Why Inequality matters to Resilience:

Just resilience in the Delta

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June 2023, GovernEUR | Erasmus University Rotterdam.

Special thanks to all the people taking part in this research, who shared their expertise and experiences in interviews and focus groups. Also, thanks to the members of the Resilient Delta convergence-team, who provided constructive feedback and insight into their various disciplines and fields.

Commissioned by: **Resilient Delta Initiative** and the RDI convergence-team. Resilient Delta is a research and education partnership between Erasmus University Rotterdam, Erasmus MC and Delft University of Technology. The objective is to develop an integrated approach to address the major social issues with which the Rotterdam region is increasingly struggling, as well as to offer an example for regions elsewhere in the world.

This research is carried out by **Govern*EUR*,** the impact-center of the Department of Public Administration and Sociology of the Erasmus University Rotterdam. From an interdisciplinary knowledgebase, Govern*EUR* administers research and advice in the field of policy, water governance and the social domain.

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> “That there is inequality means you have to deal with inclusivity in a different way. A stressor does not happen to everyone equally. Stressors, by definition, have unequal effects on people. Climate change is not an issue we experience ‘together’, not what unites us, but rather shows huge differences in inequality. It calls for an approach that recognizes that there is inequality.”
> *(Policy advisor inclusive climate)*

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CHAPTER 1:
Introduction

1.1 THE NEED FOR STUDYING RESILIENCE AND INEQUALITY

> "When there is more inequality, the city is definitely a less resilient city."
> *(Official Resilience Advisor)*

Past decades, resilience has become a popular concept in public policy. The municipality of Rotterdam for instance, has a 'resilience officer' and works on a 'Resilient Rotterdam Strategy 2022-2027'. Rotterdam is not alone in this, internationally many cities work in at revitalizing their cities' resilience.

The concept of resilience provides for a new frame to think about preparing for crises to come. The increasing focus on the term resulted in programs that aimed at the resilience of infrastructures to withstand external shocks like floods caused by climate change. Recently, the use of resilience extended to social and organizational discourses, and the resilience of communities, households, and neighborhoods became part of the debate. Public resilience programs emerged aiming to make people themselves more resilient, to help them respond to, or prepare for, shocks to come.

This turn in resilience brought up the importance of recognizing vulnerabilities and social inequalities and help vulnerable groups to become more resilient. Resilience policy seeks to decrease these vulnerabilities to shocks and stresses by offering public programs and initiatives that provide for resources (like budget, assets, knowledge etc.) to cope with stressors, or ways to ease the impact of stressors on certain marginalized groups. Yet, as Maria Kaika (2017) observed, vulnerable groups are often at the center of these resilience programs. They are either deemed not resilient enough, or their presumed existing resilience is seen as an indicator for their self-sufficiency, denying underlying structures of power and inequality. "*The best these [resilience] practices can do*", as Kaika argues, is "*act as immunology: they vaccinate people and environments alike so that they are able to take larger doses of inequality and environmental degradation in the future.*" (Kaika, 2017). Resilience policies can therefore also perpetuate or even increase existing inequalities, rather than addressing them and the (systemic) power structures that sustain them (Cretney, 2014).

These discrepancies in the resilience debate, ask for a considerate (re)take on understanding and talking about resilience in the prospect of public administration. Moreover, as the gap between rich and poor widens globally, and a multitude of crises affects our livelihood: understanding the relationship between resilience and inequality is of great social importance.

> "It's also very important for us as a resilience program, to be very aware of that. You should not have the illusion that resilience can exist when there is inequality, when there is poverty. You have to have a good foundation to build some kind of resilience."
> *(Official Resilience advisor).*

1.2 RESEARCH QUESTION

The aim of this study is to contribute to this debate by (1) proposing a 'just resilience' perspective to put justice and inequality issues at the heart of the analysis (2) exploring the relation, or rather, mechanisms, between resilience and inequality, and to relate this to policy interventions. Our research question is: *How can we understand the mechanisms between social resilience and inequality, and the role of policy, governance and public interventions therein?* We will answer this question by inquiring a combination of international literature and the application of resilience in Dutch (policy) practice. More specific, we conducted a literature review about the relation between resilience and inequality. The findings, synthesized in themes and mechanisms, that arose from the review, are discussed, and evaluated with researchers, policy makers and practitioners in the Delta and beyond. We did so by conducting interviews and organizing focus-groups, both with a focus on the scientific and applied practice of resilience(-making).

Three choices were made in formulating the research question. The first is that we put the concept of social resilience central to this study. In the context of resilience, we find notions like

adaptation, adaptability, vulnerability, and coevolution. Due to the (practical) limitations of this study, we focused on resilience and did not broaden the scope to these concepts, although they were mentioned several times in relation to resilience.

Secondly, we focus on *social* resilience. Social, here, refers to groups of people bound together in a family, organization, class, identity, racial group, community, or nation (Hall & Lamont, 2013). Who is or is not resilient then, should be part of a regenerative system of social interactions. Or as Keck and Sakdapolrak note in their research "*all definitions of social resilience concern social entities – be they individuals, organizations or communities – and their abilities or capacities to tolerate, absorb, cope with and adjust to environmental and social threats of various kinds*" (Keck & Sakdapolrak, 2013: 8). This means that we focus on how social relations do (or don't) give rise to resilience of people, and not on individual responses based on psychological characteristics or the resilience of institutions or larger systems.

Finally, we choose to focus on the *mechanisms* between resilience and inequality. Except in introducing the necessary principals of these notions, we will not elaborate on (social) resilience or inequality separately. We will focus on the relation between these concepts. The idea of a 'mechanism' allows us to see resilience as a movement, an on-going reactive process.

1.3 ELEMENTS OF RESILIENCE

Resilience is studied in different disciplines and therefore different definitions can be found. Some scholars derive from ecological theories and look at social resilience as the persistence of functions in a changing environment (e.g., Carpenter, 2013; Khalili et al. 2015; Sharifi, 2016). Others describe social resilience in terms of the capacities of people, communities, institutions, et cetera, to deal with a changing environment (e.g., Doff, 2019; Keck & Sakdapolrak, 2013; MacLean et al. 2014; Magis, 2010; Patel et al. 2017). And some scholars focus on well-being, like Hall and Lamont (2013) who define resilience as the capacity to sustain and advance well-being in in the face of challenges to it.

Resilience, thus, can be understood differently in different disciplines. And we do not want to limit ourselves to one definition of resilience, as this would hinder the explorative nature of our study. Yet, to study resilience and inequality, we need a description of resilience. In almost all definitions, resilience is related to a changing social or physical environment, to shocks and stressors in a given environment, and preparedness to those shocks. Naming factors in a changing environment can be broken down into the following notions: preparedness, the stressor, the response, and bouncing back or forward (e.g. after a crisis going back to 'normal' or going forward by changing structures).. The figure below provides a way to indicate what it takes for a social system to be resilient, as a causal process, with interfering inequalities:

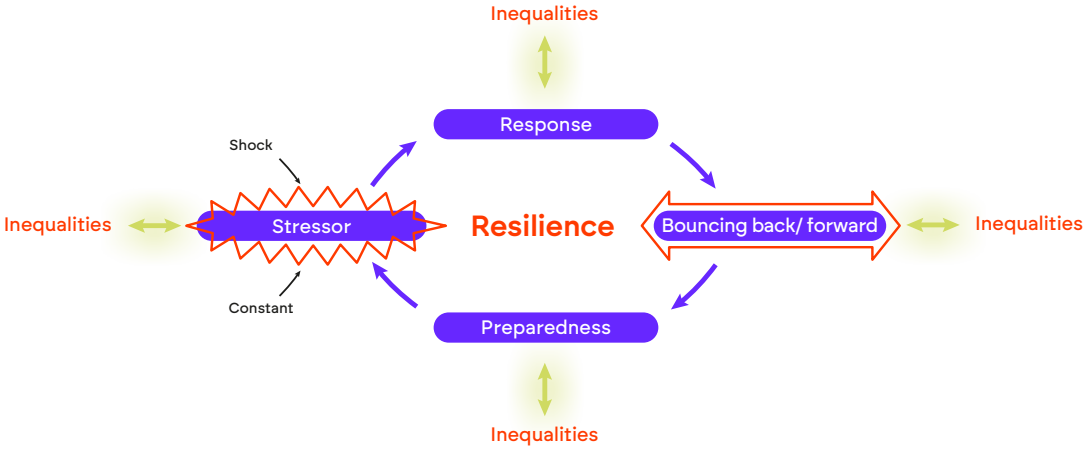


Fig. 1 *Resilience & inequality mechanisms (mechanisms are highlighted)*

Covid-19 as a societal contrast fluid

Covid-19 did not turn out to be the great equalizer as was expected early during the pandemic. In the early days of the pandemic, ideas roamed around arguing that, since we are all humans made of flesh and bones, the virus affected us all equally. It did not consider social differences in class, culture and income.

Yet, soon, it came apparent that the virus served as a contrast fluid, highlighting and sometimes deepening existing socio-economic and health-inequalities. The economic effects were felt hardest by (young) people working on temporary contracts or as freelancers. Women, young people, respondents with low incomes and/or poor health experience felt the psychological impacts of fear and stress. The larger the social capital, the better people were able to deal with these psychological issues. Social capital thus provided some protection against the negative mental health effects of COVID-19.

People with less education, low incomes and non-western backgrounds were less willing to be vaccinated even as their exposure to the virus was often higher due to the types of work they do, their health and the places they live in. Willingness to be vaccinated was also much lower with people that had less trust in the government. People with more trouble making ends meet were especially distrustful of the government and media. These developments have strengthened a development feared by most: that groups of people no longer feel they can trust the government and other institutions and turn their back towards a society that in their eyes has little to offer to them. This chasm between different groups ran particularly deep in a city like Rotterdam and especially in the poorer south of Rotterdam.

(Based on the work of Godfried Engbersen (Engbersen et al, 2021; WRR and KNAW, 2021 and Snel et al, 2021)

The elements in the figure above will help to structure this report without choosing one specific theoretical strand. The highlighted arrows illustrate the mechanisms between social resilience and social inequality. They suggest, for instance, that inequalities interfere with the capability of people to adapt or respond to a stressor. The arrows symbolize the active/responsive character of the mechanisms between resilience and inequality. They indicate the continuous dynamic nature of resilience and its related concepts and practice.

1.4 ELEMENTS OF SOCIAL INEQUALITY

In terms of just resilience, it is relevant to lay out a perspective on inequality. Reflecting on how social institutions, policies, and cultural norms contribute to and perpetuate inequality, opens a direction to understand on what levels equality needs to be reassessed for a just approach to resilience.

At first, we should note that social inequality is a complex and multifaceted issue that can be influenced by a variety of (social) factors. United Nations refers to a few major social factors that drive social inequality: gender, age, origin, ethnicity, disability, sexual orientation, class, and religion. Factors that, next to income, determine 'inequalities of opportunity' (United Nations, n.d.). These are just a few examples of the social factors that can contribute to inequality. Other factors, such as geographic location, immigration status, and the discrimination based on these facts, can also be important in shaping patterns of inequality (Marmot & Wilkinson, 2005). It's worth noting that these factors are often interconnected, with people facing multiple forms of disadvantage and discrimination simultaneously. They cannot be understood in isolation from each other (Hankivsky, 2014). Olga Hankivsky summarizes this intersectionality lens in terms of the interaction that happens between the factors, as they "*occur within a context of connected systems and structures of power*" (Hankivsky, 2014 p. 2).

Inequalities, in these terms, can be understood in two strings of social theory that take on inequality in terms of hierarchies and difference: (social, cultural and economic-) capital (Bourdieu, 1986) and perspectives of 'infrastructures of power' (e.g., Larkin, 2013; Harvey, 2013). The idea of 'infrastructures of power' and the concept of 'capital' are closely linked. By understanding how different forms of capital are distributed and valued, we can gain insight into the underlying power dynamics that shape social inequality in society and allow for the flow of capital.

Capitals

French sociologist Bourdieu (1986) categorizes capital into three levels: social, cultural and economic capital. These capitals determine one's access to, amongst others, resources, social status, and public life. Economic capital simply refers to financial assets people have at their disposal. Social capital refers to number and quality of social connections) and can be further divided into bridging and bonding ties (Putnam, 2000), weak and strong ties (Granovetter, 1973), social bridges, and the social value of these ties (Bourdieu, 1984) (see also Milgram, 1967; Alexander, 1987). Cultural capital and its importance for resilience is recently put on the agenda by Hall and Lamont (2013). Inspired by their approach, we pay special attention to the link between cultural capital, social inequality, and social resilience. Culture is seen as a toolkit of cultural repertoires one can draw on to foster social resilience (Swidler, 1986). Bourdieu's capital theory, as such, leaves room for agency of individuals and groups.

Bourdieu's framework of social, cultural, and economic capital can help us understand how various forms of inequality are reproduced and maintained in society. For example, people from higher social classes may have greater access to all three types of capital, while people from lower social classes may face greater barriers to accessing these resources (1986).

Bourdieu argued that especially cultural capital is often closely tied to social class, with people from higher social classes having greater access to cultural resources and knowledge. What that cultural capital is, and how it is valued depends on the dominant cultural norms of a given society or social context. These values can be set in very practical codes, in how you dress, what your skin-color is, yet it remains an abstract conception, as social values cannot always be measured in numbers and charts. In dominant Western ideals, it would mean that being a tall white male, wearing a suit and being educated grants you (more) access to places, people and power, which lays on the basis of social inequality.

Infrastructures of Power

The idea of infrastructures of power provides a take on how capitals are institutionalized and made into being through systems of power (Larkin, 2013). Larkin (2013) explores the social, political, and cultural implications of infrastructure, defined as the physical and technical systems that are on the basis of modern societies, such as transportation networks, energy grids, and communication technologies. These infrastructures can be both, and simultaneously, material and discursive by nature, as for instance, imaginaries of modernity and technology are constructed and verified through its very physical presence in everyday life (Larkin, 2013).

Here, urban sociologist David Harvey (2013) adds that power is not just a direct force, but also comes to be through the ways in which cities, economies, and other social institutions are organized and structured. He examined how certain groups are able to maintain their power and influence by shaping the built environment, controlling access to resources, and influencing the flow of capital. That, in turn are informed by cultural norms and values, politics and maintain, and even generate social inequalities. The development of certain neighborhoods and the neglect of others can also be a means of exercising power and control and is an important example when we refer to resilience. It brings up the question 'Resilience for whom, by whom?'.

> "The pandemic made societal issues visible that weren't caused by the pandemic but have something to do with change in society. This is the moment, where an appeal is made on resilience. Education, health care, labor market, the fact that people with a 'lower'-education are reliant on temporary flex work. These groups' livelihood was affected. That became very visible all the sudden."
> *(Prof. Wealth and wellbeing)*

CHAPTER 2:
Methodology

To understand the mechanisms between social resilience and inequality, we conducted a mixed method research, including a literature review, interviews, and focus groups. By the literature review and a scientific focus group, international insights in the mechanisms, including a few from the Netherlands, were gathered. In the interviews and during the professional focus group, national insights were gathered. In the analysis, we brought the data together in a line of reasoning about the mechanisms between social resilience and inequality. This research strategy is elaborated in the following sections, details about the interviews and focus groups.

2.1 LITERATURE REVIEW AND SCIENTIFIC FOCUS GROUP

Firstly, a literature review was conducted to explore the mechanisms between social resilience and inequalities that were found in earlier studies. The selection process was inspired by the PRISMA method for systematic literature review (Liberati et al. 2009; Moher et al. 2009). However, the aim was not to systematically analyze the theoretical field on this topic, but to explore mechanisms and to develop a line of reasoning.

Using the database Scopus (September 2022), 983 articles were found searching on 'Resilience AND inequality' and 'Resilience AND equality'. Scopus also included automatically closely related terms, like inequalities, equalities, and resilient. The search was specified by selecting only English articles (in journals) published anywhere from 2007 until 2022. After deleting the double articles of both searches, 948 records remained.

The 948 records were screened by using three eligibility criteria based on the research question (see chapter 1):

a. We selected only those studies in which resilience on a social level is studied (household, neighborhood, community, network, institution, region, city, town), and not those in which resilience on individual or institutional/system level are studied, and neither studies in which resilience of physical systems is studied.
b. We selected only those studies in which the interaction between resilience and (un)equality is studied, and not those in which the concepts are studied separately.
c. We selected only those studies in which resilience and (un)equality are used as distinctive concepts, and not those in which resilience and (un)equality are used as a synonym for other concepts.

After screening the abstracts, 751 records were excluded because of the eligibility criteria and 197 records remained. Related to the goal of the study, we limited the literature review to the records with at least 10 citations, which resulted in 71 records. The full text assessment for eligibility leads to the exclusion of 36 records, and 35 records remained.

