative 10	Coordinator	Female	10Ca
	Coordinator	Male	10Cb
Initiative 11	Coordinator	Male	11C
Initiative 12	Board member	Female	12B
	Coordinator	Male	12C
	Member	Male	12ME
Initiative 13	Coordinator	Male	13Ca
	Coordinator	Female	13Cb
Initiative 14	Coordinator	Female	14Ca
	Coordinator	Female	14Cb
Initiative 15	Board member	Male	15B
	Coordinator	Female	15C
Initiative 16	Manager	Male	16MA
	Coordinator	Female	16C
Initiative 17	Manager	Female	17MA
	Coordinator	Male	17C
Initiative 18	Manager	Female	18MA
	Member	Male	18ME
Initiative 19	Coordinator	Female	19Ca
	Coordinator	Female	19Cb
Initiative 20	Coordinator	Female	20C
Initiative 21	Coordinator	Female	21C
Initiative 22	Coordinator	Female	22C
Total number of interviewees = 37			

(B) Board member involved in project development; (MA) Manager involved in developing activities and overseeing delivery; (C) Coordinator involved in developing and delivering activities; (ME) Member of the group involved in undertaking activities

techniques to explore the connections between relationships qualities and the other components (identified in the first stage of the analysis) within the narrative examples provided by interviewees. The third stage involved holistic and axial

coding and visual mapping techniques to explore the different views of initiative actors on the factors involved in shaping the quality of their relationships.

Throughout the analytical process, analytical memos were developed and constant comparison and theoretical awareness used to support the inductive development of analytical categories (Bernhard 2018; Urquhart 2013). Reflexivity was a central part of the analysis that involved developing and rigorously testing different hypothesis (i.e. ways of understanding the data) (Alvesson and Sköldbberg 2018). Furthermore, initial findings were presented and discussed with a group of practitioners involved in developing learning networks for community-based sustainability initiatives. This helped refine theoretical categories and enhanced the validity of the inductively derived results.

## Results

There were three board categories of findings that closely follow the three stages of analysis (see Fig. 2). First are findings relating to the different components, including relationship qualities, involved in shaping the role of relationships in community-based sustainability initiatives. Second are findings relating to the role of relationship qualities for community-based sustainability initiatives. Third is the views expressed by interviewees on how different relationship qualities develop.

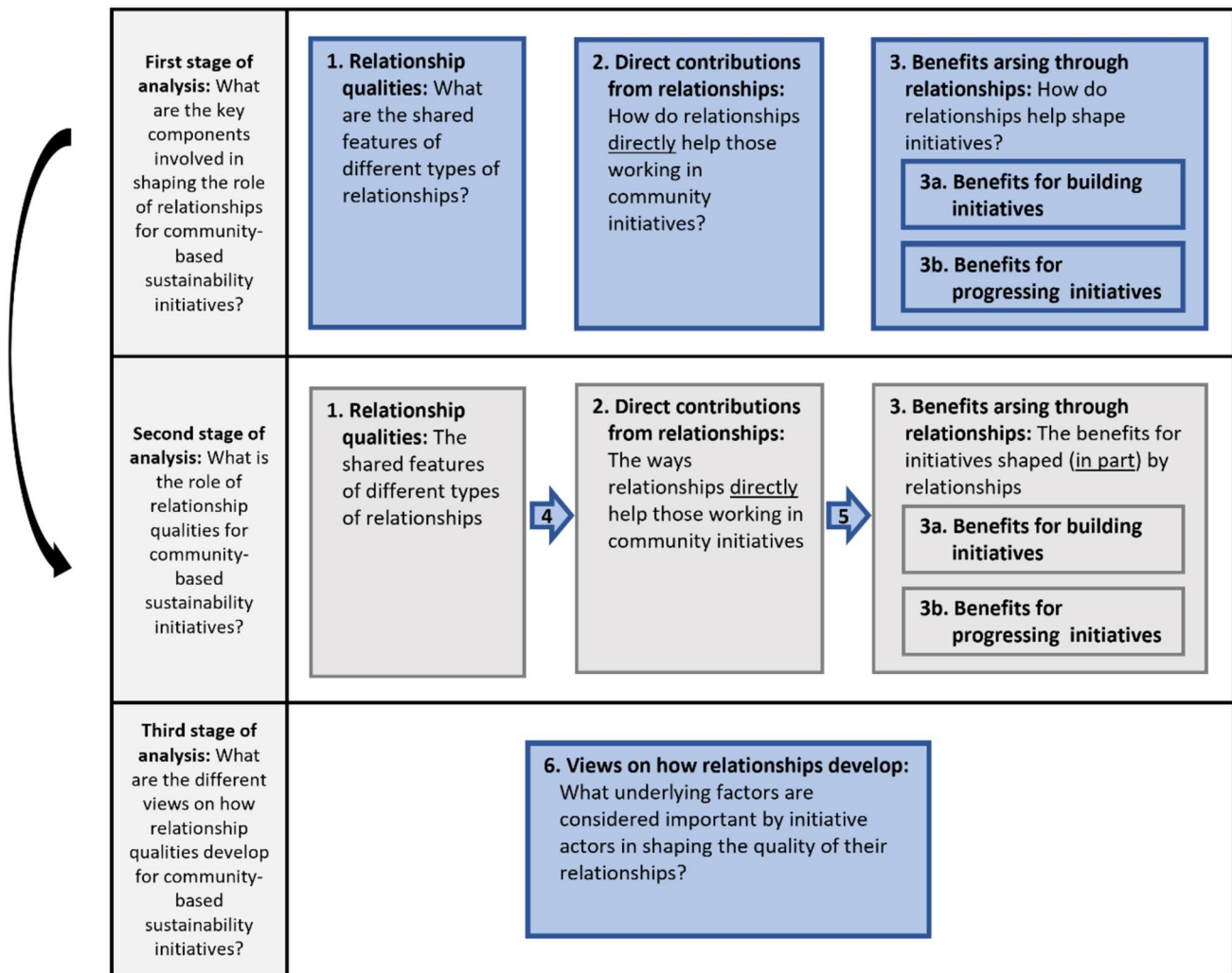
### Different components involved in the role of relationships for community-based sustainability initiatives

Three components involved in shaping the role of relationships for community-based initiatives were identified in the analysis. The focus within initiatives across these different components varied, with some initiative actors emphasising a more explicit focus on relationships qualities, whilst others had a stronger emphasis on relationship contributions and benefits for initiatives that arose. The three relationship-initiative components are 1. Relationship qualities; 2. Direct contributions from relationships to initiatives; 3. Benefits shaped in part by relationships (for building initiatives and for progressing initiatives).

