Framing Resilience for Climate Action: A Synthesis of Literature and Auckland Council Kaimahi Perspectives

Joanne Aley

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Joanne Aley, Principal Social Scientist Climate Action
Social and Economic Research and Evaluation Team
Strategic Advice and Research Unit
Policy Department

Auckland Council
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Page ii: February 2023 Flood, Kevan Lawrence Park Waiuku, Photograph by Jay Farnworth

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Executive summary

Introduction

Following the declaration of a climate emergency in 2019 and the severe weather events experienced in Tāmaki Makaurau/Auckland in 2023, climate action has become a cross-cutting organisational priority for Auckland Council. This priority has resulted in the notion of resilience to climate disruption being applied across various contexts, from community engagement to spatial planning and infrastructure management. While the term 'resilience' is referred to in all main strategic framework documents including The Auckland Plan 2050; The Long-term Plan 2024-2034; The Auckland Unitary Plan, Kia ora Tāmaki Makaurau, Ngā Hapori Momoho Thriving Communities Strategy 2022-2032, and Te Tāruke-ā-Tāwhiri: Auckland's Climate Plan, it is only defined in Te Tāruke-ā-Tāwhiri[1].

In mid-2024, the Auckland Council's Chief Sustainability Office and Policy Department, both involved in Auckland Council's climate action response, commissioned the council's Social and Economic Research and Evaluation Team to undertake a study with the primary purpose of understanding how the concept of resilience is perceived across the organisation, especially by those working in climate disruption and climate action programmes. This report presents the results of that study.

The study sought to understand how the term 'resilience', and to a lesser extent the related concepts of 'adaptation' and 'mitigation', are understood within the organisation, as while the term is widely used, its application in different contexts may lead to ambiguity and misinterpretation.

Method

The research was conducted in two distinct phases. The first phase reviewed relevant literature to understand the history and meanings ascribed to the term 'resilience', broadly and within the specific context of climate disruption. A subjective appraisal was then applied to identify and report on key themes relevant to the focus of Auckland Council.

The second phase involved gathering perspectives from 18 Auckland Council kaimahi/staff members on their understanding of the term 'resilience', through semi-structured interviews. Discussions were guided by a script of open-ended questions which explored core elements underpinning concepts of resilience, as identified in the literature. Participants were asked to describe their understanding of resilience and how it applied to their work. Analysis was then undertaken to explore links between recurring themes in the literature and staff perspectives, as well as to identify new concepts and themes that emerged from the discussions.

[1] The ability of a system, community or society exposed to hazards to resist, absorb, accommodate, adapt to, transform and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions through risk management (Auckland Council, 2020, p. 175)

Findings

While the term ‘resilience’ is consistently underpinned by notions of responding to adversity, it has evolved from a historical meaning of withdrawal to a more recent meaning of adaptability and growth. In parallel with this etymological shift is an expansion in recent decades of the contexts in which the term has been applied, from being mostly associated within an engineering context to more adaptive concepts related to climate disruption and community response. This has led to a broad acknowledgement in the literature that there is no one clear definition of resilience to suit all contexts.

Recognising the cultural contexts of resilience is important. The literature suggests a profound connection between culture and resilience, with cultural values providing meaning and strength to individuals facing adversity. The strong connection between culture and resilience, including the resilience of te ao Māori was identified in the literature review and reflected in the interviews.

The literature also identified several characteristics that underpin notions of resilience related to climate disruption impacts. These included embracing diversity across ecological and economic contexts, alongside social considerations, effective governance that incorporates decentralising processes, community involvement including incorporating local knowledge, recognising the inevitability of uncertainty and change, learning to facilitate adaptation to future conditions, and adopting a perspective that acknowledges the interconnectedness of system components is key at all levels. Resilience is increasingly becoming a central theme in climate disruption policies, acting as a metaphor for adapting or mitigating the impacts of climate change.

Interviews with Auckland Council staff found that participants viewed resilience as not just recovering from setbacks but as a transformative process focused on growth and future-oriented thinking. The concept of resilience was understood as stemming not only from individual capabilities but also collective action and strong relationships. Māori principles such as whanaungatanga and whakapapa were highlighted as ways to draw strength from ancestors while also focusing on future generations. A focus on community outcomes was a common theme across different roles and work programmes.

However, a potential disparity between the term’s use and meaning within relevant plans and policies, compared to use with communities, became apparent. Some participants who had been working with communities in Auckland affected by the 2023 storm events had shifted away from using the term ‘resilience’ in their communication with them. Those participants conveyed a preference for being able to explicitly define desired outcomes that would serve to enable resilience rather than relying on the term ‘resilience’.

Participants had mixed feelings about the idea of Auckland Council developing a single definition of resilience, noting that it might be restrictive and may not be inclusive of different world views. While the current Intergovernmental Panel on Climate Change (IPCC) definition[2] covers many themes of

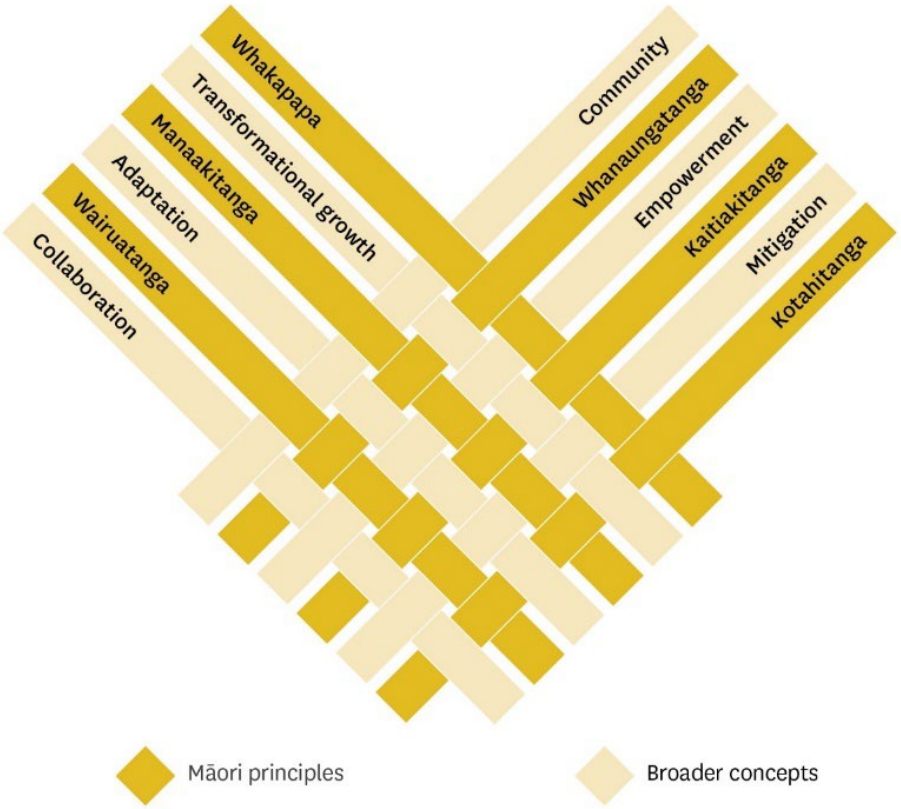
[2] The capacity of interconnected social, economic and ecological systems to cope with a hazardous event, trend or disturbance, responding or reorganising in ways that maintain their essential function, identity and structure. Resilience is a positive attribute when it maintains capacity for adaptation, learning and/or transformation (IPCC, 2022, P. 2921)

participants' views, it was felt to not adequately address the importance of cultural values, meanings, and indigenous perspectives.

Threads of resilience: weaving concepts together

To overcome the challenge of defining resilience broadly enough while maintaining clarity, the following illustration was developed that weaves the various concepts that contribute to resilience together.

The image represents the interconnectedness and mutual support of diverse elements. It symbolises the integration of Māori principles, unique to Aotearoa New Zealand, with broader concepts of resilience for climate disruption.



Practical implications

The study highlights the need for Auckland Council to think more broadly than the development of a single definition of resilience, but rather reflect it as a dynamic, interconnected concept. It also suggests the term should be applied with both community and cultural sensitivity. The findings suggest a need to:

- consider a more nuanced and inclusive understanding of resilience that incorporates diverse perspectives

- recognise the importance of collective action, strong relationships, and cultural values, especially Māori principles, in building resilience
- focus on clearly defining desired outcomes that enable resilience, especially when working with communities.

The research provides a foundation for Auckland Council to consider how the application of the term 'resilience' is being applied internally. This brings an inherent challenge however of allowing enough flexibility so that Aucklanders can understand the term according to their interests, without the term becoming too vague. The research provides a starting point to expand the scope to understanding Aucklanders' perspective of resilience.

Table of contents

Glossary

Term	Description
Climate action	Range of activities, mechanisms, policy instruments that aim at reducing the severity of human induced climate disruption and its impacts.
Climate disruption	Long-term shifts to temperatures and weather patterns, mainly caused by human activities, especially the burning of fossil fuels. Another term used is 'climate change'.
Climate security	The national and international security risks induced, directly or indirectly, by changes in climate patterns.
Discourse	Discourse is a generalisation of the notion of a conversation to any form of communication. It is a major topic in social theory, and can be thought of as a system of thought, knowledge, or communication that constructs people's world experience.
Greenhouse gas	Gaseous constituents of the atmosphere, both natural and anthropogenic, that absorb and emit radiation at specific wavelengths within the spectrum of radiation emitted by earths ocean and land surface, by the atmosphere itself and by clouds (IPCC, 2022, p. 2911)
Hapū	A number of whānau sharing descent from a common ancestor; kinship group, sub-tribe
Hapori	Section of a kinship group, family, society, community
Iwi	A number of hapū (section of a tribe) related through a common ancestor
Kaimahi	Worker, employee, staff
Kaitiakitanga	Guardianship, including stewardship; the process and practices of looking after the environment
Karakia	Pray, recite a prayer, chant
Kete	Basket, kit
Korero	To tell, say, speak, talk, address
Kotahitanga	Unity, togetherness, solidarity, collective action
Mahi	To work, do, perform
Marae	The enclosed space in front of a wharenui (meeting house) where people gather
Mana	Authority, status, prestige
Manaakitanga	The process of showing respect, generosity and care for others
Mana motuhake	Separate identity, autonomy, self-government, self-determination, independence, sovereignty, authority

Term	Description
Mana whenua	Hapū and iwi with ancestral relationships to certain areas where they exercise customary authority
Mātauranga Māori	Māori knowledge – sciences
Mokopuna	Grandchild
Paradigm	A pattern or model, an exemplar, a typical instance of something.
Rākau	Tree, stick, timber, wood
Rangatahi	Younger generation, youth
Socio-ecological	Biophysical and social factors that regularly interact
Tangata	To be a person, human being, individual
Taonga	Treasure, anything prized
Te ao Māori	The Māori world, or the Māori world view
Teina	Younger brother (of a male), younger sister (of a female)
Te taio	The natural world, environment
Tohu	Sign, mark, symbol
Tuakana	Elder brother (of a male), elder sister (of a female)
Tuku iho	Inherited status, mana through descent
Tukutuku	Ornamental lattice-work – used particularly between carvings around the walls of meeting houses
Tūpuna	Ancestors, grandparents
Waiata	Song, chant
Wairua	Spirit, soul
Wairuatanga	Spirituality
Whakapapa	Genealogy that links Māori to their ancestors
Whakataukī/Whakatauāki	Proverb
Whānau	Extended family, family group, a familiar term of address to a number of people
Whanaungatanga	A relationship through shared experiences and working together which provides people with a sense of belonging

1 Introduction

1.1 Background

1.1.1 Auckland Council response to climate disruption

Auckland Council is committed to climate action. Following a unanimous vote in 2019 to declare a climate emergency by Auckland Council's Environment and Community Committee (Auckland Council, 2019) the council developed a long-term approach to achieve emission reduction goals and to adapt to the impacts of climate disruption. Te Tāruke-ā-Tāwhiri: Auckland's Climate Plan sets out eight priority action areas to deliver these goals, spanning not only an environmental and infrastructure focus, but also economic, cultural, and social well-being (Auckland Council, 2020).

In early 2023, Tāmaki Makaurau experienced significant flooding and cyclone events. These events served as a catalyst, bringing concepts of adaptation and resilience to the forefront. Later that year Auckland Council established a Storm Response Fund of $20m per annum over 10 years in response to those flooding and cyclone events. While climate mitigation (i.e., carbon emission reduction) continued to be an important goal, the storms highlighted the urgency of addressing climate-related hazards. The fund is 'focused on actions that increase resilience for future storm events' (Auckland Council, 2023, p. 20). This includes the proactive maintenance of assets and infrastructure, strengthening emergency management, coordinating capital works and land use planning, and supporting communities to better understand the risks and increase resilience.

Work programmes related to climate action span across all organisational divisions and have increased markedly since the 2023 storm events (see the Long-term plan 2024-2034 for detail (Auckland Council, 2024)). This includes an acceleration of the Resilient Tāmaki Makaurau work programme, which spans across natural hazard planning and the Making Space for Water Programme through to understanding community vulnerability and supporting social change (B. Brooks, personal communication, 9 May 2024). The Making Space for Water programme includes seven initiatives (summarised in Table 1) for strategic goals aimed to reduce existing flood risks, avoid creating new flood risks, raise awareness of flood risks, and prepare for flood events. Additionally, as part of a response to the 2023 storms a Recovery Office was set up to support affected communities. A cost-sharing arrangement was established with central government to support remediation and renewal-related capital costs, including buying out Category 3 properties (OurAuckland, 2023).

Table 1: Making Space for Water programme initiatives, summarised from the Long-term plan 2024-2034 (Auckland Council, 2024)

Work programme	Description
Blue-green networks	Creating parks (green) around existing waterways (blue) to give stormwater space to flow.
Stream and waterway resilience	Enhance capacity of high-risk streams through use of naturalised features such as ponds or open channels
Increased maintenance	Boosting maintenance of pipe and stream stormwater networks
Flood intelligence	Invest in new planning, monitoring and modelling
Overland flow path	Identify and enhance the performance of overland flow paths
Community-led flood resilience	Support communities to take action to reduce their own flood risk
Rural settlements	Respond to specific needs in rural communities include marae and papakāinga to improve community resilience

1.1.2 Integrating resilience into strategic plans and policies

The emphasis on climate action has resulted in the term 'resilience' being integrated into key strategic documents for Auckland Council (see Table 2), making it a cross-cutting organisational priority. Consequently, the term 'resilience' is now applied across various contexts, from community engagement to spatial planning and infrastructure management. This shift has also led to department name changes such as Infrastructure and Environmental Services becoming Resilience and Infrastructure in 2024.

While the notion of resilience is referred to in the strategic plans outlined in Table 2, the only definition is found in Te Tāruke-ā-Tāwhiri: Auckland's Climate Plan, namely:

> *The ability of a system, community or society exposed to hazards to resist, absorb, accommodate, adapt to, transform and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions through risk management* (Auckland Council, 2020, p. 175). [Note this definition reflects in part some aspects of the Intergovernmental Panel on Climate Change (IPCC) 2012 (IPCC, 2012) and 2014 (IPCC, 2014) definitions of resilience (see Table 4 for more detail)].

Table 2: Summary of main strategic framework documents which include the term 'resilience'

Plan	Description
The Auckland Plan 2050	A long-term spatial plan to ensure Auckland grows in a way that will meet the opportunities and challenges of the future (Auckland Council, 2018).
The Long-term Plan 2024-2034	Sets out the priorities and funding for council activities over a 10-year period (Auckland Council, 2024).
The Auckland Unitary Plan	Guides the use of Auckland's natural and physical resources, including land development (Auckland Council, 2016).
Kia ora Tāmaki Makaurau	A framework that brings together Māori aspirations and the council group's aspirations towards achieving those aspirations (Auckland Council, 2021).
Ngā Hapori Momoho Thriving Communities Strategy 2022-2032:	Sets out objectives to achieve the vision of a fairer and more sustainable Tāmaki Makaurau where every Aucklander feels like they belong (Auckland Council, 2022).
Te Tāruke-ā-Tāwhiri: Auckland's Climate Plan:	Sets out the priority action areas to deliver goals to reduce emissions and adapt to the impacts of climate change (Auckland Council, 2020).

This uptake of the term 'resilience' is not isolated to Auckland Council. A literature review commissioned by New Zealand's Ministry of Business, Innovation and Employment (MBIE) in 2023 highlights a similar trend both nationally and internationally (MBIE, 2023). Looking at the national focus on climate action policies, the National Adaptation Plan (Ministry for the Environment, 2022), which outlines national strategies, policies and actions to help New Zealanders adapt to the changing climate and its effects, has two definitions of resilience:

> *Resilience/resilient: the capacity of interconnected social, economic and ecological systems to cope with a hazardous event, trend or disturbance, by responding or reorganising in ways that maintain their essential function, identity and structure. Resilience is a positive attribute when it allows systems to maintain their capacity to adapt, learn and/or transform* (Ministry for the Environment, 2022, p. 186). [Note this is the current IPCC (2022) definition].
>
> *Climate resilience: the ability to anticipate, prepare for and respond to the impacts of a changing climate, including the impacts that we can anticipate and the impacts of extreme events. It involves planning now for sea-level rise and more frequent flooding. It is also about being ready to respond to extreme events such as forest fires or extreme floods, and to trends in precipitation and temperature that emerge over time such as droughts* (Ministry for the Environment, 2022, p. 181).

Somewhat relatedly, New Zealand's National Disaster Resilience Strategy (2019) defines resilience as:

> *The ability to anticipate and resist the effects of a disruptive event, minimise adverse impacts, respond effectively post-event, maintain or recover functionality, and adapt in a way that allows for learning and thriving* (Ministry of Civil Defence and Emergency Management, 2019, p. 18).

Wither et al. (2021) reinforces the uptake of the term within natural hazard and risk management contexts, describing it as becoming 'institutionalised and operationalised' both within Aotearoa New Zealand and globally.

1.1.3 Resilience as a ubiquitous term

The concept of resilience has expanded to multiple fields and disciplines, such as engineering, ecology, and psychology and economics (MBIE, 2023, p. ii) and is linked to multiple contexts including urban, disaster, community, and social-ecological resilience (Davidson et al., 2016). The construct of the term varies within these different contexts and ranges from an individual focus to societies and culture (Southwick et al., 2014).

More recently the concept of resilience has become central in natural hazard and disaster risk management and in the context of climate disruption (Kuhlicke et al., 2023; Parker, 2020; Wither et al., 2021). This has led to a focus on the concept of resilience within these contexts (Buelow et al., 2025; Clement et al., 2024; Coetzee et al., 2016) including research in Aotearoa New Zealand. Examples include case studies of the gap between policy and operational implementation of the concept of resilience across three natural hazards within rural Aotearoa New Zealand communities: drought, earthquakes, and biosecurity risk (bacterial disease *M. bovis* affecting cattle) (Wither et al., 2021); a study focused on the rural coastal community of Kaikōura to identify enablers of resilience post the 2016 earthquake (Cradock-Henry et al., 2019); a review of the literature to characterise rural resilience (Spector et al., 2019); and a review of media coverage of Cyclone Gabrielle and how the concept of resilience was framed by media compared with peer-review publications (Buelow et al., 2025).