The remaining 35 records were coded and analyzed in Atlas.ti. We conducted a semi-open coding process. We started with codes from our perspective on resilience (see chapter 1) with the codes: preparedness, stressor, response, bouncing back, bouncing forward. Within these main codes, an open coding process was conducted in which we coded the relation between (in)equality and resilience as presented by the author. For instance, one author described how poor people have less expectations about the future and therefore are better prepared on shocks. We coded this in the main code 'preparedness' as 'poverty → expectations' (poverty as the type of inequality and expectations as a part of resilience). The interactions could also be vice versa. For instance, in one study the conclusion is that climate change leads to less income for most of the farmers. This is coded in the main code 'stressor' as 'climate change → poverty' (climate change as the type of stressor in relation to resilience and poverty as the type of inequality).

After the literature review, we organized a scientific focus group with 6 scholars who are studying resilience and inequality from different back grounds (like urban economic development, environment and technology, and anthropology). In this focus group we discussed the results from the literature review and the remarks of the scholars were used to further refine the results. Only after identifying the mechanisms further literature was gathered to provide additional examples and insights.

2.2 QUALITATIVE RESEARCH

Secondly, we conducted 11 interviews. For the interviews, we selected professionals and scientists involved in resilience studies in the Netherlands (see appendix 2.1). In the interview we asked the respondents how they experience and interpret the relation between resilience and (in)equality, and which potential approaches they see as to develop an equality-sensitive resilience approach. The interview reports were coded following the same code scheme as used in the literature review. After the interviews, we organized a focus group with 3 professionals who work on resilience and (in)equality in the Netherlands. In this focus group we discussed the results of the interview. From this, we further refined the results.

CHAPTER 3:
A critical perspective on resilience

> "Resilience has to be less buzz and fuzzy, we have to make it concrete! That means that we also have to point out policy failures, not disguise them. That's the danger when policy finds something interesting, that it then becomes loaded with different meanings."
> *(Lecturer social resilience)*

The interdisciplinary use and conceptualization of resilience means there are different views of what social resilience precisely entails (Vale, 2014). The literature studied on the relation between resilience and inequality, points out the importance of a critical perspective of resilience. A critical perspective allows us to highlight the different ways in which resilience is operationalized, and the consequences its application has in terms of inequality. To be specific, in the face of rising inequalities, current academic debates on resilience call for a 'critical turn on resilience' (Smirnova et al., 2021). This critical turn is an appeal of critical scholars to reveal, critique and challenge underlying power structures connoted with the use and abuse of the concept of resilience. Ignoring these critical notes, well-intentioned resilient strategies and resilience research, Smirnova et al. argue, could just as well "*reinforce existing structures of power*" (2021 p 16), and thus worsen inequalities (Jordan, 2019).
During the interviews and focus groups that were held for this study, the term 'resilience' did not always bring up positive connotations. It was often noted as a 'buzzword', not suitable in the real world-context of inequalities. The central question here reappears: *Resilience for whom by whom?* These questions are endorsed by other critical scholars like, for example, Walker and Salt (2012) and Cote and Nightingale (2012) (in Cretney, 2014 and Boyd, 2014).

By employing a critical perspective, we synthesized four views, or as we call them 'modes' of resilience: 1) instrumental resilience, 2) self-reliant resilience, 3) remedial resilience and 4) just resilience. The following table offers an overview of the characteristics per mode. Those four modes, shape not just the understanding, but also the implementation of resilience. In the next paragraphs, we offer an overview of those four modes with a critical perspective in mind. Simultaneously, we build the argument towards just resilience, the understanding of resilience we take up in this research as main mode. As we will see later, linking resilience to inequality requires an implementation of a just approach to resilience. An approach that recognized inequalities and works to alleviate them on a structural and systemic basis.

Mode	Focus	Normative goal/ standard	Resilience as
1.) Instrumental resilience	Society/ city at large	Objectified system responses to objectified shocks	Objective system quality
2.) Self-reliant resilience	Individual and community capacity to adapt	Creating entrepreneurial and adaptive citizens	Autonomous, self-determined and self-sustaining individual
3.) Remedial resilience	Most vulnerable victims to stressors and resilience policies	Nobody should fall under a basic minimum	Vulnerability or human rights issue
4.) Just resilience	Group differences in inclusion, power, costs/benefits and responsibility	Procedural, recognition and distributive justice	Justice issue

Fig. 2 *Table modes of resilience*

3.1 INSTRUMENTAL RESILIENCE

> "Solutions for climate change, or as response on the pandemic, are often much engineered; they stand far away from local action."
> *(Associate professor spatial planning)*

The instrumental approach to resilience is in essence a pragmatic approach that focusses from a 'neutral' stance on the process of resilience-making. It stresses that resilience is a framework for understanding how regions, cities, and communities must adapt to ensure a safe future in an increasingly risky world (Rogers et al., 2020). It takes on a 'risk management' approach that aims to alleviate risks, by planning and preparing the world for future-crises. Doing so, it seeks to align resilience by improving professional practices, and stresses the financial and efficiency gains from preparing for risks. Its goal is to prevent such risks from disrupting the flow of commercial practices and maintain public order.

Rogers et al. (2020) argue that instrumental, pragmatic approaches are especially fruitful in the event of disasters taking place, when values like immediate public safety are of key concern for all stakeholders. However, due to its pragmatism, underlying values are seldomly explicated but follow from the professional and organizational values upheld by its key proponents and policy shapers. Cretney (2014) stresses the apparent neutrality of the term resilience in this instrumental mode, as it ignores the underlying values and normative assumptions that are assigned to it in context. Cretney explores the idea that "*resilience, as a concept, needs to be understood not only as a metaphor but also as a framework shaped by dominant societal values and hegemonic discourses.*" (Walker & Salt, 2012 and Cote & Nightingale, 2012 in Cretney, 2014). Cretney treats resilience as something that is 'understood' and 'enacted', that is not good or bad by nature, and is dependent on the professional and organizational context.

As the policy agenda on resilience is increasingly expanded, the literature studied, suggests that social, political, demographic, and economic impacts become more important and must be considered (Smirnova et al., 2021). Yet, from an instrumental perspective these impacts are viewed as barriers to implementing 'pragmatic' measures needed to act in times of crises, rather than justice issues or power struggles.

Walters (2015) warns that unquestioned values often shape resilience as a tool in policy. Which in turn is likely to increase existing social inequalities (Cretney, 2014). Take for example resilience as a risk mitigation strategy. In conventional risk assessments, risk is defined as a chance of occurring multiplied by the damage of occurrence where damage is routinely measured in terms of economic loss. If this logic is used to prioritize interventions, this will result in people living in expensive houses and working jobs of great commercial value being better protected, which increases inequality. This way apparently 'neutral' approaches to resilience give rise to unwanted social outcomes. Therewith, as Larkin (2013) shows, even technical and material infrastructures that are the basis of modern societies, like transportation networks, energy grids, and communication technologies have social, political, and cultural implications.

In such instances, Jordan (2019) stresses the need to recognize the "*socially contingent, normative aspect of resilience, that it depends on the person, group, or place*" what the concept means and how it (should) takes shape (Leach, 2008). Approaching resilience as a neutral concept, ignores socio-cultural complexities that appear in the reality of social difference and "*reinforce vulnerability rather than addressing its underlying determinants.*" (Jordan, 2019). Jordan calls for a socio-cultural approach to resilience that aims for a more inclusive implementation of resilience in policy (2019). Deriving from a similar socio-cultural lens, Smirnova et al. (2021) refer to Grove (2018), who highlights the potential of critical resilience to allow for different knowledges in the very articulation of what resilience can mean.

3.2 SELF-RELIANT RESILIENCE

> "You see a national discourse about resilience as self-reliance, and I think that can be kind of a harmful narrative. This way people are not seen, and people can actually not be resilient at the time in their lives when they need more support."
> *(Lecturer social resilience)*

> "We have to be careful and should not project resilience on individual responsibility. That you should develop your skills to become resilient, and if failing to do so, that it is your own fault. It is a collective problem for which we must change the ground rules."
> *(Prof. Wealth and wellbeing)*

Self-reliance is a prominent mode of resilience within policy programs, primarily due to its ability to center on individuals' agency in times of disasters. This approach is meant to enable policymakers to prioritize and harness people's independent capabilities during crises. Various studies show that people or regions in similar circumstances show different levels of resiliency, implying that resilience is determined to some degree by highly local or individual/internal characteristics (Southwick et al., 2016). Self-reliance is also seen as a way to improve (health-) care: focusing on people's autonomy, agency, social network and control over their lives, is argued to make them less reliant on public services. Individuals may be in the best position to decide how to deal with a crisis given their personal context, preferences, and ambitions. For example, whether to upgrade their house, keep on large savings, or form tight connections with family, friends, and neighbors. From this perspective, state action is likely to be too generic (leading to suboptimal solutions and resource allocation) and has a moral hazard as people may underprepare and underreact to stressors because they rely on the state to solve their problem.

Yet, the literature studied on the relation between resilience and inequality points to self-reliance as harmful to especially marginalized groups. As applying resilience in a self-reliant mode, ignores structural inequalities, implied normativity and therefore can contribute to enlarge inequalities (Smirnova et al., 2021). As noted in the introduction, Maria Kaika (2017) warns for resilience to act as an *immunology* when the focus is too much on self-reliance. It prompts resilience to the responsibility of people themselves, which ignores inequalities.

In similar vein, a recurring critique on the focus on self-reliance digs out how stressing self-reliance serves to strengthen the dominant political and economic ideology in (many) countries: neoliberalism. The central point in this critique is that resilience is either directly motivated by neoliberal ideologies or indirectly leads to the reinforcement of its values while these same values are root causes to inequality. Neoliberalism is understood as a strong focus on individualism, self-sufficiency, and market centric approaches (Cretney, 2014; Schmidt, 2015).

More specific, we find three points of critique on the self-reliant mode in the literature studied. The first is that resilience implores "*vulnerable states, communities, and households to be resilient in the face of risks they did not produce and have limited capacity to manage or ameliorate*" (Ferguson, 2019). This is not only deemed unfair, but actually serves the interests of actors that did and continue to create such risks and in doing so further accommodates and entrenches the neoliberal system, leading researchers like Pugh (in Wilson, 2017) to state that the whole project of resilience is "*about creating resilient subjects that are trained to ride the unpredictable waves of neoliberal life*" (Pugh, 2014, p. 316). The second critique is that vulnerable groups not only cannot be held responsible for the risks they need to become resilient to, but do not have the means to do so. This lock-in of having to deal with inequalities that have emerged outside their influence and without resources nor power to mitigating them is typical for the circumstances vulnerable groups are facing nowadays. This gives them "responsibility without power" (Cretney, 2014) "*which increases the exposure of the most vulnerable while enhancing the adaptive capacity of the most privileged*" (Ferguson, 2019), exacerbating inequality and "*producing long lasting governmental effects*" (Smirnova et al., 2021).

> "In the name of self-reliance [zelfredzaamheid], the responsibility is often shifted to the people that do not even have anything to say about the unequal foundation of their livelihood."
> *(Director foundation research and society)*

Stop calling me resilient!
A powerful and well-known example of a campaign against an instrumental or neoliberal approach to resilience is the "stop calling me resilient" campaign. In Davoudi (2018): "It was launched in reaction to media and policy makers' asking (or praising) victims of Hurricane Katrina to press on and be resilient. The core argument of the campaign is captured in the following statement by its originator Tracie Washington, President of the Louisiana Justice Institute: "*Stop calling me resilient, because every time you say, 'Oh, they're resilient', it actually means you can do something else, something new to my community. (...) We were not born to be resilient; we are conditioned to be resilient. I don't want to be resilient (...). I want to fix the things that create the need for us to be resilient in the first place.*"

A similar example is reported in a study of post-2010 earthquake resilience programs in the city of Christchurch in New Zealand where an affected resident states: "*It's almost like there's an expectation that we're all so resilient. What do you do when you [don't] feel like that? Who do you talk to? Does it become not okay to be not resilient? To be really, really, really sick of living in this broken city and have had enough of it...*" (JA quoted in Cretney 2018, n.p.)"

A third critique is that when large scale resilience measures are taken, for example in flood prevention, especially powerful economic actors and interests are taken care of and are commissioned to implement the changes while vulnerable groups have less say or are not even invited at the table (Shi, 2021).

3.3 REMEDIAL RESILIENCE

> "For a large group of Dutch citizens (estimated at about 25%), the fundamental rights are not secured. For them there is no resilience anymore to cope with setbacks in daily life. That leads to polarization because this group of people can no longer be part of society. Livelihood security is a precondition for being (more) resilient. And that should be taken as a starting point for policy."
> *(Director foundation research and society)*

There is an expansive scholarship that focuses on the resilience of disadvantaged of marginalized communities. This mode of 'remedial resilience' offers sight on the importance of the social-cultural lens (Smirnova et al., 2021; Ensor et al., 2015; Welsh, 2014), to help vulnerable groups to prepare and respond to stressors.

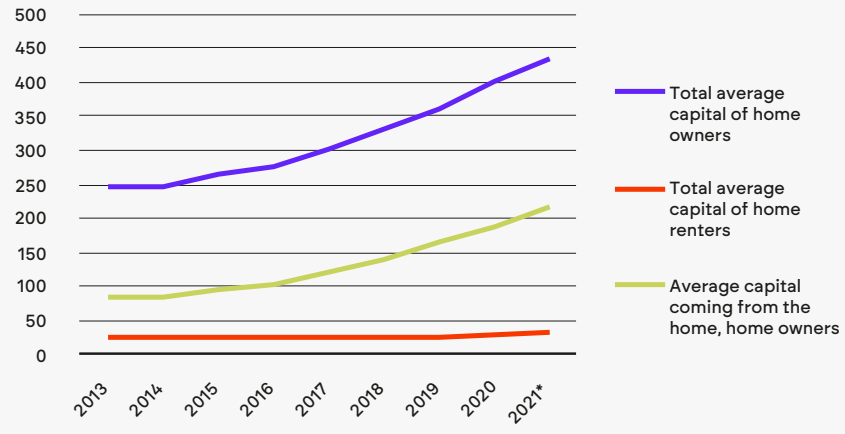
In the remedial resilience mode attention is specifically raised to marginalized groups in need of support. For instance, to uncover inequalities, this mode argues that it is crucial to highlight local values and context, as inequalities appear in intersection with each other (Jordan, 2019). This approach for example allows to focus on "*the gendered experiences of women to climate stress*" (2019). Inequalities, and how they intersect, differ throughout social class, level of education and cultural values and need different approaches to be addressed (2019). A failure to recognize socio-cultural context and values "*risks further reinforcing gender inequalities due to the reality of social difference and inequities within local power structures.*" (Jordan, 2019).

The methodologies proposed by the remedial mode often are based on ethnographic case studies and participatory methods. Acknowledging and integrating different forms of knowledge(-models), allows for more pragmatic solutions to inequalities in being able to be resilient, Grove argues. It allows to "*animate hands-on approaches to problem-solving*" in context (Grove, 2018: 8 in Smirnova et al., 2021).

Resilience here implies the process of adaptation in a community following a disruption, distinguished by factors such as social capital and community competencies (Cretney, 2014). Herein, remedial resilience aims to empower and improve such local processes or, from a more activist and political stance, create alternatives to, and critique, existing power structures (Bergström, 2018; Ferguson and Wollersheim, 2022). The normative goal is to alleviate suffering that often falls on the most vulnerable groups. This is most clearly and widely legitimized if basic human rights of certain groups are threatened by 'external' shocks and developments.

These features make remedial resilience a valuable perspective for the study of resilience and inequality. However, remedial resilience only looks at the marginalized or vulnerable end of any scale on which inequality is viewed. As the old adagio goes: the 'rich get richer and the poor get poorer'. For example, privileged groups are able to maintain their power and influence by shaping the built environment, controlling access to resources, and influencing the flow of capital. These, in turn are informed by dominant cultural norms and values, politics and maintain, and even generate social inequalities. The development of certain neighborhoods and the neglect of others can also be a means of exercising power and control. Not addressing these inequalities in terms of power, keeps those dominant structures intact (Harvey, 2013).

Communities are not homogenous and looking at mostly resilient responses, may still leave people in a neighborhood behind (Cretney, 2014). Therewith, it may not be a priori clear who those disadvantaged groups are, and when stressors occur it is already too late. As the literature shows, when trying to tackle issues on the intersection between resilience and inequality, it is important not to limit the analysis to providing or acknowledging agency to (organized) communities but also look at group responses, larger systemic change and government support.



The rich get richer: Dutch housing crisis

The Dutch housing crisis creates problems for some groups. However, others profit. Whereas the wealth of renters remained the same at on average 26.000 euros, homeowner's capital greatly increased as a result of rising property prices. In eight years, homeowners saw their wealth from home ownership alone increase at the sum of five years of annual median household income. Their total wealth (not corrected for income, age, etc.) rose from 10 times that of the average renter in 2013 to almost 15 times in 2021.