### Relationship qualities and their dynamics

Three broad types of relationship qualities were identified. These are: tense qualities, pragmatic qualities and supportive qualities.

Tense qualities involved interactions that were emphasised by interviewees as unavoidable yet “difficult” (4C & 15C), “tense” (14Ca), involving “friction” (7B),



**Fig. 2** The three analytical stages

“confrontation” (13Ca), competitiveness, criticism and potential conflict. For example, some interviewees identified these types of relationships as feeling like “*World War II*” (6Ca), as “*toxic*” (10Ca) and with actors “*at loggerheads*” (4M) or “*horns locked*” (6Cb).

Pragmatic qualities involved ongoing interactions that were emphasised by interviewees as “*necessary*” (20C) and “*purpose driven*” (13Ca) yet asymmetric in the expectations of those involved. For example, interviewees emphasised relationships where some actors seemingly “[get] *quite a lot*” (7C) or “[we] *give them an awful lot more than they give us*” (3Ca). Some interviewees viewed such relationships as professional, formal or where “*you have to be pragmatic*” (10Ca), with another interviewees emphasising such relationship as providing the opportunity to “*challenge [different perspectives] but we’ve got to do it the appropriate way*” (2C). Some interviewees also emphasised that such pragmatic qualities could also involve inauthenticity and

may feel “*paternalistic*” (4C) with a need for diplomacy and negotiation.

Conversely supportive relationship qualities involved qualities identified by interviewees as “*easy*” (7C), “*positive, respectful and [with] integrity*” (6Cb) “*open and honest*” (15B). Such relationships were viewed as helpful, involving “*synergy*” (19C & 22C) and “*sharing*” (4C). These relationships were emphasised by interviewees as ongoing interactions involving genuine equals working together to create space to explore, challenge and test out new ideas.

Analysis also identified the changing nature of the quality of some relationships. This entailed shifts and fluctuations through time as situations and wider circumstances changed, as one interviewee highlighted “[the relationship] *started to change after that*” (4C). Many interviewees emphasised the importance of steadily building relationships over time, some, however, highlighted a more rapid shift in the quality of some relationships, for example from pragmatic to

**Table 3** Types of contribution directly from relationships for initiative actors

Contribution types	Content
Knowledge	Contextual knowledge (about the wider system); Know-how (skills); Formal knowledge products (reports, guidance, etc.); New ideas; Technical knowledge (on specific bio-physical phenomenon); Knowledge about unknown actors/networks
Psychological	Enthusiasm/inspiration; Solidarity/encouragement; Reflecting on bigger picture; Recognition; Empathy
Gatekeeping	Introductions/recommendations; Invitations; Permissions/backing; Media platforms
Physical	Physical spaces; Equipment/facilities; People/manpower; Financial resources

supportive qualities, or from tense to pragmatic qualities. This led one interviewee to comment “*there was a small group of people who were quite hostile*” (14Ca) “*we had to win [them] round... it has got much, much better.... we sat down and talked and people built up relationships.... [and] it was fine*” (14Cb). Interviewees also identified instances where the quality of relationships had fluctuated over time, often beginning with a deterioration in their quality. This led interviewees to comment: “*at the moment this relationship is tenuous*” (3Ca), “*it became more confrontational*” (13Ca) and “*I think it harmed [the relationship]...now we try to communicate better...we’re so careful with each other now... because it would be awful not to have that relationship*” (7C).

#### Direct contributions from relationships for initiative actors

The second component identified in the analysis were contributions that arise directly from the ongoing interactions between actors that are involved in relationships. This involves four types of contributes: Knowledge; psychological; gatekeeping; and physical contributions (Table 3).

Knowledge contributions includes contextual knowledge (about the wider system such as general operational aspects of different organisations or funding opportunities), formal knowledge (i.e. documents), technical knowledge (i.e. on biophysical factors) and knowledge of previously unknown actors and networks (i.e. to potentially connect with). For example, one interviewee highlighted “*we obviously want to be informed about issues and we have people [we]... can call upon...to advise us and to inform us....[and] we could always get somebody to run a course on something, whether it’s marketing or social networking or... gardening*” (7B). Psychological contributions entails encouragement, empathy, enthusiasm, recognition and reflection and being “*inspired*” (16C), as one interviewee highlighted “*if I’m feeling a bit low she will motivate me again.... she’s just always so enthusiastic and recognises what we’re trying to achieve and then gives me the motivation to keep going*” (18M). The third type of relationship contribution is gatekeeping. This involves the ability to access people and spaces, as one interviewee emphasised: “*They open doors that maybe*

*wouldn’t have been open before*” (14Cb). Finally, physical contributions from relationships were also identified, involving equipment, manpower and financial donations, which one interviewee highlighted in terms of “*utilitarian, practical relationships because they provide venues sometimes or facilities, equipment*” (13Ca).

#### Initiative benefits shaped by relationships

Different types of benefits for initiatives linked (indirectly) to social relationships were also identified in the analysis. Such benefits relate to two dimensions of initiatives. First are benefits for building initiatives (i.e. that enhance internal operational aspects of initiatives). Second are benefits for progressing initiative aims (the outcomes from initiatives that relationships, in part, bring about) (Table 4).

Benefits for building initiatives arising (in part) from social relationships highlighted by interviewees were those that enhanced existing or future activities within initiatives. This includes benefits that: 1. Develop future activities (e.g. funding proposals and formalising processes and procedures); 2. Build physical capacities (e.g. new spaces and manpower); 3. Build relationships with new actors; and 4. Provide new insights to inform future activities. For example, as one interviewee underlined: “*it’s ....bring[ing] potential partners together to help to facilitate the development of a project. Bring the right people together, then have them sort of create—develop—the project. Then you get the funding. You don’t just think, let’s get some funding as some people think....You create the project with the right partnership*” (15B). Such benefits for building community-based sustainability initiatives were highlighted by all interviewees as arising through their relationships with other actors.