However, these studies did not focus on how the term resilience is understood (either within organisations or communities) when spanning the interface of policy and operational delivery for climate disruption more broadly, nor from an urban lens. Given the variety of contexts to which the term 'resilience' is applied Vella and Pai (2019) note there is no single agreed definition. The breadth of application of the term 'resilience' has led it to being described as an 'umbrella term' (McCubbin, 2001, p. 2), a 'catchall phrase' (Tierney, 2015, p. 1330), and is questioned whether it is '…a fad, or is it a new way of thinking about human-environment relations …' (Grove, 2018, p. n.p.). Tensions can result from the use of different definitions across different contexts (Ministry for the Environment, 2022), and there is an argument that the wide application of the term may be creating ambiguity and misinterpretation, particularly applicable to inter- and transdisciplinary contexts (Davidson et al., 2016).

1.1.4 Understanding the concept of resilience within Auckland Council

The term 'resilience' is used in a variety of policy and operational settings within Auckland Council, and there is no shared understanding of its meaning. There is a potential risk that this will result in confusion, and may prevent goals being achieved, or progress being able to be measured – a risk highlighted in Davidson et al. (2016). Furthermore, research into how people understand common nouns (such as 'animal' and 'politician') shows there can be significant variance and that 'people are unaware of this variation and exhibit a strong bias to erroneously believe that other people share their semantics' (Marti et al., 2023, p. 79). Understanding whether this applies across Auckland Council regarding the term 'resilience' is important.

In mid-2024, the Chief Sustainability Office and Policy department, both involved in Auckland Council's climate action response, commissioned the Social and Economic Research and Evaluation Team to undertake this study with the primary purpose of understanding how the concept of resilience is perceived across the organisation, especially by those working in climate disruption and climate action programmes.

The research, guided by Aotearoa New Zealand's First National Adaptation Plan recommendation, which encourages the use of the term 'resilience' to be more explicitly defined (Ministry for the Environment, 2022), sought to identify any ambiguities, trends, and common interpretations of 'resilience'. This effort aims to ensure the term is clearly defined within Auckland Council to better achieve its climate action goals.

1.2 Research objectives

The project objective was to explore how the term 'resilience' is understood and used by staff across the Auckland Council group, including Council-Controlled Organisations (CCOs), within the context of their work related to climate disruption and climate action. The aim was to identify common understanding as well as differences across organisational divisions, roles and responsibilities. The closely associated climate action terms of 'adaptation' and 'mitigation' were also included[3]. The intention was to identify any potential future need to enhance the organisation's common understanding of the term 'resilience' to enable its cohesive use in the future. The development of a single definition was out of scope.

Key objectives were to:

- review the literature on definitions of 'resilience', how the words 'adaptation' and 'mitigation' may be associated, and report on general themes in relation to climate disruption/action
- understand the use and interpretation of these terms by a cross-section of Auckland Council group kaimahi
- identify possible ambiguities between work programmes that could inhibit the achievement of organisational goals

[3] These concepts are discussed further in section 2.3.3

- identify ways of contextualising ‘resilience’, that may be suitable for future use across the organisation.

A two-phased research approach was taken. The first phase involved a literature search to identify key themes related to the meaning (i.e., definition) of the term ‘resilience’ in association with climate disruption discourse. These themes then informed the development of a discussion guide for the second phase, which consisted of interviews and thematic analysis of Auckland Council kaimahi perspectives on the term ‘resilience’.

1.3 Structure of this report

Section 1 provides the broader context and outlines the objectives of the research. Section 2 reviews the literature on the definitions and use of the term ‘resilience’ in the broad climate disruption discourse, while Section 3 discusses kaimahi perspectives and definitions of the term. Both sections first outline the methodology and then present the results in themed sub-sections. Section 4 synthesises the findings of each of the research phases and provides practical implications for future consideration.

2 Reviewing resilience: definitions and use for climate policies

To understand how staff at Auckland Council understand the term 'resilience', it was first necessary to explore the literature for existing definitions. Given the complexity of the term and its varied applications, this process is presented as a distinct research phase, offering an overview of peer-reviewed literature.

The first section details the method and scope of the review, followed by the findings.

2.1 Method

2.1.1 Literature search scope

The literature search focused on understanding the definition(s) of the term 'resilience', firstly across a broad context and then specifically when applied to climate disruption policies.

Advanced Google Scholar was used to identify publication titles that included 'resilience' OR 'resilient' AND 'definition'. This aimed to capture publications that explicitly related to definitions of resilience only. The review prioritised articles with a broad interdisciplinary focus on resilience definitions only, papers written in English, and a preference for publications in peer review journals and books. Publications focused solely on specialised fields (for example supply chain management, health, ecology, economics[4]) were excluded. A separate search including the keyword 'AND climate' allowed for further exploration of how resilience is understood and applied within the specific context of climate disruption and climate action. Publications from 2014 onwards were reviewed, with exceptions made for older literature that were considered academically foundational, or areas where the literature was deficient in more recent publications. While preference was towards a local (Auckland) and national (New Zealand) focus, given the lack of publications, relevant international literature formed the foundation of the review. The Auckland Council Corporate Library was used to access any publications that were not available via open access.

The term resilience in the climate action context can often infer some level of adaptation and mitigation (Cretney et al., 2024), therefore these terms were also reviewed. However, less emphasis was given to exploring these terms.

[4] The Ministry of Business, Innovation and Employment have already undertaken a literature review on the concept of resilience for the context of economics. Given this review firstly incorporated a general overview before focusing on economics it served as an important resource for this study (MBIE, 2023).

2.1.2 Integrating te ao Māori and other cultures

The literature review explored te ao Māori contexts of resilience, as improving Māori outcomes in relation to climate disruption is a clear organisational priority[5] and is recommended in the literature (Blackett et al., 2022). This was done using the search terms 'resilience' OR 'resilient' AND 'Māori'. Recognising the cultural diversity of Tāmaki Makaurau, literature on other cultures when identified in this search criteria were also reported on but did not specifically form part of the research scope.

Acknowledging the researcher's position as a non-Māori individual, section 2.5.1 (Te ao Māori resilience: enduring strength and cultural perseverance) underwent a Mātauranga Māori peer review.

2.1.3 Limitations

The limitations of this review were largely associated with the exponential increase in the use and study of the typology and application of the term 'resilience', which made it impractical to review all publications, despite using a systematic methodology. Consequently, a subjective appraisal was used to identify key themes relevant to Auckland Council's focus. Rather than conducting a gap analysis, the literature review aimed to provide a summary of resilience that would guide the focus of the subsequent research phase (section 3). Therefore, this section did not include explicitly policy implications; these are presented after synthesising the literature with the kaimahi perspectives (see section 4).

As previously mentioned, (1.1.3), the concept of resilience is increasingly associated with natural hazard and disaster management discourse. Due to its close link with climate disruption, particularly through significant climate-related events like flooding, and the narrow scope of search terms used, some relevant literature may have been overlooked. However, given the substantial amount of literature already identified, the focus on 'resilience', 'definition', and 'climate' was maintained.

2.2 The genesis and evolution of resilience definitions

While the term 'resilience' is rooted in Latin – 'resilientia' (avoiding) and 'resilire' (to draw back) – its meaning has evolved significantly. Initially signifying withdrawal or disassociation, as noted by Alexander (2013) in its use around AD 340, the term later transitioned to represent 'rebounding or springing back' in the early 1600s (Oxford English Dictionary, 2023). Since then its evolution has continued from a focus on adversity and coping to a more nuanced understanding of adaptability and growth (Alexander, 2013; Rogers, 2020).

This evolution in the 20th century was, in part, driven by the expansion of the use of the term from its genesis in engineering to ecology (Holling, 1973). Holling suggested that the application of the

[5] Te Puāwaitanga ō te Tātai is one priority of Te Tāruke-ā-Tāwhiri: Auckland's Climate Plan with the goal of: 'Intergenerational whakapapa relationships of taiao, whenua and tāngata are flourishing. The potential and value of Māori is fully realised. Māori communities are resilient, self-sustaining and prosperous' (Auckland Council, 2020). The term 'resilience' is also woven through two fundamental Māori organisational frameworks and plans, with outcomes associated with developing sustainable futures (Independent Māori Statutory Board, 2017) and strengthening well-being (Auckland Council, 2021).

term ‘resilience’, rather than ‘stability’, to ecological systems allowed for an element of unknown capacity to ‘absorb and accommodate future events in whatever unexpected form they may take’ (1973, p. 21). This concept has since expanded to a variety of domains (see section 2.3.2) including health (Aburn et al., 2016), international relations (state security) (Bourbeau, 2013), community (Mulligan et al., 2016), psychology (Fletcher & Sarkar, 2013; Sisto et al., 2019), and more recently climate disruption (Ferguson & Wollersheim, 2023).

This evolution of use across a variety of domains was likely to be one contributor to the marked increased use of the term. Figure 1 illustrates this increase in use of ‘resilience’ in the titles of English peer-review journals between 1975 and 2018 (A. Clement et al., 2021), showing an exponential rise from the early 2000s onwards.

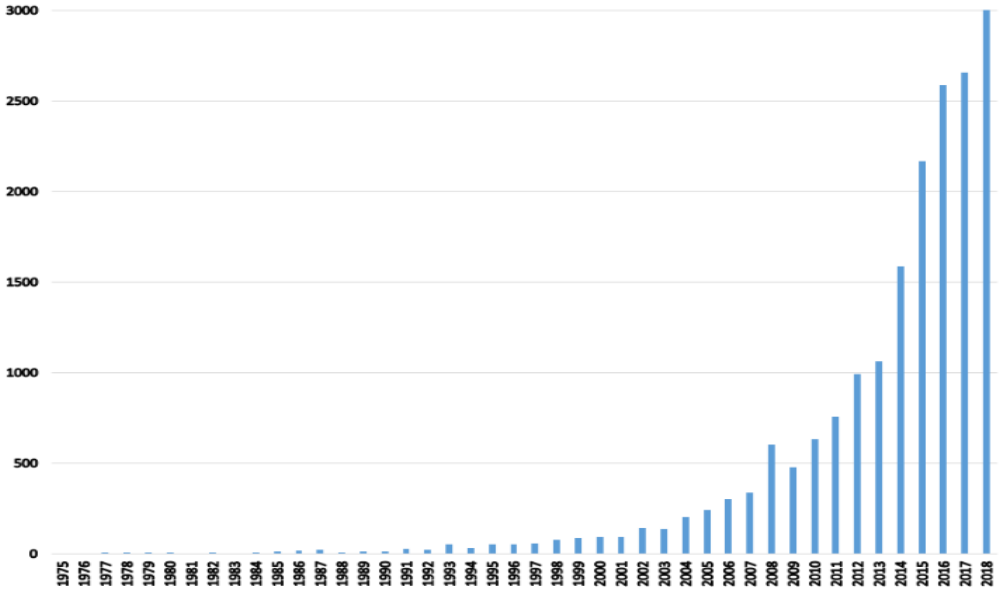


Figure 1: Use of the term ‘resilience’ used in title of English written peer-reviewed journals in the Web of Science between 1975 and 2018 (Clement et al., 2021)

Ferguson and Wollersheim (2023) observed that the increasing use of the term reflects the growing diversity its application, spanning fields such as ‘natural risks and disasters, socioecological systems, financial crises, unemployment and development policy’ and being attributed to ‘various entities, including human beings, communities, states, ecosystems, institutions and infrastructures’ (p. 67).

Another suggestion for the increased use of the term stems from the failure of the concept of sustainability to lessen global crises such as poverty and ecological degradation (Ferguson & Wollersheim, 2023). That is, a failure to *achieve* sustainability has resulted in a shift to use the term ‘resilience’, and a way of framing how to *deal with* socio-ecological[6] pressures. Curry (2023) summarised the difference between sustainability and resilience, ‘Where sustainability aims to put the world into stationary balance, resilience looks for ways to manage in a continually imbalanced world’ (p. 42). Shamout, Boarin, and Wilkinson (2021) identified one example of this clear shift of the use of the term ‘sustainability’ to ‘resilience’ by policymakers in Jordan. However, this shift was

[6] Socio-ecological systems approach studies the relationship between ecosystems and society (Berrouet et al., 2018, p. 632)

described as an exchange of buzzwords rather than a shift in the focus of policies. The evolution continues with more recent trends of the use of the term 'resilience' associated with 'bouncing forward' and improving (see section 2.3) rather than just 'bouncing back' as per its original Latin genesis.

It has been suggested that the evolution and integration of the term 'resilience' into policy means it is now almost a normative[7] concept (Brown, 2011; Olsson et al., 2015), and one that is generally treated as being 'something good' (Olsson et al., 2015, p. 2). However, Alexander (2013) highlighted that the evolution of the use of the term 'resilience' to a universal concept likely means that it is being 'pushed to represent more than it can deliver' (p. 6), similar to the use of the historical use of the term 'sustainability'.

2.3 Resilience defined: the diversity of definitions and dimensions

Over a decade ago, Alexander (2013) noted that the amount of literature on the concept of resilience was 'so copious that it is becoming increasingly difficult to summarise' (p. 2713) (see also Southwick et al. 2014). That trend continued unabated over the following decade, as illustrated in Figure 1, further exacerbating the challenge of reviewing and summarising the term, including finding agreement on a definition. Rather than re-analyse the literature an overview of existing reviews was undertaken, and findings are presented in the following themes and discussed in more detail below:

- lack of consensus, but common themes
- the broadening typologies and discourses of resilience definitions
- climate disruption context and definitions.

2.3.1 A lack of consensus, but common themes

A common theme in the literature is the agreement that there is no one clear definition of resilience (Davidson et al., 2016; Grove, 2018; MBIE, 2023; Vella & Pai, 2019), and that this is associated with the diverse contexts in which the term is utilised (Davidson et al., 2016). The variability of its use has seen the term being labelled an 'umbrella term to cover many different aspects of overcoming adversity and adapting to one's environment' (McCubbin, 2001, p. 2), a 'buzzword' (Phillips & Chao, 2022, p. 1) and 'catchall phrase' (Tierney, 2015, p. 1330), is a 'band wagon' or 'fad' (Van Breda, 2018, p. 1), and has 'conceptual fuzziness' (White & O'Hare, 2014, p. 945).

As a generalisation, however, there is consensus that the term 'resilience' is broadly defined as an ability to 'bounce back', 'absorb', 'adapt', 'accommodate', 'overcome', 'withstand', 'recover', 'respond', to 'adversity', 'stress', 'uncertainties', 'trauma', 'threats', 'change', 'disturbances'. Just *who or what* needs to be resilient and how they *respond and recover* influences the variability of definitions.

[7] Normative is defined as relating to, or determining, norms or standards; conforming to or based on norms.

In general, resilience tends to be associated with the premise that 'the disturbance (or shock) is inherently negative, and that resilience is about positive adaptation' (Bourbeau, 2013, p. 8). However, resilience is not always associated with a positive situation, particularly for societal situations. Indeed, Bourbeau (2013) argues that the disturbance could also be positive and outcomes negative, and that the binary focus (there is either resilience or not) is limiting.

More recently the term 'resilience' has been framed around concepts of 'bouncing forward' rather than 'bouncing back' (see Table 3 for a description of these terms) with the aim of transformation towards better systems and outcomes that enable greater viability in the future, and higher 'levels' of resilience (MBIE, 2023; Tierney, 2015). This requires a more flexible approach, through learning and change (Tyler & Moench, 2012). Phillips and Chao (2022) summarise that resilience is not just bouncing back to where one was but requires learning as a leverage to improve, particularly for situations involving human decision. Another way this has been framed is through the concepts of equilibrium or evolutionary resilience. Equilibrium resilience is associated with returning to a previous state (often associated with engineering resilience) while evolutionary resilience emphasises the ability to change over time in the face of adversity (associated with bouncing forward) (MBIE, 2023).

Table 3: Broad elements of definitions of resilience summarised from MBIE (2023)

Definition/type	Interpretation	Main fields of use
Resilience as 'bounce back' from shocks	System returns to pre-shock state, emphasises speed and extent of recovery.	So called 'engineering resilience' found in physical sciences, some versions of ecology
Resilience as 'ability to absorb' shocks	Emphasizes stability of system structure, function and identity in face of shocks.	So called 'extended ecological resilience' found in ecology and social ecology
Resilience as 'positive adaptability' in anticipation of, in response to, shocks	Capacity of a system to maintain core performance despite shocks by adapting its structure, functions and organisation. Idea of 'bounce forward'	Found in psychological sciences and organisational theory
Resilience as a 'system transformation' in anticipation of, or in response to shocks	The capacity of a system to create a fundamentally new reconfiguration and set of structures and functions, when conditions make the existing system untenable or unsustainable	Studies of sustainability of socio-ecological systems, where radical, systemic shifts in values, beliefs, patterns of social behaviour and governance and management regimes are required.

These broad elements underpinning definitions of resilience are summarised in Table 3 along with the general fields of use for each. When specifically considering urban resilience, Meerow et al. (2016) suggest the incorporation of all these elements may exist. They proposed that urban resilience

(which is applicable to Tāmaki Makaurau) refers to 'the ability of an urban system – and all its constituent socio-ecological and socio-technical networks across temporal and spatial scales – to maintain or rapidly return to desired functions in the face of a disturbance, to adapt to change, and to quickly transform systems that limit current or future adaptive capacity.' (p. 39).

Figure 2 illustrates various resilience scenarios: from the inability to adapt (Curve C), to adaptation leading to improvement (Curve B, e.g., bounce forward/ evolutionary), and finally, to merely return to previous performance levels (Curve A, e.g., bounce back/equilibrium). However, Ferguson et al. (2021) highlight that while resilience is often seen in binary terms, as illustrated in Figure 2 with the system or entity being either resilient or not resilient, the reality is that 'systems tend to exhibit degrees of resilience' (p. 1558). This is discussed further in section 2.3.2, where the variety of typologies of the term 'resilience' are discussed, and how these are formulated into frameworks of different types of discourse.