Fig. 3 *Source CBS*

3.4 JUST RESILIENCE

The last of the four modes that were distilled in this study, is that of just resilience. 'Just resilience' is an upcoming concept, mostly referred to in environmental studies and urban planning. The account on justice and equity is at the core of this mode.

Applying a just perspective to resilience has come to matter when we look at the origins of resilience. Resilience as a policy and social concept was derived from (socio-)ecological research. Translating the concept from an ecological phenomenon to the social world, has led to expanding the application domain and incorporating insights and critique from the social sciences. This shift has strong similarities with research fields like socio-technical change, innovation, energy, and environmental science. These fields too increasingly move from a more technical or economic perspective into the social domain which has led to the importance of emphasizing social and political aspects of the terms and frameworks applied to study 'the social'. In similar urban-related fields, this has led to a burgeoning literature on 'just transitions' (Jasanoff, 2018; Newell and Mulvaney, 2013), 'responsible and just innovation' (Ludwig and Macnaghten, 2020), 'energy justice' (Sovacool & Dworkin, 2015), 'climate justice' (Bulkely et al, 2014), and 'environmental justice' (Walker, 2012).

One frequently used operationalization distinguishes the following three aspects of justice (Jenkins et al., 2016), where recognition justice is about recognition of the power, the role, knowledge and social position of both the actors responsible for the risks, stressors and those who have to bear them. Distributive justice is whether there is a fair distribution of costs and benefits of these risks and resilience measures. Procedural justice refers to the fair access to, and voice in, policy measures by all stakeholders.

Susan Fainstein (2014) and the EU (Breil et al., 2021), refer to 'just' dimensions in relation to urban planning and development in terms of 'The Just City'. The term has been taken up, by other scholars in urban studies and resilience, for example, Miller (2020) stresses in her paper on just resilience: "*The approach to justice here considers distributive and procedural aspects of justice, in terms of the extent to which the impacts (of climate change) are distributed equitably and the process of decision making (about adaptation) is considered fair [procedural justice] as well as matters of recognition. Here recognition encompasses the ways cultural and racial difference influences distributional outcomes and procedural processes (...), but also incorporates epistemic difference, such as the diverse ways people understand risk.*" (2020).

When applied to resilience, these three dimensions of justice, can be juxtaposed to the earlier mentioned critiques on the self-reliance perspective: its lack of recognition for the economic, social contexts that largely determine people's resilience, its neglect of the question whether individuals should be held responsible for being resilient (or responsibility should actually lie at the government and business), and the rights of people to (co-) determine what resilience policies should look like. It specifically addresses the question: 'Resilience for whom, by whom?'.

There is "*a growing call on resilience strategies and policies to offer an alternative political orientation that fundamentally addresses the conditions that necessitate resilient individuals, communities, and societies*" (Davoudi, 2018). As Angelovski states (quoted in Shi, 2021): "*in short, whether through acts of omission or commission, mainstream adaptation [a resilience measure] has produced unjust resilience (...) Unjust resilience building programs are not limited to the neglect of disadvantaged communities, they are also found in the creation of 'resilient enclaves' for privileged elites*". This is shown in the findings of a study of resilience planning in eight cities from different parts of the world, which argues that "*adaptation interventions can reinforce trends of socioeconomic vulnerability, compound patterns of environmental injustice, and create new sources of inequity*" (Angelovski et al., 2016 in Davoudi, 2018). In short, a counterargument for "unjust" resilience-approaches, can be found by focusing on what would be "just" resilience.

> "You often see that some children can get homework support, because they can afford it. Some people, mostly in poverty, cannot afford that and that shows already on the basis, in education, inequality is upheld in being resilient and getting chances. We have to make chances for people more accessible."
> *(Lecturer Poverty)*

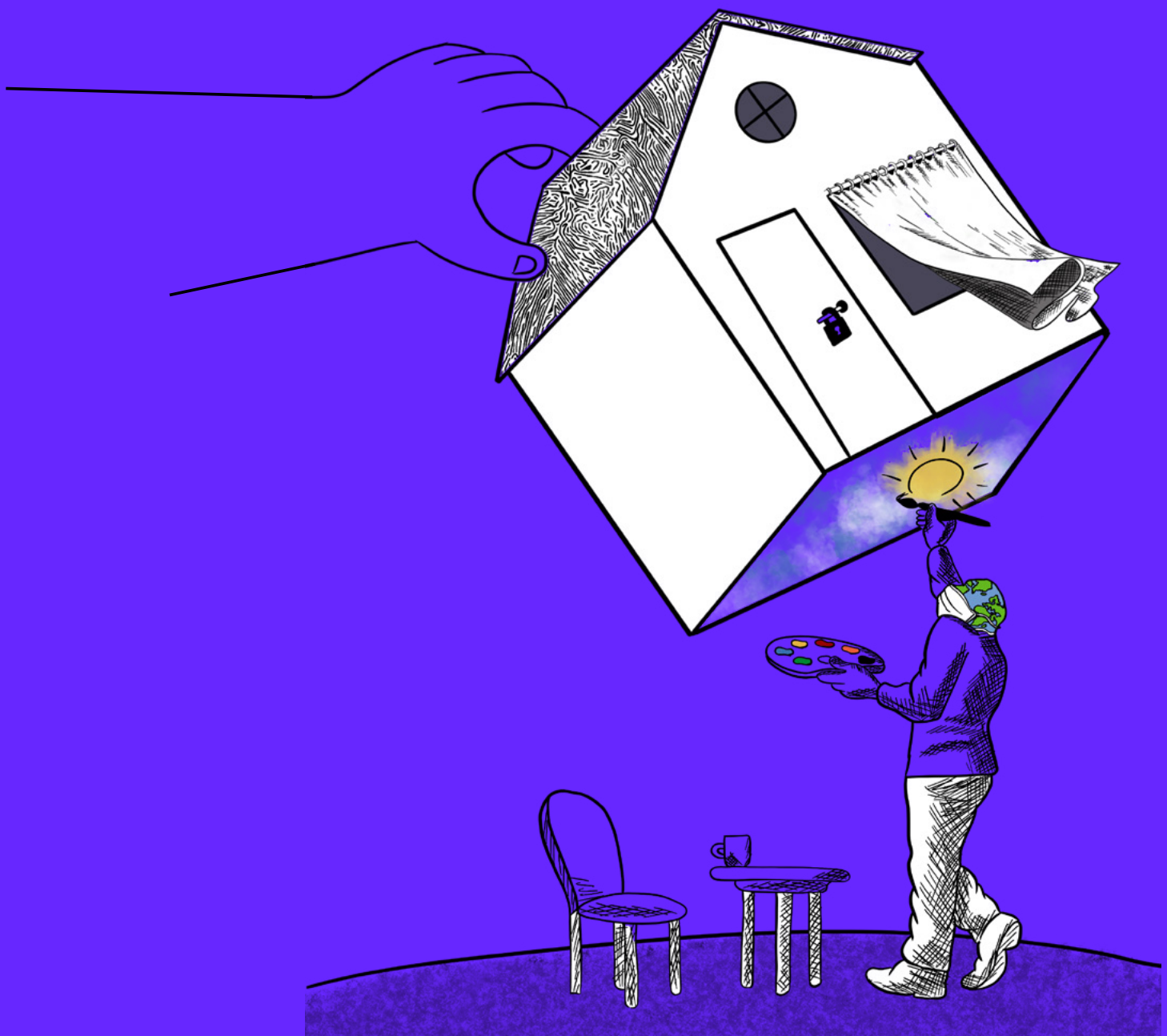
The prefix 'just' highlights that resilience, and its normative valuation, may in practice be separate concepts. Resilient groups may still find themselves in an inequitable situation and thus should not be seen as an example of just resilience. On the other hand, non-resilient groups may need institutional care and protection for very just reasons, and therefore displaying just resilience.

> "During the pandemic, we found that people in Brazilian slums initially responded very well to the crisis. They cared for each other and initially reacted better than richer neighbourhoods. These tightly knit communities also responded faster than the government. But their resilience could only go so far. And we have to remain conscious that although people in these slums are very resilient, it still is not fair that they have to live there."
> *(Associate prof. Spatial planning)*

3.5 CONCLUSION: APPLYING JUST RESILIENCE

As we have laid out, the concept of resilience can be understood in different ways. The different modes we present are not to discredit resilience but rather to seek to "*locate the transformational potential*" (Smirnova et al., 2021 p. 17). To conclude, we propose using a just resilience mode in the analysis of the interplay between resilience and inequality. Of the four modes, the just resilience-mode approaches the relationship and mechanisms between resilience and equality most critically. Although we put just resilience central, we also build on some of the insights from the other modes, like the focus on opportunities of self-reliant resilience and the empowering potential of remedial resilience. 'Justice' therefore, aims to address the unequal distribution of resources, opportunities and burdens in the context of resilience. It emphasizes the need to ensure equitable access, participation and formulation of resilience, taking into account the voices and needs of marginalized communities and addressing social, economic inequalities, also on a systemic level. Just resilience addresses the potential negative consequences of well-intended policies and interventions that aim to increase resilience at groups regarding their capability to deal with inequalities. Instead, just resilience addresses inequalities power imbalances by breaking down systemic barriers and promoting equal access to resources and decision-making processes, with emphasis on marginalized communities *and* privileged groups and dominant discourses. In the next chapter we will identify mechanisms between social resilience and inequality. These may help further specify whom to recognize regarding resilience, what to distribute and how procedural justice may come in to play. This in turn may lead to a better understanding of what just resilience means.

CHAPTER 4:
Mechanisms between social resilience and inequality



4.1 OVERVIEW

Based on research and interviews we have identified a comprehensive set of mechanisms linking inequality with resilience. These mechanisms are linked to the elements of the resilience framework presented in chapter one. Before going into more detail on the various mechanisms in the following sections, we first present a short overview. In the second paragraph we dive further into the mechanisms.

Stressors

The main mechanism is a difference in **(1) exposure to stressors**. Without even considering the way people, the government or communities can respond to stressors, not all people are equally exposed to them. In literature this is often referred to as vulnerability. A benefit of treating vulnerability only in relation to exposure, and not as a property of community preparedness, response or bouncing forward or back, is that it analytically separates vulnerability from the agency of groups to deal with stressors. In short: people may be vulnerable due to exposure but may still respond resiliently to external shocks or developments. Vulnerability can directly result from attributes of inequality (e.g., people with poor health being more exposed to Covid) or indirectly (e.g., poorer households living in certain areas that are more prone to flooding). Over time and because of **(1b) compound exposure** to stressors to which some marginalized groups are consistently more vulnerable than more well-of groups, inequality will worsen.

Response

Here the main mechanism is **(2) (access to) resources** which affects agency. People draw upon their economic, social and cultural capital to deal with a stressor. Differences may not only lie with their own capital (e.g., what people have, who they are and what they can) but also in the extent to which they can access 'outside' institutional or infrastructural resources. For example, whether they can vote, have a bank account or are taken seriously, influences their access to such resources and therefore options to respond. As a heuristic, responses may be categorized as suffering, coping, adapting or transforming. Although the actual responses are context dependent and may differ widely even within groups, on average the more resources one has, the more likely one can respond better. Where people with very limited means may have no other option than to suffer the consequence of a stressor, people with more resources have more options to adapt or even transform their lives in ways that will make them less vulnerable or come out ahead in another way. This results in greater inequality.

Bouncing back or bouncing forward

With regard to bouncing back and bouncing forward we acknowledge that this can also result from community responses and preparedness, but in the coded research articles we focus especially on the government and other 'top down' responses to stressors. These have a large effect on whether people 'bounce back' to the same (un)equal social situation after a stressor (which is not by itself a negative outcome) or 'bounce forward' to a less unequal situation (the preferred outcome for just resilience). Here we identify three mechanisms. The **(3) inverse response law** (Hart 1971) refers to the idea that people in lower socio-economic groups are more likely to be impacted and to experience disparities in the level of support during the disaster response and recovery phase. Those that need help most are most difficult to serve. A self-evident yet indispensable mechanism is the **(4) (policy) window for addressing persistent structures of inequality.** Many inequalities are hard coded in the fabric of society through welfare policies, institutional racism, economic market structures, gender roles, etc. Crises and ongoing stressors can create opportunities for advocacy groups or politics to address and change these structures. The third mechanism is the **(5) policy or market impact on opportunities.** Often bouncing forward can take up surprising forms both to policy makers and the people bouncing forward. Blueprint and state planning processes may reduce these opportunities and interventions need to fit the needs of the people. At their best, just resilience public policies target the groups that are most in need, creates opportunities and dismantles structures that entrench their existing inequalities.

Preparedness

For the analysis of preparedness, we have looked primarily to the role of social communities in programs that create conditions and interventions that enhance resilience. The first mechanism is **(6) community voice and authority/control**.

Local knowledge, needs and context are essential for setting up local programs. This goes beyond active participation (voice) and includes sufficient control (and authority). The second mechanism is **(7) recognition of injustices**. This involves recognizing marginalized groups which may not be the easiest or most vocal groups in a community and reflection on the desired end states of a program: are these reflective of local desires and needs? And is this done in policy to really give a voice, or to announce within unequal systems?

> "Resilience is reflected in all kinds of concepts: health, inclusion, digitalization, sustainability, trust (in each other, in institutions and in the government), the degree of polarization between groups."
> *(Focus group 1)*

4.2 STRESSORS

> "The general hazard-focus is often on flooding. Which is one of the most visible stressors that impacts a large number of people. We tend to forget hidden stressors that are not always recognized as hazard. There is poverty, for instance, and people suffer from daily health issues. These are fundamental things that are broken, underlying drivers of vulnerability that people have been working on for many decades already. We need to ask climate researchers to better help fight those fights, rather than making it a new issue that is bigger than the others, these are so essential."
> *(Assistant prof. planning and climate adaption)*

Stressors are understood as external trends or events that work on a social system with particular inequalities. These can be wars, climate change or an eviction letter landing on the doormat, depending on the scale and time frame studied. A helpful typology describing the different dynamics of stressors is presented in figure 2 (Geels & Schot, 2007).
The types of stressors that are found in the analyzed literature, vary from poverty, earth-quakes, fires, flooding, and wars to health, and economic recessions. Some stressors are sudden shocks like covid-19, whereas others are decade long gradual trends like climate change. Most prominent in the literature and interviews, specific on the relation between social resilience and inequality, are poverty and flooding (often related to climate change). Mostly, poverty is seen in combination with other stressors, as an accumulation of stressors.

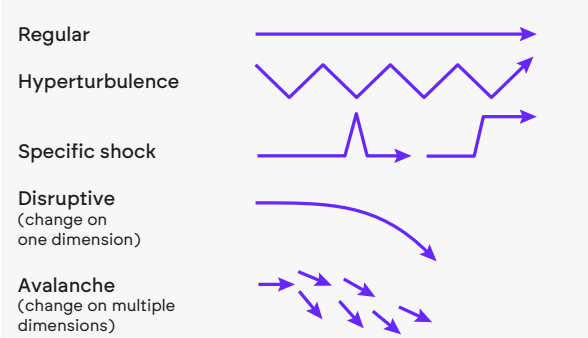


Fig. 4 *Typology of stressors (Geels & Schot, 2007)*

Fig. 5 *'The gap between rich and poor widens'* [1]

1 The Gap Between rich and poor widens. https://www.11onze.cat/en/magazine/gap-between-rich-poor-widens/

Mechanism 1: Exposure

> "That there is inequality means you have to deal with inclusivity in a different way. A stressor does not happen to everyone equally. Stressors, by definition, have unequal effects on people. Climate change is not an issue we experience 'together', not what unites us, but rather shows huge differences in inequality. It calls for an approach that recognizes that there is inequality."
> *(Advisor inclusive climate adaption)*

Exposure is the main mechanism between resilience and inequality related to stressors. Studies show persistently that not everybody is exposed to stressors equally. Various vulnerable groups face a stronger exposure, while people with more wealth and less exclusion are often less exposed. This is a recurring pattern regardless of country and stressor. Increased exposure can be based on the jobs and places poorer people live. For example, in the US the disadvantaged (based on a large number of indicators including multidimensional poverty indicators) are more likely to live in coastal areas that are not protected as compared to areas where less vulnerable groups live (Leichenko & Silva, 2014). Also, in the Netherlands the neighborhoods of Arnhem with the least individual sensitivity to flooding, had the lowest levels of unemployment and lowest number of people in the lowest income bracket and the least renters within the lowest housing value brackets (Forrest et al., 2020).