Benefits for progressing initiatives in terms of the local sustainability challenges initiatives were framed that arose (in part) through social relationships relate to three types of benefit. First, spreading ideas to greater numbers of people. Second, benefits that relate to influencing formal decisions of policy actors, as one interviewee highlighted: “*there’s the need to establish the relationship so we can influence them*” (13Ca). The third relates to shifting how issues and connections between people were viewed to help



**Table 4** The different types of initiative benefits arising, in part, from social relationships

Types of initiative benefits linked with social relationships		Description
Benefits arising through relationships for building initiatives	Organising future activities	New funding proposals, projects and formal processes developed
	Creating physical infrastructure and securing labour	New spaces, infrastructure developed and greater availability of manual labour
	Building new relationships	Connections created by initiative actors with new actors (e.g. where no relationship existed previously)
	New insights about how to enhance the role of social relationships for initiatives	Better understanding about to improve social relationships for community-based sustainability initiatives
Benefits arising through relationships for progressing initiatives	Spreading ideas to greater numbers of people	Disseminating information and creating more widespread awareness of key sustainability issues within a community
	Influencing formal decision making	Altering official decisions that are perceived to be hindering sustainability within a community
	Shifting how sustainability issues and people are viewed	Creating new insights about sustainability (e.g. temporal and spatial connections) and connections between people
	Creating physical aspects of a community	Altering or creating new physical aspects within a community

progress initiatives towards their aim. This led one interviewee to emphasise a relationship that helped bring about new insights for local children: “*there's real learning going on there. It's really making kids think about that.... about natural selection...trees and ...climate change... we're looking at critical thinking.*” (6Cb). The fourth type of benefit for progressing initiatives involves creating physical assets within a community, as one interviewee emphasised “*if I wasn't there [working with people] there's no way we would have got so far in all this stuff [for the community].... [they would have] jogged along, [for example] made enough to run the Christmas party. But....[now] we've got phase one affordable housing*” (20C).

### The role of relationship qualities in community-based sustainability initiatives

The second category of findings focuses on the way different relationship qualities intersected with the direct contributions arising from relationships for initiative actors and the benefits that emerged through these processes for building initiatives and/or for progressing towards tackling local sustainability challenges.

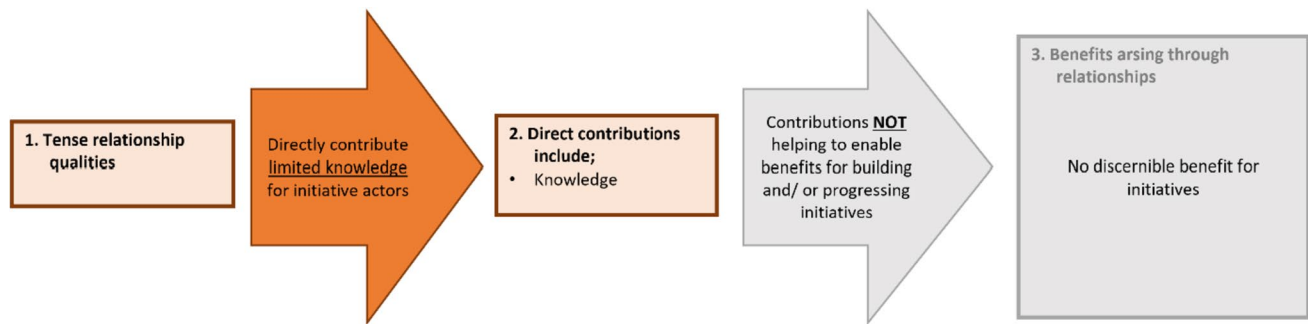
#### Role of tense relationship qualities

Tense relationship qualities were connected by interviewees in the examples they provided with contributing limited knowledge and of little help for building or progressing the community sustainability initiatives they were involved with

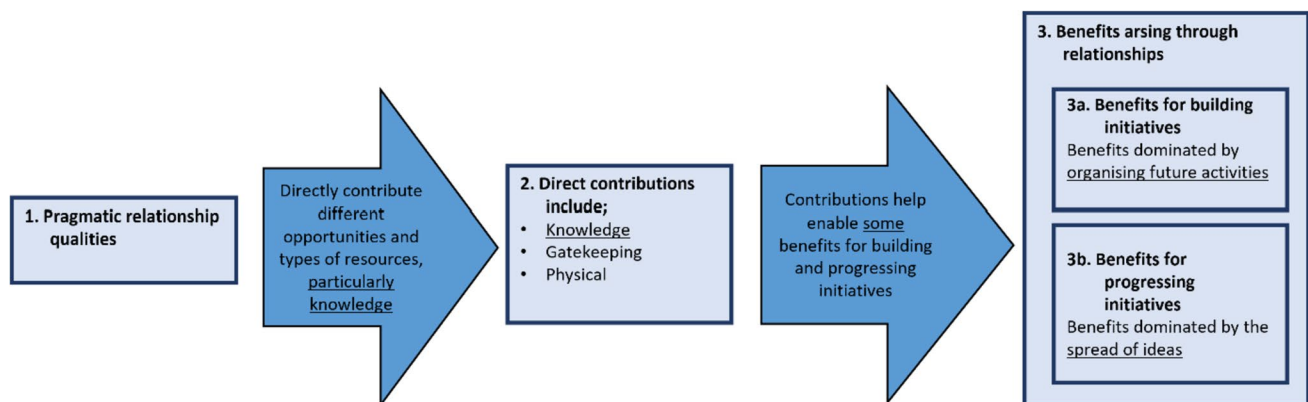
(Fig. 3). For example, one interviewee talked about a tense relationship that had developed with another local community group: “*there was an attraction to me with this [community group]...[but] I'm deliberately staying away from the meetings at the moment to let the dust settle. So yeah, that's a bit of a difficult relationship.... I got an indication of what they think when the local Co-Op were looking for funding to local groups... somebody said 'what about the resilience group?' and.....the secretary [of this group] went 'oh forget the resilience group'.... [and] you kind of think 'ooh that's a bit nasty.'.... I'm kind of a bit disappointed....because they know I'm struggling*” (3Ca). Interviewees emphasised these types of relationships as a “*barrier*” (16C) and a “*hindrance*” (6Ca) to action and “*draining*” (3Ca) for initiative actors. As another interviewee highlighted: “*what went on was quite brutal and savage and almost did for [our initiative]. ... [a few people] stirred it up, so the planning application was scuppered so that [idea] went down the pan..... And [it] did [us] a lot of damage*” (10Ca).