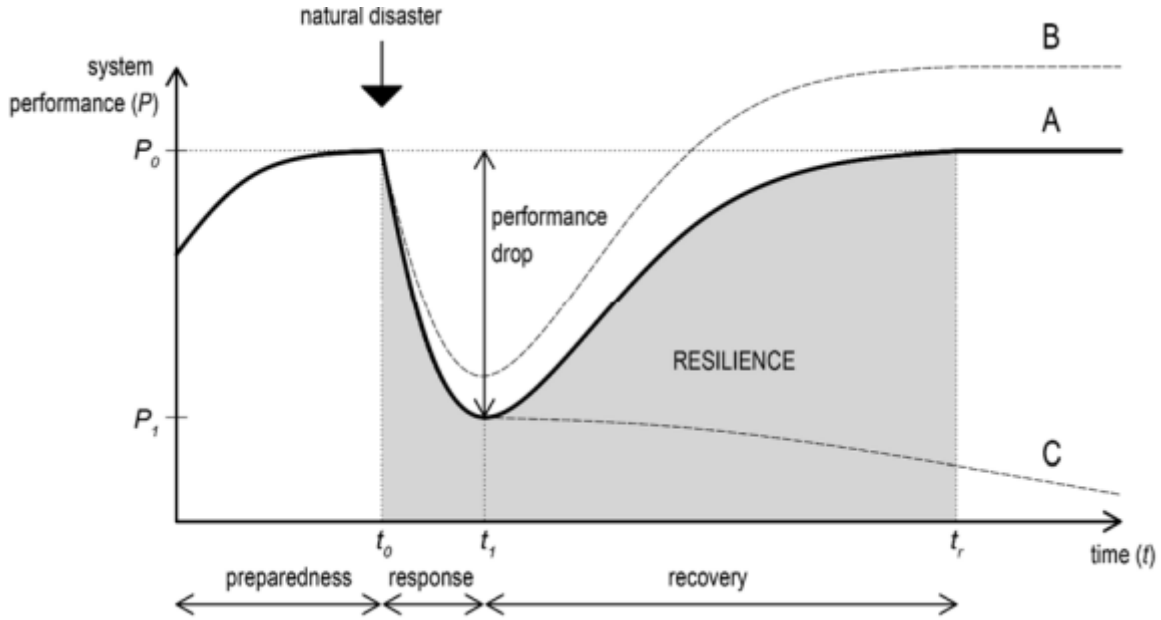


Figure 2: Representation of urban resilience as developed by Koran et al, 2017. Resilience function shows performance (*P*) before the event (preparedness), time of event (response) and after the event (recovery). P_0 indicates system performance at time of natural disaster (t_0) while P_1 indicates level of system performance after the natural disaster (t_1). Curve A indicates the system is able to return to same level of functionality as before the disaster. Curve B indicates system able to enhance the level of functionality compared to before the disaster. Curve C indicates the system is not able to return to the same level of functionality as before the disaster (Koren et al., 2017)

2.3.2 The broadening application of resilience

The term 'resilience' is highly malleable (Tierney, 2015), leading to its application across a wide range of contexts. This flexibility has resulted in the 'concept being interpreted in multiple ways across numerous disciplines causing significant challenges for its practical application' (Davidson et al., 2016, para. 1). Consequently, Nisioti et al. (2023) argue that defining resilience requires first identifying the specific context, or system, to which it is being applied. They mapped out the

numerous definitions according to their contexts identifying key disciplines and typologies. Their findings (see Figure 3) identified that 'terms related to stability-adaptability, structure and feedback – are considered the most relevant to resilience [i.e., had a high prevalence], while concepts related to the fluidity or dynamic behaviour of systems … transformativity, modularity, and self-organisation – are considered to receive the least attention [i.e., had a low prevalence] or only be relevant for certain disciplines. This reflects the discussion in 2.3.1, where recurring themes of adaptivity and functional stability are common across nearly all disciplines, with more specialised concepts such as self-organisation more applicable to specific disciplines (i.e., socio-ecological).

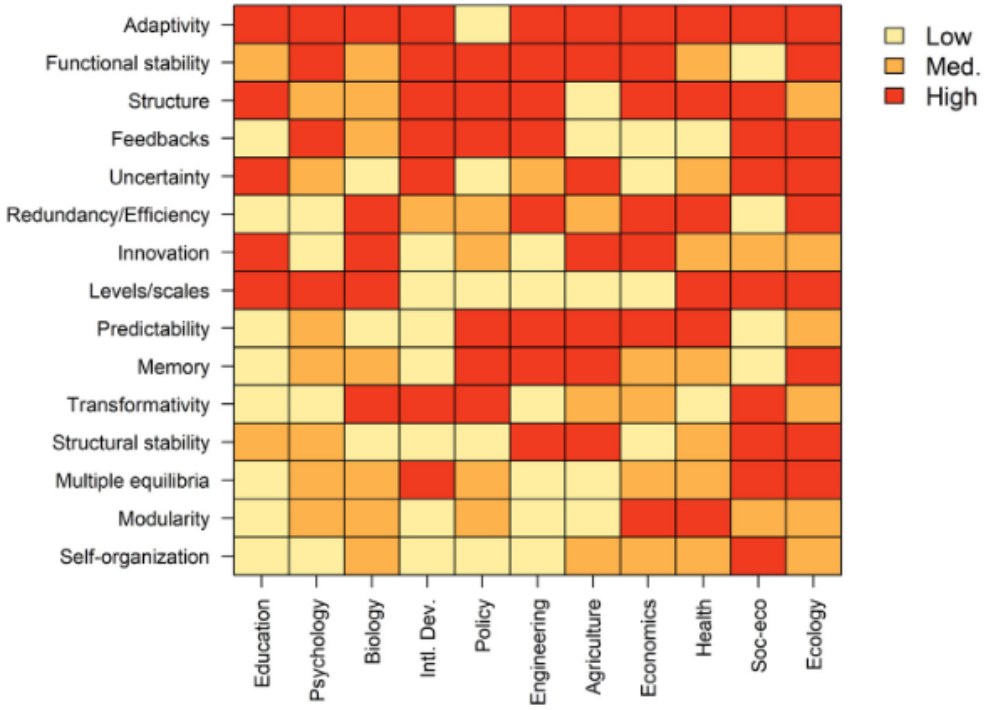


Figure 3: Main concepts of resilience definitions mapped across disciplines. Disciplines are ordered left to right in increasing average of importance across concepts. Concepts are ordered bottom to top in increasing prevalence among disciplines (Nisioti et al., 2023)

This trend was also identified in Davidson et al. (2016) where core components of resilience, including for example recovery, adaptability, and transformation, were common to all definitions (e.g., ecological resilience and community resilience), whereas more social components, for example preparedness, collective capacities, and vulnerability reduction, were only within themes of urban resilience, disaster resilience, and community resilience. For example, engineering systems are managed by people, but for urban resilience, for example, people are an integral part of the system to be managed.

There is also acknowledgement that there are degrees of resilience and that a binary focus (there is either resilience or not) is limiting in some contexts. For example, a community may be able to respond to one type of adversity (e.g., flooding) but not another (e.g., ongoing crime), or at one time but not another (Bourbeau, 2013).

2.3.3 Climate disruption context and definitions

The term 'resilience' is increasingly being used in climate disruption discourse; and is often described as socio-ecological resilience. In this context, there is a trend for the term 'resilience' to be associated with 'opportunities springing from climate disruptions, [which] therefore has a more positive outlook' (Plastina, 2020, p. 2) and one that considers the importance of the social dimensions of a community. However, this comes with the caveat that social resilience is not 'an aggregation of resilient individuals, but the manner in which a community responds, as a whole' (Moya & Goenechea, 2022, p. 5).

This shift can be traced in the evolution of the definitions of 'resilience' adopted by the Intergovernmental Panel on Climate Change (IPCC) (Table 4), where the term has transformed from one of maintaining the status quo (IPCC, 2001) through to the concept of bouncing forward through the inclusion of the term 'reorganising' into the definition (IPCC, 2022). As such flexibility, learning, and change become associated with resilience for climate disruption contexts. Tyler and Moench (2012) identify this as a way to help address some of the 'weaknesses of a predict and prevent approach' in urban climate adaptation practice (p. 312). This is pertinent given that resilience for climate disruption spans a continuum from more rigid typologies of infrastructure, through to more dynamic social domains of community (see section 2.3.2).

The interplay of adaptation and mitigation in climate resilience discourse

Actions for addressing climate disruption are based on two core concepts: adaptation and mitigation. While each of these has their own distinct emphasis, they are generally seen as strategies that contribute to building resilience in the face of climate disruption. Using the IPCC definitions for the context of climate disruption, adaptation is defined as:

> *In human systems, the process of adjustment to actual or expected climate and its effects, in order to moderate harm or exploit beneficial opportunities. In natural systems, the process of adjustment to actual climate and its effects; human intervention may facilitate adjustment to expected climate and its effects* (IPCC, 2022, p. 2898);

and mitigation is defined as:

> *A human intervention to reduce emissions or enhance the sinks of greenhouse gases* [8](IPCC, 2022, p. 2915).

[8] Greenhouse gas sink is any 'process, activity, or mechanism that removes a greenhouse gas, an aerosol, or a precursor of a greenhouse gas or aerosol from the atmosphere (IPCC, 2022, p. 2923). See Glossary for greenhouse gas definition.

Table 4: Intergovernmental Panel on Climate Change (IPCC) definitions of 'resilience'

Year	Definition
2001	Amount of change a system can undergo without changing state (IPCC, 2001, p. 383).
2007	The ability of a social or ecological system to absorb disturbances while retaining the same basic structure and ways of functioning, the capacity for self-organisation, and the capacity to adapt to stress and change (IPCC, 2007, p. 86).
2012	The ability of a system and its component parts to anticipate, absorb, accommodate, or recover from the effects of a hazardous event in a timely and efficient manner, including through ensuring the preservation, restoration, or improvement of its essential basic structure and function (IPCC, 2012, p. 563).
2014	The capacity of social, economic, and environmental systems to cope with a hazardous event or trend or disturbance, responding or reorganizing in ways that maintain their essential function, identity, and structure, while also maintaining the capacity for adaptation, learning and transformation (IPCC, 2014, p. 1270)
2022	The capacity of interconnected social, economic and ecological systems to cope with a hazardous event, trend or disturbance, responding or reorganising in ways that maintain their essential function, identity and structure. Resilience is a positive attribute when it maintains capacity for adaptation, learning and/or transformation (IPCC, 2022, p. 2921).

While adaptation and mitigation are distinct concepts for climate action, resilience is increasingly being employed as an overarching concept to guide action for climate disruption. For example, when reviewing public submissions for the first draft of Aotearoa New Zealand's National Adaptation Plan, Cretney et al. (2024) found that many submitters used the term 'resilience' as an '*ambiguous* [emphasis added] goal for individuals, communities and the nation' (p. 7) and surmised that 'Resilience is a common metaphor to illustrate the need for individuals, businesses, and communities and institutions to be able to absorb or deflect the impacts of climate change' (p. 7). This infers that adaptation (described as absorb), and mitigation (described as deflect), are being represented by the term 'resilience'.

The increasing use of the term 'resilience' in climate disruption discourse has been suggested to be through the 'convergence of previously distinct disciplinary concepts' more associated with the public sector, such as disaster risk reduction and emergency planning, to more societal responses of climate adaptation and mitigation behaviours (McEvoy et al., 2013). The synergies between adaptation and mitigation, where actions can simultaneously contribute to both goals, may also have an influence (Kyriakopoulos & Sebos, 2023).

While there is a general consensus that both adaptation and mitigation behaviours should exist in parallel for climate resilience (Boston, 2024; Kyriakopoulos & Sebos, 2023; Lawrence et al., 2024; Ministry for the Environment, 2022), the terms 'resilience' and 'adaptation' are more liable to 'compete [with each other] as a way to frame discussions about meeting the challenge of climate change' (Wong-Parodi et al., 2015, p. 1). In a study by Wong-Parodi et al. (2015) examining whether the terms 'resilience' and 'adaptation' evoked the same perspective regarding coastal flooding, the research was divided in two parts. The first part of the study found that the terms evoked equivalent

perspectives when considering past events. However, the second part, which focused on future risks, suggested that the term 'resilience' conveyed a more cautious attitude about effectiveness, whereas 'adaptation' implied that risks were more manageable.

While climate disruption is a global and therefore inter-governmental challenge, mitigation is generally associated more with a global outcome (Fawzy et al., 2020) while adaptation is place and context-specific, therefore having a more place based and geographic association (Cretney et al., 2024). Given resilience is also closely linked with place based contexts (Alexander, 2013), the concept of adaptation is more liable to be interchanged with the term 'resilience'. McEvoy (2013) provided one example of this, and highlighted how one potential hazard of climate variability, bushfires, is blending with other adaptation agendas – such as disaster risk reduction efforts.

While both adaptation and mitigation behaviours are 'vital and urgent', the time scales for the effectiveness of each are variable. Boston (2024) reflected on how mitigation could be accomplished in three to four decades, if 'urgently and successfully pursued', whereas adaptation[9] will require 'ongoing efforts for centuries or even millennia' (p. 17). This has resulted in rhetoric about the 'imbalanced trade off' between climate mitigation and adaptation, highlighting how mitigation is seen as providing no 'help' for decades while adaptation measures undertaken now can make real differences. Therefore, efforts towards adaptation could distract from the need to reduce emissions (Curry, 2023).

The convergence of both the place and context specific focus of adaptation behaviours and the time scales for effectiveness of these behaviours being more short-term and therefore apparent, may unconsciously translate to the term adaptation being more closely conceptualised with the 'term' resilience.

2.4 The quality of resilience versus the state of being resilient (process versus trait)

Given the terms 'resilience' and 'resilient' are often used interchangeably, it is important to clarify the nuances between the two. While both are defined as being able to recover quickly or easily from, or resist being affected by, a misfortune, shock, illness, etc.' (Oxford English Dictionary, 2023) *resilience* is a noun and as such represents a 'thing or idea' whereas *resilient* is an adjective so is a descriptor. As such the distinction of *resilience* being associated with a process whereas *resilient* describing an outcome – usually with positive consequences (Bryant et al., 2022; Van Breda, 2018) is an important one to highlight. This is illustrated in Figure 4 where an effect of adversity leads to a mediating process (the process of *resilience*) resulting in being *resilient* – or for having better-than-expected outcomes.

[9] Adaptive capacity is another term used.

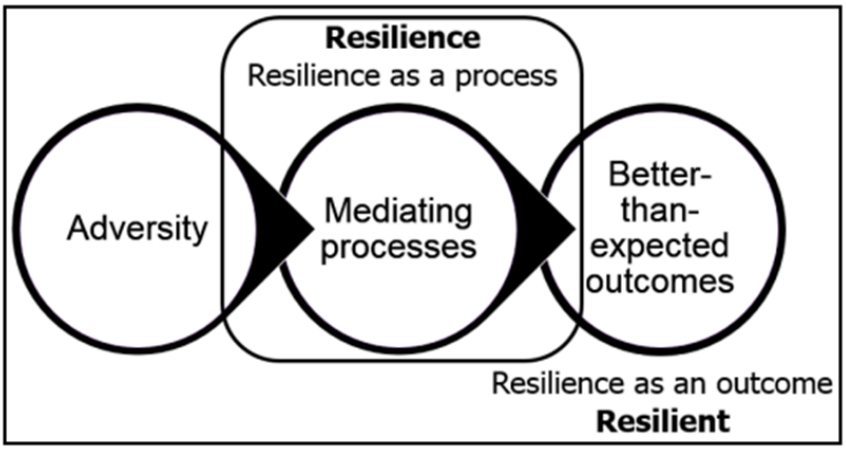


Figure 4: Resilience as a process and outcome (Van Breda, 2018)

The process of resilience can be either preventative or responsive. Preventative enables avoiding negative outcomes and achieving positive outcomes through coping strategies, whereas responsive enables recovery from traumatic events (Bryant et al., 2022). Adversity can be viewed as chronic (extends over time and can have no clear starting point) or acute (which has a clear starting point and is brief) (Van Breda, 2018).

It is also necessary to clarify the difference between the process of resilience with coping. Fletcher and Sarkar (2013) summarise that 'resilience influences how an event is appraised, whereas coping refers to the strategies employed following the appraisal of a stressful encounter' (p. 13). While coping is not necessarily indicative of change, growth, or transformation – which resilience is – the two concepts are interconnected whereby you do have to cope to be resilient. However, resilience is considered as a more positive response than coping (Bryant et al., 2022).

2.5 Culture and resilience: beyond western paradigms

The literature suggests a profound connection between culture and resilience, with cultural values providing 'meaning and strength to individuals facing adversity' (Xie & Wong, 2021, p. 2). Therefore, recognising the cultural contexts of resilience is important. This understanding becomes even more critical considering the anticipated impacts of climate disruption are expected to disproportionately affect indigenous peoples given they 'derive strength, wellbeing, identity, and belonging from their connections to place' (Taiapa et al., 2024, p. 2).

The act of reclaiming indigenous heritage and ancestral legacies is, in itself, a potent demonstration of resilience, as highlighted in *The Routledge International Handbook of Indigenous Resilience* (Weaver, 2022). Examining a diverse range of indigenous communities, Weaver (2022) identified recurring themes in indigenous resilience, including 'duality and balance, interconnections between past, present, and future, and culture as a continuous and ever evolving' force. (p. 11). However, Weaver (2022) also cautioned against oversimplification, emphasising the 'multifaceted and nuanced' nature of resilience, where experiences defy easy categorisation as 'good' or 'bad', 'success' or 'failure' (p. 8).

Amo-Agyemang (2021) highlighted that resilience discourse is invariably grounded in neo-liberal[10] discourse, but also argue that it should be acknowledged as a concept resilience 'cannot be universally secured through a 'one-size-fits-all' solution' (p. 4). This was reflected in Le Dè et al. (2021) who researched concepts of resilience among different cultures. They found that 'each community understood resilience differently' but they did note there were 'many overlaps' (p. 15) (see sections 2.5.1, 2.5.2, 2.5.3). And perhaps importantly, there is recognition that indigenous communities have a fundamental role with resilience, stemming from 'traditions, worldviews, and spiritual relationships' (Amo-Agyemang, 2021, p. 9).

2.5.1 Te ao Māori resilience: enduring strength and cultural perseverance

Research highlights the divergence of influences that underpin resilience between Western cultures and te ao Māori. Penehira et al. (2014) outline that for Māori resilience is underpinned by the strength of a community, including iwi, hapū, and whānau. Similarly, strong social community and whānau support was emphasised by Māori in Hawke's Bay as an indicator of resilience when considering the context of COVID-19. This differed from non-Māori who had greater focus on preparedness (Le Dé et al., 2021).

Tassell-Matamua et al. (2022) highlighted how the spirituality[11] of Māori is an enabler for resilience through core values that characterise Māori culture. These values, summarised in Table 5, enhance resilience by facilitating 'coping skills, problem solving, and providing a sense of meaning, coherence, and purpose in life' (p. 92). The authors also noted the potential for this influence to extend beyond Māori through popular media being an 'effective tool for fostering resilience at both personal and communal levels across Aotearoa' (p. 87).

Table 5: Core values of Māori culture summarised from Tassell-Matamua et al. (2022)

Core value	Description
Manaaki	Typically understood as the capacity to provide hospitality and care. However, its etymology 'refers to uplifting or encouraging (*āki*) the *mana* (i.e., spiritual essence) of another. Therefore, it 'extends beyond mere superficialities of being hospitable to an obligation to exhort the spiritual essence of others' (p. 86).
Kotahitanga	Translates as 'oneness'. While life forms may have interdependence there is acknowledgement they are also maintained through 'collectively beneficial actions'. This is often reflected in the desire for initiatives to be collectively driven' (p. 86).
Whanaungatanga	'Reflects the shared whakapapa of all that exists, providing a sense of belonging, while simultaneously imploring an obligation to provide emotional, spiritual, and material caring and sharing to others' (p. 87).

[10] This term generally refers to 'Western' policies that promote free-market capitalism and deregulation.

[11] 'While a definition of spirituality that encapsulates the totality of indigenous perspectives is impossible, … similarities of spirituality notions across Indigenous communites… are typically based on 'earth ancestors, family and peaceful existence' (Tassell-Mataumua et al. (2022) from Christakis & Harris, 2004, p. 251).