Not only poverty but also exclusion can correlate with higher exposure to stressors. Like in China where immigrant Africans were disproportionally affected by the covid crises as "*Africans in Guangzhou were getting the brunt of this discrimination (...) when some Africans were forcibly ejected from their apartments and some quarantined against their will amidst rumors of exclusion from eating in restaurants with the false claim that all these Africans were infected with the virus*" (Bodomo, 2020). In the US black workers faced higher exposure to COVID because people of colour were more likely to be employed in essential industries, and in occupations with more exposure to infections and closer proximity to others (Hawkins, 2020). In Myanmar women face different risks in violent conflict as men as they are the target of sexual violence, trafficking, and gender-based impacts of displacement (Hedström & Olivius, 2020).

Studies differ in whether they treat the relation between poverty and exclusion on the one hand and exposure to stressors on the other as causational or correlational. Often the relation seems to be indirect. For example, the jobless people in Arnhem are not more often exposed to flooding because they don't have a job, but because they have a higher chance of living in densely populated neighbourhoods with less green and blue infrastructure that are therefore more susceptible to flooding. Examples of such intervening variables are lower qualities of infrastructure, buildings and land, precarious labour conditions, and less access to health care, welfare, education and other institutions.

Mechanism 1b: Compound exposure

Many sources stress the important effect of a multitude of stressors (simultaneously and/or consecutively), that especially poorer or marginalized groups find themselves exposed to. We name this mechanism compound exposure. Many vulnerable people face not one but a multitude of stressors. For instance, African smallholders which are often 'double exposed' experiencing climate shocks alongside other stressors like uncertain land rights, restrictive trade laws and processes of social marginalization related to race, gender, etc. (Kauti, 2009).

> "Children in poverty, already have to take care of their parents, or that cannot go to school or play with friends because they have to do the groceries. Those situations often pile up."
> *(Prof. wealth and wellbeing)*

Vulnerable people have often, by necessity, become resilient to stressors. For example, the people in Cambodja's Tonla Sap area are well adapted to the seasonal flooding through, among others, diversified seasonal sources of income and food. There are however limits to the stressors that can be absorbed, leaving the people in the area relatively vulnerable to significant changes in these seasonal flooding patterns due to climate change (Nuorteva et al., 2010). As mentioned in (Uekusa &

Matthewman, 2017) "*people may not be able to be resilient any time and all the time, for as much or as long as they would want*". Over time, compounding stressors may leave people more exposed to recurring, ongoing or new stressors (see figure 4).

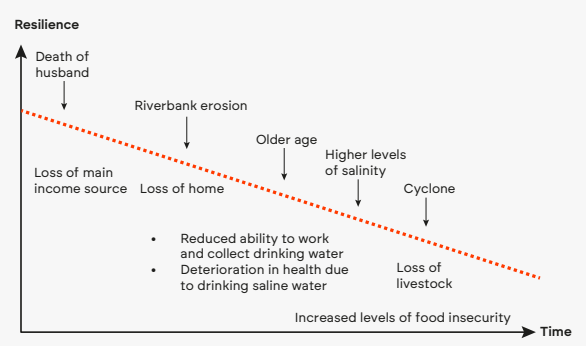


Fig. 6 *Example Compound exposure (2005)*

4.3 RESPONSE

> "It became so painfully clear that huge inequalities and deprivation were growing. You can have the networks and help, but if you're just behind in financial circumstances and have stress at home, inequality is still growing."
> *(Official Resilience advisor)*

Responses are understood as how (groups of) people react to a stressor. The ability to do so, is not always equal due to the resources people have or don't have or the people they know.

> "They say 'poor people meet with neighbors; rich people meet other rich people'. So, then you are more trapped in your own communities and networks. Making links is important, the bridging capital."
> *(Lecturer Social resilience)*

Mechanism 2: Access to resources

> "Poverty is not having enough money to participate in society. Money is the key, but you also need contacts, and to have access to the right help. Childcare, for example, is already very expensive. As a working poor person, you are also less entitled to benefits, and often cannot rely on a safety net."
> *(Policy advisor child poverty)*

The main mechanism connecting responses to inequality is that people with less economic, social or cultural capital have less access to resources to respond adequately. Vice versa people with more capital not only have more resources to react, but also have more possibilities to respond in ways that make them less vulnerable to that stressor in future.

More access to resources allows people to take more advantageous responses making them more resilient and creating greater inequality with respect to people with less access. For example, people with high incomes can sell off assets or use insurance to cope with climate change, urban poor don't have these resources and as a result are less likely to cope or adapt. Instead, according to Hlahla and Hill (2018) they have to make difficult decisions like reducing food consumption, sell productive assets or sacrifice their children's education. These measures further reduce their ability to escape the poverty trap.

There are different types of resources (associated with different types of capital as explained in the introduction). These include financial resources (money, assets), social resources (contacts), cultural resources (knowledge, skills and being able to move in different social circles) and personal resources (mental and physical health) (SCP, 2023). The types of resources and the way they are defined differs between studies. Furthermore, these resources may belong to persons or households, but also be accessed through social networks and communities and larger institutions.

An example of how access to resources results in different responses for different groups and thus may increase inequality are Vietnamese coastal communities that faced two stressors: climate change and a state policy that promotes switching livelihoods to large acacia plantations. People with enough land and financial capital, but also with enough social capital in the form of contacts needed to clear and claim forest land, were able to set up these acacia plantations. Others instead came to work as casual laborers on the plantations and/or sold their land. They became embedded in an economy based on a monoculture that is more exposed to market and climate developments. These people, and the in-migrant labourers from elsewhere in Vietnam attracted to work on the plantations, would be hit hard in case of a typhoon or flooding event (Thulstrop, 2014).

Fig. 7 *Mekong Delta Floods Vietnam, 2018* [2]

This relation between stressors, resources and response can give rise to virtuous or vicious cycles, depending on people's initial resilience and the level of (government) support (see bouncing back and bouncing forward). Over time inability to react adequately can erode existing resource bases or social standing (worsening of exclusion), which further decreases resilience to stresses over time (Canvin et al, 2009; Jordan, 2019). This can deplete material resources but also social of psychological resources as with Afghan refugees some of whom could not deal with any more stressors after a traumatic earthquake (Uekusa & Matthewman, 2017).

> "The redistribution of recognition, symbolic and cultural capital, is very important in the debate about social resilience."
> *(Lecturer social resilience)*

> "Sometimes people cannot manage money very well. This is often due to stress, which is proven to effect long -term memory. This is not always recognized, and people are frowned upon when they do spend their money to buy expensive tv's or new shoes. For example, a child bought new shiny Nikes, and at the same time got an extra loan for buying books from the school. The teacher that noticed that got angry, because 'he was poor after all, right?'. It is important that teachers understand that and know why sometimes people make those choices. And people that live in poverty don't want to receive help. It's stressful and it also brings shame. You want to show that you are not poor."
> *(Policy advisor child poverty)*

Asking ourselves what role diversity plays in creating or reducing resilience and inequality deepens our understanding of the role of resource access at the community or regional level. Diversity is often seen to enhance resilience (Nuorteva et al., 2010). However, it also indicates a certain level of inequality. Take for instance neighbourhoods that become more mixed through gentrification. If such a neighbourhood experiences a stressor, does this deepen inequalities due to the different resource bases of its inhabitants, or does diversity provide resilience to the neighbourhood as a whole? The answer lies in the social fabric (the social structures and ties) of the neighbourhood.

Resource exchange and recombination is facilitated if people are connected through strong, or bonding ties, like between family members, friends and neighbours (Granovetter, 1973). Resource diversity therefore strengthens the resilience of people with

2 Mekong Delta Floods: https://en.vietnamplus.vn/mekong-delta-floods-inundate-over-2000ha-of-rice/140743.vnp

such strong connections. However, strongly knit groups tend to become more homogenous over time and lead to distrustful relations to outsiders. This limits resilience as it closes off the group to other ideas and information, which are important for innovation and adaptation. Also, weak or bridging ties are therefore important. Benefits from this transfer of ideas and information can then be shared across bonding ties (Newman & Dale, 2005). This extends to vertical relations with for example labour markets, policy support etc. Without bridging relations with these institutions through 'boundary spanners', people cannot access their ideas and resources, severely limiting the diversity of resources people can harness in their response to stressors. An example of the importance of weak ties is former Eastern Germany. The repressive regime and its widespread informants created strong bonding ties. It was believed that these dense networks would allow eastern communities to adapt well to the changes posed by unification with the West. The lack of weak ties, however, gave these communities poor abilities to solve complex social problems and proved inadequate to address the vast changes that occurred. As a result, East German communities proved much less adaptive than expectedand were less resilient than those in the West (Völker & Flap 2001).

> "We find it most important that we [as a social organization] can help people with organizing activities and projects. Things that are often organized are neighbourhood barbecues, parties, clean-up days, making gardens, rain barrels in the street. Through these events people get to know each other and have more social contacts in the neighbourhood. This is important because now people can also rely on each other, they can call the neighbour if someone has broken his leg, for instance. If you say it this way, there is more resilience."
> *(Project leaders social initiative Rotterdam)*

Diversity is therefore only a benefit if its benefits can be transmitted through social networks. This highlights the importance of fostering both bonding and bridging ties within communities with special attention to excluded groups (Orchard et al., 2015; Ashmore, 2017). It is "*a dynamic balance of bonding and bridging social capital that builds resilience and makes the difference between a small community "getting by" or "getting ahead"*" (Newman & Dale, 2005). This carries policy implications. For example, if a municipality wants to diversify poorer neighbourhoods by building more expensive housing, but these more affluent newcomers do not create social ties with the original inhabitants it might weaken social resilience as bonding ties are severed without creating new bridging ties.

4.4 BOUNCING BACK AND BOUNCING FORWARD

In literature on resilience, bouncing back means 'bouncing' back to the situation before the stressor. It is important to mention that social systems will never fully bounce back and bouncing back does not remove exposure to a particular stressor. Bouncing back is the situation in which, besides some smaller adaptations, the main characteristics of the system are reproduced. The counterpart of bouncing back is bouncing forward, in which the system is 'bouncing' to a new state. Bouncing forward is in literature associated with social transformations in which people 'escape' an unequal situation, like escaping from poverty, from an unequal position for men and women, or from inequality between people with different ethnical backgrounds. Even though there can also be individual or group responses that result in bouncing forward (by a transformative response), in this section we focus on the role of governments and, to a lesser degree, markets in influencing the relation between resilience and inequality.

> "A large group of people has developed a negative image of their daily lives and the sentiment about their future is also downright negative. A different kind of thinking is needed to turn that around again; being able to offer actual help then really matters. And that requires a change of mindset among those that are in control. Poverty is about those who can alleviate it and not about those who are poor."
> *(Director foundation research & society)*

Mechanism 3: Inverse response law

The first mechanism we found related to bouncing back and forward, is referred to as the 'Inverse Response Law' (Severinsen & Curtis, 2018). This law states that disasters have the greatest impact on lower socio-economic groups or individuals, and that these groups are likely to receive the least support and the lowest quality, because they are overlooked or otherwise have less access to help (Nuorteva et al., 2010; Canvin et al., 2009, Phibbs et al., 2016). These groups typically 'suffer from' low visibility and limited or marginal political representation. As an example, during covid-19 pandemic showed, neighborhood organizations often arranged laptops for people that did not have a laptop so they could join online classes. This still left out a group of households that did not have access to internet and therefore could still not participate. Such mechanisms can be easily overlooked (Focus group 1).

Fig. 8 *'A Digital canyon', inequality in acces to internet* [3]

In literature, two arguments around the inverse response law are made. Firstly, for poor people and people that have limited resources (for instance informal settlers or women in some countries), recovery took a longer time. (Abdullah et al., 2016; Armas et al., 2015; Phibbs et al., 2016; Thulstrup, 2014). This is because the help to recover does reach the rich people and people with more resources much easier than the poor people or people without ownership. Phibbs et al. (2016, p. 16) refer in this regard to *"the inverse care law for those positioned outside mainstream responses"*. Secondly, literature shows that after a disaster, poor people, ethnic groups and people that have limited ownership are often relocated. At first sight, this could increase resilience, for instance because relocated people do not live in a vulnerable coastal area anymore. However, because of the relocation in which these groups are not free to choose their location, social networks are destroyed. In this way, relocation of people leads to a loss of social capital and herewith also of the access to resources (Armas et al., 2015; Eadie & Su, 2018; Walch, 2018). One of the examples from literature, is a study to the resilience of poor communities in the Philippines after typhoon Yolanda: *"Communities were disrupted and residents displaced by both Yolanda and the relocation programs that moved people away from the dangerous coastal areas. [...] While many interviewees stated that they were still in touch with their old neighbours "day to day", bayanihan [social capital] cannot work over relatively long distances"* (Eadie & Su, 2018, p. 340).

Mechanism 4: (Policy) window for addressing persistent structures of inequality

> "The idea is that those issues are too complex, that there are no solutions, but it's also very politically sensitive. Do we have to change the fundaments of society?"
> *(Lecturer poverty)*

Literature on bouncing back and forward, also shows how persistent structures of inequality are an important mechanism. Studies on bouncing back call for more attention to systematic inequalities that led to initial vulnerabilities to stressors or the inability to respond to them in a resilient manner. How this can be done, is described in studies on bouncing forward. Firstly, it is important to address the dominant structures and disrupt them (Abdullah et al., 2016; Jordan, 2019). This is a familiar point in critical resilience literature, which mentions the power structures and call for (political) action to change them. The second way to bounce forward is the acknowledgement of disempowered people and increase their empowerment (Fitzgibbons & Mitchell, 2019; Hart et al., 2013). This is also related

3 A 'digital canyon': 1.3 billion school-aged children can't log on to internet at home https://news.un.org/en/story/2020/12/1078872

to the dominant power structures because empowerment of less dominant groups and people is a way to change them. Finally, several authors describe shocks and especially disasters not only as events that lead to increasing inequalities, but also as an opportunity to bounce forward (Chelleri et al. 2015; Uekusa & Metthewman, 2017; Forrest et al. 2020). This was for example found after the earthquakes in New Zealand (2010) and Japan (2011): "The positive impacts of these disasters cannot be denied for the socially vulnerable. These 2010–2011 disasters in New Zealand and Japan ironically made formerly invisible groups "hypervisible" and facilitated their community participation and communication with the mainstream. In a sense, disaster can empower the oppressed." (Uekusa & Matthewman, 2017, p. 358). In this case a disaster turned into a 'window of opportunity' to change the dominant structures and system(s).

Fig. 9 *Earthquake New Zealand* [4]

> "Now we have to support and put-up basic conditions for resilience. We are in the middle of a systems change in society and people are so fundamentally affected, we have to bounce forward."
> *(Prof. wealth and wellbeing)*

Mechanism 5: Policy or market impact on opportunities

> "Mostly people in richer neighborhoods get the resilient infrastructures. And, even if you invest in infrastructures in neighborhoods that are worse off, as a result they may get gentrified, because if you make a place more resilient the property value goes up and poorer people will have to relocate to cheaper and perhaps less resilient locations. That is not you want. We should think about how governance interventions have effect on certain inequities."
> *(Assistant prof. planning and climate adaption)*

The third mechanism between bouncing and inequality has to do with the instruments which could be used to encourage bouncing forward. In literature, sometimes very specific instruments are mentioned, like a narrative approach (Foxen, 2010), proactive policies (Hlahla & Hill, 2018), providing specific economic goods (Dumas et al., 2018), or developing personal skills (Canvin et al., 2009). Others describe general approaches, like learning (Leichenko & Silva, 2014) and diversification (Nuorteva et al., 2010).

On a more general level, two important notions are made. Firstly, bouncing forward cannot be fully planned. Like Canvin et al. (2009, p. 243) describe in their paper 'Tales of the unexpected': *"These transitions often occurred contrary to participants' and others' expectations, were dependent upon opportunities arising for people to release their potential and signified the start of further, incremental processes"*. Thus, creating opportunities to bounce forward is more important than planned (policy) instruments.

Secondly, many instruments need to fit the needs of people. Like this example of women in Kenya: *"A woman with a large flock of chickens may also feel more confident and less vulnerable knowing she*

4 Paul Daly (2011) in Ressurection, ChristChurch Moving On (2011). Retrieved from: https://www.nzgeo.com/stories/resurrection-christchurch-moving-on/

will be able to prepare a good meal for a visitor to her home or pay medical fees for a sick family member. In this case, the expectations of program developers did not align with the actual way in which the target population utilizes and values village chickens; therefore, the outcomes they defined as being important did not match those perceived by the intended beneficiaries" (Dumas et al. 2018 p. 22). Consequently, the people and their community must be central in an approach to create opportunities to bounce forward.