#### Role of pragmatic relationship qualities

Interviewees emphasised the role of pragmatic relationship qualities as involving a variety of different contributions for initiative actors. Many interviewees emphasised knowledge contributions, from skills and expertise related to a particular action domain (e.g. cycling) to contextual knowledge (e.g. about new funding sources) with some interviewees also emphasising gatekeeping and physical contributions unfolding directly through relationships with



**Fig. 3** The role of tense relationship qualities in community-based sustainability initiatives



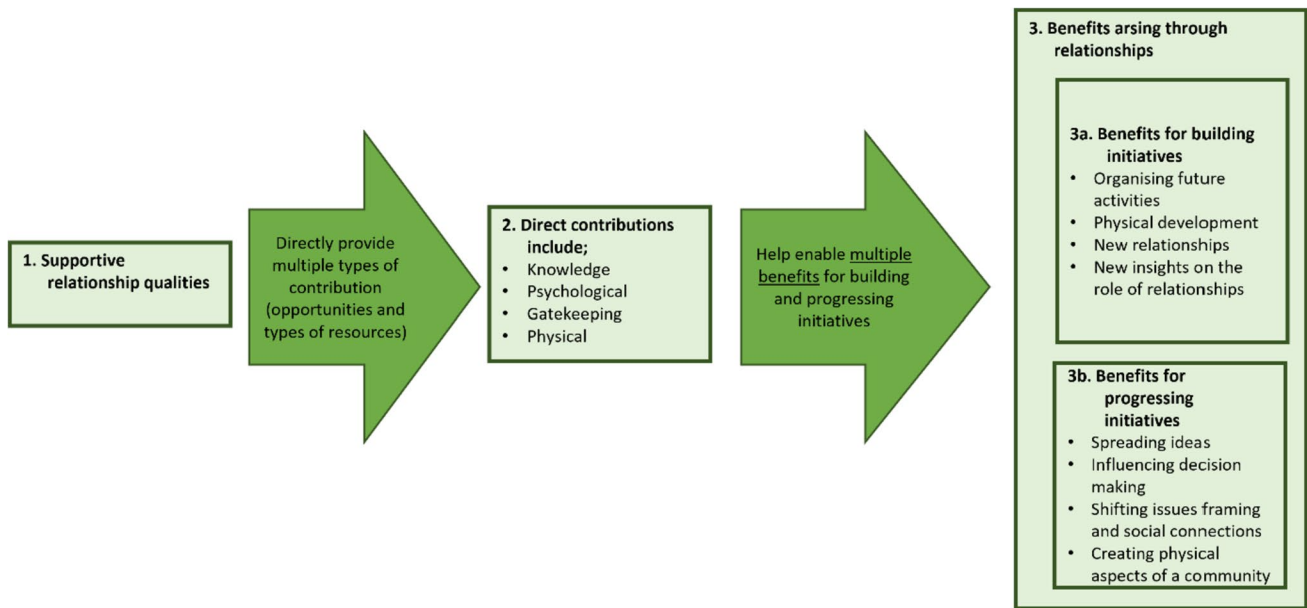
**Fig. 4** The role of pragmatic relationship qualities in community-based sustainability initiatives

pragmatic qualities (Fig. 4). For example, one interviewee commented about these types of relations: “[these] are one bunch of [relationships] in that they are people that are required to be interested in us if we’re going to access expertise that we don’t currently have. And also, they are gateways to funding and make you know they will define how we access this funding. ....[the actors involved] are accepting [the relationship] as a necessity, some of them, but just some you know, they’ll walk the other way” (20C). Interviewees highlighted that this combination of contributions from pragmatic qualities helped enable some benefits for initiatives. In particular this involved benefits for building initiatives, with a strong emphasis on organising future activities (e.g. new funding proposals). While such benefits did include the development of new relationships and gaining new insights, these benefits were often orientated towards how to attract and involve more people in initiative activities and to help progress initiatives by spreading ideas. As one interviewee highlighted: “we have good relationships with the people you want to be working with...[It’s about] keeping the relationship going, even though you might not want anything from each other at the moment. ....[for example this relationships is] quite key

because again, they introduced us to a large network of people that we might not have worked with before” (15C).

### Role of supportive relationship qualities

Supportive qualities were identified by interviewees as directly leading to a wide range of knowledge, psychological, gatekeeping and physical contributions. For example: “you go to her with an idea, she’ll go and like ‘try this’ or like, you know, if I went to her and ‘we want to start a project that does this’ then she’ll get you the information you need ... She’ll come along to our events to support [us]... she’s just quite positive....When you say we want to do something instead of saying ‘that’s a terrible idea, we’re not going to do that’. She’s quite like ‘oh, well let’s find out if that can be done’” (7C). In turn, interviewees highlighted various benefits that arose (in part) from supportive relationship contributions for building initiatives and for progressing initiatives towards their objectives (Fig. 5). Benefits for building initiatives involved a strong focus on organising future activities and developing physical assets (e.g. acquiring land to create a community garden) but also included developing new relationships and new insights about working with



**Fig. 5** The role of supportive relationship qualities in community-based sustainability initiatives

**Table 5** Views on how different relationship qualities develop

View of how relationships develop	Explanation	Perceived connection to the development of different relationship qualities
Individual attitudes and behaviours of interactants	Perceptions towards and actions of individuals within interactions with other actors	Tense, pragmatic or supportive qualities
Shared concerns between interactants	Presence of shared goals between actors	Supportive or pragmatic qualities
Institutional context of interactants	Collective expectations (i.e. social norms) towards and resources available for developing relationships within an organisation or sector	Supportive (shared context) or Pragmatic qualities (different contexts)
Selective action of initiative actors	Initiative actors’ exploration and pursuit of opportunities for building relationships that are likely to lead to supportive qualities	Supportive qualities

relationships (i.e. through insights developed on the greater potential afforded by supportive qualities than pragmatic and tense qualities). Benefits for progressing initiatives identified by interviewees that arose involved spreading ideas, creating greater interconnected understandings of the social and environmental dimensions linked with local sustainability challenges, for example between the social-ecological context of a place and climate change outcomes, influencing formal decisions and creating new collective spaces within a community. This was illustrated by an example provided by one interviewee: “we are gaining new [relationships and] the momentum is gaining...it's personally made me grow.... [with] quite a lot of personal development in terms of sustainability and climate change...[for example a supportive relationship with a council officer] brought us to organisations like [organisation name] ..... who ended up doing two pilot [projects] and we were one of them...[that was] really

exciting, really interesting, I don't know anything about that, [and it brought] people in who don't normally have a conversation about climate change... [this relationship is] quite flexible and open....and that is why it felt like a partnership” (6Ca). This led interviewees to emphasise that relationships with supportive qualities were “energising” (3Ca) and “empowering” (4C and 16C) that helped initiatives and other community actors to better understand and respond to local sustainability challenges.