Spiritual well-being was one of the strong indicators of Māori resilience identified by Māori for Disaster Risk Reduction (DRR), along with other socially underpinned themes of family well-being, manaakitanga, whānau, and aroha ki te tangata (Le Dé et al., 2021). Figure 5 illustrates the importance placed on each of these themes, with less focus on other themes of preparation, communication, planning, and education. However, Māori also highlighted a desire to improve these areas as a way to improve their future resilience.

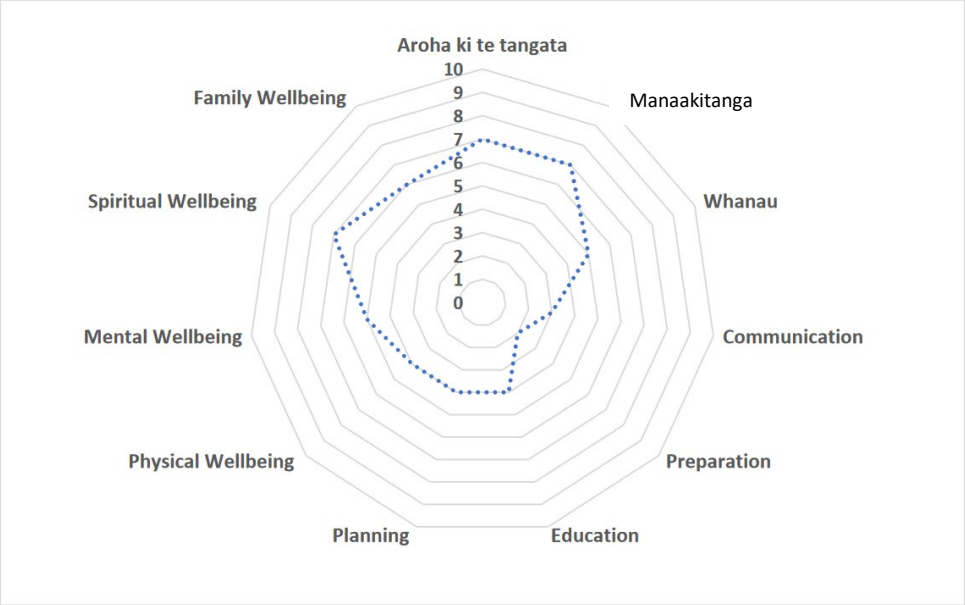


Figure 5: Māori measure of resilience scored by participants on a scale of 0 (low importance for resilience) to 10 (high importance for resilience) (Le Dé et al., 2021)

Dunlop et al. (2023) researched historical examples of Māori resilience and identified situations relating to vigilance required for war, building capabilities in preparation for battles, and relocation after defeat. A whakataukī by Waitohi (Ngāti Toa) embodies these resilience principles through being prepared and ensuring individuals are capable of their own survival: 'If you break the mast, you know how to fix the mast because you made the mast.' (p. 2). More recent perspectives identified through a wānanga for earthquake disaster scenarios saw a focus of resilience being towards collective responsibility which stems from the foundations of marae. Dunlop et al. (2023) summarise that te ao Māori community resilience is 'not a switch for Māori that's activated in emergencies, but rather a lifestyle refined and expanded through generational additions of individual mātauranga' (p. 9).

Examples of this are reflected in Bailey- Winiata et al., (2024) who identified 51 examples of pā relocations (dating from pre-colonisation (pre-1840) to present day) in response to natural hazards. Taking two case studies, they identified that 'key enablers of relocation included whānau-level decision-making, cultural norms of awhi (support), whanaungatanga (relationships), whakapapa (genealogical connection), koha (donations), tuke whenua (gifts of land), and mātauranga Māori (Māori knowledge)' (p. 79). Similarly, Rotarangi and Stephenson (2014) highlighted a case study where adaptation enabled cultural values to be held fast but also pivoted to futures thinking for the collective (iwi) benefit. More recently, Awatere et al. (2019) developed a Māori framework (He Arotakenga Manawaroa) which aims to contribute a more holistic and culturally appropriate

approach to resilience planning through a holistic te ao Māori perspective alongside economic, scientific, and technically based data, methods, and tools.

Penehira et al. (2014) summarised how resilience is an intrinsic part of Māori culture: 'Our [Māori] pro-active strategies and ways of living aimed at iwi, hapū and Māori community well-being, language retention, and cultural and socio-economic survival suggests that the notion of resilience may be as much a part of our identity as our traditional knowledge and ways of being' (p. 98). They also highlight that a focus on the collective underpins Māori narratives relating to resilience and 'most, if not all, indigenous peoples throughout the world' (p. 105). The symbolism of this strength of collectivism for resilience is summed through the following whakataukī:

> Ehara taku toa I te toa takitahi engari he toa takatini.
> My strength is not mine alone but belongs to the many (Penehira et al., 2014, p. 105).

2.5.2 Resilience across other cultures

Reviewing the literature relating to te ao Māori resilience brought forward literature for how other cultures understand and experience resilience. Given the multicultural makeup of Tāmaki Makaurau, this section explores these other cultural perspectives. It is important to note that the summary does not represent the full cultural diversity of Tāmaki Makaurau, as this was out of scope, but rather only those cultures which were discussed in literature reviewed for other sections. No broader specific search was undertaken.

Taking a macro-level view, a comparison of socio-ecological resilience discourse identified distinct perspectives between the Global North [12]and Global South[13]. The differences were linguistic and reflected different viewpoints. In summary:

- The framing of resilience in the Global North employs a persuasive strategy by appealing to emotions. It is associated with the 'cost of climate change, spreading optimism and ensuring national security' (p. 609). Furthermore, empowerment is perceived as a form of social action (Plastina, 2020).
- In contrast, the Global South frames resilience more pragmatically, emphasising adaptation, transformation, justice, and equity. The approach appeals to ethical considerations. Empowerment has a sense of individual responsibility (Plastina, 2020).

For Pacific peoples, faith and family are an essential component of their resilience. Actively practising faith enhances spiritual and psychological resilience, while also strengthening family connections and collaboration (Le Dé et al., 2021). Other factors included community preparedness through emergency plan development, and access to essentials to meet basic family needs. In contrast, in the same study, the resilience of Middle Eastern migrants was associated with information and communication, which can be challenged by low comprehension of English language and the ability

[12] 'Global North – a term that refers to developed countries concentrated in the northern hemisphere, characterized by high levels of income, technological advancement, well-developed infrastructure, and macroeconomic and political stability (Kowalski, 2021)

[13] Global South – a term that refers to developing countries mostly located in the southern hemisphere, with generally low income levels and facing different structural problems (Kowalski, 2021)

to maintain communication with their community outside of New Zealand. While strong family ties were emphasised to shaping their resilience, so too was strong positive support from the local community. Preparedness was linked to having a plan, and safety included financial security and support in terms of well-being and mental health.

Xie and Wong (2021) identified a multidimensional model of factors pertaining to Chinese resilience where culture, personal competence, and religion are key factors at an individual level. This individual resilience then extends to influence resilience at relational and community levels. The three main belief systems in Chinese culture (Confucianism, Buddhism, and Taoism) provide strength during adversity through the acceptance of adversity and suffering, and the encouragement of harnessing hardships for improvement and growth. Cultural value is placed on relationships with others and their well-being, with this connectedness important for resilience.

2.5.3 The intertwined nature of culture, neurobiology, and resilience

The profound impact of culture on social and community resilience should not be underestimated. Recent neurobiological[14] research highlighted how cultural and spiritual systems contribute to resilience on a biological level.

Feldman (2020) identified three key tenets of resilience: plasticity[15], sociality [16]and meaning[17]. He detailed how neurobiological components -the oxytocin system[18], the affiliative brain[19], and behavioural synchrony[20] – underpin humans' capacity for bonding and caring, which in turn sustains resilience. Figure 6 illustrates this interplay. The ability to 'form affiliative bonds, enter into social groups, and use relationships to manage stress' are a 'core feature of the human capacity to withstand, and even thrive, in the face of trauma (Feldman, 2020, p. 145).

Critically, it is the element of meaning, often derived from 'collective cultural or religious myths' (p. 138), that significantly bolsters human resilience. These culturally shared narratives and belief systems, when reinforced by our neurobiological systems, provide a framework for understanding and coping with adversity, ultimately contributing to our capacity for resilience.

[14] Neurobiology is a branch of biology that studies the structures and processes of the nervous system
[15] Plasticity for resilience implicates flexible adaptation to changing conditions.
[16] Sociality for resilience is the coordinated action that enhances survival of the group and essentially social collaboration.
[17] Meaning for resilience inspires strength in the face of trauma through acts of kindness.
[18] The oxytocin system underpins the mammalian capacity to manage hardships through relationships.
[19] The affiliative brain enables empathy.
[20] Behavioural synchrony extends from mother-infant bonds to develop acknowledgement of multiple perspectives.

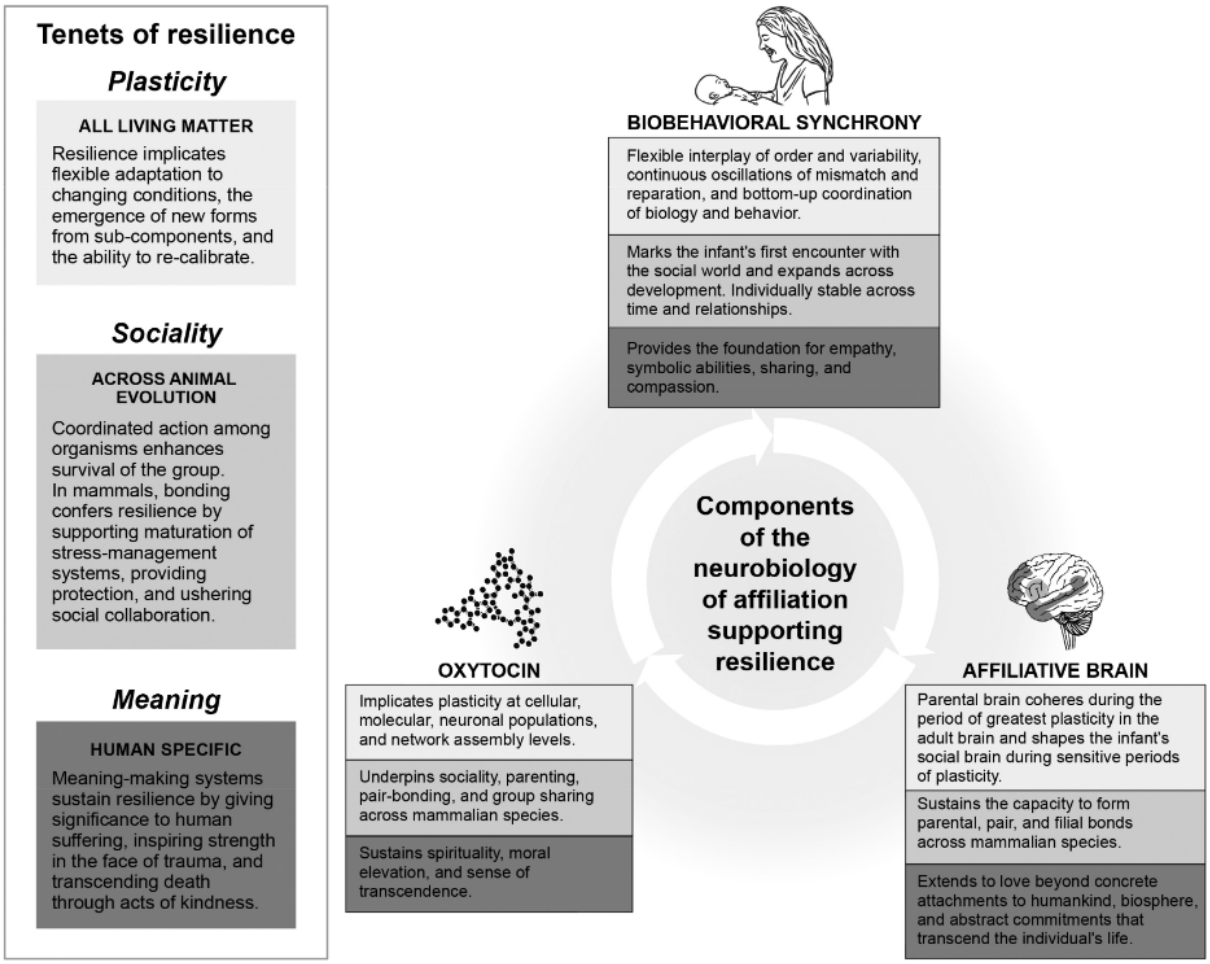


Figure 6: The three tenets of resilience as integrated into the core components of the neurobiology affiliation (Feldman, 2020)

2.6 Resilience as a dominant paradigm for climate disruption discourse

As summarised in section 2.3, definitions of the term ‘resilience’, when associated with climate disruption, have evolved over time to be more nuanced and associated with learning and improving rather than the foundational and historical definitions associated with withstanding and coping (Table 4). This is reflected in Bahadur et al. (2013), who considered the concept of resilience when applied to climate disruption (and disaster and development). They identified 10 characteristics, summarised in Table 6, that reflect the depth of the term ‘resilience’ for climate disruption including characteristics of learning and adaptation.

Table 6: Overlapping characteristics of resilience for climate impacts (summarised from Bahadur et al., 2013)

Resilience characteristic	Description
High diversity	Consideration of a range of dimensions including but not limited to ecological, economic, partnerships. Additionally, the need to expand future scenarios to incorporate not just technical solutions but also social and contingency considerations.
Effective governance and institutions	Institutions operate in complex 'web of power relations and are structures through which the powerful exercise their authority in social systems' (p. 5). Therefore, there is a need for institutions and government to be considered more than conduits or partners in delivery and support of adaptation, but rather incorporating decentralising processes which 'enhance accountability and yield positive, robust, long-term results' (p. 5).
Acceptance of uncertainty and change	There is a tendency for projects and policies to adopt a logical and linear process (due to technology and project systems such as funding) but can fail to engage with uncertainty including flexibility, redundancy and institutional structures. As such adaptive management works towards accepting change and uncertainty.
Non-equilibrium system dynamics	Acknowledgement that as change is a constant within systems, no original equilibrium state can be identified. Given this constant state of flux adaptation responses should focus on variability outside of predicted changes only, and also consider failure scenarios and redundancy.
Community involvement and inclusion of local knowledge	Importance is placed on community involvement in addressing their vulnerabilities and taking leadership in the direction of change to foster shared approaches.
Preparedness and planning for disturbances	A focus on being prepared for a wide range of future possibilities with the acknowledgement that system redundancy is an unlikely possibility for everyone. And that planning for failure is more suited to infrastructure than being able to predict social systems.
High degree of equity	A higher degree of equity promotes increased resilience with equity associated with distribution of wealth and assets, social justice, stable livelihoods.
Social capital, values and structures	Acknowledges the complexity to accommodate multiple values and interests, develop trust, and foster cohesion.
Learning	Utilising the process of learning as a way to facilitate adaptation beyond monitoring and evaluation to track progress, but one that enables the application to apply lessons towards future conditions.
Adoption of cross-scalar perspective	Incorporation of the high level of interconnectedness between various components of a system and that take a broader view of events.

Associated with the concept of learning to 'future proof' for climate resilient outcomes, Curry (2023) highlighted the emphasis of climate resilience being 'the ability to anticipate, prepare for, and respond to hazardous events or trends related to climate variability and change'. The argument was not to simply respond to events and changes after they occur, but for 'anticipatory adaptation' (p. 42). This is achieved through applying lessons to foster improvements (termed 'bouncing forward'). Boas and Rothe (2016) highlight that 'to become resilient systems instead need to reinvent or transport themselves constantly by forging new connections and reorganising in creative ways' (p. 618), and as such the process of learning. Essentially the key actions are associated with being able to adapt and transform in a space of unpredictability in the face of climate disruption (Plastina, 2020).

More recently Ferguson et al., (2021) identified five discourses associated with climate resilience through the lens of four climate-related issues: climate security, sustainable development, climate-change induced migration, and urban climate resilience. Their review categorised discourses based on the area of resilience focus, who is impacted, and the institutions involved, and identified five themes:

1. Neoliberal resilience: trains vulnerable subjects to be resilient in the face of climate risks.
2. Reactive resilience: resilience as a means to return to the status quo following climate disruption
3. Security based resilience: resilience as a strategy to protect a range of entities, ranging from vulnerable communities to global economic states system, from climatic risk
4. Ecological resilience: preserving underlying ecosystem functions in the face of climate disruption
5. Transformational resilience: change underlying socioecological systems in order to alleviate vulnerability

Associated with item three above, security-based resilience, is the rise of the concept of resilience being applied to the discourse of climate security, namely how climate is a potential threat to international and/or national security, such as through increased migration which could lead to conflicts over already-scarce resources (Boas & Rothe, 2016). This has been reflected in national and climate security strategies, such as in the United Kingdom and the United States of America, 'leading to the "mainstreaming"' of climate change as an issue of strategic importance' (see Thomas, 2013 in (Ferguson et al., 2021). This was reinforced more recently by Sachdeva (2024), who traced how influences such as population growth, resource scarcity, and geopolitical tensions have 'heightened the effects of climate change' (para. 10). For example, in Somalia 'fisherman found their livelihoods threatened by warming coastal waters, driving them towards piracy or extremism' (para. 8).

2.7 The integration of resilience into climate disruption policy

The concept of resilience has become a central theme in climate disruption policies (Normandin et al., 2019; Shamout et al., 2021), particularly in areas concerning national security, disaster management, and environmental change. This is because resilience is viewed as a way for individuals, communities, and nations to respond to unexpected events and disturbances (Brown, 2011). The incorporation of resilience into policy and strategy signifies a shift towards proactive planning, rather than a reactive approach (Phillips & Chao, 2022). However, the incorporation of resilience into policy is not without its challenges.

One of the challenges lies in the fact that different stakeholders interpret resilience differently based on their own unique values and needs. For example, in New York, Mayor Bloomberg framed resilience in environmental terms, while Mayor De Blasio had a broader focus including social, community, and economic resilience (Rogers, 2020). This highlighted that understanding how resilience is encountered at a place requires an understanding of the values that underpin its construction through policy, planning, or social movements (Rogers, 2020). Additionally, local actors may interpret resilience differently based on their unique needs and priorities, while global organisations that provide funding may also seek to influence the implementation of resilience based on their own agendas (Plastina, 2020).

A singular, policy-driven understanding of resilience can be limiting. This approach may fail to adequately address sociocultural concerns. For example, policy documents often fail to acknowledge the differences between equilibrium or evolutional based approaches to resilience, particularly within spatial planning (White & O'Hare, 2014). Engineering definitions of resilience, which are generally associated with infrastructure, are often more focused on robustness and scenario buffers, whereas infrastructure ultimately serves societies' well-being. Therefore, any definition of resilience should also consider appropriate community resilience to acknowledge the interdependencies, such as how recovery of physical infrastructure translates to the ability of individuals to recover and/or adapt (Doorn et al., 2019)

Community perceptions of resilience can diverge from the intent in government policy and practice. This was highlighted by Vahanvati (2020) who reported that the Tarnagulla community in Australia framed resilience in terms of lived experiences and in line with socio-ecological resilience (holistic view). However, while the community had a longer-term commitment the government support was more short-term focused. This enabled the community to strengthen their social resilience but failed to enable any longer-term focus on areas more typically under government remit such as housing, roads, transport a collaborative approach. This misalignment demonstrated how policy can sometimes fail to align with the realities and priorities of the communities it intends to serve (Vahanvati, 2020). This challenge to operationalise resilience policy is associated, in part, with governance systems resulting in 'barriers to change, flexibility, and adaptability through implementation (Shamsuddin, 2020, p. 2), and a power imbalance between government and community (Bahadur et al., 2013).