4.5 PREPAREDNESS

> "It is important that the municipality looks at what happens in the neighborhood before they start new projects. Now, the municipality is a project-machine. The municipality has to change its attitude and not want to decide everything, look at what we can but also what we cannot do. That also means that the government should take on a more facilitating role, and less of a top-down role, and ask: 'how can we stand next to an organization and next to the citizens, and work together, as a partnership?'. That is how trust develops and people can find each other in an informal way."
> *(Official Resilience advisor)*

Not being able to prepare for a stressor, is seen as a lack of resilience (Eadie & Su 2018 p. 6). In relation to inequality, this is often about not having (access to) resources to prepare for a stressor. The focus in literature then is on how to prepare people for a stressor, by keeping inequalities in mind. Many recommendations follow from case study-examples that present (practical) suggestions for researchers, policymakers, and governments to make people more resilient while addressing inequalities or preventing exclusion and inequities to come around. Here, both policy makers, researchers and citizens have a role in actively identifying, challenging, and addressing inequalities. We find two mechanisms behind these suggestions: *Community-based and recognition.*

Mechanism 6: Community voice and control

The first mechanism is about community-based preparedness, that is, formulating policy from the perspective of, and together with, local communities, knowledge and values, in a given context.

> "We plead for building society with the community, from community-based organization. The last I emphasize because it is about power. From the idea that 'if you're not on the table than you're on the menu.'. We want to pass that thought on to social work. We also want to pass on the idea of addressing the structural problems in social work, and that people can put them on the agenda with their supervisors."
> *(Lecturer social resilience)*

Community-based approaches in the literature studied, offer examples on how to (help) make people more resilient with a community-level investment. An example is the idea of 'co-management', which suggests working together with communities, from the start of (i.e.) a project to make more fitting policy about areal changes, infrastructure, social work and institutional programs. This approach not only acknowledges existing capabilities and networks, but also gives room for alternative knowledge formulations (Mozumder et al., 2018). Which in turn, allows for groups that are often marginalized, to be part of the formulation of public narratives of what it means to live in a certain context.

The central role for the community is of importance. Mol (2002) emphasizes the importance of attending to the different ways in which people perceive and experience the world, rather than assuming a universal, objective reality. According to Mol (2002), acknowledging an 'ontological multiplicity' can help to challenge dominant, reductive ways of thinking and promote more inclusive and diverse perspectives. This can have very practical implications in writing and implementing policy. An example of a case in South-Asia shows, that when policymakers took local knowledge of fishing communities into account, policy plans were made that both supported the local fishing communities as well as the need for environmental adaption of the area. The case showed that "*local and particularly*

elderly hilsa fishers were excellent sources of local ecological knowledge about the fishery resources, fish movements, seasonal fluctuations in fish stocks, details of their reproductive and feeding behaviors, feeding grounds and other environmental factors." (Mozumder et al. 2018 p.12). Consequently, this approach allowed to enhance the social resilience of the fishing communities and the resilience of their ecological habitat.

Fig. 10 *'Local knowledge is crucial', fishing Mexico* [5]

> "If you want to learn from other groups, or see what goes 'wrong', you have to treat people equally, with dignity. Dare to say; "farmers, we need your knowledge, how are we going to solve this". That this is not happening is, partly, the cause of the -ever deepening- trust gap. The challenge is to get that experience-based knowledge into the public administration."
> *(Director foundation research & society)*

The idea of co-management and partnerships are stressed in the literature to not only widen the frame of knowledge, but also to find the right people and connections in neighborhoods in partnership with community representatives and local organizations. As Hlahla and Hill (2018) argue in their study on the impact of climate + change on the urban poor in Pietermaritzburg, traditional *"... projects have not reached all the communities; hence, partnerships are necessary. The government and private sector need to partner with local NGOs and the communities to implement such [resilience] initiatives in urban areas and teach the communities to adapt as opposed to merely responding with stop-gap measures. This will help to reduce poverty levels and increase household response capacities within the communities."* (Hlaha & Hill, 2018 p. 12). More so, we find, as Mozumder argues that *"Co-management works best if the local community focuses on formulating a system of rights and regulations, while the government focuses on formulating a legal framework to back up the system." (Mozumder et al., 2018* p. *50).* This also give communities control, "*fostering flexibility and autonomy at community levels*" (Clay & Zimmerer, 2020 p. 9), to enable communities to co-design and build a sense of agency and control (Rippon et. al., 2021). Also, Kaika, underlines this idea, but urges that being invited to be 'included' should not mean that the communities are seen as the 'subordinate subject', but rather as equal co-decision makers. The significance here lays in the fact that it's not just about terms like "inclusiveness", and "sustainability", in renormalized formats, but really having control, really seeing it as worthy knowledge, worldviews and expertise. Otherwise, this is "only legitimized the injustice of existing practices and reproduced fixed roles and power positions" (Kaika, 2017). This means that relevant research not only needs to incorporate insights from different disciplines but also that of other stakeholders and sources of knowledge. In other words, it requires transdisciplinary research (Marshall et al., 2016).

Another take on community-based preparedness is one that advocates for nourishing social (support) networks in communities. That in turn, allows for the exchange of knowledge and experience, express needs, and exchange views internally and externally (Romero-Lankao et al., 2016).

5 Putting people at the center of solutions is crucial to ensure healthy fisheries. https://blogs.edf.org/edfish/2019/10/08/putting-people-at-the-center-of-solutions-is-crucial-to-ensure-healthy-fisheries/

> "When you work together, and connect people, there can be more resilience. For example, in BoTu the schools were each on their own island, but they had a role in different networks, so then it's important to work better together so we can get a better grip at the neighborhood, and the connections people have. And then I really mean standing next to people, and listening, and setting goals, like okay now this, and that has to happen. But also, really collaborate and ask what the needs of people are."
> *(Official resilience advisor)*

To foster that idea in practice, the transdisciplinary method/idea of 'social design' was proposed during a focus group. 'Social Design' is committed to transformation of social circumstances of members of non-dominant communities as means of promoting social equity. This involves creating spaces for dialogue and collaboration between designers, planners, policymakers, and community members. Harvey (2013) proposes a 'social design' that reflects the needs of the community, rather than the needs of capital or the state.

> "Social Design means that you derive from the experienced world of citizens themselves. This is important to come a step closer to the needs people have. In Social Design you take people into the design process, and design (policy, infrastructure e.g.) with the public. Ask yourself: 'What do people need. How can I reach them, and where can I meet them?'."
> *(Focus group 2)*

Mechanism 7: Recognizing injustices

> "Include inequality, include inclusiveness so that by deploying resilience programs, for example, you don't just create more inequality."
> *(Advisor inclusive climate adaption)*

Fig. 11 *M4H Rotterdam, 'toekomst in de maak'* [6]

Resilience-programs are only useful when (pre-) existing inequalities are recognized and acted upon. To understand the needs of people and the things people must deal with, allows for understanding how to (help) make people more resilient. That means also researching (socio-cultural) norms and values in a context, to uncover roles, patterns and systems that make daily life more difficult for certain groups of people. As Dumas et. Al. (2018) note, *"Program designers should carefully consider how gender norms (e.g., labor roles, control over incomes, intrahousehold allocation of animal source foods) might modify the impact of an intervention, both on women and on the household. (...) Program designers should also consider that women are often limited in their access to land, extension services and information, animal health services, savings, insurance and credit, and markets and make specific plans for addressing these barriers to ensure long-term program impact."* (Dumas et al., 2018 p. 20). The importance of recognition calls for detailed understanding of the existing groups and communities and their level of preparedness to deal with stressors and shocks, and of their own capacity to develop a certain level of preparedness.

6 M4H district Rotterdam. https://delva.la/projecten/m4h/

> "Mostly it's the same groups that are active in the neighborhood and that some groups cannot take part of the organization and events. Those active citizens often share the same language, networks, culture and background. Mostly in this case, Dutch, so it has to do with discrimination. They have a certain level of power, and often don't look to the other groups in the neighborhood, they don't see or notice the things other groups need, think, want."
> *(Focus group 2)*

This also includes looking at, and acknowledging, privileged claims on futurity (see fig. 9). As resilience sometimes *"ensures that future sea level rise and climate change impacts, for example, will not threaten investors' and residents' expectations of the Miami real estate market's continued growth, or continued levels of municipal service provisioning that sustain the experience of the good life."* (Grove et al. 2020 p. 6). In these instances, privileged residents have taken part in consultation while disempowered residents have not, and hence, the needs and priorities of privileged residents may be more thoroughly reflected in the City Resilience Strategies' actions (15:14: 9 in Fitzgibbons & Mitchell, 2019 p. 9). This reflects how dominant groups (and dominant imaginations of the future), allow to maintain the power of, and influence on, the built environment and policy within a dominant frame of what it means to prepare for a better future to come, or to be resilient (Harvey, 2013). In literal sense, we see that in how the development of certain neighborhoods and the neglect of others can also be a means of exercising power and control, and reinforcing inequalities (Shi, 2021).

The last form of recognition proposed, is the acknowledgement of resilience as a positive quality. This idea stresses that the capacities people have to be resilient, are important too, *"First, I argue (as do an increasing number of humanitarian organizations) that examining the resilience of individuals and communities in the face of disaster, rather than focusing solely on their vulnerability, can give us new avenues toward understanding and strengthening local strategies of coping in the aftermath of violence and repression."* (Foxen, 2010 p. 3).

Community based preparedness, and preparedness based on recognition (of injustices, dominant discourses of futurity and existing resilience) are proposed as how to's for research and policy practice in applying the structural awareness and implementation of inequalities that non-dominant marginalizes groups in society are affected by.

> "To make asking for advice more accessible, we also use WhatsApp where people can contact us. And in the communication, we use simple language and images and symbols, and we even go by and ring people's doorbells. And when we advise citizens in organizing events, we do that based on trust. That goes both ways. That you help people organize it, but also help them trust in themselves. This way, we recognize their power and capacities, and also celebrate what goes well."
> *(Advisor Poverty fund)*

The mechanisms related to this element, address inequalities by proposing how to engage with resilience-making in social-cultural environments. Accounting for actual authority by certain groups in formulating their take on resilience, as well as understanding intersections of inequality, allows for space to actually 'prepare' people for crises to come. Doing so by recognizing (hidden) inequalities and privileged assumptions. These how to's, relate to policymaking, but also add to the process of researching (with) groups, and understanding differences in knowledge, socio-cultural meanings and needs.

4.6 CONCLUSION: MECHANISMS BETWEEN SOCIAL RESILIENCE & INEQUALITY

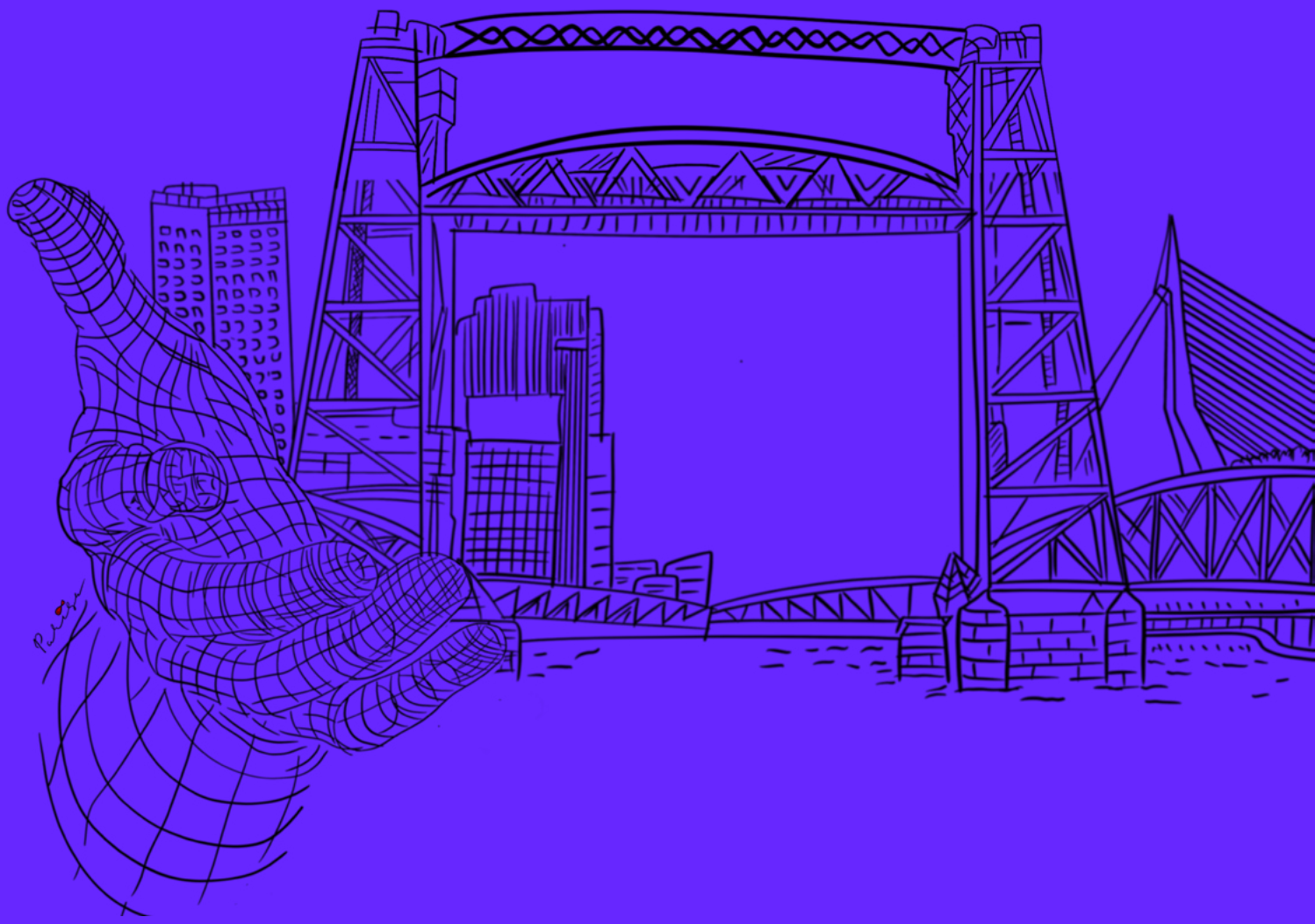
The mechanisms provide insight in the interaction between social resilience and inequality. They show how resilience may increase but also decrease equity. And that marginalized and disadvantaged groups, often face greater challenges in being resilient. To begin with, such groups are often exposed more to stressors, often have less access to resources and are not always recognized in resilience policy. Exposure to stressors and unequal access to resources contribute to social inequality and affect the ability of marginalized communities to be resilient. Reducing these inequalities and strengthening marginalized communities, however, can contribute to their ability to withstand and recover from shocks and stresses. Especially if stressors create policy-windows to address dominant structures of power and inequality.

In addition, social networks and institutional support play an important role in shaping resilience and reducing existing inequalities. Recognizing and addressing these mechanisms is essential to fostering equitable and resilient societies by ensuring that all communities have the necessary resources, support and opportunities to be resilient.

If we reformulate the mechanisms into positive principles like countering the inverse response law or creating policy windows, they may be used to guide policies and research and offer more insight into the distributive, recognition and procedural dimensions often used for just resilience. The mechanisms for example highlight that it is not just about the distribution of effects but also that of resources and exposure. And both whom to recognize (for example those groups most difficult to reach for policy) as well as how to recognize them (e.g., valuing local knowledge). This leads us to propose that the mechanisms can be used to conceptualize just resilience for analytical, research and policy purposes.

In the following chapters, we bring together the seven mechanisms as a conceptualization of just resilience, both of which are central to this study. First, we do so by applying them to the case of energy poverty in Rotterdam. Later, this brings us to concluding agenda points on the road to just resilience in the Delta.

CHAPTER 5:
Energy poverty, an illustration



In the previous chapter we have identified mechanisms between resilience and inequality from various studies spanning the globe and a wide range of stressors and aspects. TThis chapter illustrates their application, what kind of insights these mechanisms lead to, and applies them to the Dutch context in which Convergence and the Resilient Delta Initiative focus on. The topic: the 2022 Dutch energy crisis as a result of the war in Ukraine. This illustration is based on a quick scan of research reports in early 2023 and due to data restrictions focuses on groups of households.

The energy crisis hit hard in the Netherlands. Gas and electricity market prices increased more than 10-fold in 2022 compared to 2020. This resulted in 600.000 households facing energy poverty, a figure estimated to have reached over a million households (or 12,5% of households) without massive state support and adaptation in energy behavior (TNO, 2023).