**Views about how different types of relationship develop**

Finally, the analysis of the role of different relationship qualities also identified different views held by initiative actors about how social relationships developed (Table 5). First, many interviewees highlighted the importance of the

attitudes and behaviours of actors within interactions for shaping the quality of different relationships. In terms of supportive relationship qualities, this led interviewees to comment “*I admire his energy*” (7Ca) and “*he is a very good communicator, he is unassuming, he listens*” (14Cb). Second, shared concerns were also identified by interviewees as a key factor in shaping the quality of different relationships, for example “*a common interest*” (14Ca) about protecting the environment and the role of formal decision making in achieving this. Third, many interviewees highlighted the role of the wider institutional context (e.g. social norms) of interactants as another factor that shapes relationship qualities, particularly in the development of pragmatic and supportive qualities. For example, some relationships with actors from local government, as one interviewee commented “*that officer was relatively new to the council, so, it may be that he hadn't got steeped in the Council's culture [yet]*” (13Ca) or “*the third sector [which] is very open ...[and] all [about] partnership working....It's not the commercial back-stabbing*” (15B). Whilst the emphasis varied, these different views were relatively widespread across initiatives.

Finally, there was also an emphasis from within a few initiatives of initiative actors themselves taking a selective approach to building relationships, where relationship building opportunities were assessed on their potential to lead to relationships with supportive qualities. This led one interviewee to comment: “*what I have kind of done is define people that are willing to be involved with you and work with them*” (6Cb) and “*we kind of thought, well that is not the kind of door we want to go through [to build a relationship] so we'll just [focus on] the other ones, then that has brought these other relationships of importance*” (6Ca). Lastly, some interviewees also expressed confusion about how some relationships developed, particularly those with tense qualities, as one interviewee commented: “*This is just my impression [on what happened] ... [but] I don't know*” (3Ca).

## Discussion

This study examined relationship qualities and how these may influence how community-based sustainability initiatives unfold. From this study, we identify three different components involved in connecting the relationships of initiative actors to the development of community-based sustainability initiatives. These are: 1. Relationship qualities; 2. The contributions directly arising from social relations; and 3. The benefits for building and progressing community initiatives that relationship contributions, in part, bring about. Relationship contributions were diverse and various benefits were linked to social relationships within initiatives. Three broad types of relationship qualities were identified: tense qualities, pragmatic qualities and supportive qualities,

however, the explicit focus on the quality of relationships varied, with actors within some initiatives expressing a much stronger focus on the actors and potential benefits that may arise. Whilst the qualities of some relationships could be stable, in some instances the quality of relationships shifted, either gradually or quite rapidly as situations changed. Examining the links between these components revealed that supportive qualities, with their diverse contributions, provided more opportunities for initiatives to build (i.e. to expand on the activities undertaken by and networks of initiative actors) and make progress in relation to their different objectives. Four different views held by initiative actors about how relationships with different qualities came about were also identified. These are: the attitudes and behaviours of the actors within interactions; shared perceptions of common concerns; the institutional setting of actors (e.g. in terms social norms and resource distribution); and the selective actions of initiative actors to reflect on and choose some opportunities to pursue relationships over others (e.g. those with the potential for supportive qualities). These findings provide three key insights for research and practice.

First, supportive relationship qualities have an important role in community-based sustainability initiatives in terms of their flexibility. This study demonstrates the diverse contributions that arise from supportive qualities increase the potential of these relationships to shape multiple benefits for building the internal dimensions of initiatives and benefits for progressing initiative objectives. In contrast, tense qualities provided very limited contributions with no discernible benefits for initiatives and pragmatic qualities, although associated with more diverse contributions, were linked with far fewer benefits for initiatives. Supportive qualities therefore afford greater flexibility for engaging with local sustainability challenges. Studies on community initiative have shown that some relationships can hinder the ability of initiatives to pursue their aims, and, in some instances, can contribute to perceived sense of failure within initiatives (De Haan et al. 2020; Meijer 2020). Adaptability within sustainability initiatives is important for navigating the complexity of different challenges (i.e. with challenges that are affected by and affect multiple different actors and span multiple problem domains)(Voss and Bornemann 2011; Voss et al. 2007). This study shows the relevance of the quality of relationships within community-based sustainability initiatives and, particularly, a focus on developing supportive relationships qualities which provide opportunities to explore and test out ideas, creating opportunities for shared reflection, increasing flexibility within initiatives whilst also helping to empower and energise the actions of initiative actors. Supportive relationship qualities can therefore also strengthen the agency of initiative actors. Human agency is recognised as critical for community-based sustainability initiatives