Normandin et al. (2019) demonstrated both the practical value and the implementation challenges of resilience as a concept. Their research, which examined how urban resilience was understood by academics and policy managers in London and Montreal, highlighted that despite its ambiguity, the term offered an opportunity for local empowerment. They also underscored that its successful implementation depended on addressing the lack of definitional clarity, transforming governance structures, adopting a collaborative approach, and working towards clearly defined outcomes. They identified that when discussed among intersecting groups, the term tended to become 'fuzzier', with their recommendation for 'political actors, civil servants and the public in general will need to work out the definition of resilience: Who is it for? What level is needed? Resilience for what? Resilience to what?' (Normandin et al., 2019, p. 23).

Another concern regarding the integration of resilience into policy is the potential for it to shift responsibility from governments to individuals and communities. An overemphasis on individual preparedness and adaptability may obscure the fundamental responsibility of governments to provide services and protect their populations (Tanner et al., 2017). This concern is echoed in Humbert and Joseph (2019) who discussed the potential issues of policies that place a disproportionate emphasis on community responsibility, highlighting that such an approach can obscure power dynamics and hinder equitable outcomes. This shift in responsibility can happen as resilience is seen as an inherently positive concept, and this view can inadvertently normalise the existence of threats (White & O'Hare, 2014).

While much of the literature considers the limitations of a lack of clear definition of resilience, and the breadth of contexts to which it is applied, a pragmatic perspective suggests that a single definition may not fully capture a city's circumstances. Indeed, 'multiple interpretations of resilience may encourage multiple strategies to address multiple threats, which may prove more effective than a single approach' (Shamsuddin, 2020, p. 3). And while implementation may prove challenging, it may be through implementation that the term can be better described and understood (Shamsuddin, 2020).

A critical approach to the implementation of resilience policy is required to ensure that it does not undermine the role of governments in providing social protection and addressing the root causes of vulnerability. This means that the values, goals, and intended outcomes of resilience policies need to be made explicit, and the perspectives of communities and other stakeholders be included in the process.

2.8 Conclusion

The concept of resilience has undergone significant evolution, transitioning from its original meaning of withdrawal to a more nuanced understanding of adaptability, growth, and transformation. This evolution is reflected in the increasing use of the term across various fields, including engineering, ecology, economics, health, and climate disruption.

In the context of climate disruption, resilience has become a central paradigm, influencing policy and discourse. This in part is through the interplay between the underpinning concepts of adaptation and mitigation, and how resilience is becoming a common metaphor for the need to absorb or deflect the impacts of climate disruption.

Despite the increasing incorporation of resilience into policy, there are challenges associated with its application. The term's ambiguity, the diverse contexts of its use, and lack of a single clear definition can result in difficulties in implementation. Additionally, it has been suggested that the use of resilience in political strategy can be perceived to shift responsibilities of risk governance from the state to the private sector and communities.

Cultural values and social contexts play a significant role in shaping resilience. Indigenous perspectives highlight the importance of community, spirituality, and interconnectedness in building resilience. These perspectives contrast with western neo-liberal worldviews, which tend to focus on individualistic approaches within their cultural and social contexts. Research indicates that cultural and spiritual systems contribute to resilience on a biological level, underscored by the importance of meaning and social connections.

While resilience has become a dominant paradigm, it is crucial to understand its diverse interpretations, cultural contexts, and challenges in policy implementation. Moving forward, it is essential to consider the interplay of these concepts, whilst acknowledging the social dimensions of resilience to create effective climate strategies for communities.

3 Perspectives of resilience among Auckland Council staff (kaimahi)

A qualitative approach was used to research understandings and use of the term 'resilience' by Auckland Council staff / kaimahi. This involved conducting semi-structured discussions guided by a series of open-ended questions. This approach enabled the opportunity to explore participants' understanding and use of the term in relation to their role and work programme focus.

The research method, including how participants were recruited, and how the data was managed and analysed, are described next. The findings of the research, with separate sections for the main themes, follows.

3.1 Method

3.1.1 Participant sample and recruitment

Participants were purposefully selected to represent a range of perspectives within the Auckland Council group, including staff in Council-Controlled Organisations (CCOs). While recognising that Auckland Council kaimahi frequently engage with Auckland communities (such as iwi and storm-affected residents) on resilience-related concepts, this study prioritised understanding the use of the term within the organisation[21].

To ensure a breadth of perspectives were represented, staff involved in work programmes focused on or associated with climate disruption/climate action across the Auckland Council group investment areas (e.g., transport, water, built environment, natural environment, community, economic, and cultural development) were recruited.

Interviews were undertaken by two researchers in the Social and Economic Research and Evaluation Team at Auckland Council. Potential participants were first sent an introduction email by the lead researcher, copied to the participants' managers to ensure transparency, which outlined:

- the research purpose, who is conducting the research, how interviews would be conducted, how their perspectives would be used, and contact information for queries (see the Participant Information Sheet, Appendix 1)
- that participation was voluntary and the process to accept or decline participation.

Unless participants had replied to decline their involvement, they were sent a calendar invite by the researcher conducting the interview. The invitation included the Participant Information Sheet (Appendix 1) as well as a form for participants to sign giving their consent to participate (Appendix 2)

[21] Perspectives among external participants such as iwi and storm affected residents may form a future research project.

From a total of 21 invitations to participate 18 interviews were conducted. Two participants declined, as another team member who was also invited had accepted the invitation to participate. One participant was scheduled to be interviewed but did not attend the interview and did not reply to efforts to reschedule.

Table 7 is a summary of participants describing their organisational division, department, and team name. Each participant has been assigned a unique identifying code (e.g., PPG-3). The first three letters of the code represent the Division each participant works in (e.g., PPG is Policy, Planning and Governance). The additional code of 'M' has been added to identify those in Māori advisor roles. Where verbatim quotes are used throughout the report, participants have been referred to by their unique identifying code.

3.1.1 Data collection

Interviews took place in September and October 2024 in person or online via MS Teams and lasted between 30 to 60 minutes. All interviews were audio recorded using MS Teams or a recording device and automatically transcribed using Otter.ai. The transcriptions were then manually reviewed and checked for errors.

Interviews were semi-structured, guided by a series of open-ended questions (Appendix 3). The questions covered core concepts of resilience from the literature and thoughts on the practicality and desirability of a single definition for Auckland Council. Participants were asked to describe what resilience meant to them and how they would define it in the context of their work. Participants were also invited to share any other thoughts on their perspectives of the term 'resilience'.

3.1.2 Data analysis

The transcribed interviews were imported into Nvivo 15, a qualitative data analysis software. Thematic analysis, encompassing both deductive and inductive approaches, was used to analyse the interview transcripts.

- Deductive Approach: A 'top-down' approach using predefined themes identified in the literature review. These themes were loaded into Nvivo for the systematic coding of each participants transcript. This analysis involved identifying recurring sentiments within these predetermined themes, leading to the creation of clusters labelled to reflect the overarching sentiment of each cluster. Appendix 4 illustrates this deductive process.
- Inductive Approach: A 'data-driven' approach was used to create new themes or clusters for data that did not fit into the predetermined themes. This involved identifying recurring perspectives or patterns in the data and developing new labels to represent these emergent themes. Appendix 4 illustrates this inductive process.

Table 7: Participants identified by organisational role

Participant code	Division	Department	Team
CCO-2	Auckland Transport	Infrastructure and Place	Adaptation and Environment
CCO-1-M	Tātaki Auckland Unlimited – Investment and Industry	Climate Innovation and Sustainability	Climate Innovation & Sustainability
CCO-4	Tātaki Auckland Unlimited – Economic Development	Climate Innovation & Sustainability	Climate Innovation & Sustainability
CCO-9	Watercare – Strategy and Planning	Strategic Planning	Planning
COM-10	Community	Environmental Services	Sustainability Initiatives
COM-14-M	Community	Environmental Services	Community Climate Action
COM-15-M	Community	Environmental Services	Community Climate Action
GSO-12	Group Strategy & CE Office	Chief Sustainability Office	Chief Sustainability Office
PPG-3	Policy, Planning & Governance	Policy	Infrastructure Strategy
PPG-7	Policy, Planning & Governance	Policy	Social Wellbeing
PPG-13	Policy, Planning & Governance	Policy	Natural Environment Strategy
PPG-18	Policy, Planning & Governance	Planning Resource & Consents	Auckland wide
R&I-5	Resilience & Infrastructure	Healthy Waters & Flood Resilience	Flood Risk
R&1-6	Resilience & Infrastructure	Group Recovery	Community-led Recovery
R&I-8-M	Resilience & Infrastructure	Auckland Emergency Management	Planning
R&I-11	Resilience & Infrastructure	Engineering, Assets & Technical Advisory	Coastal Management
R&I-16	Resilience & Infrastructure	Auckland Emergency Management	Planning
R&I-17-M	Resilience & Infrastructure	Engineering, Assets & Technical Advisory	Māori Outcomes

Notes: Numbers assigned to participants reflect the order in which they were interviewed. The table has been ordered by department name.
Abbreviations of divisions: CCO = Council-Controlled Organisation; COM = Community; GSO = Group Strategy and Chief Executive Office; PPG = Policy, Planning and Governance; R&I = Resilience and Infrastructure.
'M' denotes a Māori advisor role.

To explore the relationship between themes for understanding resilience and participant roles, NVivo's Matrix Query function was used. This analysis counted the number of codes each participant had for each theme. The findings were interpreted by considering the participants' roles under three main groupings:

1. Community: A focus on engagement and working with Aucklanders.
2. Resilience and Infrastructure (R&I): A focus on infrastructure services operations.
3. Policy, Planning, and Governance (PPG): A focus on public-facing policy.

However, it is important to acknowledge that participant roles did not always align either intuitively or exclusively with their divisional categories. For example, some roles within the PPG or R&I Divisions might also have a community focus. This overlap reflects the overarching public service orientation of all Auckland Council roles and the inherent interrelationships between infrastructure, policy, and community well-being.

3.1.3 Integrating Māori perspectives

Recognising the significance of te ao Māori perspectives shared by several participants, and the researcher's position as non-Māori, a Māori outcomes specialist provided guidance on framing the research findings. Discussions focused on ensuring the research process aligned with Māori values, including:

- Advice on interview protocols and the interview script: This ensured culturally appropriate engagement with Māori participants.
- Representation of results: The incorporation of opportunity for participants to review and approve how their quotations were used in the report, upholding their voice, and ensuring accurate representation.

3.1.4 Human participant ethical research assessment

An internal peer review of the ethical processes for human participant research was conducted. While the research and methods were not considered particularly sensitive, the review highlighted three key considerations:

- Voluntary participation: Given the focus on internal staff members, it was crucial to mitigate any potential perception that participation was expected rather than truly voluntary.
- Ethical data management: The recording of interviews emphasised the importance of ensuring that all data was collected and managed ethically.
- Accurate representation of participant perspectives: see section 3.1.3.

The review concluded that standard human participant ethical research processes would be sufficient, with the addition of action representation of results (see section3.1.3). Standard processes included providing a Participant Information Sheet (PIS) (Appendix 1), which outlined who was conducting the research, the aim of the research, how participant data would be managed, and contact information for any queries. A Consent Form (Appendix 2) was also provided, which each participant requested to sign before commencing their involvement in the research.

3.1.5 Limitations

This study is subject to certain limitations that should be borne in mind when interpreting the findings. The primary limitation was the focus on internal perspectives; specifically, the study only explored the viewpoints of kaimahi and did not include the perspectives of the Auckland community. This focus limits the scope to generalise the findings beyond Auckland Council staff because community resilience is a complex issue that is shaped by many factors, including the experiences, perceptions, and voices of community members themselves. This limitation was highlighted to the commissioners of the report, who acknowledged this but preferred an internal focus first and foremost, without excluding the likelihood of extending the research to the Auckland community in the future.

Another limitation was that, generally, only one person was invited to represent each main work programme related to climate disruption. Although many Auckland Council kaimahi work programmes include aspects of climate disruption, given its cross-cutting nature in the council's strategic framework (see section 1.1.2), it was necessary to limit the scope to key participants due to time and capacity constraints. The qualitative method of one-to-one discussion allowed for in-depth exploration of topics, and the participant list, reviewed by the Advisory Panel, was deemed sufficient mitigation.

3.2 Resilience in practice: meanings and perspectives

The exploration of meanings and perspectives among staff when using the 'term' resilience as part of their roles yielded rich insights. Responses supported the key themes in the literature such as transformation and growth, resilience being a process, and the notions of bounce back and build back better. The discussions highlighted the crucial balance between operational delivery and community stability, with a clear emphasis on community well-being as the central focus. Although nuanced differences emerged between the concepts of 'coping' and 'resilience', the importance of community-based resilience, particularly as influenced by intergenerational whakapapa and te ao Māori culture was prominent. These themes are further explored in the following sections, and each are introduced with illustrative whakataukī (Māori proverbs) and quotes from participants, capturing the essence of each theme.

3.2.1 Contemporary resilience: fostering growth and future thinking

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Whāia te iti kahurangi ki te tūohu koe me he maunga teitei

Seek the treasure you value most dearly: if you bow your head, let it be to a lofty mountain.

This whakataukī is about aiming high or for what is truly valuable, but its real message is to be persistent and don't let obstacles stop you from reaching your goal (R&I-8-M).

While understandings of resilience varied among participants, the above whakataukī, cited by one individual, encapsulated a key theme that resonated with many: resilience described as

transformation and growth. This emphasis on transformation and growth aligns with recent interpretations of resilience, which move beyond the original meaning of avoidance, withdrawal, or distancing, to encompass a more proactive and aspirational approach. Even when participants used more traditional references of resilience such as uphold, withstand, and function, they often linked these concepts to a broader goal of continuous improvement.

> *I think there's something in the idea of transformation. It's not just about responding and reacting to the same thing each time. We need to transform how we live* (COM-10).

> *I guess resilience for me is the ability of an individual or entity or organisation to…efficiently recover from external impacts in a way that allows them to function the way they have before, or even better, or withstand the impacts* (CCO-4).

The emphasis of transformation and growth was often associated with a long-term focus and a futures thinking approach. This was not limited to those in roles with a policy, planning, or strategy focus, but also those that had an operational and community engagement focus.

> *It's probably almost a little bit philosophical. To me, it is actually about a society being able to function in the way that it seeks to function, in the future* (PPG-18).

> *When we've had that massive storm event last year, when we've gone into recovery mode, resilience in that has meant pretty much building back, building back stronger, building back better, and some level of resilience and adaptation incorporated into every aspect of the recovery work just so, because we know those hazards are going to be there long term, they're going to get bigger. So we did not want to go back and build back like for like.* (CCO-2).

Although transformation was the dominant theme, some participants also noted the importance of minimising or reducing impacts as a crucial aspect of resilience. This focus on minimising impacts was also expressed through the lens of the 'four Rs' of emergency management: reduction, readiness, response, and recovery (Civil Defence, n.d.). Some participants viewed resilience as an outcome of the combined efforts of these four elements.

> *I think you can achieve resilience if you do all of those things well, but it's not one thing, it's not recovery, it's not readiness, it's not reduction of risk, it's actually all of those things can be resilience building activities. I think it's the foundational outcome (R&I-6).*

> *So, for me, resilience means that you have the best tools available to yourself to whatever situation is going to impact you that you can minimise the negative impact. You know, you won't be able to get rid of it, but you can minimise it or shorten it …*(R&I-5).

> *But I think my sort of informal definition for our purposes as a project is that it is how the ability of communities to manage, respond, to recover from negative events* (PPG-7).

Some participants referred to the concept of Te Whare Tapa Whā (Durie, 1998) as a framework[22] for understanding resilience. This model resonated with participants, particularly the symbolism of well-being built on a strong foundation and four sides of a whare representing the four cornerstones of Māori health. Participants used this illustration of a structure to conceptualise resilience. Another used the analogy of a rākau (tree) with many leaves to represent the multifaceted nature of resilience, drawing parallels to Te Whare Tapa Whā.

One participant highlighted how the model of Te Whare Tapa Whā lends itself to a *broad and holistic approach to resilience* by recognising *something broader than infrastructure* with *more intangible elements that help build up resilience*. Furthermore, several non-Māori participants also recognised the inherent resilience within Māori culture and references to Māori concepts. This suggests a broader recognition of the value and applicability of culture in resilience.

> *It's sort of like in te ao Māori, we think of Te Whare Tapa Whā and the foundations of the healthy person, or healthy life, any of those foundational things, foundational areas in the walls that help keep the roof up. So, for me, that's what resilience is doing. It's building those scaffolding, those foundational aspects of a community, of a person* (CCO-1-M).

> *But what I think does work quite well in the space is Te Whare Tapa Whā and thinking about that and translating that into this context* (PPG-7).

> *If there was a definition, I'm visualising … Te Whare Tapa Whā … because it touches on some of the things that I've mentioned earlier, that it* [resilience] *is multifaceted. It is all encompassing. When we* [Māori] *talk about intergenerational and being interconnected, this is just one model that gives an example of resilience of all of those things* (COM-14-M).

> *When I think about resilience. It's, difficult to put into, like not easy* [to] *korero about it, because I feel like it's a whole bunch of like circles that are interconnected. Or if it's like a rākau with many leaves on it, right? And each leaf represents something that overall, that rākau represents resilience* (COM-15-M).

Participants were asked to reflect on whether their understanding of the term 'resilience' had changed considering the 2023 storm events and the impact on their work programmes. While some participants reported no change in their understanding of the term, others noted a shift in their thinking or in the perspectives of those around them.

> *It hasn't necessarily changed our thinking, because I think we always were of that view, but I think it just gives us more of an opportunity to say the environment is* [spans] *right across the council group now to think about this a bit more collectively, and there's been a lot more appetite for these sorts of consideration* (PPG-13).

[22] Te Whare Tapa Whā framework includes four dimensions of well-being, represented by taha wairua (spiritual health), taha hinengaro (mental health), taha tinana (physical health), and taha whānau (extended family health) (Durie, 1998).

I've become more aware that it means a lot to different people, and that it's definitely one of those changes (R&I-5).

Yes, it has. It's broadened my thinking big time. Resilience was quite small, because I wasn't using it much, that word right. When I started in council I started as part of the resilience team, and then I had to figure out what that meant and what that looked like (R&I-8-M).

I think it's probably the first time I've actually, like, put words to it, because I felt resilient, like I've felt resilience, and I've known it, and my whānau, we have, we had discussed it without using the word resilience. Yeah. So, I think my relationship with the word was different. But actually, what I've described as the definition for myself as a resilience has always been there (COM-15-M).

This emphasis by participants on transformation and growth aligns with the contemporary understanding of resilience which prioritises improvement. This perspective was consistent across all roles and organisational divisions, whether focused on public-facing policy, community engagement, or operational delivery. While there was some reference to a functionality-focus, they were consistently underpinned by a futures and community lens.