Fig. 12 *Natural gas commodity prices (Dutch TTF in EUR/MWh)*

5.1 EXPOSURE AND COMPOUND EXPOSURE

The energy crisis did not hit every household equally hard. At the core there are three reasons that determine whether people became (more) energy poor. The first is income. Spending a large share of disposable income on energy is highest for the lowest income groups. The second is the energy quality of the house. Well-insulated houses, with heat pumps and local energy production (e.g., solar panels) need to buy less energy. Third, the essentially random aspect of whether people still had a pre-2022 fixed price contract or if they had to renew their contract in 2022 or pay a variable energy tariff. Only the latter were exposed to the high market prices. Only the first two reasons are related to inequalities. Table 5.1 presents the over- and underrepresentation of energy poor households across socio-economic groups without state support. Note that the different characteristics overlap: people that rent from corporations usually have a lower income, etc. In total 40% of households indicated that their energy bill went up by more than twenty percent compared to the previous year. 10% has (substantial) problems to pay their energy bills. This percentage was 19% for the bottom quintile of income and 'only' 7% of the top quintile (data October 2022, De Nederlandse Bank, 2023).

Group	Over-/ under-represented
Education	
(More than) a master's degree	-76%
(Less than) primary education	176%
Home ownership	
Rental from housing corporation	-47%
Owner	175%
Nativity	
Dutch	-25%
Non-Western	150%
Labour position	
Fixed contract	-73%
Sick/ disability welfare	200%
Other welfare or no income	430%
Problematic debts	
Yes	176%

Fig. 13 *Likelihood of becoming energy poor (DNB, 2023)*

Some of these socio-economic groups like low income, non-Western, urban households and people with disabilities were also hit disproportionally hard by the Covid-crisis of the preceding years. As a result of the pandemic, these groups already had fewer financial reserves and more stress at the start of the energy crisis, showing the effects of compound exposure. In contrast: higher income groups had increased their savings during Covid, in part because they could spend less. The higher income groups could use these savings to cope with the energy crisis (ABN AMRO, 2022).

5.2 ACCESS TO RESOURCES

Responses can range from suffering (forgoing on basic needs to pay the energy bill) to coping (using savings as a buffer) to adaptation (changing energy behaviour) to transformation (small and/or large home energy improvements). The (access to) resources of households led to partly different responses.

Especially poor households suffered. An estimated 40% of households turned off their heating, even when it is cold (Multiscope, 2023) and/or had to cut back on spending on other basic needs. As an example, without state support, in July 2022 the increased energy prices and other inflation would have reduced the disposable income of people on welfare with 65 euro a month. Being on welfare means there are few possibilities to increase income or use savings, also due to legal restrictions. For these households 65 euros a month hits their budget hard. It corresponds to 32% of the money for food, 15% of rental costs, or 60% of health insurance costs (ABN AMRO, 2022).

A large majority of households showed adaptive responses by lowering the thermostat, showering less or reducing the electricity use of appliances. The average temperature was lowered from 19 degrees to 18 degrees (Tado, 2023). There are no real differences between income groups, types of home ownership, or even if their energy bill actually went up (De Nederlandse Bank, 2023). It is unclear what the effect of inequalities is on small home energy improvements like switching to LED lighting, applying radiator foil, changing the boiler settings, etc. From the homeowners that reduced their energy use, 27% made such small investments.

With regard to transformative responses, only 16% of homeowners substantially transformed their house through insulation, buying heat pumps or PV panels, etc. In this category of responses, income differences reappear. Richer households transformed their house almost twice as often than poorer households. Most research indicates that this is because they more often live in rental houses and are less able to pre-finance measures[7]. Not only a lack of money but also other resources like knowledge (own or through social networks) reduced the ability to respond adequately. People in the lowest income quantile more often lacked information like knowing how much insulation would cost, where to get subsidies, or even what type of energy contract they had (De Nederlandse Bank, 2023).

So, while all households adapted, poorer households were less able to respond in a transformative way because they lacked resources like home ownership, knowledge and savings. They more often had to suffer, and this would have been much worse where it not that the government provided income support.

5.3 INVERSE RESPONSE LAW

The government stepped in with massive support programmes, totalling over 11 billion euros projected. This included income dependent support, general support for all households and lowering energy taxes, from which especially the largest energy users (often the highest earners) profited (see figure 12). Even with this massive state support, still 90.000 additional household became energy poor between 2021 and 2022 (TNO, 2023).

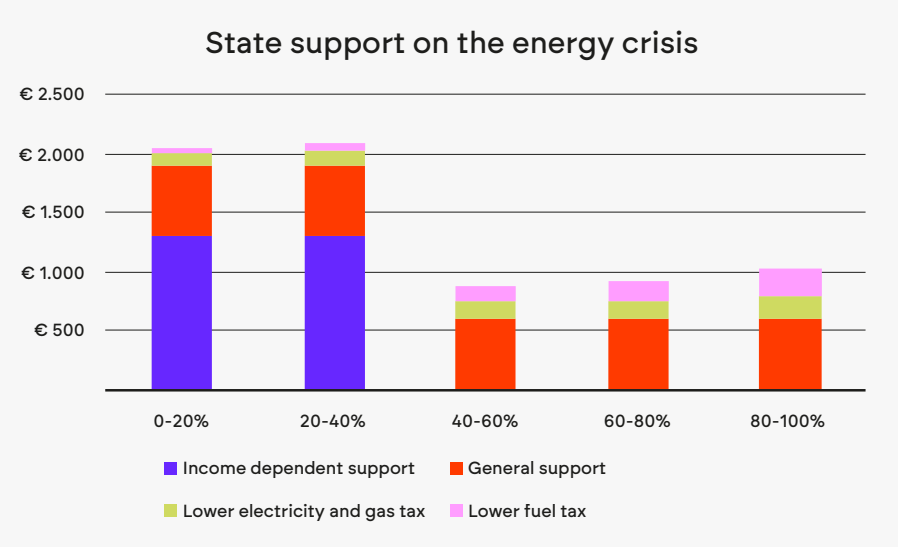


Fig. 14 *2022 state support for energy poverty across different incomes (sources: TNO (2023), Leijssen, Investico, (2022), CBS)*

7 Subsidies are usually given only after measures have been implemented, which means households must upfront the costs initially.

The government wanted to strike a balance between equality (helping all households whose energy bill exploded) and equity (helping especially those that were most vulnerable) (Rocco, 2023). So even as poorer households received more state support, all income groups were supported. In contrast to the inverse response law, the income dependent support actually reached over 95% of its target group, because the money was automatically transferred to bank accounts by municipalities that have income data on (almost) all households. The problem regarding the inverse response law is not so much that people who needed it most did not receive help, but rather that people who did not need it, *also* received support. There are two groups of free riders. First the smaller group of households that had substantial income and for example already lived in an energy efficient house with solar panels and a heat pump. These had often profited earlier from green subsidies to do so. This green elite was largely shielded from the energy prices but still received hundreds of euros of support. This received considerable attention on (social) media. A second group however is much larger and received little media attention: households that had a pre-2022, fixed tariff contract with their energy provider. They did not see their bill rise and still received support. Assuming this concerned half of households (ABN, 2022), one may conclude that some five billion euros were squandered.

More targeted support had been possible if the government could combine data on income, debts and housing quality with commercial data on the type and date of energy contracts and energy use. This is technically possible, but apparently there was too little trust between the government and the market to organize this (Bontenbal, 2022). Both types of freeriders became less important in 2023 as a result of providing state support through an energy price cap.

All in all, it may be concluded that most vulnerable groups were in fact reached, but only at the cost of large overspending to freeriders. The inability to prevent freeriding behavior and the fact that the government tolerated this in order to also reach the energy poor, still demonstrates the power of the inverse response law.

5.4 (POLICY WINDOW FOR) ADDRESSING PERSISTENT STRUCTURES OF INEQUALITY

The energy crisis (as do the corona crisis and housing crisis) shows the deep-rooted vulnerability of different groups in Dutch society that have trouble coping, even with generous state support. The energy crisis created three policy windows to change dominant structures that preserve the apparent inequalities with respect to energy poverty. First, most energy poor rent from housing corporations. Corporation's efforts to make houses more energy efficient need to be scaled up to confront energy poverty. Second, the energy crisis revealed the weak grip of the state on energy markets, while energy is a basic need. As a result, the government wants to increase its control of the market. Third, energy justice and affordability to households that were undervalued in the energy transition before 2021, have now moved up the agenda.

5.5 POLICY OR MARKET EFFECT ON OPPORTUNITIES

If the energy crisis sparks on-going opportunities for energy poor households to live in better insulated and more efficiently heated and powered houses, this could be considered as bouncing forward. Although it is too early to find such longer-term effects, some 60% of households have made their house more sustainable in some way in 2022 (Multiscope, 2023). These opportunities are also influenced by the policy design. Providing support by lowering the energy bill (like the energy tax cuts, the general support or an energy price cap) lowers the economic incentive for adaptive or transformative responses. This in turn keeps energy demand, and therefore prices, high and leaves people vulnerable for energy poverty. In this sense the blank check of the income dependent support is to be preferred over lowering the energy bill as it allows households to make their own decisions whether to use it to pay energy bills, invest in insulation or use it in other ways like education, paying off debts or consumption the best way they see fit.

5.6 COMMUNITY VOICE AND CONTROL

> "People also need to know their way around. You must include differences in cultural ideas about 'being cold' and how warm it should be at home (for example in some cultures it is normal to walk inside in T-shirt in winter with the heating on 23 degrees). To do so mostly language is crucial. Especially in Rotterdam, not everyone speaks and writes Dutch. To reach people, you have to take Rotterdam's superdiversity into account in how you offer help. If you want to involve people, you have to be aware of that and make information accessible by translating it or working with interpreters. That means finding other ways to reach people. Putting flyers in letterboxes only in Dutch, won't get you very far, it excludes people. What did help during the start of the energy-crisis, were the energy coaches, who came by people's doors to explain, with the right language and suitable examples, how to deal with energy crisis, how to isolate their house and so on."
> *(Focus group 2)*

A large number of community responses emerged in reaction to the energy crisis. These included neighborhood spaces where people can warm up and get energy advice and energy cooperatives that expanded their activities to energy poor households. These social networks and initiatives could respond quickly because they had the social capital that resulted in a level of preparedness. These community responses were essential as neither commercial businesses, nor the government was able to really go house by house and help people in a way that matches their own needs and knowledge.

These neighborhood initiatives received funding through a smaller support package of 300 million for energy-saving measures in households dealing with energy poverty. The implementation is delegated to municipalities to stimulate energy measures for low-income households. The way Rotterdam used this fund illustrates the importance of local initiatives that proposed their own local policy responses. Their measures aimed to reach up to 18.000 of the estimated 55.000 households that are energy poor and measures were expected to lower energy bills more than 100 euros annually. Implementation was largely done by community initiatives (Gemeente Rotterdam, 2022) and included:

- A fund for replacing energy inefficient domestic appliances with new more efficient ones.
- Energy handymen: volunteers who provide advice to 9.000 households and immediately apply small energy saving measures.
- Improving the setting of the boilers by local social initiatives who work with people that have trouble accessing the labour market.
- Collective energy coaching for groups of households.
- Street-wide discussions between inhabitants about energy use including materials (co-management).

These initiatives were brought forward by social initiatives and were strengthened through the funding. At the same time there is no indication yet whether this led to sustainable community voice and control in addressing energy poverty.

5.7 RECOGNIZING INJUSTICES

> "I heard of elderly that were sitting in their ski-suit, all alone, because they were cold and did not know where to go and what to do. And children that were told to shower once a week for a few minutes, that weren't allowed to turn on the lights, whose parents were angry all the time because of that, and they had to endure a lot of stress."
> *(Policy advisor child poverty)*

Two groups are important to recognize. The first group concerned the households that received billions of state support, while their energy bill did not go up. This group largely went unrecognized. Perhaps this lack of recognition and media attention

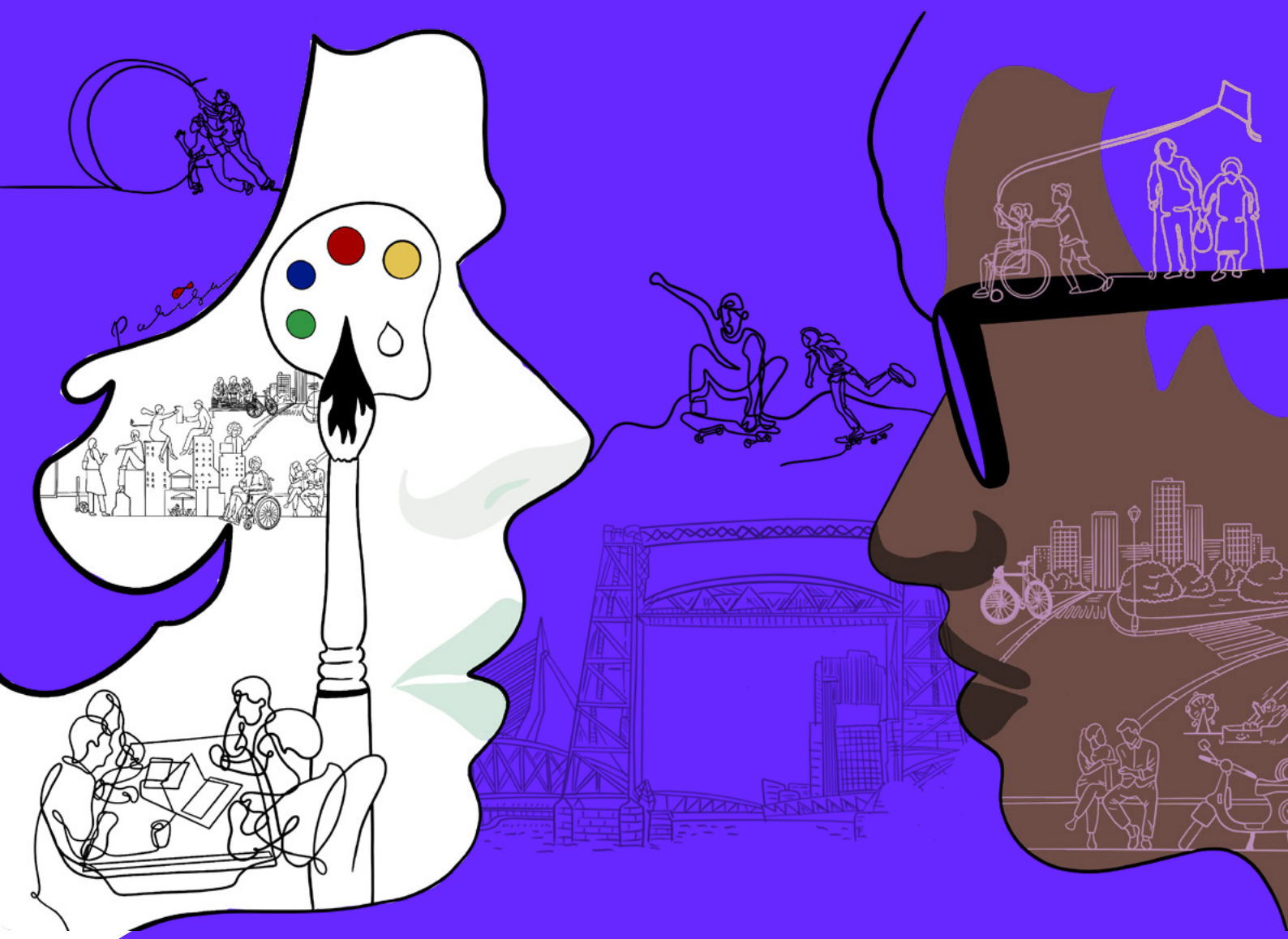
was due to the fact that this story does not fit the urban-rural, left-right, or rich-poor divisions that form the underlying story of most news stories. The second group is the energy poor. This group finally received the attention researchers, welfare organizations and environmental NGOs called for already well before 2022. Their initial concern was that energy poor households did not benefit from renewable energy subsidies that largely land with middle- and high-income households but do have to bear part of the costs through taxes and grid costs. Energy poverty is now much higher on the agenda. The hope is that they not only be helped to cope with the 2022 price hikes but are also enabled to insulate their houses and improve their energy appliances and as a result bounce forward and become less exposed to price hikes in the future.

5.8 CONCLUSION: TO WHAT EXTENT DID THE ENERGY CRISIS LEAD TO JUST RESILIENCE?

The mechanisms help to systemically analyze the effect of the energy crisis on resilience and inequality. The case shows, in line with the literature review and interviews, how the different levels of exposure and resources of people needed to respond leads to growing inequality where the 'poor get poorer and less resilient while the rich get richer and more resilient'. Government support and the active role of community initiatives helped reduce some of this growing inequality. For now, it seems most reasonable to say that the Netherlands moderately succeeded in bouncing back, but a lot of people still suffered and did not became more resilient to a new energy price hike or other stressor. It remains to be seen whether the crisis formed a tipping point to the needed transformation of the built environment and a just energy transition for the groups overrepresented in the energy poverty statistics. This largely depends on whether the increased recognition of energy poverty leads to structural reform and transformative responses of those most exposed and with the least resources.