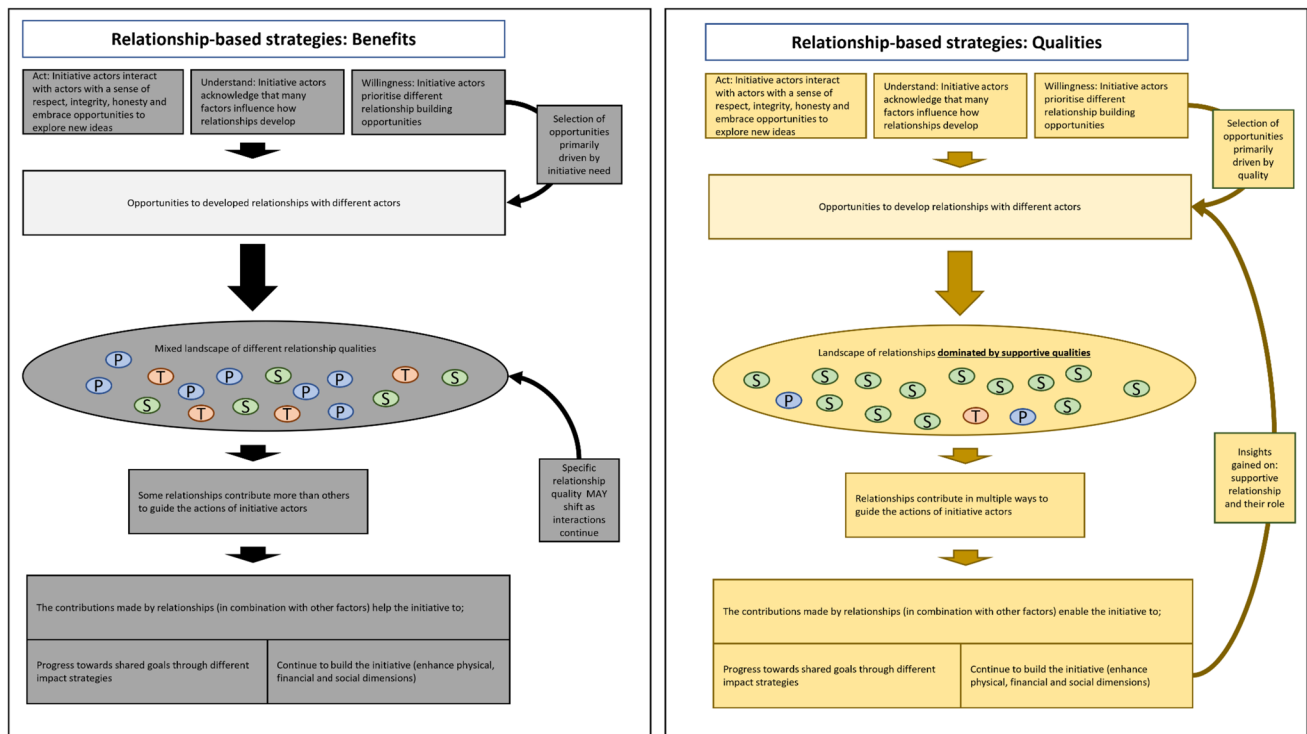
(Newman and Dale 2005) and is closely connected to social relationships and the network structures they form (Burkitt 2016; Westley et al. 2013; Bodin and Crona 2008). However, within the social capital literature, human agency is poorly reflected both theoretically and empirically (MacGillivray 2018). This study, however, shows how relationships involving supportive qualities can increase the agency (and thus capacity) of actors involved in developing community-based sustainability initiatives for tackling different sustainability challenges. The limitations of some types of relationship (e.g. with pragmatic and tense qualities) also draws attention to an important practical implication, namely the need for initiative actors themselves to embodying the types of qualities they seek to develop and sustain, for example through respect, integrity and honesty to create equal interactive spaces of exchange to foster and sustain relationships underpinned by supportive qualities.

Second, a focus on qualities is important for bringing to the fore the dynamic nature of social relationships and the role of human agency in how different types of relationship develop. This study shows that the institutional context of the interactants can create expectations on the type of relationship qualities that may develop between different types of actor (e.g. pragmatic relationship qualities between initiative actors and actors embedded in local government). However, the focus on relationships qualities highlights the potential for divergence between actors' behaviours and others expectations in terms of institutional context (e.g. supportive relationships developing between actors from different institutional settings). Within the social capital literature and in terms of relationship building practice, however, there is often a strong focus on the type of actors involved (e.g. local authorities) (Carmen et al. 2022; Christens 2010). This study, therefore, shows how a focus on relationship qualities, rather than solely on the type of actors and institutional settings involved, brings to the fore the role of human agency in how different types of relationships emerge and shift. Whilst human agency is understood as key for guiding different actions and outcomes (Pelenc et al. 2015; Kern 2015), there have been calls for more nuanced examination of the connection between agency and social relationships in shaping what does (and does not) unfold within different spaces and contexts (Naughton 2014) and to better understand how actors can work through relationships to overcome barriers to social action (Ling and Dale 2014). There have also been calls to move beyond the static view of social relationships that empirical social capital studies tend to currently (re) create (Rockenbauch and Sakdapolrak 2017). This study, therefore, suggests that a focus on qualities can help provide a more dynamic understanding of relationships for community-based sustainability initiatives and can help guide more effective relationship building strategies.

Third, an approach to relationship-building that explicitly focuses on supportive relationship qualities involves collective agency of and learning by initiative actors. Collective agency entails a shared commitment towards a particular goal that shapes how a group of actors relate to a social context, and has been shown to be a key factor in enhancing the capacity of sustainability initiatives for affecting social action (Pelenc et al. 2015). Collective agency within an initiative can be directed towards relationship building. This study shows that this collective agency can entail a focus on qualities rather than the benefits that may arise. A qualities-based approach involves initiative actors explicitly seeking insights on the potential for supportive qualities as they interact with different actors, thus helping them select opportunities to pursue. New insights gained in the context of social relationships is linked to the concept of experiential learning,<sup>2</sup> which is recognised as an important dimension for progressing sustainability initiatives (Van Poeck et al. 2020; Pelling et al. 2008). This study highlights the link between learning and relationships, showing that learning through relationships can provide new ideas to strengthen benefits for progressing initiatives in terms of an ability to engage people in initiatives activities, as multiple studies have shown. This study shows that learning through relationships can also be directed towards strengthening relationship-based approaches for building a landscape of relationships based on quality. From this study, therefore, two distinct approaches to relationship building within initiatives are discernible (see Fig. 6).

This study provides useful insights, therefore, on the enabling dimensions of relationship qualities (particularly supportive qualities) and how a focus on qualities can help maximise the role of relationships through a focus on building the quality of relationships. Community-based sustainability initiatives involve and are shaped by many factors, in terms of how they unfold, what emerges more widely and how, and the impact created by initiatives within a community. For example, initiatives may have been influenced by government programmes (Celata and Coletti 2019), or may be at different stages (e.g. emerging or established) or adopt different initiative building strategies (expanding existing activities or extending to take on new types of activities/issues) (Murphy 2007). How relationships interact in terms of these other initiative factors was beyond the scope of this study but could inform future research about the dynamic connections between relationship qualities and community-based sustainability initiatives and how relationship building strategies need to potentially evolve.

<sup>2</sup> Here we define learning as a cognitive process which occurs through some form of change in a persons' understanding of the world and their relationship to it.



**Fig. 6** Different relationship-based strategies and practical implications for community sustainability initiatives (S = Support relationship qualities; P = Pragmatic relationship qualities; T = Tense relationship qualities)

Many such factors have been examined in other studies on community-based sustainability initiatives (e.g. Carmen et al. 2021; Celata and Coletti 2019; Abdul Hamid et al. 2016; Forrest and Wiek 2015; Feola and Nunes 2014). However, four specific areas for future research could build on the findings of this study. First, the varying role of institutional (socio-cultural) context is highlighted in this and other similar studies on community initiatives and social relationships (Carmen et al. 2021, 2022). Examining the role of institutional (socio-cultural) context in terms of the development relationship qualities across different institutional settings is useful considering the complex nature and diverse actors that affect and affected by community sustainability challenges (Voss et al. 2007). Second, while community-based sustainability initiatives aiming to tackle a range of different local sustainability challenges provided the context for this study, examining the role of different foci and overall development approaches adopted by initiatives was beyond the scope of this study. Third, exploring relationship qualities within other settings could strengthen understandings on the link between relationship qualities and collective action, for example at other levels of governance. Lastly, this study applied a broad yet anthropocentric stance of sustainability (i.e. from a strongly social rather than social-ecological perspective). Drawing on socio-ecological systems and ethics of care literature (i.e. in terms of human and non-human

elements and processes) could also build on these findings and provide an interesting area for future research for continuing to advance our understanding about working to strengthen human–nature relations.