3.2.2 Bouncing forward: redefining resilience beyond recovery

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Kia whakatōmuri te haere whakamua.

I walk backwards into the future with my eyes fixed on the past.

There is a Whakataukī … in English it refers to walking backwards into the future. It's like using that past knowledge to … plan and move forward into the future (COM-14-M).

When asked to reflect on the two terms of 'bouncing forward' versus 'bouncing back', the above whakataukī effectively captured the predominant sentiment among participants: a clear preference for the concept of bouncing forward over bouncing backward. This preference reflected a shared understanding of resilience as a process of growth and transformation, rather than a return to a previous state. The use of the whakataukī underscored the idea that bouncing forward involves leveraging past experiences and lessons learned, which is a key characteristic of resilience (Bahadur et al., 2013). This perspective was consistent across the diverse range of participant roles. Furthermore, one participant suggested that 'falling forward' might be an even more fitting description of resilience, emphasising the continuous learning and adaptation involved.

I immediately gravitate towards bouncing forward. …My interpretation of bouncing forward is learning from the experiences of our Tūpuna ….. What are those gems that we keep in our kete going forward? What are the changes that we need to make to mitigate, or…minimise the impacts of climate change (COM-14-M).

The concept of bouncing forward was linked to the recognition that resilience to climate disruption is a continuous, long-term process. This understanding encouraged a shared perspective of viewing bouncing forward through a future lens, acknowledging the inevitability of future climate events, particularly in light of the 2023 storm events.

> *I want people to be ready for next time, yeah, rather than a recovery* (R&I-5).

> *So, you're never gonna get back to what it was before. Yeah. So, you need to come back better or to a new sense of normal. It might not, hopefully it's better, but it might not be* (R&I-16).

> *We see resilience as not just return back. We see resilience there is a definite component for you to move forward* (PPG-3).

'Build back better' also emerged as an alternative phrase to 'bouncing forward'.

> *I've also heard the term build back better, yeah, So that... was always a term when, like, a typhoon hit, or there is sort of like, like, we need to build back better, we need to bounce forward* (CCO-1-M).

The emphasis on a forward focus was consistent across all roles and work programmes, regardless of whether they were centred on policy, functionality, or community, and is summarised nicely by this participant:

> *You need to be future focused* (PPG-13).

When discussing the term 'bounce back' participants noted that an implied short-term focus was less than ideal.

> *If we were only bouncing back and responding to something that we experienced, that's not going to be enough to build a resilient community of the future* (COM-10).

> *Look, the pressure to reinstate roads and access to people's homes was quite immense straight after the storm. So, there was that balance of, how do we, you know, planning for resilience would take some time, and we wanted to allow people access. So, we did, in some areas, reinstate roads immediately, but we were conscious that that was a short-term solution only, and long-term plans are being made* (CCO-2).

> *Because bouncing back is taking us back to somewhere where we were, and we've already moved on from there, and things have changed* (R&I-17-M).

Others felt that resilience incorporated both phrases. For example, for staff working in the area of infrastructure provision in particular there was a sense of 'bounce back' being focused on network capability, where 'bounce forward' was considered in the planning and building phase:

> *Because once the infrastructure is built, then it can only ever be a bounce back, but before it's built, and how it might be built, that's what you were describing as the bounce forward and the adaptation* (CCO-9).

The participants preference for terms like 'bounce/falling forward' and 'build back better' reflects a modern understanding of resilience that centres on adaptability. This preference underscores a shift away from the original Latin understanding of resilience, which implied withdrawal or distance. This contemporary understanding of resilience was reflected in internal documents, with the term becoming increasingly prevalent in plans, strategies, and even department names; for instance, the recently renamed Resilience and Infrastructure department. This widespread adoption of the term 'resilience', coupled with participants' preference for forward-looking terminology, suggests that the organisation, across all roles and areas, aspires towards future thinking and community transformation and growth. This proactive approach is particularly crucial in the context of climate disruption, especially given modelling projections that anticipate a rise in climate-related hazards.

3.2.3 Resilience altogether: from me to we

He waka eke noa

We are all in this together

When we are all paddling in the same way, that's one thing but we've all got to be able to last the distance as well…So there's a whole bunch of things at play with resilience and that's what it comes down to – relationships (R&I-8-M).

Resilience was also associated with the interplay of individual strength, collective action, and relationships as captured by the above whakataukī and description provided by one participant.

Individual and community resilience intertwined

For individual resilience, personal qualities like self-awareness and determination were discussed. One participant reflected on the importance of understanding oneself, one's limitations, and capacity in order to move forward after a shocking event.

> *…it's almost like kind of a bit of a wairua thing, like a Māori concept around keeping that inner strength through if you get knocked down, you've got to sort of try and get back up again. But, but do it a different way…I think resilience also to me, is understanding yourself as well. So it's like you and your limitations and your capacity as well* (CCO-1-M).

A focus on the importance of community was common despite the diverse roles of participants. For example, even those focused on tangible assets like infrastructure also ultimately viewed resilience through a lens that prioritised community well-being. The sentiments below highlight how the concept of resilience is deeply intertwined with the collective well-being of Aucklanders, reflecting the organisation's core role as a public service.

> *For me it is the consistency of service. So, we if we don't provide our service, then people can't live in their houses or conduct their business or be in Auckland, really. And so, for me resilience is our ability to make changes to the network and our operational parameters to make sure that people continue to be able to use and utilise our services safely* (CCO-9).

> *I think it comes back to really, if we're thinking about resilience and wanting to support community resilience, and how we do that with our infrastructure* (R&I-11).

Community connections were viewed as essential for building resilience. This was through strong relationships and a sense of belonging, which create a supportive environment that makes individuals and the community more resilient.

> *Again, you know the number one thing that helps a community during an event is knowing your neighbours and supporting each other to evacuate or to get through. That's resilience building right, from building social connection and cohesion* (R&I-6).

> *So, resilience is the ability , from my perspective, to understand and know what is going on, know what you can do when something happens. It's around the social connection and building the resilience of not just yourself, but of the others around you. So, it's a community, social connection and having the sense that you can do something yourself, almost like empowerment, in a way you don't have to rely on other people to save you in an emergency or tell you exactly what to do. So that's creating a form of resilience* (R&I-16).

One participant highlighted the vital role of marae in fostering a robust sense of community through serving as a place to *constantly come together* where *something* [was] *always on*. Another discussed how resilience for Māori stems from their core focus of community (e.g., the marae, mokopuna, rangatahi, iwi, hapū) in conjunction with a future lens.

> *So, it's not necessarily an individual resilience thing. It's actually, how do we make, how do we keep our community safe? How do we implement things that are going to future proof our marae for our mokopuna, for our young people that are coming through, not just about us, but about very much, future thinking* (CCO-1-M).

Intergenerational strength and the power of whakapapa

The positive influence of relationships was emphasised through the theme of whakapapa and the culture of intergenerational connections. Some participants felt that resilience extends beyond the present and encompasses a profound connection to past generations and focus on future generations. This understanding draws strength from the legacy of resilience demonstrated by ancestors and the continuity and flourishing of Māori culture. Notably, participants emphasised resilience as an inherent quality deeply embedded within their cultural identity, and not merely a response to adversity. This reflects the literature which acknowledges the significant efforts made to preserve and nurture cultural heritage in the role of resilience (see section 2.5.1).

> *I think resilience is intergenerational. It's thinking about our whakapapa, our korero tuku iho and the things that are important to us as Māori, what that looks like for tangata as teina … thinking about how we can improve the mauri of Tuakana, te taiao for future generations. So, I think that's why I think of resilience as being intergenerational* (COM-14-M).

> *It's about the collective. It's interconnected and interdependent, and it's also intergenerational* (COM-15-M).

> *We've got stories of resilience in our whakapapa already, and I think it's sort of hardwired into us to, yeah, to see it as maybe, there's probably a Māori word for it, but I can't think of one right now, but, yeah, we've probably had that idea of being able to move ourselves forward and then plan for the future quite a lot. …As Māori we like to think the collective and like to think in the future, in the sort of future generations* (CCO-1-M).

The recognition of the role of social connection and cohesion as a way to foster resilience for the collective reflects the literature, which identifies that how well communities come together following a disaster can 'dictate both the survival of its members and its recovery in the aftermath' (Graci, 2024, para. 7). Indeed, one participant highlighted how communities already considered themselves to have resilience, and council's role is more about how to further enable that resilience.

> *Probably one of the most consistent pieces of feedback we've had from our rural coastal communities has been that they feel that they are resilient, they pull together as a community. They have community resources and spaces and know-how which they would like to see more support in enhancing and kind of maintaining themselves. When we speak to communities … they will say we are quite capable of undertaking the actions, but we therefore want the funding and the support from council to be enabled to do so, which is really interesting, like they're definitely more autonomous and wanting to support their own resilience…* (R&I-11).

Collaboration is key

When asked to reflect on the responsibility for enabling community resilience, participants overwhelmingly favoured a partnership approach between communities and government entities, as captured by the statement below:

> *…it's all actually, it's central government, local government and community and whānau that kind of have to work together through all of these things* (R&I-5).

The concept of shared responsibility was underscored by the recognition that multiple interconnected pathways lead to change, acknowledging the need for diverse and varied approaches to achieve resilience. While participants recognised the shared responsibility for building resilience, they also noted that many communities, particularly in rural areas and within Māori communities, were already demonstrating resilience and an understanding of the community's needs. Discussions outlined that a future focus on fostering and empowering the existing resilience, through facilitating

access to resources, supports that self-determination and respects aspirations.

> *They* [Māori] *want to be able to make their own decisions on how they use their resources and their funding…for them to be able to exercise their own mana motuhake, for them to say, this is what is important to our whānau, to our marae, to our communities…I think in terms of equity, every community should have access to resources to meet their needs, and that will look different depending on each community* (COM-14-M).

The challenge lies in translating this collaborative ideal into practical planning and implementation strategies. Examples include one participant who quoted a sentiment expressed by a community member to them,

> *We're* [the community] *already resilient. What are you talking about? Look at what we've just come through, we're still here…Don't come in here and tell us to be resilient; we already are* (R&I-6).

Another example was provided through an operational lens:

> *…take infrastructure as an example, that would be a tricky one to work into a community empowered approach, because…networks are, by their very nature, multi community networks, and those providers have responsibilities across all of those communities* (PPG-18).

This suggests a need to balance top-down support with bottom-up community-driven initiatives. While one participant noted the current political will for storm recovery (resulting in resourcing), another pointed out the challenge of shifting this from immediate response to supporting communities in long-term climate disruption adaptation and therefore long-term time scales. Other barriers to enhancing community resilience were around funding timelines (e.g., annually applied budgets), waiting for central government guidance, and challenges around better council organisation. One infrastructure discussion highlighted how centralising for cost efficiency may compromise the flexibility, redundancy, and diversity necessary to build resilient systems due to a focus on reducing costs.

The internal focus on a collaborative approach, or at the least a dual approach of enablement and action, contrasts with the literature which suggests that community-led resilience shifts responsibility from government (see section 2.6). Instead, this internal emphasis points to a more equitable framework where responsibility is shared, and communities are empowered to participate in shaping resilience strategies. This approach ensures the inclusion of diverse perspectives and aligns with the World Cities Report 2024: Cities and Climate Action which urges the development of locally appropriate solutions, stressing the necessity for participatory and community-led action (UN-Habitat, 2024)

This collaborative approach was further strengthened by its emphasis on understanding the voices of those who may lack representation, as articulated by one participant:

> *Well, society is the future generations as well as the current. It is those that, often through representatives, don't get a stronger voice, and therefore through engagement practices, we need to understand those voices. Society is all about looking after those most vulnerable and ensuring that they actually get the support they need* (PPG-18).

This commitment to inclusive engagement is intended to ensure that resilience-building efforts are not only effective but also just. Participants provided compelling examples of how this commitment to equity translates into action. The feedback from rural and coastal communities who emphasise that their existing resilience and desire for further enablement, along with the prioritisation of Māori communities' autonomy in utilising resources, demonstrated a clear understanding of the importance of empowering communities to build resilience in ways that best suit their needs and aspirations. This approach acknowledged that equitable resilience building requires not only providing resources but also respecting the knowledge and agency of those most affected by climate change impacts.

3.2.1 Te ao Māori: weaving spiritual and cultural roots into resilience

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Ka whaiwhai tonu mātou, āke āke āke

We will fight forever and ever and ever.

So when I think about resilience, a part of my feeling towards resilience is no matter what... we will still continue to fight for the wellbeing of our people and whenua (COM-15-M).

This whakataukī, shared by a participant, encapsulates a recurring theme of the inherent resilience of te ao Māori, woven through its culture and spirituality. Discussions revealed that these aspects are not simply contributors to resilience, but rather, they embody resilience itself. Several participants emphasised that Māori culture, in its essence, is resilient, as demonstrated through sustained efforts to preserve and revitalise cultural practices, language, and knowledge. One participant articulated this inherent resilience:

> *I mean, you know, if we look at Māori culture, it's a very resilient culture to consider kind of where it's been, and what you know, where it is now, and in the face of all of that adversity, yeah, you know, it has been very resilient and persisted, which is awesome* (R&I-17-M).

Participants articulated how cultural and spiritual practices interweave to form a foundation for resilience in te ao Māori. Rather than being isolated, these interconnect and contribute to a sense of belonging and identity that translates into resilience. For example, understanding one's whakapapa and connection to tūpuna were discussed and connect to the idea of drawing strength from the past to move forward (see section 3.2.2) and an intergenerational way of life as placing community at the core of resilience (see section 3.2.3). Expressing knowledge through tukutuku and mātauranga Māori, recognising tohu and being attuned to te taiao were also mentioned to demonstrate the enduring

nature of Māori knowledge systems and the ability to adapt and innovate while maintaining a strong connection to cultural traditions. Karakia and waiata were also highlighted, with these practices grounding individuals and communities in their cultural heritage and spiritual beliefs, providing a source of strength and guidance for navigating challenges. These practices reinforce a sense of belonging, shared history, and collective responsibility.

> *When I think about resilience... I feel like it's a whole bunch of like circles that are interconnected. Or if it's like a rākau with many leaves on it, right? And each leaf represents something that overall represents resilience* (COM-15-M).

These sentiments reflect the literature which highlight how core values of Māori culture (e.g., manaakitanga, kotahitanga, whanaungatanga) and spiritual practices are an enabler for resilience (see section 2.5.1). Similarly, the literature also states how te ao Māori community resilience is 'not a switch...but rather a lifestyle' (see section 2.5.1). This was apparent in one participant's discussion when highlighting the differences between emergency response centres (Civil Defence and community emergency hubs), which are only activated at certain times, compared to marae, which are constantly activated.

> *Marae are constantly coming together... Whether it be cultural practices or whatever it is, they're doing something. So, they're always activated, no matter what* (R&I-8-M).

The significance of the marae as a central community hub was also highlighted as forming one pou that represents resilience for some iwi. When reflecting discussions with iwi, one participant discussed how resilience was conceptualised through a framework of four pou, representing interconnected elements that contribute to a holistic model of resilience. This framework echoes earlier discussions on the adaptability of the Te Whare Tapa Whā model to encapsulate resilience (see section 3.2.1). The four pou identified were:

- Taonga species: The natural environment, including plants and animals, is imbued with cultural and spiritual significance. Protecting and nurturing these taonga species is integral to fostering long-term resilience.
- Culture: A rich cultural heritage, including language, traditions, and spiritual beliefs, provides a sense of identity, belonging, and continuity. This cultural foundation fosters inner strength, guides decision-making and strengthens community bonds – all vital aspects of navigating challenges and adapting to change.
- Capacity: The ability of iwi to effectively manage resources, develop their skills, and adapt to changing circumstances is crucial for their resilience.
- Marae: The marae, as the central hub of the community, plays a vital role in fostering social connection, preserving cultural practices, and providing a space for collective decision-making. It embodies the spirit of collective resilience.

There was further reference to the benefit of te ao Māori worldviews and their innate approach of seeing the whole system because it's all interconnected. This concept of interconnection extended to infrastructure itself, with one participant acknowledging that while networks may be 'lineal' they serve multiple communities and have multiple stakeholders requiring coordination, all relative to the outcomes that are sought by those communities. Infrastructure itself was described as a system

which also had to consider people's expectations.

The above reflections highlighted how resilience stems from the convergence of cultural and spiritual practices, strengthened by intergenerational connections and whakapapa. This underscores the importance of culture in fostering community resilience, as highlighted in section 2.5.3. The connection between culture, spirituality, and resilience underscores the vital role of meaning-making in fostering community resilience, a concept that resonates with the neurobiology of resilience, where a sense of meaning is recognised as a key factor (see section 2.5.3). Additionally, the prevalence of te ao Māori concepts, regardless of participants' backgrounds, supports Tassell-Matamua et al. (2022) suggestion that Māori culture's influence on resilience can extend to non-Māori communities (see section 2.5.1).

3.2.2 Resilience and coping: two sides of the same coin

Coping is just we're getting along... I feel like there's mana within resilience (COM-14-M).

While the term 'coping' was often not part of how participants initially defined resilience, further prompting by the interviewers sometimes revealed that they did consider coping mechanisms to be within the spectrum of responses that contribute to resilience. There were three sub-themes in their responses:

1. Reactive (coping) versus proactive (resilience): the difference between reacting to a situation and actively planning for potential challenges. For example:

   I think coping is about when something negative has happened and your ability to survive, resilience, in some cases, can help protect you from the negative thing happening (PPG-7).

2. Survival (coping) versus thriving (resilience): the difference between simply enduring adversity and using it as an opportunity for growth and development. For example:

   So, I guess coping is kind of somewhat in a bit of like surviving state. Resilience still isn't that surviving, but it's more towards thriving (COM-15-M).

3. Getting by (coping) versus building up (resilience): the contrast between directly managing challenges on a basic level compared with accumulating life experiences to 'build-up' resilience. For example:

   I think coping is just getting through ... almost like on a daily [basis] *what's in front of me right now, right? .... And I don't see where social cohesion fits into coping, whereas resilience is something that you build up and you're stronger together* (CCO-1-M).

Another theme centred around the acknowledgement that the terms 'coping' and 'resilience' are not mutually exclusive [23] but are at ends of a spectrum. Resilience encompasses a dynamic approach that seeks to minimise negative effects and reinforce positive outcomes.

> *I think that comes back to that spectrum, yeah, because you can be coping, or you can be coping well, and you can be starting to be resilient, like you're increasing your resilience in some area, but or you're fully resilient, and you're really adaptable, and you can roll with the punches and be coping pretty well* (R&I-5).

> *Yeah, I think coping is essentially a subset of resilience, because coping seems to suggest that you're accepting some level of change. Resilience might be about potentially restoring habitat so that they're more, as you know, they're more able to withstand any change that comes* (PPG-13).

3.2.3 The path of resilience: an ongoing journey

To me, resilience is a journey. It's definitely a journey (R&I-8-M).

Participants consistently described the contemporary understanding of resilience – focused on transformation – as a process, often framed as a 'journey'. They emphasised that this journey is constant and requires a long-term focus. This aligns with the literature's perspective that resilience is a response, and therefore is a process, to adversity that cultivates the trait of being resilient (Figure 4). Examples of participants using terms like 'process' and 'journey' to describe their understanding of resilience include one participant reflecting on their personal journey of reconnecting with their whakapapa and culture as a key contributor to their resilience. Other examples include:

> *It's a journey, isn't it, and conveying that as when you talk to people, as a journey, that it's not an end point that you're gonna get to, and it's something that takes constant work* (R&I-5).