CHAPTER 6:

Conclusion, towards Just Resilience in the Delta



6.1 STUDYING SOCIAL RESILIENCE AND INEQUALITY

The Rotterdam Delta is confronted with environmental, economic, political, health and cultural stress. As a result, resilience has become a central concept in many public policies. Resilience puts forward the question how we as a society can better prepare and respond to such stressors and may even come out better as a result of this. However, we cannot assume resilience measures will 'automatically' improve the lives of all, given the persistent and growing inequalities in society. Experiences in the Netherlands and across the globe show how even well-intentioned resilience policies may inadvertently increase inequalities, rather than reduce them.

Therefore, we set out to study how we can better understand the mechanisms between social resilience and inequality, and the role policies and public interventions play in this. A systematic international literature review was conducted, supplemented by interviews, and focus groups with Dutch researchers, policy makers and community organizers, to answer the research question: *How can we understand the mechanisms between social resilience and inequality, and the role of policy, governance and public interventions therein?*

The primary aim of this study is to contribute to resilience research and policy in the Rotterdam Delta by strengthening the scientific underpinning of the Resilient Delta Initiative and offering a framework for the development of new research and policy. Given its generic scope it also aims to contribute to international research on this topic.

6.2 PRINCIPLES FOR JUST RESILIENCE

In this study, we take a critical perspective on social resilience as debated in the literature on resilience and inequality. From this perspective, the concept of 'just resilience' is introduced, which acknowledges that social justice issues simultaneously give rise to the need for resilience and are affected by measures for resilience that can remedy, but potentially also worsen these issues. The aim of just resilience is to enhance both resilience *and* equity so that society as a whole can bounce forward when dealing with crises.

> Just Resilience is about recognizing inequality among communities in terms of their exposure, resources, access and so on. But, even more, it is about addressing the underlying structural and systemic inequalities, and not (just) individual responsibility.

The study identified seven mechanisms that explain the relation between social resilience and inequality. As such, the mechanisms are a way to conceptualize just resilience. These mechanisms highlight that people are unequally exposed to crises and their responses are dependent on their resources; that policy measures frequently have trouble reaching the most affected groups, should also target systemic root causes and can either limit or increase opportunities for getting ahead; and finally, address the importance of recognizing often overlooked groups and take seriously their knowledge, voice and control.

The resulting framework for just resilience is presented below:

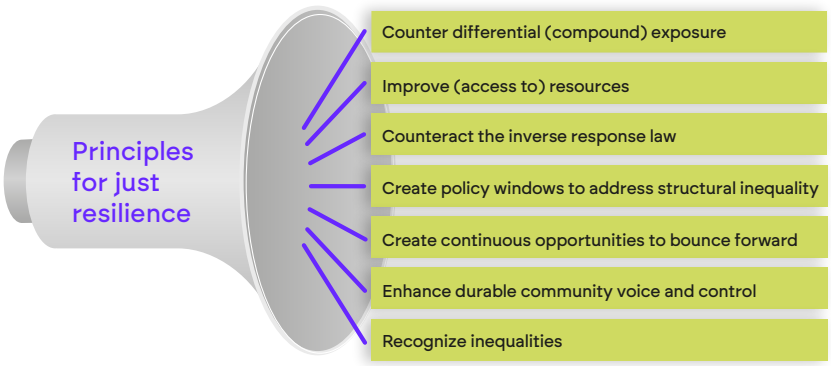


Fig. 15

6.3 A POLICY AND RESEARCH AGENDA

In order to promote just resilience, it is important to acknowledge the diverse ways how inequalities and resilience are understood in our diverse delta. It matters what stressors are deemed important and which are not. This is the same for inequalities and people that are, or are not, seen whose future is, or is not, considered in the imaginations of a resilient Delta. At the same time shocks and stressors also tend to reinforce 'winners' who are usually either celebrated or ignored because they are 'not a problem'. Both parts of the inequality issue must be part of resilience policy and research.

The just resilience framework can be used for designing and evaluating resilience policy and research. The framework is based on literature on a wide variety of topics across the globe. The resulting framework therefore needs to be applied and prove its value in specific contexts, in this case the context of the resilient Delta of the Netherlands. It should be noted that the framework is not a tool for 'measuring' how 'just' a (research) intervention is, but functions as a framework to discuss, and improve an intervention's relevance to and impact on resilience. In practice, this impact often depends on trade-offs that have to be made between, and even within, these principles. It aims to warn, address the pitfalls, and simultaneously open up opportunities for a legitimate construction of resilience in terms of justice and equality.

This leaves us with a set of questions that guide towards research and policy for just resilience. They can be applied to the development and evaluation of research projects, policies and other interventions at both the individual and aggregate (portfolio, policy mix, neighborhood) level.

Analytical questions		Impact questions: how does your intervention...
Which groups or areas are exposed to a particular stressor, and how does exposure to various stressors cumulate into compound exposures?	→	...address (compound) exposure, and what does it do to reduce it?
Which groups or areas suffer or profit as a result of their (access to) resources?	→	...address (access to) resources, and what does it do to generate or redistribute resources so that groups are enabled to respond better?
Which groups that need support are (excluded from) participating in or benefitting from this intervention?	→	...address the difficulty of reaching out to affected groups in times of crisis, and what does it do to improve their access to services?
What are the systemic structures that create the inequalities?	→	...create a policy window to address structural inequalities in society?
What are the longer-term opportunities that are created or lost by the intervention?	→	...create continuous opportunities to bounce forward?
What community networks, research and initiatives can the intervention build on and strengthen?	→	...enhance durable community voice and control?
What groups, local knowledge, (historical) injustices and needs are to be recognized?	→	...lead to contextually relevant and inclusive and usable results?

Fig. 16

6.4 IMPLICATIONS FOR THE ORGANIZATION OF RESEARCH

By applying the principles of just resilience to research itself, we come to some critical reflections on the role that research plays in reducing inequality and strengthening resilience. We highlight two: the need to strengthen transdisciplinary research and a reflection on the research system.

Transdisciplinary research is a suited approach to strengthen community voice and control and recognizing injustices. It is a growing approach within governance and research institutes, but to scale up transdisciplinary research (and similar methodologies like social design, action research and participatory research) requires addressing two issues. First there are many barriers and unclear norms within research ranging from the thought (what are top quality standards for such research and how is such research valued within the academic community?) to the very practical (Do we pay citizens for involvement? Do they get a say in the research? Can a mid-career or senior researcher legitimately spend time visiting or even (help) organizing local events?).

Second there are issues with the reciprocity of the relation. It is usually clear what a researcher gets out of doing research 'on' communities: data, a paper, a symbol that he or she is impact driven. It is often much less clear what these communities themselves get out of it, other than a copy of the resulting paper or report. Transdisciplinary knowledge production *could* however be of real benefit to communities. It can expand their knowledge, connections, and resources, and empower them vis a vis the research and policy community. A more reciprocal relation requires thinking beyond how to collect or extract 'data' which results in an over-reliance on boundary persons like local initiators, who often get dozens of interview requests per year, and local 'research fatigue' of some, while the large majority of people in Rotterdam never sees a researcher. Reciprocity in transdisciplinary research means building more diverse and lasting relations and engagement with communities in the Delta. As was pointed out by Hogeschool Rotterdam, research may best contribute to just resilience if it is organized on principles of engagement, reciprocity, continuity, and diversity.

With regard to the research system, all research institutes in the Dutch delta have developed strategies to increase their social impact. However, we acknowledge that most researchers have a privileged role and background. Including actual lived experience within the research teams, helps to understand social justice issues at hand and can contribute to impact. Such experiential knowledge may include direct experiences of exclusion, shared culture and language with the communities researched, and local knowledge from living in the researched areas. It can also mean including researchers and others that have particular experience, expertise and skill sets related to the 'channels' through which research aims to have impact, such as policy making, media, business development or community organizing. These considerations also extend to the way research is commissioned. Which interests are tied to finance? Which interest and expertise are present in leadership positions, advisory boards (and so on) how does this affect the ambition to increase just resilience?

> It is important to approach our academic work with empathy, humility, and an open mind. This allows us to better understand the nuances what it means to be resilient, or to be affected by (systemic) inequalities.

Thinking about the role one has as a researcher and policymaker also requires a certain 'humble' attitude. From this rather privileged position, it is important to approach our academic work with empathy, humility, and an open mind. This allows us to better understand the nuances what it means to be resilient, or to be affected by (systemic) inequalities. It allows us to listen to different perspectives, challenge our assumptions and engage in meaningful dialogue with the communities we study (with).

By recognizing and critically examining our impact, we can pave a path toward real and meaningful contributions to understanding and addressing social resilience and inequality. By actively challenging conventional norms, being critical when it comes to normative assumptions and inequality, and by engaging in self-reflection, we opt for research and policy that is truly transformative and advances the cause of justice and equity in our society.

References

Abdullah, A. N. M., Zander, K. K., Myers, B., Stacey, N., & Garnett, S. T. (2016). A short-term decrease in household income inequality in the Sundarbans, Bangladesh, following Cyclone Aila. *Natural Hazards*, 83, 1103-1123.

ABN Amro (1 aug 2022), Schuldenproblematiek duikt weer op, https://www.abnamro.com/research/nl/onze-research/schuldenproblematiek-duikt-weer-op

Alexander, J.C. (1987). *The micro-macro link.*

Angelovski, I. Shi, L., Chu, E., Gallagher, D., Goh, K., Lamb, Z., Reeve, K., and Teicher, H. (2016). Equity Impacts of Urban Land Use Planning for Climate Adaptation Critical Perspectives from the Global North and South. *Journal of Planning Education and Research* 36 (3): 333–48

Armas, I., Ionescu, R., & Posner, C. N. (2015). Flood risk perception along the Lower Danube river, Romania. *Natural Hazards*, 79, 1913-1931.

Ashmore, F. H., Farrington, J. H., & Skerratt, S. (2017). Community-led broadband in rural digital infrastructure development: Implications for resilience. *Journal of Rural Studies,* 54, 408-425.

Bergström, J. (2018). An archaeology of societal resilience. *Safety science,* 110, 31-38.

Bodomo, A. (2020). Historical and contemporary perspectives on inequalities and well-being of Africans in China. *Asian Ethnicity,* 21(4), 526-541.

Bontenbal, H. (2022, 17 augustus). Hoge energierekeningen: wat weten we en wat kunnen we doen? *Medium.* https://henribontenbal.medium.com/hoge-energierekeningen-wat-weten-we-en-wat-kunnen-we-doen-9d41c6096c85

Bourdieu, P. (1984). *Distinction: A Social Critique of the Judgement of Taste.* Cambridge, MA:Harvard University Press.

Bourdieu, P. (1986). The forms of Capital. In J. Richardson (Ed.), *Handbook of Theory and Research for the Sociology of Education* (pp. 241-258). Westport: Greenwood.

Breil, M.; Zandersen, M.; Pishmisheva, P.; Branth Pedersen, A.; Romanovska, L.; Coninx I., Rogger, M., Johnson, K. (2021) Leaving No One Behind' in Climate Resilience Policy and Practice in Europe, Overview of Knowledge and Practice for Just Resilience. European Topic Centre on Climate Change impacts, Vulnerability and Adaptation (ETC/CCA)

Bulkeley, H., Edwards, G. A., & Fuller, S. (2014). Contesting climate justice in the city: Examining politics and practice in urban climate change experiments. Global Environmental Change, 25, 31-40.

Canvin, K., Marttila, A., Burstrom, B., & Whitehead, M. (2009). Tales of the unexpected? Hidden resilience in poor households in Britain. *Social Science & Medicine*, 69(2), 238-245.

Carpenter, A. (2013) Social ties, space and resilience: Literature review of community resilience to disasters and constituent social and built environment factors, *FRB Atlanta Community and Economic Development*, Discussion Paper 2013-02, Federal Reserve Bank of Atlanta.

Chelleri, L., Waters, J. J., Olazabal, M., & Minucci, G. (2015). Resilience trade-offs: addressing multiple scales and temporal aspects of urban resilience. *Environment and urbanization,* 27(1), 181-198.

Clay, N., & Zimmerer, K. S. (2020). Who is resilient in Africa's green revolution? Sustainable intensification and climate smart agriculture in Rwanda. *Land use policy,* 97, 104558.

Cote, M., & Nightingale, A. J. (2012). Resilience thinking meets social theory: situating social change in socio-ecological systems (SES) research. *Progress in human geography,* 36(4), 475- 489.

Cretney, R. (2014). Resilience for whom? Emerging critical geographies of socio-ecological resilience. *Geography Compass,* 8(9), 627-640.

Cretney, R. (2018). Rejecting and recreating resilience after disaster. In The Resilience Machine (pp. 80-93). Routledge.

Davoudi, S. (2018). *Just resilience.* 3-7. Davoudi, S. (2018). Just Resilience. *City & Community,* 17(1), 3

De Nederlandse Bank (2023), *Isoleren en compenseren: reactie van huishoudens op de energiecrisis.*

Doff, W. (2019) Veerkracht van lokale gemeenschappen: De literatuur op een rij, Rotterdam: Veldacademie.

Dumas, S. E., Maranga, A., Mbullo, P., Collins, S., Wekesa, P., Onono, M., & Young, S. L. (2018). "Men are in front at eating time, but not when it comes to rearing the chicken": unpacking the gendered benefits and costs of livestock ownership in Kenya. *Food and Nutrition Bulletin,* 39(1), 3-27.

Eadie, P., & Su, Y. (2018). Post-disaster social capital: trust, equity, bayanihan and Typhoon Yolanda. *Disaster Prevention and Management: An International Journal,* 27(3), 334-345.

Engbersen, G., van Bochove, M. E., de Boom, J., Etienne, T., Krouwel, A., van Lindert, J., ... & van Wensveen, P. (2021). De ongeduldige samenleving: de maatschappelijke impact van COVID-19 in Amsterdam, Den Haag, Rotterdam & Nederland.

Ensor, J. E., Park, S. E., Hoddy, E. T., & Ratner, B. D. (2015). A rights-based perspective on adaptive capacity. *Global Environmental Change,* 31, 38–49. https://doi.org/10.1016/j.gloenvcha.2014.12.005

Fainstein, S. S. (2014). The just city. *International journal of urban Sciences*, 18(1), 1-18.

Ferguson, P. (2019). Discourses of resilience in the climate security debate. *Global Environmental Politics,* 19(2), 104-126.

Ferguson, P., & Wollersheim, L. (2022). From sustainable development to resilience? (Dis)continuities in climate and development policy governance discourse. *Sustainable Development.*

Fitzgibbons, J., & Mitchell, C. L. (2019). Just urban futures? Exploring equity in "100 Resilient Cities". *World development,* 122, 648-659.

Forrest, S. A., Trell, E. M., & Woltjer, J. (2020). Socio-spatial inequalities in flood resilience: Rainfall flooding in the city of Arnhem. *Cities*, 105, 102843.

Foxen, P. (2010). Local Narratives of Distress and Resilience: Lessons in Psychosocial Well-Being among the K'iche'Maya in Postwar Guatemala. *The Journal of Latin American and Caribbean Anthropology,* 15(1), 66-89.

Geels, F. W., & Schot, J. (2007). Typology of sociotechnical transition pathways. *Research policy,* 36(3), 399-417

Gemeente Rotterdam (2022). Factsheet energie armoede Rotterdam. https://overmorgen.nl/wp-content/uploads/2022/11/2022-111-factsheet-Energiearmoede-Rdam_DEF3.pdf

Granovetter, M. (1973). The Strength of Weak Ties. *American Journal of Sociology,* 78(6), 1360-1380.

Grove, K. (2018). *Resilience*. New York, NY: Routledge.

Grove, K., Barnett, A., & Cox, S. (2020). Designing justice? Race and the limits of recognition in greater Miami resilience planning. *Geoforum,* 117, 134-143.

Hall, P. and M. Lamont (2013) *Social Resilience in the Neoliberal Era.* Cambridge: Cambridge University Press.

Hankivsky, O. (2014). Rethinking care ethics: On the promise and potential of an intersectional analysis. *American Political Science Review*, 108(2), 252-264.

Hart, A., Davies, C., Aumann, K., Wenger, E., Aranda, K., Heaver, B., & Wolff, D. (2013). Mobilising knowledge in community– university partnerships: What does a community of practice approach contribute? *Contemporary Social Science,* 8(3), 278-291.

Hart, J. T. (1971). The Inverse Care Law. *The Lancet.* Volume 297, Issue 7969.

Harvey, D. (2013). The political economy of public space. *In The politics of public space* (pp. 23-188). Routledge.

Hawkins, D. (2020). Differential occupational risk for COVID-19 and other infection exposure according to race and ethnicity. *American journal of industrial medicine,* 63(9), 817-820.

Hedström, J., & Olivius, E. (2020). Insecurity, dispossession, depletion: women's experiences of post-war development in Myanmar. *The European Journal of Development Research,* 32(2), 379-403.