## Conclusions

Relationships are widely recognised as a core dimension of community-based sustainability initiatives. Critically, however, there is a need to consider the qualities of these relationships—and how different types of relationships can contribute to how such initiatives operate and the contributions and different benefits for initiatives that they are able to deliver. Greater attention to developing supportive qualities, rather than tense and pragmatic relationships or the benefits that may arise, can help community-based initiatives to strengthen the role of social relationships and to adapt to changing circumstances and needs. Overall, these findings show how relationships can enhance human agency, the importance of human agency in how relationship qualities develop and how their role unfolds within different initiatives and across contexts in practice. Combining collective agency focused on relationship qualities and experiential learning can enable initiative actors to selectively work with and through relationships to create multiple relationships

dominated by supportive qualities and involving a diversity of actors. This helps to shift attention towards relationship building as an active, selective process that can inform and strengthen the role of relationships and their qualities to create more supportive, flexible social environments to help sustain, build and progress initiatives over time. This study also indicates that a focus on relationship qualities, instead of the type of actors and expected benefits involved, could also provide a useful entry point for building more dynamic understandings of the role of social relationships within community-based sustainability initiatives. This more nuanced understanding of social relationships, their qualities and role can also improve our understanding about how actors embedded within communities and seeking to affect change can work together through social relations to unlock their potential to better engage with local sustainability challenges.

**Acknowledgements** This research was funded by the UK Economic and Social Research Council award number ES/J500136/1.

**Open Access** This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit <http://creativecommons.org/licenses/by/4.0/>.

## References

- Abdul Hamid AS, Marzuki NA, Ahmad NA, Ishak MO (2016) Social capital and community cohesion: the constitution of community social capital in Malaysia. *Int Rev Manage Market* 6(8):108–112
- Adger WN (2003) Social capital, collective action, and adaptation to climate change. *Econ Geogr* 79:387–404
- Alvesson M, Sköldböck K (2018) *Reflexive methodologies: new vistas for qualitative research*. Sage, London
- Anderson C, Schirmer J (2015) An empirical investigation of social capital and networks at local scale through resistance to lower-carbon infrastructure. *Soc Nat Resour* 28:749–765
- Bassani C (2007) Five dimensions of social capital theory as they pertain to youth studies. *J Youth Stud* 10:17–34
- Bernhard S (2018) Analyzing meaning-making in network ties—a qualitative approach. *Int J Qual Methods* 17:1–11
- Bevir ME (2007) *Encyclopedia of governance*, vol 2. Sage Publications, Thousand Oaks, CA
- Bodin O, Crona B (2008) Management of natural resources at the community level: exploring the role of social capital and leadership in a rural fishing community. *World Dev* 36(12):2763–2779
- Brondizio ES, Andersson K, De Castro F, Fudemma C, Salk C, Tengö M, Londres M, Tourne DC, Gonzalez TS, Molina-Garzon A (2021) Making place-based sustainability initiatives visible in the Brazilian Amazon. *Curr Opin Environ Sustain* 49:66–78
- Burkitt I (2016) Relational agency: relational sociology, agency and interaction. *Eur J Soc Theory* 19:322–339
- Butler M, Current D (2021) Relationship between community capitals and governance: the perspective of local actors in the Maya Biosphere Reserve. *World Dev Perspect* 21:100294
- Carmen E, Fazey I, Caniglia G, Anthony J, Penny L (2021) The social dynamics in establishing complex community climate change initiatives: the case of a community fridge in Scotland. *Sustain Sci* 17:259–273
- Carmen E, Fazey I, Ross H, Bedinger M, Smith FM, Prager K, McClymont K, Morrison D (2022) Building community resilience in a context of climate change: the role of social capital. *AMBIO* 51:1371–1387
- Carrico AR, Truelove HB, Williams NE (2019) Social capital and resilience to drought among smallholding farmers in Sri Lanka. *Clim Change* 155:195–213
- Castán Broto V, Trencher G, Iwaszuk E, Westman L (2019) Transformative capacity and local action for urban sustainability. *AMBIO* 48:449–462
- Celata F, Coletti R (2019) Enabling and disabling policy environments for community-led sustainability transitions. *Reg Environ Change* 19:983–993
- Celata F, Dinnie L, Holsten A (2019) Sustainability transitions to low-carbon societies: insights from European community-based initiatives. *Reg Environ Change* 19:909–912
- Charmaz K (2008) Constructionism and the grounded theory. In: Holstein JA, Gubrium JF (eds) *Handbook of constructionist research*. The Guilford Press, New York
- Christens BD (2010) Public relationship building in grassroots community organizing: relational intervention for individual and systems change. *J Commun Psychol* 38:886–900
- Dale A, Onyx J (2010) *A dynamic balance: social capital and sustainable community development*. UBC Press, Vancouver
- De Haan E, Meier S, Bulder E, Haartsen T (2020) 'At some point it has been enough'—processes of perceived failure of citizens' initiatives. *Sociol Rural* 60:260–283
- Emery ME, Bregendahl C (2014) Relationship building: the art, craft, and context for mobilizing the social capital necessary for systems change. *Commun Dev* 45:279–292
- Feola G, Nunes R (2014) Success and failure of grassroots innovations for addressing climate change: the case of the transition movement. *Glob Environ Chang* 24:232–250
- Ferris GR, Liden RC, Munyon TP, Summers JK, Basik KJ, Buckley MR (2009) Relationships at work: toward a multidimensional conceptualization of dyadic work relationships. *J Manage Stud* 35:1379–1403
- Field J (2008) *Social capital*. Routledge, New York
- Flora JL, Sharp J, Flora C, Newlon B (1997) Entrepreneurial social infrastructure and locally initiated economic development in the nonmetropolitan United States. *Sociol Q* 38:623–645
- Forrest N, Wiek A (2015) Success factors and strategies for sustainability transitions of small-scale communities—evidence from a cross-case analysis. *Environ Innov Soc Trans* 17:22–40
- Grenni S, Soini K, Horlings LG (2020) The inner dimension of sustainability transformation: how sense of place and values can support sustainable place-shaping. *Sustain Sci* 15:411–422
- Groves C (2019) Sustainability and the future: reflections on the ethical and political significance of sustainability. *Sustain Sci* 14:915–924
- Igalla M, Edelenbos J, Van Meerkerk I (2019) Citizens in action, what do they accomplish? A systematic literature review of citizen initiatives, their main characteristics, outcomes, and factors. *VOLUNTAS Int J Volunt Nonprofit Organ* 30:1176–1194
- Im H, Rosenberg R (2016) building social capital through a peer-led community health workshop: a pilot with the Bhutanese refugee community. *J Commun Health* 41(3):509–517