> *...whereas resilience is more, I think, a larger, longer term, ongoing thing. You're never going to be resilient. You're always going to be striving for resilience. I feel it's a journey. You're never going to, sounds horrible, but you're never going to reach the end, because there's always more ways you can improve, change, think differently, to keep improving your resilience to a certain thing* (R&I-16).

> *And obviously, recovery is in on a big continuum of ups and downs and things like that. So you're not just going to immediately get back and better, but it's a process. It's a journey, and it could take a long time* (R&I-16).

[23] Supporting the suggestion that coping and resilience are not mutually exclusive is how the term 'cope' has recently been incorporated into the IPCC definition of 'resilience'. The use of the term 'cope' seems to replace the terms 'absorb', 'accommodate', and 'recover' (see Table 4), and suggests the desire for a more nuanced understanding – or spectrum per se – of how coping can translate to resilience.

These examples showcase the shared understanding among participants that resilience is not a static state but rather a continuous and evolving process and underscores the recognition that building resilience requires ongoing effort and adaptation, particularly in the face of climate disruption. It also complements the focus on bouncing forward (section 3.2.2), drawing on a collective strength (section 3.2.3), and the positive influence of cultural roots (section 3.2.1).

3.3 Application of resilience in daily work programme

Mahi world -everywhere, all the time
Prior to mahi – …never…I felt like it was a buzzword (COM-15-M).

Participants were asked to reflect on the use of the term in their regular work programme, and whether they felt there was a shared understanding with others. While the term 'resilience' served as a shared concept for participants, its presence in their everyday language and work practices varied considerably. This variation stemmed partly from their roles and partly from a conscious effort to avoid the use of the term, especially when engaging with communities.

> *For my work, it's a daily word* (CCO-4).
>
> *In terms of using that word, no, no, you rarely ever hear it* (R&I-8-M).
>
> *Oh, everywhere. Oh, well the initiative is called resilience, true. So that goes everywhere, our outward-going comms, like our brochures, like our flood guides say, like, creating resilient homes, things like that. We try and avoid it in conversation with like the public, with the community…. Don't tend to use it too much internally now, because I think it's used so much and it has all so many different meanings that like you to make sure you're on the same kind of page. You actually just want to explain what you're trying to get to, yeah, like, or that path that you're trying to identify. You know, I might say, like, I would like people to know that they should clear a gap under their fence, rather than like, I want this over flow path to be more resilient. Yeah, just, just be direct.* [Is there a reason why you don't use it with community as much anymore?] *Just because I've heard from the Recovery Office that people are sick* [of] *being told, like, oh, we want you to be resilient and such* (R&I-5).

A notable pattern emerged where participants whose roles centred on direct community engagement tended to use the term 'resilience' less frequently than those involved in policy and infrastructure. This difference likely reflects a sensitivity to community feedback, suggesting a potential disconnect between technical applications of 'resilience' and its reception among the public. Participants highlighted the need for more direct and clear language when discussing resilience, particularly with communities. For example, for one participant there was a deliberate decision to change the role of their title from Resilience Advisor to Education and Youth Advisor. This emphasis on the need for greater clarity of the term reflects the recommendation of The National Adaptation Plan (Ministry for the Environment, 2022).

Opinions varied on whether there is a collective understanding of the term across Auckland Council divisions, departments, and teams. Within teams, even without a clear process for establishing a shared definition of resilience, team members felt that any ambiguity in understanding the term would become evident. This implies that team members could discern differences in how their colleagues understood or applied the concept of resilience in their work.

> *We all have our own definitions of resilience, and they're all correct altogether, we just don't define it together* (COM-15-M).

> *it's just interesting to think, me to think how it could mean different things for Māori and yeah, I think we're all on the same page as to what it is, but I think if you spoke to everyone in our team they'd have a different definition perhaps but similar theme, but probably from a different worldview* (CCO-1-M).

While there was a tendency towards referring to infrastructure resilience from a focus of withstanding climate-related hazards (bounce back) across a variety of organisational roles, this was in conjunction with acknowledgement of social factors such as community.

> *...we are taking it very much as a physical assets portion of resilience. I know there are the aspects to socio economic, etc, but at the moment, for us, having 30 billion worth of assets in hazard areas is where we focusing to understand, how do we make our network more resilient? And that might be just the physical aspects* (CCO-2).

> *So I believe, in terms of resilience for infrastructure, mostly the feature like technical side or organisational side, is more important whereas when you're talking about the resilience for community, the social aspect and economic aspects really comes to your mind* (GSO-12).

> *Yeah, so that's why we say resilience of assets like roads or water, pipes and resilience services, networks and resilience, organisation resilience, communities and resilience, environment and environment is like the overarching um scope, yeah. So, everything under that, it operates within the resilient environment* (PPF-3).

3.4 Navigating challenges and leveraging opportunities for climate resilience

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Kaua e mate wheke, mate ururoa
Don't die like an octopus (that gives up easily) die like the shark (that keeps on fighting) (R&I-17-M).

To understand how the 2023 storms influenced adaptation and resilience strategies, participants were asked to reflect on factors that helped or hindered resilience-building for climate disruption.

This reflection can show how policy language (like ‘resilience’) translates into practical actions. Their reflections clustered into themes that could act as both barriers and enablers.

3.4.1 Resourcing

The 2023 storms served as a catalyst for increased political attention and financial support for climate resilience initiatives. While the events were undoubtedly destructive, they also created opportunities to advance adaptation projects crucial for future resilience.

> *…we have a lot of political will now, and we have financial* [resourcing]*, which is really nice, from before* (R&I-5).

However, the need for flexible and long-term funding models was highlighted. Multi-year and non-contestable funding were noted as particularly beneficial for work associated with enhancing the resilience of marae.

> *… multi-year funding is so much more helpful for marae…. a huge barrier for marae is funding … so having multi-year non contestable funding is also really helpful* (COM-5-M).

At the same time tensions between short-term cost savings and long-term resilience needs were raised by those involved in infrastructure planning, emphasising the need for a holistic approach to decision-making that considers the long-term value of the infrastructure asset(s).

> *The cost of the adaptability and flexibility can sometimes get removed when we’re trying to be the low-cost provider …there’s these ongoing issues about who is going to be owning this asset, who is going to maintain it, some very operational questions* (CCO-9).

> *Bringing about long-term thinking has been, I guess, an ongoing struggle, because there's so much on their* [facility managers] *plate. And so we're like, yeah, let's just throw this other thing on your plate. … you need to focus on maintenance and repairs and all that. And so bringing the discussion of potential future climate impacts and climate projection, it's like a whole different piece of work, and like, information and content that they're not familiar with. I need to brief them and … introduce these concepts to them to be able to do the work I do. … it's sort of an educational piece as well, making sure that they understand what I'm talking about, why we're doing it, and the importance of doing it as well* (CCO-4).

Associated with this was the acknowledgement by some that building resilience is a process requiring a shift away from a short-term mitigation outlook towards longer-term plans. This reflects the view that resilience for climate disruption is not immediate.

> C*hange* [adaptation and resilience] *is not effected overnight, and that this kind of change* [adaptation to climate disruption] *is generational* (R&I-17-M).

This was also highlighted in relation to time scales, with one participant noting that while extreme weather events are considered in a short-term focus (i.e., an event), asset planning related to those places for the events looks at longer timeframes.

> *When we're thinking about events, we're thinking about extreme weather events that could potentially happen on the day. We're not thinking about what will happen in five to 10 years. But then when we talk about assets, we're thinking more of like that 30, 50 and 100 year cycle* (CCO-4).

With this timeframe challenge comes the complication of political decisions (central and local government guidance) and how forward planning beyond 15 years was difficult to commit to (for roading) while waiting for central government guidance. Despite this, during the 2023 storm recovery futures thinking was incorporated into hazard mitigation where short term re-builds were encouraged to look for funding to build resilience into the build back projects.

Resourcing challenges were also linked to the tensions between ongoing operational questions relating to maintenance and how to build in both the evaluation of resilience decisions but also how to build in continuous improvement.

> *For example, so our planning rules from 2016 may not be fit for purpose anymore. So how do we have a more agile approach, not just durable, but an agile approach, so that we can actually get best practice being used, in addition to any bottom lines that might be set out in a planning document* (PPG-13).

The interconnection of the resilience of both the natural environment and infrastructure assets in fostering overall community resilience was also discussed. It was recognised that both the natural environment and infrastructure assets have social, cultural and economic implications for community resilience. An integrated approach to strengthening these systems was highlighted as a way to contribute directly to the resilience of the community.

The 2023 storm events also underscored the need for, and benefit of, adaptive planning prompting a re-evaluation of climate-related hazards. For example, adaptation planning for roading infrastructure was initially focused on coastal roads, but the impact from the storms highlighted the need to consider a broader range of hazards including inland flooding and landslides. This shift led to the development of a framework to predict landslides, moving beyond a reactive recovery mode. Furthermore, the severity of service outages experienced due to landslides necessitated a revaluation of existing thresholds and a commitment to building infrastructure enhanced resilience.

3.4.2 Community engagement and communication

There was a clear emphasis on the need to recognise that different communities in Auckland have varying levels of autonomy and preferences for how they want to approach resilience. For example, some communities believed they were already being resilient and wanted support to enhance their own capacity. Through their extensive engagement with different communities, one participant highlighted that different kinds of engagement strategies would need to be developed in response to different needs.

> *I really want to try and increase the availability of the information and knowledge for disabilities and people who need it in a different format or a different way* (R&I-5).

Related to this was the importance of clear communication, especially when using the term 'resilience'. One participant stated:

> *You can't just say resilience. You have to say resilience to what. It's really got to be actually not just thrown out there. It's got to be defined with regards to what it is that you are specifically talking to* (R&I-16).

It was noted by some participants who were involved with communities after the 2023 storms, that the use of language is important. For example, inferring that communities need to be more resilient can be inappropriate, particularly in the immediate aftermath of a disaster. Those involved with community engagement, and in particular around recovery from the 2023 storm events, found some communities had a strong negative reaction to the term 'resilience' because they perceived it as invalidating the resilience they had already demonstrated. This has led to a shift away from using the term 'resilience' (see section 3.3).

One participant recognised that climate-related communication is not always understood by everyone. The term '100-year event' is often misunderstood, with people assuming it means they are safe for the next 100 years after such an event occurs. There is a need for clear communication about the likelihood of future extreme weather events and how to prepare for them.

> *… an adaptation plan that we've completed just recently* [post the facility being affected by Cyclone Gabrielle], *I asked…"have you thought about how to build … the asset so it withstands future impacts, looking at climate projections and considering that?" And the answer was, "No, we're building it like-for-like" …. the whole term of the one in 100 years is so ambiguous and people misunderstand. … it's a one on 100 year. It happened. No, that's not what it means* [that we're safe for the next 100 years] (CCO-4).

Māori participants involved in an advisory role, particularly those engaged with iwi and marae, expressed an ingrained dual responsibility that stems from tikanga and in the integration of their personal and professional selves. Practices such as whakawhanaungatanga bring the whakapapa of these kaimahi to their mahi, where professional work is inherently intertwined with personal obligations.

> *…because not all of our marae or our iwi will actually think highly of Auckland Council, but I think it's a part of resilience, I think for us, is recognising, bringing our personal selves to this mahi, rather than your roles* (COM-15-M).

While this integrated approach provides a strong foundation, challenges were also identified. These included the need to improve coordinated engagement processes by Auckland Council and the historical influences of colonialisation also contributing to an ongoing barrier for more resilient outcomes.

... the continuation of colonisation is a huge barrier. There are other kind of lesser [barriers] *...the better coordination internally within Council... So Council's better coordination and a better strategy and how we engage with Marae and iwi and also organisation wide recognition that marae and iwi are different entities.* (COM-15-M).

3.5 The dilemma of defining resilience: should we even try?

I don't know if it's a definition per se, but some sort of a narrative that speaks to these things on a temporal and a spatial basis and an outcome basis (PPG-13)

The study provided an opportunity to gauge participants' perspectives on the benefits and practicality of a single organisational definition of resilience.

While some acknowledged the strategy of a standardised definition to streamline processes and policies, there was also a predominant sentiment that in doing so it may be overly restrictive and fail to capture the nuances of the term (see section 2.7).

> *I feel like there needs to be, like a core, foundational definition. But I feel like resilience is defined or understood in so many different ways by different people. Like when we talk about individuals, resilience can mean something completely different. And then if we go larger to communities that, again, could be different. And then assets and they're just different so they it's, yeah, I don't know whether there could be ... a foundational concept of what that could look like to the stakeholders or the groups, but then having just one definition, I feel is, is, could open the doors to just people not engaging with the terms like, oh, I don't know how to relate to this* (CCO-4).

Some felt that a single definition was not as important as the intention of the work:

> *I think it's not necessarily as important that we all are using the same definition. But I think lots of times we just do things, yeah, we're not intentional about what we do, and we're not clear. I think that is more important in some ways* (PPG-7).

> *I think it's useful having a bit of a narrative around what actually is resilience, because otherwise you're not going to get this sort of broader appreciation of the construct on which it exists. So, I don't know if it's a definition per se, but some sort of a narrative that speaks to these things on a temporal and a spatial basis and an outcome basis ((*PPG-13).

The research highlighted potential tensions arising from the diverse understandings of resilience across different communities, emphasising the challenges of establishing a single definition that effectively represents all stakeholders. This underscores the critical need to engage iwi, hapū, and whānau, alongside their communities, in shaping the framing of resilience, particularly as their voices

are not directly represented in this research. This also reflects the themes in section 3.2.3 which highlight the emphasis on collaboration and enabling community autonomy.

> *I'm reminded that the mahi I do is the direct result of engaging with rangatahi, mana whenua, iwi and marae and listening carefully to each of their different experiences and aspirations. In the same way, resilience looks different for each of them, shaped by their core values, beliefs, culture, lived experiences and the communities in which they live and engage with. It is important that iwi, hapū, marae, whānau and hapori Māori are empowered to define what resilience means to them* (COM-14-M).

The consideration of this is important as some participants discussed how the use of the term 'resilience' with some communities was unwelcome (see section 3.3). Additionally, as outlined in section 2.2, meanings of resilience and how it has been applied has evolved. For example, one participant discussed how the term 'resilience' had been removed from a network name to communicate more clearly the role.

> *So a lot of them, like the Devonport Resilience Network, has talked of going back to being Civil Defence Group. So a lot of them have kind of tried to seek more clarity around actually what their role is, and have called it out and been a lot more specific* (R&I-6).

Recognising the benefits of acknowledging these nuances and the evolving nature of resilience, and the cultural context underscores the necessity for all policies, reports, documents, and hui to clearly define what the term means within each specific context to ensure clarity for all audiences. This is consistent with the literature which encourages identifying the meaning of resilience for the specific context (Ministry for the Environment, 2022). Additionally, given the research highlights people think they have a shared understanding of terms that is not always the case (Marti et al., 2023)

3.6 Adaptation and mitigation: core elements under a resilience umbrella

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> *I feel they're all together. What I believe in this, if you do mitigation and adaptation together, collaboratively, correctly, then you have a beautiful umbrella of climate resilience, where it protects you from all the other things. So that's how I like to talk about how they interweave with each other* (CCO-4).

As the terms 'mitigation' and 'adaptation' are frequently used in discussions about climate disruption, often alongside the term 'resilience,' participants were asked to share their understanding of these terms and how they are applied in their work. Given this followed extensive discussion of the concept of resilience, in conjunction with how these terms are often used in the same context for climate action, there was a trend in participants' responses to position resilience as an overarching

framework, with adaptation and mitigation as integral components. This included the conceptualisation of resilience as an 'umbrella' term under which adaptation and mitigation sat. This perspective was reinforced by participants who saw these terms as interconnected and mutually supportive, further solidifying resilience as the unifying concept.

> *I think resilience sort of works in amongst all of it, it* [resilience] *could be potentially the umbrella word that links the two together* (CCO-1-M).

Themes associated with adaptation highlighted a forward-looking perspective, emphasising the reduction of climate disruption impacts on people's lives. Participants frequently described adaptation as a proactive approach to shaping behaviour and systems to prepare for future challenges. However, one participant did also highlight the juxtaposition of this – in that adaptation could be perceived as a form of concession.

> *Adaptation, I think we're talking about planning for a different future. Planning for a future that's going to look different from a climate perspective* (COM-10).

> *… adaptation is understanding your potential climate impacts and reducing those, your risk to those impacts…* (CCO-4).

> *But adaptation can also mean that we're also giving in, you know, so it's like, have we just given up, or are we just gonna try and move inland until there's no land left. So, yeah, adaptation also breeds and builds resilience, because we have to be resilient to be able to adapt and I think they sort of work together a little bit* (CCO-1-M).

Mitigation was associated with themes around reducing emissions, lessen or avoid the impact of climate disruption, and to reduce warming.

> *In a climate conversation, when you talk about mitigation, you're normally talking about reducing emissions* (COM-10).

> *I think of mitigation as being how can we reduce the impacts, so the extent of climate change, so very much focused on how do we reduce warming* (PPG-7).

Some participants commented on a shift from a focus on mitigation (i.e., reduction of carbon emissions) to that of adaptation (i.e., lesson future climate impacts) since the 2023 storm events. However, in tandem with this was the trend towards the need for a parallel focus on mitigation and adaptation for resilience to climate disruption overall. However, this parallel focus was not observed by all roles, with the sense that a focus on mitigation behaviours was lacking.

> *…I feel like now, because of people's attention post flood event, on adaptation and resilience, sometimes I almost feel like the mitigation gets overlooked. Yeah, you're just doing everything to increase your resilience. But for me personally, I think mitigation is always something you need to take into consideration when you are doing those resilience or adaptation actions, because otherwise it's almost like you are leaking the swimming pool by keep putting water in, it is something you*

> *are not fixing. If you keep emitting those greenhouse gas emissions into the atmosphere climate change is getting worse, and you will keep adapting to an ever-worse climate* (PPG-3).
>
> *Under the climate resilience pillar, it does focus on adaptation planning and climate risk. But when we do socialise it with, or introduce it to, internal staff, we've always prefaced it by saying to foster genuine climate resilience, we need to work on emissions, like mitigation, and adaptation hand in hand. Yep, both and shouldn't be siloed, and needs to be thought of collaboratively* (CCO-4).

Participants more readily described adaptation than mitigation. This trend may have been influenced by some participants having roles focused on adaptation, while others admitted a lack of clarity in distinguishing between adaptation and mitigation. The relationship between resilience and adaptation was also blurred for some participants, with the terms often being used interchangeably.

Only one participant directly discussed how mitigation, relating to infrastructure construction, formed one aspect of their role through its association with the organisations role in reducing carbon emissions. Another participant with an infrastructure focus explicitly did not consider mitigation part of their remit due to its end-user behaviour focus on reducing emissions. A lack of discussion about organisational responsibility regarding mitigation suggests a potential blind spot, where there may be greater outward focus compared to internal focus. This could be somewhat associated with the focus of the research on resilience, and also an influence of an organisational focus to serve Aucklanders.