Hlahla, S., & Hill, T. R. (2018). Responses to climate variability in urban poor communities in Pietermaritzburg, KwaZulu-Natal, South Africa. *Sage Open,* 8(3), 2158244018800914.

Jasanoff, S. (2018). Just transitions: A humble approach to global energy futures. Energy Research & Social Science, 35, 11-14.

Jenkins, K., McCauley, D., Heffron, R., Stephan, H., & Rehner, R. (2016). Energy justice: A conceptual review. *Energy Research & Social Science,* 11, 174-182.

Jordan, J. C. (2019). Deconstructing resilience: Why gender and power matter in responding to climate stress in Bangladesh. *Climate and Development,* 11(2), 167-179.

Kaika, M. (2017). 'Don't call me resilient again!': the New Urban Agenda as immunology ... or ... what happens when communities refuse to be vaccinated with 'smart cities' and indicators. *Environment and Urbanization,* 29(1), 89-102.

Kauti, M. K. (2009). *Rural livelihood security assessment for smallholders undergoing economic changes and agro-climatic events in Central Kenya.*

Keck, M. & P. Sakdapolrak (2013) What is social resilience? Lessons learned and ways forward. *Erdkunde,* 67(1): 5-19.

Khalili, S., M. Harre and P. Morley (2015) A temporal framework of social resilience indicators of communities to flood, case studies: Wagga wagga and Kempsey, NSW, Australia, *International Journal of Disaster Risk Reduction*, 13: 248-254.

Larkin, B. (2013). The politics and poetics of infrastructure. *Annual review of anthropology*, 42, 327-343.

Leach, M. (2008). *Re-framing resilience: trans-disciplinarity, reflexivity and progressive sustainability–a symposium report.*

Leichenko, R., & Silva, J. A. (2014). Climate change and poverty: vulnerability, impacts, and alleviation strategies. *Wiley Interdisciplinary Reviews: Climate Change,* 5(4), 539-556.

Leijssen, P. (2022, April 8). Compensatie Kosten Brandstof en energie vooral naar Rijkste Huishoudens. Investico. Retrieved from: www.platform-investico.nl/artikel/compensatie-kosten-brandstof-en-energie-vooral-naar-rijkste-huishoudens

Liberati, A., Altman, D. G., Tetzlaff, J., Mulrow, C., Gøtzsche, P. C., Ioannidis, J. P., ... & Moher, D. (2009). The PRISMA statement for reporting systematic reviews and meta-analyses of studies that evaluate health care interventions: explanation and elaboration. *Annals of interna medicine,* 151(4), W-65.

Ludwig, D., & Macnaghten, P. (2020). Traditional ecological knowledge in innovation governance: a framework for responsible and just innovation. *Journal of Responsible Innovation,* 7(1), 26-44.

Maclean, K., M. Cuthill and H. Ross (2014) Six attributes of social resilience, *Journal of Environmental Planning and Management*, 57(1): 144-156.

Magis, K. (2010) Community Resilience: An Indicator of Social Sustainability, *Society & Natural Resources*, 23(5): 401-416.

Marmot, M., & Wilkinson, R. (Eds.). (2005). *Social determinants of health.*

Miller, F. (2020). Exploring the consequences of climate-related displacement for just resilience in Vietnam. *Urban Studies*, 57(7), 1570-1587.

Milgram, S. (1967) The small world problem, *Psychology today,* 2(1): 60-67.

Ministerie van Binnenlandse Zaken en Koninkrijksrelaties. (2023, 7 februari). *Aanpak energiearmoede.* VolkshuisvestingNederland. Accessed at: volkshuisvestingnederland.nl/onderwerpen/aanpak-energiearmoede

Ministerie van Binnenlandse Zaken en Koninkrijksrelaties. (2023, 7 februari). *Aanpak energiearmoede.* Volkshuisvesting Nederland.

Moher, D., Liberati, A., Tetzlaff, J., & Altman, D.G. (2009). Preferred reporting items for systematic reviews and meta-analyses: The PRISMA Statement. *PLoS Medicine,* 6(7).

Mol, A. (2002). *The body multiple: Ontology in medical practice.* Duke University Press.

Mozumder, M. M. H., Wahab, M. A., Sarkki, S., Schneider, P., & Islam, M. M. (2018). Enhancing social resilience of the coastal fishing communities: A case study of hilsa (Tenualosa ilisha H.) fishery in Bangladesh. *Sustainability,* 10(10), 3501.

Multiscope (2023) persbericht via https://www.multiscope.nl/persberichten/3-3-miljoen-huishoudens-in-de-kou/

Newell, P., & Mulvaney, D. (2013). The political economy of the 'just transition'. *The geographical journal*, 179(2), 132-140.

Newman, L., & Dale, A. (2005). Network structure, diversity, and proactive resilience building: a response to Tompkins and Adger. *Ecology and society,* 10(1).

Nuorteva, P., Keskinen, M., & Varis, O. (2010). Water, livelihoods and climate change adaptation in the Tonle Sap Lake area, Cambodia: learning from the past to understand the future. *Journal of Water and Climate Change*, 1(1), 87-101.

Orchard, S. E., Stringer, L. C., & Quinn, C. H. (2015). Impacts of aquaculture on social networks in the mangrove systems of northern Vietnam. *Ocean & Coastal Management,* 114, 1-10.

Patel, S.S., M.B. Roters, R. Amlôt and G.J. Rubin (2017) What Do We Mean by 'Community Resilience?' A Systematic Literature Review of How It Is Defined in the Literature, *PLoS*, 9.

Phibbs, S., Kenney, C., Severinsen, C., Mitchell, J., & Hughes, R. (2016). Synergising public health concepts with the Sendai framework for disaster risk reduction: A conceptual glossary. *International journal of environmental research and public health*, 13(12), 1241.

Pugh, J. (2014). Resilience, complexity and post-liberalism. *Area*, 46, 313–319

Putnam, R. (2000). *Bowling Alone*. New York: Simon & Schuster.

Rippon, S., Bagnall, A. M., Gamsu, M., South, J., Trigwell, J., Southby, K., Warwick-Booth, L., Coan, S. & Woodward, J. (2021). Towards transformative resilience: community, neighbourhood and system responses during the COVID-19 pandemic. *Cities & health,* 5(sup1), S41-S44.

Rogers, P., Bohland, J. J., & Lawrence, J. (2020). Resilience and values: global perspectives on the values and worldviews underpinning the resilience concept. *Political Geography,* 83, 102280.

Romero-Lankao, P., Gnatz, D. M., & Sperling, J. B. (2016). Examining urban inequality and vulnerability to enhance resilience: insights from Mumbai, India. *Climatic Change*, 139(3-4), 351-365.

Schmidt, J. (2015). Intuitively neoliberal? Towards a critical understanding of resilience governance. *European journal of international relations,* 21(2), 402-426.

SCP (2023). Eigentijdse ongelijkheid.

Severinsen, C., & Curtis, B. (2018). The inverse response law: theory and relevance to the aftermath of disasters. *International journal of environmental research and public health*, 15(5), 916.

Sharifi, A. (2016) A critical review of selected tools for assessing community resilience, *Ecological Indicators*, 69: 629-647.

Shi, L. (2021). From progressive cities to resilient cities: Lessons from history for new debates in equitable adaptation to climate change. *Urban Affairs Review,* 57(5), 1442-1479.

Smirnova, V., Lawrence, J. L., & Bohland, J. (2021). The critical turn of resilience: Mapping thematic communities and modes of critical scholarship. *The Geographical Journal*, 187(1), 16-27.

Snel, E., de Boom, J. Bochove, M. & Engbersen, G. (2021) Sociaal kapitaal als bescherming tegen de mentale gevolgen van COVID-19: *Mens & Maatschappij*, Volume 96, Issue 2, May 2021, p. 213 – 24

Southwick, S. M., Sippel, L., Krystal, J., Charney, D., Mayes, L., & Pietrzak, R. (2016). Why are some individuals more resilient than others: the role of social support. *World psychiatry,* 15(1), 77.

Sovacool, B. K., & Dworkin, M. H. (2015). Energy justice: Conceptual insights and practical applications. *Applied Energy,* 142, 435-444.

Swidler, A. (1986). Culture in Action: Symbols and Strategies. *American Sociological Review*, 51, 273–86.

Tado (2023), Persbericht, retrieved from: https://persberichten.deperslijst.com/246475/persbericht-onderzoek-tado--nederland-heeft-laagste-binnentemperatuur-van-alle-europese-landen-en-laat-tevens-grootste-daling-zien-ten-opzichte-van-2021.html

Thulstrup, A. W. (2014). Plantation livelihoods in central Vietnam: Implications for household vulnerability and community resilience. Norsk Geografisk Tidsskrift-Norwegian *Journal of Geography*, 68(1), 1-9.

TNO (2023) Energie armoede in Nederland in 2022. Volume 110, Part C, Pages 31-38

Uekusa, S., & Matthewman, S. (2017). Vulnerable and resilient? Immigrants and refugees in the 2010–2011 Canterbury and Tohoku disasters. *International Journal of Disaster Risk Reduction,* 22, 355-361.

United Nations (n.d.). *Inequality Bridging the Divide. United Nations.* Retrieved from: https://www.un.org/en/un75/inequality-bridging-divide

Vale, L. J. (2014). The politics of resilient cities: whose resilience and whose city?. *Building Research & Information*, 42(2), 191-201.

Völker, B., & Flap, H. (2001). Weak ties as a liability: The case of East Germany. *Rationality and society*, 13(4), 397-428.

Walch, C. (2018). Typhoon Haiyan: pushing the limits of resilience? The effect of land inequality on resilience and disaster risk reduction policies in the Philippines. *Critical Asian Studies,* 50(1), 122-135.

Walker, B., & Salt, D. (2012). *Resilience thinking: sustaining ecosystems and people in a changing world.* Island press.

Walker, G. (2012). *Environmental justice: concepts, evidence and politics*. Routledge.

Walters, P. (2015). The problem of community resilience in two flooded cities: Dhaka 1998 and Brisbane 2011. Habitat International, 50, 51-56.

Welsh, M. (2014). Resilience and responsibility: governing uncertainty in a complex world. *The geographical journal*, 180(1), 15-26.

Wilson, G. A. (2018). "Constructive tensions" in resilience research: Critical reflections from a human geography perspective. *The Geographical Journal,* 184(1), 89-99.

WRR and KNAW (2021), COVID-19: Expertvisies op de gevolgen voor samenleving en beleid.

Appendix

1. OVERVIEW PARTICIPANTS INTERVIEWS AND FOCUS GROUPS

1.1 Interviews

Who	Affiliation	When
Tim 'S Jongers	Wiardi Beckman Stichting	Den Haag, 16-01-2023
Dr. Prof. Mariette Lusse	Hogeschool Rotterdam	Rotterdam, 24-01-2023
Dr. Prof. Kim Putters	Universiteit Tilburg & SER	Online, 16-02-2023
Dr. Roberto Rocco	Delft University	TU Delft, 17-02-2023
Dr. Prof. Linda Shi	Cornel University	Online, 31-01-2023
Maja Rocak	Fontys University	Online, 24-01-2023
Naomi Sonneveld	Gemeente Rotterdam	Online, 17-01-2023
Thessa Bakker en Anda Noordhuis	Stichting OpzoomerMee	Rotterdam, 28-2-2023
Carine Wijnstra	Kinderhulp Nederland	Utrecht, 02-03-2023
Marco Pastors	Nationaal Programma Rotterdam Zuid	Rotterdam, 29-03-2023
Rosemarie van Ham	Inclusive Climate Action Rotterdam	Rotterdam, 8-03-2023

1.2 Wetenschappelijke focusgroep (23-01-2023)

Who	What
Dr. Jan Fransen	Lead Specialist in Urban Economic Development and Resilience, Assistant Professor (EUR)
Dr. Katharina Bauer	Assistant professor of practical philosophy (EUR)
Ir. Guusje Enneking	Phd candidate Policy, Politics and Society (EUR)
Yannick Drijfhout, Msc	Phd candidate Crafting Resilience Leiden Univ
Dr. Lieke Oldenhof	Associate Professor in anthropology (EUR)
Prof. Dr. Ir. Arjan van Timmeren	Professor Environmental Technology & Design (TU-Delft)

1.3 Focusgroep beleid/praktijk (14-02-2023)

Who	What?
Parisa Akbarzadehpoladi	Wijkraadslid Ommoord, Groen-Links, artist: illustrator and photographer
Dr. Wenda Doff	Urban researcher, sociologist and Veldacamedie
Andre Hendrikse	Kwartiermaker & impact at the core

2. ILLUSTRATOR PARISA AKBARZADEHPOLADI: DE VERHALEN ACHTER DE LIJNEN

Parisa komt uit Iran en woont al 10 jaar in Nederland. Parisa is al haar hele leven bezig met illustratie, fotografie en grafische vormgeving. In Nederland zet ze zich in voor mensenrechten en laat de kracht van mensen die gevlucht zijn zien. Parisa benadrukt veerkracht omdat het belangrijk is te beseffen dat gevluchte mensen niet alleen maar kwetsbaar zijn. Ze kunnen heel veel, en hebben juist veel kracht door wat ze hebben meegemaakt. En denk aan alles wat we van hen kunnen leren! Ze zijn belangrijk voor de samenleving. Zoals Parisa zelf zegt: "Ik ben een sociaal mens, dat is mijn kracht. Ik wil altijd samenwerken, over nieuwe dingen nadenken en iets doen. Ik wil ook andere mensen stimuleren om zelfstandig te worden.".

Haar werk en passie, voornamelijk illustraties maken en visueel verhalen vertellen, betekent veel voor Parisa. "Kunst gaat voorbij woorden, met kunst kunnen mensen zonder tekst emoties en gevoelens delen. Met kunst, illustraties, kan ik makkelijk over moeilijke thema's praten en communiceren. Niet alleen moeilijke thema's, maar ook leuke thema's, en inspirerende verhalen. Het gaat vooral om andere mensen ontmoeten en spreken." Parisa heeft een unieke stijl in haar werk. En dat is niet zomaar, verteld ze: "Ik werk met lijnen, want ik denk dat ons leven te vergelijken is met het verloop van een lijn. Mensen en verhalen kan je verbinden door lijnen. We vinden elkaar daarin."

De illustraties

Bij elke illustratie gebruikt in dit rapport, licht Parisa kort toe waar het over gaat, en wat het voor haar betekent:

1. **Titelpagina:** "Deze tekening, is een verhaal van mensen die gevlucht zijn. Zij hebben ook de wereld, zij zijn net zo goed onderdeel van onze wereld. Je moet je voorstellen, op de achtergrond klinkt er dramatische muziek, over dat je moet vluchten van oorlog en geweld, leven in onzekerheid. In de illustratie zie je op de achtergrond die dramatische muziek spelen. Maar terwijl dat gebeurt, zoeken mensen alsnog hun eigen dromen op, ze zijn hoopvol. Voor deze illustratie is de boodschap: geef niet op. Jaag je dromen na."
2. **Hoofdstuk 3:** "Deze tekening heb ik ook over gevluchte mensen gemaakt en het gaat over het leven van mensen, mensen die zijn gevlucht. Het leven van deze mensen is als een golf, erg eng. Maar toch gaan ze door, in hetzelfde, kopje thee, of kopje koffie, kan je rustig blijven. De rust zoeken en vinden."
3. **Hoofdstuk 4:** "Deze tekening heb ik tijdens corona gemaakt. Want in quarantaine moest iedereen thuisblijven. Die situatie is niet altijd erg. Sommige konden zichzelf opnieuw leren kennen en wat nieuws opbouwen, zelfs tijdens quarantaine, een nieuwe opleiding volgen. Ik bleef thuis, ik had geen werk, het was lastig. Maar ik had meer tijd om te studeren. Het is belangrijk om in de moeilijke tijd te kijken naar de positieve dingen. Met positiviteit kunnen mensen meer kracht krijgen, en concentreren op een eigen toekomst."
4. **Hoofdstuk 5:** "Rotterdam wil altijd mensen roepen 'kom naar mij toe'. De stad wil een brug maken tussen mensen met verschillende culturen. Maar toch lukt dat niet altijd. We moeten meer aandacht geven aan nieuwkomers, wat zij hebben en weten vanuit hun eigen land."
5. **Hoofdstuk 6:** "In deze tekening zie je een kleurenpalet, want Rotterdam heeft verschillende nationaliteiten en mensen met verschillende achtergronden. Die mensen kunnen bij elkaar mooie dingen maken, net zoals een mooi schilderij. Daarom is het belangrijk dat we samen werken en goed kijken naar iedereens talenten, iedereen heeft eigen talenten. En die komen het beste tot bloei als we ze met elkaar delen."