- Islam R, Walkerden G (2015) How do links between households and NGOs promote disaster resilience and recovery?: a case study of linking social networks on the Bangladeshi coast. *Nat Hazards* 78:1707–1727
- Johnson BJ, Goerdel HT, Lovrich NP Jr, Pierce JC (2015) Social capital and emergency management planning: a test of community context effects on formal and informal collaboration. *Am Rev Public Adm* 45:476–493
- Kern F (2015) Engaging with the politics, agency and structures in the technological innovation systems approach. *Environ Innov Soc Trans* 16:67–69
- Keys N, Thomsen DC, Smith TF (2016) Adaptive capacity and climate change: the role of community opinion leaders. *Local Environ* 21:432–450
- Kilpatrick S, Falk I (2003) Learning in agriculture: building social capital in island communities. *Local Environ* 8:501
- Laycock KE, Mitchell CL (2019) Social capital and incremental transformative change: responding to climate change experts in metro Manila. *Clim Change* 15:47–66
- Ling C, Dale A (2014) Agency and social capital: characteristics and dynamics. *Commun Dev J* 49:4–20
- Macbeth D (2001) On “reflexivity” in qualitative research: two readings, and a third. *Qual Inq* 7:35–68
- Macgillivray BH (2018) Beyond social capital: the norms, belief systems, and agency embedded in social networks shape resilience to climatic and geophysical hazards. *Environ Sci Policy* 89:116–125
- Meijer M (2020) When it goes wrong... learning from challenged (and revived) community initiatives. *J Rural Stud* 74:1–9
- Moses JW, Knutsen T (2012) *Ways of knowing*. Palgrave Macmillan, Basingstoke, UK
- Murphy BL (2007) Locating social capital in resilient community-level emergency management. *Nat Hazards* 41:297–315
- Naughton L (2014) Geographical narratives of social capital: telling different stories about the socio-economy with context, space, place, power and agency. *Prog Hum Geogr* 38:3–21
- Newman L, Dale A (2005) The role of agency in sustainable local community development. *Local Environ* 10:477–486
- Pain H (2012) A literature review to evaluate the choice and use of visual methods. *Int J Qual Methods* 11:303–319
- Pelenc J, Bazile D, Ceruti C (2015) Collective capability and collective agency for sustainability: a case study. *Ecol Econ* 118:226–239
- Pelling M, High C, Dearing J, Smith D (2008) Shadow spaces for social learning: a relational understanding of adaptive capacity to climate change within organisations. *Environ Plan A* 40:867–884
- Phillips M (2016) Assets and affect in the study of social capital in rural communities. *Sociol Rural* 56:220–247
- Putzel J (1997) Policy arena: accounting for the ‘dark side’ of social capital: reading Robert Putnam on democracy. *J Int Dev* 9:939–949
- Richey S (2007) Manufacturing trust: community currencies and the creation of social capital. *Polit Behav* 29(1):69–88
- Rivera M, Knickel K, María Díaz-Puente J, Afonso A (2019) The role of social capital in agricultural and rural development: lessons learnt from case studies in seven countries. *Sociol Rural* 59:66–91
- Rockenbach T, Sakdapolrak P (2017) Social networks and the resilience of rural communities in the Global south: a critical review and conceptual reflections. *Ecol Soc* 22:10
- Salas-Zapata WA, Ortiz-Muñoz SM (2019) Analysis of meanings of the concept of sustainability. *Sustain Dev* 27:153–161
- Scoones I, Stirling A, Abrol D, Atela J, Charli-Joseph L, Eakin H, Ely A, Olsson P, Pereira L, Priya R, Van Zwanenberg P (2020) Transformations to sustainability: combining structural, systemic and enabling approaches. *Curr Opin Environ Sustain* 42:65–75
- Strauss A, Corbin J (1994) Grounded theory methodology: an overview. In: Denzin NK, Lincoln YS (eds) *Handbook of qualitative research*. Sage Publications, London
- Therrien MC, Jutras M, Usher S (2019) Including quality in social network analysis to foster dialogue in urban resilience and adaptation policies. *Environ Sci Policy* 93:1–10
- Torche F, Valenzuela E (2011) Trust and reciprocity: a theoretical distinction of the sources of social capital. *Eur J Soc Theory* 14:181–198
- Urquhart C (2013) *Grounded theory for qualitative research: a practical guide*. Sage, London
- Van Poeck K, Östman L, Block T (2020) Opening up the black box of learning-by-doing in sustainability transitions. *Environ Innov Soc Trans* 34:298–310
- Voss JP, Bornemann B (2011) The politics of reflexive governance: challenges for designing adaptive management and transition management. *Ecol Soc* 16:9
- Voss JP, Newig J, Kastens B, Monstadt J, Nölting B (2007) Steering for sustainable development: a typology of problems and strategies with respect to ambivalence, uncertainty and distributed power. *J Environ Plan Policy Manage* 9:193–212
- Wang W, Zhao X, Li H, Zhang Q (2021) Will social capital affect farmers’ choices of climate change adaptation strategies? Evidences from rural households in the Qinghai-Tibetan Plateau, China. *J Rural Stud* 83:127–137
- Westley FR, Tjornbo O, Schultz L, Olsson P, Folke C, Crona B, Bodin Ö (2013) A theory of transformative agency in linked social-ecological systems. *Ecol Soc* 18(3):27
- Wickes R, Britt C, Brody L (2017) The resilience of neighborhood social processes: a case study of the 2011 Brisbane flood. *Soc Sci Res* 62:96–119
- Wolfram M, Borgström S, Farrelly M (2019) Urban transformative capacity: from concept to practice. *AMBIO* 48:437–448

**Publisher's Note** Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.