3.7 Conclusion

Participants' understanding of resilience was not limited to simply recovering from setbacks. They saw it as a transformative process focused on growth and future-oriented thinking. This was viewed as a long-term journey, rather than a destination.

The concept of resilience was not limited to individual capabilities, but also stemmed from collective action and strong relationships. The role of Māori principles such as whakawhanaungatanga and whakapapa were emphasised as a way to draw strength from ancestors while also focusing on future generations.

The focus on community outcomes was a common theme across different roles and work programmes. Even participants with an emphasis on infrastructure and planning, while acknowledging aspects of withstanding and functionality, ultimately prioritised community outcomes. This indicated that the organisation was strongly focused towards an aspirational goal for all.

Participants expressed mixed feelings about a single organisation definition, noting that it may be too restrictive. Instead, there was an emphasis on a clear understanding of the context. Some also highlighted how a single definition may not be inclusive of different world views.

4 Discussion

The concept of ‘resilience’ is complex and is understood differently across various contexts. While there is debate about whether a universal definition is possible or even desirable, there is a clear need to consider how the term is used, especially as the study revealed how those working with communities are shifting away from using it, while those with infrastructure and policy work programmes continue to use it.

This section is presented in two parts. The first part synthesises understandings of the term ‘resilience’ from the literature and kaimahi perspectives and translates that into the concept of a weave that aims to visually represent an *internal* perspective of resilience for climate disruption. The second part discusses the practical implications of how to apply the term ‘resilience’ for climate disruption moving forward.

4.1 Threads of resilience: weaving concepts together

This study demonstrated that resilience is built from the integration of diverse themes, rather than discrete capabilities. The shift in the understanding of resilience, moving from a notion of avoiding negative impacts to one that actively encompasses adaptability, growth, and transformation, was apparent. The perspectives of kaimahi reaffirm the focus towards transformation and growth but also stress the critical importance of being underpinned by a community focus. This community focus was apparent across work programmes regardless of organisational role. There was also an emphasis on a collaborative approach and the inherent influence of culture.

Figure 7 encapsulates elements of resilience for climate disruption identified in this study. This illustration integrates diverse themes from the research and includes culture, community, transformation, and future orientation. It includes Māori principles distinct to Aotearoa New Zealand, including whakapapa (intergenerational connections), whanaungatanga (relationships), manaakitanga (care and support), kotahitanga (collective action), mana (prestige/influence), kaitiakitanga (stewardship), and wairuatanga (spirit). These intersect with broader concepts of resilience including adaptation, transformation, collaboration, empowerment, mitigation, community, and a journey or long-term process.

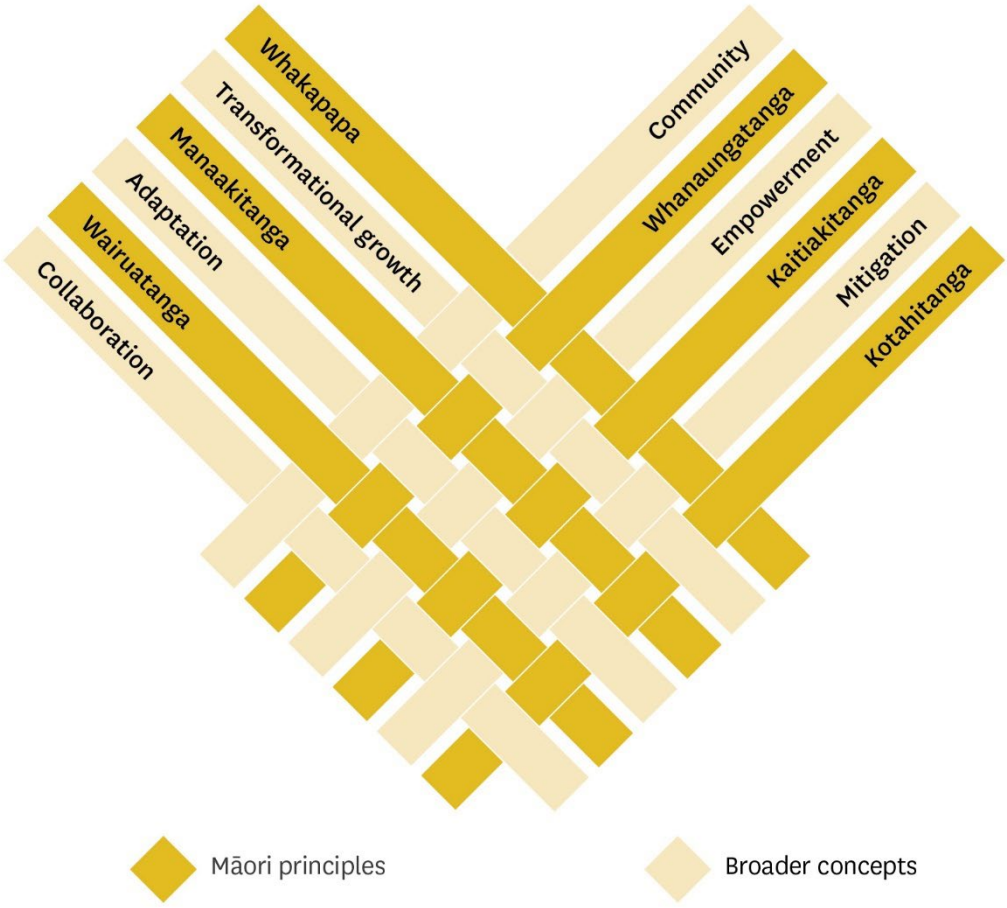

Figure 7: Integrating elements (Māori principles and broader concepts) identified in this study that contribute together to the concept of resilience. Each 'strand' can stand alone, however, through the metaphor of weaving them together they may also collectively contribute to resilience

4.2 Practical implications

Although the literature demonstrates that the term 'resilience' has diverse applications and interpretations across various contexts, the collective kaimahi perspectives in this study showed a strong convergence toward a community-centred understanding. This shared understanding included those in infrastructure-focused work programmes, who also emphasised community alongside traditional notions of capability and resistance. However, the study also identified a key tension: some kaimahi working directly with communities have shifted away from using the term 'resilience' while those in policy and infrastructure continue its use. This divergence reveals a potential disconnect between the term's use in policy and strategy and its actual application in community engagement. Participants working with community conveyed a preference for explicitly defining desired outcomes that would serve to enable resilience rather than relying on the term 'resilience'. While such an approach may be challenging for policy and strategy development, given

its broad and overarching nature, there may be benefit in better clarifying what the term 'resilience' means for climate disruption contexts. This may involve being more explicit and using mitigation and adaptation, although similar challenges may be associated with those terms and Aucklanders' understanding of those terms.

The research underscores a need for Auckland Council to balance top-down support with bottom-up community-led initiatives. Although the literature review identified concerns that shared responsibility for resilience may absolve government of accountability, interviews with Auckland Council staff revealed that some communities who have engaged with Auckland Council see its role as fostering and empowering their existing resilience. This requires government processes to move beyond short-term cycles, such as some annual grant allocations, to match the longer timeframes required for resilience building.

The future possibility of establishing a single definition of resilience for climate disruption elicited varied responses from participants. Consistent with the literature, while the potential benefit of a standardised definition was acknowledged, participants also expressed concerns regarding the challenge to represent all viewpoints. Despite resilience being used in several policies and plans (see section 1.1.2), currently only one strategic plan, Tāruke-ā-Tāwhiri: Auckland's Climate Plan, defines the term [24]. The definition used reflects some concepts from the IPCC 2012 and 2014 definitions of resilience but has been amended slightly including references to 'community' and 'society' and the use of 'recover', 'preservation', 'restoration', and 'risk management'. In 2022, the IPCC definition of resilience was updated to include social and transformation concepts.

> *The capacity of interconnected social, economic and ecological systems to cope with a hazardous event, trend or disturbance, responding or reorganising in ways that maintain their essential function, identity and structure. Resilience is a positive attribute when it maintains capacity for adaptation, learning and/or transformation* (IPCC, 2022, p. 2921).

To promote consistency and limit confusion, the above IPCC 2022 definition, which broadly represents many participants' perspectives, could be considered for future policy use, if a single definition is necessary. However, given a key finding of this study was the importance of cultural values, meanings, and indigenous perspectives in shaping resilience, the inclusion of these aspects in any Auckland Council description of resilience is critical. These are not currently represented in the IPCC definition. It is important to reiterate that this study focused solely on kaimahi perspectives and did not explore the views of the broader Auckland community. Understanding the perspectives of the Auckland community would be required as part of any future process to develop a single definition.

The evolution of the term 'resilience' underscores the necessity for holistic and integrated strategies, where adaptation, mitigation, and coping mechanisms are interconnected elements rather than separate approaches. The challenge will be to allow clarification of the term 'resilience' to be broad enough so that Aucklanders can find a place according to their interests (Normandin et al., 2019), but

[24] Tāruke-ā-Tāwhiri: Auckland's Climate Plan defines resilience as: The ability of a system, community or society exposed to hazards to resist, absorb, accommodate, adapt to, transform and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions through risk management (Auckland Council, 2020, p. 175)

without it becoming increasingly ‘vague and woolly’ (Olsson et al., 2015). The woven illustration (Figure 7), which serves as a metaphor, demonstrating how the various elements that contribute to resilience are interconnected and mutually supportive, may provide a way to overcome this challenge. Therefore, the woven illustration may serve as a practical way to translate a definition into more distinct concepts that describe what shapes an individual’s capacity for resilience. If that is the case, then understanding the communities’ perspectives will be an important future step.

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Appendix 1: Participant Information Sheet

PARTICIPANT INFORMATION SHEET

Resilience: what does it mean?

Internal stakeholder perspectives

Research purpose:

The purpose of this research is to better understand how the concept of 'resilience' is understood and applied across Te Kaunihera o Tāmaki Makaurau Auckland Council.

Who is conducting the research?

The Social and Economic Research and Evaluation team is conducting the research to inform the Policy Team and climate change work programs.

What will you be asked to do?

Participate in a one-on-one discussion, guided by some structured questions. The conversation will be about your understanding of the term 'resilience' and how it is utilised within your role/team.

The meeting will be held either at Albert Street offices or on MS Teams. The discussion will be recorded and transcribed into written form for data analysis.

If you agree to participate you will be asked to provide consent at the start of the discussion. This does not stop you changing your mind if you with to withdraw from the project. Any withdrawals must be done within 2 weeks after the discussion.

Who is taking part?

Internal staff whose work program is highly associated with climate change/action policies and projects.

How will your answers be used?

A report will be produced summarising insights you and others provide. Unless you request otherwise, your name will not be used in any publications arising from this study. Your position/title, however, will be included to provide important context for readers. This may result in someone being able to identify you. If any parts of the report directly attribute your views, you will be invited to review this before it is released.

The report is intended to only be internally available, however this will be reviewed if broader benefit is likely from wider distribution. You will be contacted as part of this decision process if it eventuates.

For more information or if you have any questions email the principal researcher, Joanne Aley **joanne.aley@aucklandcouncil.govt.nz,** or call **027 215 3817**

This research project has been peer reviewed by the Economic and Social Research and Evaluation Team. If you have any concerns about the conduct of this research, please contact the Economic and Social Research and Evaluation Team Manager, Alison Reid, at alison.reid@aucklandcouncil.govt.nz.

Appendix 2: Consent Form

CONSENT FORM

Resilience: what does it mean?

Internal stakeholder perspectives

The purpose of this research is to better understand how the concept of 'resilience' is understood and applied across different roles in Auckland Council.

We are inviting internal staff involved in work programs associated with climate change to participate in one-on-one discussions about their understanding of the term 'resilience' and how it is utilised within their role.

As participant in this research, I know that:

- ❑ I don't have to take part if I don't want to. My participation is voluntary.
- ❑ I can withdraw my interview up to two weeks from today by telling the principal researcher, Joanne Aley. This includes up to 30 days after today.
- ❑ I can choose to not answer any questions I don't want to.
- ❑ I agree to this discussion being recorded.
- ❑ Notes and transcripts will be securely stored for 5 years.
- ❑ My responses will be combined with the responses of others in a report that will be internally available. A decision on external availability will be made on completion of the project. If this proceeds the principal researcher will communicate with you on this process.
- ❑ My title will be used in the final report to provide important context for readers.
- ❑ I have had the opportunity to ask questions about the project and they have been answered to my satisfaction. I can ask more questions at any time.
- ❑ Optional: I request my name to be used in the final report.

I agree to take part in this research project:

Name:

Date:

For more information email the principal researcher Joanne Aley **joanne.aley@aucklandcouncil.govt.nz** or call **027 215 3817**

This research project has been peer reviewed by the Economic and Social Research and Evaluation Team. If you have any concerns about the conduct of this research, please contact the Economic and Social Research and Evaluation Team Manager, Alison Reid, at alison.reid@aucklandcouncil.govt.nz.

Appendix 3: Interview script

Introduction

Thanks for your time today. My name is [insert], and the purpose of this discussion today is to chat about your role in council associated with climate change and how you understand and apply the concept of 'resilience'.

Given there are a broad range of teams across council that are applying the term 'resilience' we are keen to get a sense of how you and your team are doing this so we can understand better any areas of divergence or ambiguity as well as commonality.

There are no right or wrong answers and any experiences you want to share are welcome.

Informed consent

Did you get a chance to read over the consent form that was sent to you by email?

If no please take a few minutes to read the form.

I am happy to answer any questions.

Just a reminder that we won't use your name in the final report, unless you request otherwise, but where necessary I will refer to your role to help the reader understand the context of your comments.

I'll check in with you again to see if you are still happy for me to use any of your comments in publications or presentations once these are drafted. You can withdraw consent for any or all sharing of this interview two weeks from today.

Consent to record

To confirm verbally: I do have permission to record this interview?

If no then I will take notes

If yes then start the recording

Your role

I'd like to first ask you about your role at Council.

- Tell me about your role, what you do, and who you tend to work with?

  [Prompts: how long worked here, official title, department, any collaborations with other divisions/departments/teams]

- How much of your work is linked to climate change and what does that involve?

  [prompt: mitigation, adaptation, resilience]

Meanings and definitions of resilience

These next questions kind of take us back and ask about the meaning of resilience - thinking about how the term can be applied in different settings but also what the term means to you. Maybe we can start there:

- What does resilience mean to you and how would you define resilience in relation to the work that you do?

  [prompt: – some top-of-mind examples are fine]

- Has your understanding of the term changed over time?

  [probe: pre/post storm events]

- You have talked about the use of the term in your role, what other contexts have you heard the term applied to?
- Have you considered that the understanding of the term in those different contexts may be different, and if so how do you think it does differ?

I have been reading some research on resilience and there is some interesting discussion relating to if resilience is more about bouncing back (or return to normality) or more of a transformational opportunity where flexibility, learning and change can be embraced for improvement (bouncing forward).

- To what extent do either of these ideas resonate with you and your work?

  [themes here relating to bouncing back/bouncing forward, reactive/proactive, respond/anticipate, learning and being reflexive, forging new connections and by reorganising in creative ways – overcoming adversity and thus experiencing positive outcomes despite and adverse event or situation – also concept of anticipate rather than simply respond.]

- What is the difference do you think between resilience and coping?

  [probe: literature indicates resilience influences how an event is appraised whereas coping refers to the strategies employed following the appraisal of a stressful encounter. Coping not indicative of growth but are somewhat interconnected where you do have to cope to be resilient. Resilience is seen as more positive response]

Use of resilience in role

As you know this research is about the use of the word resilience and we know that lots of people across council are using it. We are keen to understand more about how you use this term in your work.

- Thinking about your work, how do you use the term resilience?

[probes: documents, policies, conversations, meetings, internally, externally, local/central govt, iwi/hapū, community groups, elected members]

- Do you think there is a common understanding across council, or even within your department/team?

  [answer]. Tell me more.

- Has this changed over time? And if so, in what way?

  [probe – since 2023 storms?]

[If P says they collaborate] You mentioned that you collaborate across different parts of the organisation.

- Thinking about your collaboration with others across the council have you seen resilience used across other council projects, and if so in what context?
- Are there points of similarity or difference in terms of how they apply the word resilience and/or its implied meaning?
- When you collaborate with others across council, do you reach agreement on the definition of resilience and if so can you describe the process with me?

  [prompts: is there a formal process? If there's disagreement, how do you decide? Is it assumed you're all on same page?]

[If P has not mentioned collaboration] When you described your role earlier, you didn't mention collaboration across different parts of the organisation.

- Given that other departments are using the term, has there been anything to suggest that your definition and use of the term resilience differs from others who may be using it and if so what makes you think that?

Community and cultural considerations

Māori outcomes for climate action are a clear organisational priority.

- How is this reflected in the resilience work you and your team does?
- How does council account for different cultural understandings of resilience reflected in the work you and your team does?

Thinking about the various partners and stakeholders involved in enabling resilience for climate change, what do you see as being enablers and barriers of achieving resilient outcomes?

[prompt: literature on suggestion responsibility for impacts of climate change are being transferred from government to public and private organisations, communities and individuals – is this something that is happening?]

Adaptation / mitigation

We are going to shift focus now. We have been talking about resilience but there are often other words that get used in the climate change space. These include adaptation and mitigation.

- What do these terms mean to you?
- How do these terms differ from the term resilience and perhaps in particular adaptation?
- Does your work focus on one of these areas over another?

[May need to probe a bit here depending on what is discussed: Interesting, tell me more about that

- Do you think there is a shared understanding of these terms within council. What about outside council, like in business or wider community.

Other

- Do you think there is a need for a single definition of resilience?
- Is there anything else you would like to share?

Appendix 4: Thematic analysis examples

Exemplar of deductive approach thematic analysis

Theory driven theme	Interview data	Recurring sentiment cluster
Bounce back	*You know, planning for resilience would take some time, and we wanted to allow people access. So we did, in some areas, reinstate roads immediately, but we were conscious that that was a short term solution only, and long term plans are being made.*	Short term
	Because once the infrastructure is built, then it can only ever be a bounce back.	Network capability
	Bounce back better, or bounce back to a new normal, or something like that. So that's how we phrase recovery.	Recovery

Exemplar of inductive approach thematic analysis

Interview data	Emergent theme	Recurring sentiment cluster
I think resilience is intergenerational. So it's thinking about our whakapapa, our korero tuku iho, or things that are important to us as Māori, what that looks like for us also now and then, thinking about how we can improve the mauri of our taiao for future generations. So I think that's why I think of resilience as being intergenerational.'	Culture	Whakapapa, collective, intergenerational
It's [resilience] almost like kind of a bit of a wairua thing, like a Māori concept around keeping that inner strength through, If you get knocked down, you've got to, you've got to sort of try and get back up again. But, but do it a different way, maybe to mitigate the next or adapt to the next occasion.		Wairua
It's sort of like in Te ao Māori, we think of the of Te Whare tapa Whā and the foundations of the healthy person, or healthy life, any of those foundational things, foundational areas in the walls that help keep the roof up. So for me, that's what resilience is doing.		Te Whare Tapu Whā

Find out more: research@aucklandcouncil.govt.nz
or visit knowledgeauckland.org.nz and
aucklandcouncil.govt.nz

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